Social Learning and Diversity of Practice in Community Gardens in Berlin

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ABSTRACT

Genuine advancement towards sustainable development requires broad-based popular support for prioritising the environment in our pursuit of social and economic progress. Since cities have become the dominant human habitat of the century, it is especially critical that urban populations adopt such sentiments. Yet, rapid urbanisation is severing perceived and experienced links between people and nature, engendering an ‘extinction-of-experience’ as modern life-styles are adopted and we cease to depend on local resources.

Interdisciplinary perspectives on social learning suggest that communities that practically engage with nature constitute key forums for the creation and storage of knowledge and experiences.

This study goes further by investigating social learning and practice in locally managed green areas which are also open to the public, in order to explore their capacity to nurture experienced based learning among wider sets of urban citizens. Extensive participatory observation and in-depth interviews have been conducted in a number of community gardens in Berlin over a period of 6 months.

Findings show that community gardens support institutionally diverse sets of locally anchored communities-of-practice where experienced based learning about nature is generated and stored. Interestingly, local practice also nurtured experienced based learning about social, political and economic dimensions of life in the city.

It is suggested that such open and experimental form of green area management hold promise for tackling extinction-of-experience among the distinctively heterogeneous urban populations of today. It also contends that community gardens foster progress towards sustainability on the local level through intertwining ecological and social concerns in learning and practice on the ground.
# TABLE OF CONTENTS

List of Acronyms .......................................................................................................................... 4  
List of Figures ............................................................................................................................... 4  
Tables .......................................................................................................................................... 5  

Acknowledgements ...................................................................................................................... 6  

INTRODUCTION ............................................................................................................................ 7  
Problem statement .......................................................................................................................... 9  
Aim of the thesis and research questions ...................................................................................... 9  

THEORY ........................................................................................................................................... 10  
Social learning and communities-of-practice ............................................................................... 10  
Literature review – Community gardens and civic management of green areas ...................... 16  
Conceptual framework and contribution of study .......................................................................... 18  

CASE STUDY BACKGROUND ..................................................................................................... 21  
Historical background: Urban space governance and community gardening in Berlin .......... 21  
Community garden projects in Berlin today ............................................................................... 22  
Brief case descriptions of the four investigated community garden projects ............................ 23  

METHODS ....................................................................................................................................... 29  
Study design .................................................................................................................................. 29  
Limitations .................................................................................................................................... 35  
Critical reflection on methods and data ......................................................................................... 35  

RESULTS ......................................................................................................................................... 37  
Do investigated community garden projects support communities-of-practice? .................... 37  
What streams of learning are supported in respective community garden project? ................ 40  

DISCUSSION .................................................................................................................................... 53  
Countering extinction-of-experience in community gardens .................................................. 53  
Community gardens and sustainability ......................................................................................... 58  
Learning in open garden projects ................................................................................................. 60  
Institutional diversity and emergent qualities in open community gardens ............................. 62  

CONCLUSION .................................................................................................................................. 63  

REFERENCES .................................................................................................................................. 66  

APPENDIX ....................................................................................................................................... 69  
Appendix A: Interview guides .......................................................................................................... 69  
Appendix B: Coding Scheme ........................................................................................................... 71  
Appendix C: Brief descriptions of communities-of-practice in investigated community garden projects .................................................................................................................................. 72
List of Acronyms

ACGA – American Community gardening Association
CBO – Community Based Organisation
CGP – Community Garden Project
CoP – Community-of-Practice
NGO – Non-governmental organisation

List of Figures

Figure 1. Social learning in Communities-of-Practice 12
Figure 2. Community gardens as urban green spaces which combine local practice and public access. 19
Figure 3. Identified, visited and studied community garden projects in Berlin 23
Figure 4. Prinzessinnengarten in June 2010 24
Figure 5. Organisational diagram of Prinzessinnengarten 24
Figure 6. Bürgergarten Laskerwiese in September 2009 25
Figure 7. Organisational diagram of Bürgergarten Laskerwiese 26
Figure 8. Lichtenrade Volkspark in 1983 and 2009: From open field to forested park 27
Figure 9. Organisational diagram of Lichtenrade Volkspark 27
Figure 10. Rosa Rose Garten in winter and summer (in its original location) 28
Figure 11. Organisational diagram of Rosa Rosa Garten (in 2008) 29
Figure 12. Visual illustration of presence and strength of main learning streams in studied community garden project 41
Figure 13: Post-empirical conceptualisation of communities-of-practice in community gardens and their boundary interactions 54
Figure 14. Potential impact of open community garden projects in the city conceptualised as a social learning system 57
Tables

Table 1. Dimensions of practice which create communities .................................................. 14

Table 2. Data collection in visited community garden projects ............................................. 31

Table 3. Data collection in investigated community garden projects ..................................... 32

Table 4. Open community garden projects dismissed for further study .................................. 32

Table 5. Dimensions of practice fostering the creation of communities-of-practice in investigated community garden projects ................................................................. 38
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INTRODUCTION

‘...writing legislation to protect the environment does not replace instilling in our children a love and respect for nature.’ (Wenger 1998:92)

Genuine advancement towards sustainable development requires broad-based popular support for prioritising the environment in our pursuit of social and economic progress. Currently half the world’s population live in cities, rendering urban areas ‘the’ dominant human habitat of this century in terms of geography, experience, constituency, and influence’ (Grove 2009:282). Hence, the sentiments of urban populations will increasingly determine the direction of developments on a global scale, and whether they move towards or away from the aims encompassed in sustainable development. The fact that cities ‘continue to be tremendous engines of wealth, innovation, and creativity’ reinforces this point further (Grove 2009:293).

Yet rapid urbanisation is in many places severing perceived and experienced links between people and nature as modern lifestyles are adopted and urban populations cease to depend on local resources. The ensuing loss of attachment to nature and experienced-based ecological knowledge among city dwellers has been termed ‘extinction-of-experience’ (Pyle 1978; Miller 2005; Pilgrim et al. 2008). This process is reinforced further by mounting pressures to use remaining green spaces in urban settings for new constructions, thereby further depriving people of the possibility to engage with nature. A sustainable future requires that such extinction-of-experience is reversed.

Although metropolitan landscapes often engender serious ecological vulnerabilities, urban ecosystems continue to generate ecosystem services such as pollination, air purification and cultural and aesthetic services (Bolund and Hunhammar 1999; Barthel et al. 2005; Colding et al. 2006). In fact, many urban settings today support higher levels of biodiversity than surrounding rural areas characterised by monoculture farming (Zerbe et al. 2002). Yet such benefits are irrelevant if urban landscapes fail to incorporate green areas. But simply securing urban green areas isn’t enough to sustain ecosystem services; the nature of management matters. Research on institutions and ecosystem management has found that locally managed urban green areas, such as domestic gardens and allotment gardens, can support experiential learning of local ecosystems (Krasny and Tidball 2009), store social-ecological memories in locally anchored communities-of-practice (Barthel et al. 2010), and support biodiversity and ecosystem services in broader metropolitan landscapes (Biesmeijer et al. 2006; Barthel et al. 2010; Krasny and Tidball 2009; Andersson, Barthel, and AhrnÈ 2008; Kearns et al. 1998; Davies et al. 2009).
So, while burgeoning cities underline the urgency of renegotiating current alignments between social, economic and ecological concerns, they also constitute potentially fruitful environments for doing so. If the challenge of sustainability, then, requires us to somehow make sense of, reach across, and heal the divides between “man” and “nature” it would seem that green areas in cities are good places to begin.

Although we aim to ‘plan’ our cities, their growth is in actual fact rather emergent in character, resulting from combinations of top-down decisions and bottom-up processes ‘driven by diverse interests, agencies and events’ (Grove 2009:292). Thus, cities can be conceptualised as complex adaptive systems (Levin 1999), ‘whose components interact in ways that cause the system to adjust or “adapt” in response to changes in conditions’ (Grove 2009:286). The inherent uncertainty of such systems requires governance and management approaches which operate through continuous learning rather than through top-down implementation of static plans (Westley 1995). In practice, this means structuring management systems to better harness already existing tacit knowledge, as well as input of new knowledge, by promoting vertical and horizontal communication. In relation to tackling extinction-of-experience these perspectives imply that urban landscapes require locally anchored learning forums capable of both generating and disseminating knowledge about nature on-the-ground (horizontally) as well as communicating this knowledge across management levels (vertically).

The heterogonous character of urban populations today, moreover, suggests that practical and meaningful engagement with nature must be enabled in a multiple ways in order to suit the diversity of people; numerous ‘in-roads’ to learning about urban nature are required if we are to revert extinction-of-experience across wider sections of urban society. Publicly accessible community gardens are deemed particularly relevant sites for investigating potential in-roads to learning, for not only are they collaboratively managed - suggesting that the potential for knowledge-sharing is high as people must interact as they garden - but they are also often open to the public, implying that more people will be exposed to, as well as potentially influence, their internal practices than is the case in for example allotment gardens which are not open to the public.¹

In light of this, the study at hand adopts a social perspective on learning in order examine the extent to which publicly accessible community gardens hold promise for countering extinction-of-experience among urban populations by combining local practice with public access. Social learning theory is deemed useful since it locates learning in social interaction, emphasising that individuals learn primarily through aligning their practices and perspectives with the various communities-of-practice with which they identify (Wenger 1998); be it their

¹ For although allotment gardens are often visible to the public, they are generally not accessible to the public, nor open for short-term participation.
colleagues at work, peer groups, or family at home. The concept of communities-of-practice, then, denotes communities of people among which learning is produced through negotiated practices, and stored - as shared knowledge - in the social structures emanating from these practices. From this perspective humans exist in larger social learning systems made up of constellations of interrelated and overlapping communities-of-practice (Wenger 2000).

**Problem statement**

- Since we humans ‘are unlikely to care about that which we do not know’ (Pilgrim et al. 2008:1004) extinction-of-experience presumably decreases popular support for protecting the environment. A grave concern since policy level goals concerning sustainable development will only be realised if the ideas they represent ’connect with heart and emotion’ of people on the ground (Adams 2006:16). Moreover, the loss of local ecological practice and learning among urban populations is perilous considering the capacity of such practices in supporting ecosystem services on the ground (Biesmeijer et al. 2006; Barthel et al. 2010; Krasny and Tidball 2009; Andersson, Barthel, and AhmÈ 2008; Kearns et al. 1998), as well as their potential role in management regimes for urban ecosystems (Colding et al. 2006).

**Aim of the thesis and research questions**

In light of the above this thesis aims to conduct an explorative study into what kinds of learning environments public access community gardens in Berlin constitute. Four specific community garden projects are investigated in order to:

i. Assess whether they, indeed, generate communities-of-practice. The logic here being that if they do, we may deduce that generated learning is to some extent stored in shared social structures, thus preserving it over time and rendering it potentially accessible to newcomers.

ii. Investigate the nature and content of potential learning processes within them in order to get an idea of what people are learning about in these projects.

iii. Discuss the extent to which public access community gardens can be said to counteract ‘extinction-of-experience’ in urban landscapes.

In line with these aims two main empirical research questions were developed during the course of the research:

i. Do investigated community garden projects generate communities-of-practice?

ii. What streams of learning are supported in the respective community garden projects?
Using these results, the following overarching discussion question is posed:

iii. Do urban community gardens counteract extinction-of-experience of urban nature, and if so how?

The thesis is structured as follows; the theory section provides an overview of theory on communities-of-practice, a literature review of studies related to local management of urban green areas, as well as an outline of the conceptual framework of the study. This is followed by an account of methodology and a case study description which contains a short historical overview of community gardening in Berlin and brief descriptions of investigated community garden projects.

In the result section it is showed that community gardens support institutionally diverse sets of locally anchored communities-of-practice where experienced based learning about urban nature and ecosystems is generated and stored. In addition it is showed that practice in these garden projects also supports experienced-based learning about social, political and economic dimensions of life in the city. Finally the discussion section suggests that these open and experimental forms of green area management hold promise for tackling extinction-of-experience among the distinctively heterogeneous urban populations of today. It also argues that community gardens foster progress towards sustainability on the local level through intertwining ecological and social concerns in learning and practice on the ground.

THEORY

Social learning and communities-of-practice

Social learning and social learning systems

Human learning is a complex process with many dimensions – cognitive, psychological, biological, as well as historical and political. The concept of community of practice developed by Etienne Wenger and employed in this thesis, however, springs from a theoretical framework with its roots in anthropology and social theory, that identifies learning as a fundamentally social phenomena (Wenger 1998, 2009)

Rather than seeing learning as an isolated and individual process of accommodating new knowledge, this perspective locates learning in the interaction between the individual and the world; an interaction which takes place through social participation, understood as a “process of being active participants in the practices of social communities and constructing identities in relation to these communities” (Wenger 1998:4). Learning is seen as something which happens all the time, whether we want it to or not.
In this view, much, if not most, of what you know depends on ‘complex social, cultural, and historical system(s), which (have) accumulated learning over time’ (Wenger 2000:225). You know the earth is round because you trust the scientific community which says so. You know you need oxygen to survive because the explanation provided by that same community correlates with your everyday experience of breathing. As a Swede, you know you come from Sweden because you trust, and have invested yourself in, a wide range of social structures that depend on the labelling of a particular piece of land in this way. ‘In this sense’, Wenger argues, ‘knowing is an act of participating in complex “social learning systems”’ (Wenger 2000:226).

**Competence – experience**

‘In a social learning system’, Wenger argues, ‘competence is historically and socially defined’ (Wenger 2000:226). When a child learns to speak, for example, it must align its way of communicating with the socially defined competence of a given language community. To be a “good student” requires displaying competence as defined by a given educational institution. To be considered convivial we must act in socially defined ways. All these socially defined competences belong to different ‘communities-of-practice’ (CoP) (Lave and Wenger 1991; Wenger 2000).

Every CoP has its own negotiated ‘regime of competence’ (Wenger 1998:137). I interpret this as meaning its own way of doing things and of viewing the world. New experiences, brought in by newcomers to a CoP, will generate friction as they encounter the socially defined competence of the community. Therefore, a newcomer must often align its experience with the competence of the community. Yet, a new experience can also drive competence if a member successfully renegotiates the content of this competence by adding new elements to it. According to Wenger, this friction may give rise to learning, individually and collectively, as experience and competence realign (Wenger 1998:139). Figure 2 below provides an illustration of this process.
Key to this understanding of learning is the concept of ‘negotiation of meaning’; as something that arises out of the friction generated when individual experiences and socially defined competences interact as people engage in shared practice. Moreover, the centrality of practice in the social perspective on learning is to be understood through its fundamental relationship to the creation of meaning (Wenger 1998:51). This perspective on practice is not mechanical. We miss the point if we understand it merely as the physical process of carrying out actions or activities, individually or in groups:

“It includes not just bodies (or even coordinated bodies) and not just brains (even coordinated brains), but moreover that which gives meaning to the motions of bodies and the working of brains.” (Wenger 1998:51)

Hence, engagement in practice also entails engaging in the production of meaning. Yet, the social nature of practice illuminates that meaning isn’t simply produced, rather it emerges through a process of by the members of the community.

Negotiation, here, doesn’t simply denote a process of reaching an agreement. Rather, Wenger argues, ‘it suggests an accomplishment that requires sustained attention and readjustment, as
in “negotiating a sharp curve” (Wenger 1998:53). He intends the term to ‘convey a flavour of continuous interaction, of gradual achievement, and of give-and-take’ (Wenger 1998:53)

Reification – Participation
Firstly, this ‘negotiation of meaning’ involves participation as we take part in conversations, joint activities, and other forms of immediate engagement. Simultaneously, this participation produces physical or conceptual artefacts – expressions, tools, documents, words, physical objects, stories, methods – which in turn come to shape the ways we interact, as well as reflect our shared experience (Wenger 1998:56-58). Wenger labels this second process reification (to reify is to “make something abstract more concrete or real” (Online Oxford Dictionaries). The level of meaningfulness of a given practice is determined by the nature of the interplay between participation and reification. Only participation risks leaving meaning unanchored and transitory, while only reification may fail to generate enough shared experience or interactive negotiation to produce meaning (Wenger 1998:65). In this sense, they make up for the inherent limitations of each other. This duality can be useful as it offers a way to analyse how the production of meaning is distributed in a given social context, practice, or enterprise. Is it produced mainly through active participation, or is it also anchored in the production of artefacts?

‘Different mixes can become differently productive of meaning.’ (Wenger 1998:64)

Communities-of-practice – learning as the production of social structure
Having located learning in the negotiation of meaning – explicit or implicit – which takes place as we engage with each other and the world, tuning our relations accordingly, Wenger also defines how such sustained practices necessarily give rise to, and becomes the source of coherence of CoP. Hence, CoP exist everywhere. A family is a CoP with its own set of roles, conventions, and stories. So is a group of colleagues who develop routines, artefacts and rituals to get their job done. But a CoP can also develop on the internet as groups of people interact continuously to develop shared ways of engaging in cyber space. In this sense, CoP “provide a privileged context for the negotiation of meaning” (Wenger 1998:85)

As such, they can be said to be the ‘basic building blocks’ of the larger social learning systems of which they are part. These larger systems, then, are ‘constellations of interrelated communities-of-practice’ (Wenger 2000:229)

Wenger defines three key dimensions of practice which link it to the formation of communities: Mutual Engagement, Joint Enterprise, and Shared Repertoire (Wenger 1998:73). Table 1 provides an overview of these dimensions and their respective constitutive elements.
Table 1. Dimensions of practice which create communities

<table>
<thead>
<tr>
<th>Dimension of practice</th>
<th>Description of dimension</th>
<th>Key elements of dimension</th>
</tr>
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</table>
| Mutual Engagement     | For negotiation of meaning to happen people must interact, they must engage in actions together, “actions whose meanings they negotiate with one another” (Wenger 1998:73). Mutual engagement is what creates membership in a CoP, it is a question of being “included in what matters” (Wenger 1998:74). Yet mutual engagement doesn’t entail homogeneity, working together creates similarities as well as differences. Wenger refers to such specialization within a CoP as "engaged diversity" (Wenger 1998:73). | - Relationships  
- Doing things together  
- Engaged diversity  
- Social complexity  
- Community-maintenance |
| Joint Enterprise      | Over time mutual engagement will create a shared understanding between members of what unites them, what their joint enterprise is; and not only in the sense of having an articulated purpose or goal, but through generating “relations of mutual accountability” which define what to do and what not to do, “what matter and what does not” (Wenger 1998:81). A joint enterprise is never a static agreement, it is continuously negotiated. Nor can it be determined by outside forces or institutions. Although CoP develop in larger contexts, and are constrained by outside forces, their practice is always a response to these conditions. In this sense their enterprise is always their own. “An enterprise is part of practice in the same way that rhythm is part of music" (Wenger 1998:82). | - Negotiated enterprise  
- Mutual accountability  
- Interpretations  
- Rhythms  
- Local response |
| Shared Repertoire     | In pursuing their joint enterprise a community will create resources for negotiating meaning, such as expressions, tools, routines, symbols, and ways of doing things. This shared repertoire provides common points of reference which are “recognizable in their relation to a shared history of mutual engagement.” (Wenger 1998:83). These resources can be employed to reinforce already established meanings, but also to develop meanings them in new directions / but also to reinterpret meanings. | - Concepts  
- Discourses  
- Stories  
- Styles  
- Tools  
- Actions  
- Historical events  
- Artefacts |

One value of this perspective on learning is that it illuminates how much of our learning is never articulated or experienced as such, it is simply what we do. However, this doesn’t imply
that everything we do is learning. Rather, notable learning is under way when the dimensions mentioned above are affected:

“It is what changes our ability to engage in practice, the understanding of why we engage in it, and the resources we have at our disposal to do so.” (Wenger 1998:97)

As a CoP is continuously reproduced by its members through the negotiation of meaning, it is always to some extent open to new elements. Therefore, CoP, and associated institutions and rules-in-use, are always emergent structures.

Yet, here Wenger is careful to point out that the active production of practice in CoP doesn’t mean that the learning they produce is always novel. CoP can also learn not to learn.

‘The local coherence of a community of practice can be both a strength and a weakness. The indigenous production of practice makes communities of practice the locus of creative achievements and the locus of inbred failures; the locus of resistance to oppression and the locus of the reproduction of its conditions; the cradle of the self but also the potential cage of the soul. Communities-of-practice are not intrinsically beneficial or harmful. They are not privileged in terms of positive or negative effects. Yet they are forces to be reckoned with, for better or for worse.’ (Wenger 1998:85)

It cannot be reinforced enough how critical this fact is for the study at hand, in the sense that identifying the presence of a CoP doesn’t in any way imply either positive or negative practices. What does imply, however, is that the given community is coherent enough to store some of its learning in social structures, rendering it potentially, but only potentially, accessible to new members or people who engage with the CoP. But whether this learning is beneficial in any wider sense is another question entirely.

**Boundaries**

Communities-of-practice imply the creation of boundaries. The realization that you are not in-the-know in a particular context makes such boundaries very clear. Yet, unlike the articulated boundaries of formal organisations such as associations or office departments, the boundaries of CoP are often fluid and overlapping. From this perspective our human world becomes a complex landscape of practices (Wenger 2009).

**Within** CoP learning occurs as individual experience and socially defined competence shape each other. **Between** communities-of-practice learning occurs as respective competences shape each other, or learning fails to occur because these competences diverge too much for negotiation of meaning to be possible. Boundary interactions can generate misunderstanding and further alienation, but they can also give rise to new insights as different perspectives meet (Wenger 2000:223) Thus, argues Wenger:

‘In social learning systems, the value of CoP and their boundaries are complementary. Deep expertise depends on a convergence between experience and competence, but innovative learning requires their divergence. In either case, you need strong competences to anchor the process. But these competences
also need to interact. The learning and innovation potential of a social learning system lies in its configuration of strong core practices and active boundary conditions.’ (Wenger 2000:234)

Learning as the production of identity

‘The concept of identity serves as a pivot between the social and the individual, so that each can be talked about in terms of the other.’ (Wenger 1998:145)

A social perspective on learning as the co-production of knowledge in communities-of-practice is not a dislocation of the individual. Because even though practice is shaped through the negotiation of meaning with others, our experience of that practice will always be our own, and we will draw our own meanings from it. So, while meaning can never be constructed independently from our social contexts, nor is it ever simply imposed upon us. Meaning is produced through the interaction between ourselves and the world (and the social communities which make up our world) (Wenger 1998:146).

From this perspective, learning on an individual level isn’t simply consolidating information or gaining new skills; it is an ongoing process which transforms who we are and what we can do, thus shaping our identity in the process. Accordingly, we define who we are through the relative meaning we draw from different social contexts of which we are part. And by the same token, argues Wenger,

‘Our identity includes our ability and our inability to shape the meanings that define our communities and our forms of belonging.’ (Wenger 1998:145)

Literature review – Community gardens and civic management of green areas

Civic urban greening comes in many forms, ranging from grass-root activism such as “guerrilla gardening” (‘the illicit cultivation of someone else’s land’ (Reynolds 2008 in Liesegang 2009)), to government led greening of urban wastelands or industrial sites which includes citizen consultation or participation (e.g. ‘Südgelände Park’ in Berlin).

This study, focuses on urban community garden projects defined as grass-root initiatives which combine individual and collective gardening on sites which grant partial or complete access to the public. In alignment with Liesegang (2009), the term ‘community garden project’ (CGP) is used in order to indicate that a community garden is both a physical space as well as a social and organisational setting including the activities of the gardeners. An additional criteria of this definition is that the garden projects isn’t merely temporary, but has existed or aims to exist for several seasons.

The broader notion of community gardens as pieces of land gardened by groups of people presumably dates back as far as the history of human gardening. In the contemporary sense of the word, however, urban community gardening as a distinct phenomena is generally considered to originate from New York, USA. In the early 1970’s citizens in socially deprived
areas began building gardens on derelict and vacant lots in order to grow food and beautify their neighbourhood (Smith and Kurtz 2003). Since then, the history of community gardening in the USA and elsewhere runs along a myriad of trajectories far too multiple to be accounted for here. The history of community gardening in Berlin, however, is briefly described in the case-study background below.

Local management and ecosystem services

Several studies have looked at the role of local user-groups in relation to supporting biodiversity and ecosystem services in urban areas. For example, Colding et al. (Colding et al. 2006) point out how areas informally managed by local-user groups (domestic gardens, allotment gardens, and golf-courts) constitute as much as 18% of urban green areas in Stockholm, and should therefore be considered in designs for urban biodiversity conservation and ecosystem management. In addition, quantitative analysis of the effects of different management practices on the generation of regulating ecosystem services (pollination, seed dispersal, pest control) found that informal management in allotment gardens provided higher abundance of pollinators than did the formal and centralised management of city parks and cemeteries; thus establishing a positive link between informal management and strengthened ecosystem services (Andersson, Barthel, and Ahrne 2008). It has also been established that informal management practices can foster sense-of-place and practical and experimental learning about local ecosystems, generating pockets of “social-ecological memory” which may aid adaptation in periods of instability and change (Barthel et al. 2010).

In sum, these studies illuminate the value of various local management forms in relation to improving management and conditions of ecosystems in the city.

Local management in community gardens

Literature which focuses more specifically on community gardens - that is, not just informally, but also communally managed urban green areas - tends to focus more on social dynamics and benefits associated with local management forms. Yet, a few of these studies address both social and environmental (ecological) benefits of local communal management through discussing it in relation to sustainable development.

In the United States research has been conducted into various aspects of community gardening since the mid 1970’s. Much of this has been coordinated and collected by the American Community Gardening Association (ACGA) which in its latest annual research review notes particular scientific advances in relation to 1) health benefits associated with community gardening (Marcus and Barnes 1999) 3) relationships between community gardens, property values and economic development (Been and Voicu 2005), and 4) design and planning methods for community gardens (Winterbottom 2000; Hester 2006) (Francis 2009).
This review also points out that areas in need of further research include, ‘the role of community gardens as elements of other types of urban open space such as large parks, waterfronts, etc’, and the ‘(c)ontribution of community gardens to sustainable development of cities’ (Francis 2009).

Tidball and Krasny respond to such calls by the ACGA in two studies which bring community gardens specifically within the ambit of sustainable development and resilience theory. The first builds on their own experience of community gardens to argue, largely conceptually, for their capacity promote diversity, self-organisation, and adaptive learning and management as local residents participate in the management of their own resources (Tidball and Krasny 2007). The second employs a number of learning theories to investigate an educational garden programme, and produces preliminary evidence of learning environments which address ‘multiple societal goals, including a populace which is scientifically literate’ (Krasny and Tidball 2009:1).

An earlier, more quantitative, study by Holland examining the intensions behind and the focus of activities in 96 urban farms and community gardens in the UK suggests that these collectively managed green spaces hold promise for realising sustainability on local level since they often simultaneously address and integrate social, environmental and economic concerns (Holland 2004).

Although multiple studies have been conducted on community gardening in the context of Berlin, only two of them exists in English. One of them looks at changing perceptions of civic engagement in governance of green areas in the city (Rosol 2010), and is briefly accounted for here in historical background in case study description below. The other study is a comparative analysis of place-making in a community garden in Berlin and one in Rotterdam which aims to ‘explore why people get involved in community projects in public space’ (Liesegang 2009:iii). Its basic findings point out that community gardens can foster a sense of ownership and belonging among participants, but also cause ‘unintended exclusionary effects’ in potential visitors who experience the gardens as someone else’s ‘home territory’ (Liesegang 2009:iv).

**Conceptual framework and contribution of study**

Reverting extinction-of-experience in urban landscapes requires fostering meaningful engagement with, and learning about, nature among its inhabitant. The social perspective on learning delineated in the theory section locates learning in the continuous negotiation of meaning in which people engage as they live their lives as members of various communities-of-practice. Interdisciplinary research applying this perspective to urban ecosystem management has, indeed, found that local communities-of-practice among allotment gardeners nurture and store experienced based learning about nature.
Given that community gardens, just like allotment gardens, also entail local management of urban green space this study presupposes that similar learning is possible there. Yet, as stated in the introduction, practice in community gardens has an explicitly collective character, and is generally more open to newcomers since the space they occupy is often open to the public. For these two reasons, this study deems community gardens to be particularly relevant places to investigate local knowledge generation and its interaction with wider society. In sum, then, the study is interested in the capacity of gardens which combine local practice and public access counter extinction-of-experience in urban landscapes.

Accordingly, the conceptual framework of this study suggests that community gardens which provide public access may hold particular relevance for countering extinction-of-experience in wider society since any communities-of-practice they give rise to must to some extent be active at its boundaries given the likely influx of external actors in their garden. Figure 2 below illustrates this by contrasting community gardens to allotment gardens and public parks.

![Figure 2. Community gardens as urban green spaces which combine local practice and public access. The assumption is that communities-of-practice anchored in management of publically accessible space must to some extent interact with their wider social context.](image)

The contribution of this study is two-fold. Firstly, in contrast to earlier reviewed literature on learning in community gardens it focuses explicitly on open community garden projects in order to explore how this impacts the nature and content of learning both within and beyond respective gardens.

Secondly, it is the first study to employ a learning perspective when investigating community gardens in Berlin. As mentioned in the literature review, so far only two earlier studies exist in English; none of them employ a learning focus.
Moreover, it should be added that Berlin is deemed a particularly suitable context for investigating community gardens since the city still possesses plenty of urban wastelands and hasn’t yet developed set legal or institutional frameworks for community gardening. This suggests that community gardening here is still experimental to a greater extent than in cities such as for example New York where they are already established elements in the urban landscape.

Lastly, it should be stated that this study, in accordance with social learning theory, adopts a perspective on cities as social learning systems characterised by constellations of overlapping and interrelated CoP active across differing spatial and temporal scales (Wenger 2000). Since this perspective stresses the emergent, non-linear, and continuously negotiated character of human learning it has many affinities with understandings of cities as complex adaptive social-ecological systems (Folke 2006) ‘whose components interact in ways that cause the system to adjust or “adapt” in response to changes in conditions’ (Grove 2009:286).

Furthermore, both these perspectives rhyme well with ‘relational’ notions of space as articulated within post-structural approaches to geography. Relational perspectives argue that spaces aren’t static territories with essential identities (Massey 2005; Murdoch 2006), but ‘dynamic and open entities whose meanings and identities are constituted within cross-cutting networks of often global social relations and understandings’ (Lachmund 2004). That is; space is constituted through interaction, and is thus ‘always in the process of being made’ (Massey 2005 in Sheppard 2009). Central to post-structural geography is how existing spatial configurations always reflect prevailing power relations (Murdoch 2006). That is; discrete spaces are only stabilized as long as certain power relations are capable of enforcing stability. Accordingly, Harvey employs the term ‘temporary permanences’ in order to denote the intrinsically provisional character of any given spatial configuration (Harvey 1996 in Murdoch 2006).

These three perspectives are united by their shared emphasis on process as they refuse to adopt static, predictable, and linear interpretations of the world. So although empirical research in this study is guided only by social learning theory, relational perspectives on space as well as an understanding of cities as complex adaptive social-ecological systems will complement interpretation of results in the discussion.
CASE STUDY BACKGROUND

Historical background: Urban space governance and community gardening in Berlin

The emergence of community gardening in Berlin over the past three decades must be placed in relation to the changing attitudes of, and relationships between, local state and non-state actors concerning governance of urban green space in the city.

When the first community gardens emerged in West Berlin in the early 80s, urban green space constituted a distinct frontier in conflicts between local governments sceptical of civic engagement and social movements critical of the paternalistic welfare state and its tight control over urban space (Rosol 2010:5). People lobbied local authorities for more green space, sometimes taking action themselves through greening back yards of housing blocks or squatting public land to avoid development (Meissle 1998 in Rosol 2010). Although authorities generally responded with scepticism, attempting to thwart such efforts by citizen groups, some still succeeded in establishing self-determined green spaces on public land.

Although similar struggles over urban space continue today, several surrounding factors have changed dramatically. It is important to note that the shifting landscape of urban space governance in Berlin has taken place under circumstances that differ markedly from most other large cities in Western Europe. The fall of the Berlin wall and subsequent unification of the city created an abundance of unused urban spaces (Brachen), paralleled by a dire lack of public funds to maintain them (Liesegang 2009:5). Thus, various forms of temporary usage (Zwischennutzung) proliferated across the city as brown fields and former industrial areas were turned into skate-parks, cultural centres, and wild green spaces. Much debate has centred on whether, or how, to incorporate these creative "urban pioneers" in urban development designs (ed. Senatsverwaltung für Stadtentwicklung 2007b in Liesegang 2009). As fiscal cuts have also impacted funding for public parks, local politicians have, among other things, begun making calls for civic engagement in management of green spaces (Rosol 2010:5).

These developments have also been paralleled by what sociologist Marit Rosol refers to as processes of "neoliberal urban restructuring", as planning and urban development policies have shifted towards favouring entrepreneurial strategies, competition, and business development over traditional welfarist functions such as provision of collective services (Rosol 2010:5). The state owned company ‘GrünBerlin’, which now runs several of the major parks in Berlin, is one example of such strategies.

So, as local government has become increasingly willing to "outsource" management and maintenance responsibilities, the importance of non-state actors from both private sector and civil society has steadily increased. Here it is important to note that devolved responsibility is
seldom matched financially, clearly illustrated by that fact that none of the four prevailing community garden projects that possess official public park status receive continuous funding for the public benefits they provide. Funding can only be received in connection to physical improvements of the park.

An additional variable influencing the fate of community gardening in Berlin are the changing conditions of the real estate market. The past decade has seen rapid privatisation of public property as the state of Berlin struggles to finance its deficits. A major factor in this process was the creation in 2001 of the "Liegenschaftsfond" – a state owned private company mandated to manage and market the entire stock of publically owned land. Its creation meant that local district authorities (bezirks) lost control over public property in their burrows. Now any development of public space for collective services must be motivated to, and approved by, the ‘Liegenschaftsfond’. For community gardens with interim contracts on public land, this means that backing by local government isn’t enough for long-term tenure to be secured. Community gardens on hitherto undeveloped private land face similar challenges as real-estate development is becoming increasingly profitable.

So the parallel pursuit of entrepreneurial strategies and civic engagement appears to be giving rise to mismatches between levels of governance. Several people interviewed in this study talk about how the senate is pushing for business development and privatisation, while local districts are struggling to cater their citizens and regain influence over local spatial developments.

**Community garden projects in Berlin today**

Today Berlin has between 25 and 35 community gardens, the number varying depending on classification criteria. They are spread out over the city, with a slight over representation in the boroughs of Friedrichshain, Kreuzberg and Neukölln. The garden’s vary in type and orientation, some emphasising their neighbourhood character, while other have more explicit themes such as intercultural gardens, children’s gardens or learning gardens (Rosol 2006). They vary in size, ranging from 100 square meters (Kiezgarten) to 30’000 square meters (Lichtenrade Volkspark). The number of members also vary, ranging from 10 (Wreizener Freiraumlabor) to 100 (Lichtenrade Volkspark). But, the number of regularly active members tends to be between 10 and 30. Figure 3 below provides a map of community garden projects identified, visited and investigated in this study.
Brief case descriptions of the four investigated community garden projects

Prinzessinnengarten

The garden, which is located by Moritzplatz in central Kreuzberg, was founded in spring 2009. Legally it is run by a social enterprise (g.GmbH) called “nomadische grün” (Nomadic Green), founded by Robert Shaw and Marco Clausen. The land is rented from the state of Berlin through the Liegenschaftsfond – a state-owned private company vested with the responsibility to manage and sell publicly owned land in Berlin. The main enterprise of the Prinzessinnengarten is mobile organic urban farming. Vegetables and herbs are grown in reused breadboxes, sacks, and recycled milk-cartons (sold as “take-away” gardens), and used in café as well as sold to the public and local restaurants. ‘Nomadische Grün’ has one full-time employee and 5 part-time employees to run café and agricultural production. The garden also hosts a range of cultural activities such as music concerts, art exhibitions, and film screenings. In addition the founders, together with key participants and employees also run workshop programmes and projects dealing with questions of local subsistence, urban development, and social integration. These workshops are funded either by participating organisations or by donations from foundations. The garden is extensively frequented by visitors from the public, as well as volunteers coming to help out in its development. Se figure 4 for organisational diagram of Prinzessinnengarten.
Figure 4. Prinzessinnengarten in June 2010  
*Source:* Marco Clausen

![Prinzessinnengarten in June 2010](image)

Figure 5. Organisational diagram of Prinzessinnengarten  
*Source:* Pim Bendt, inspired by but not equal to organisational diagram in Liesegang (2009)

![Organisational diagram of Prinzessinnengarten](image)
**Bürgergarten Laskerwiese**

The garden was officially founded in autumn 2006 as the association Bürgergarten Laskerwiese e.V. officially overtook responsibility for managing the land from the municipality. About one 5th of the park space is used as a neighbourhood garden; 35 plots of land, each about 20 square meters, are gardened individually by the members of the association. The rest of the park is open leisure space, hosting a ball-court, open lawns, and walkways. It also features a triple-tiered composting system, a pond, and “benjes hedges” to create habitat for insects and small mammals. An open work days is held every second Saturday during warm seasons to manage the park. The association receives no financial support for this work. The association has approximately 40 members, with three people on the board, of which one holds the chairing position. Close ties are maintained with the neighbouring youth centre ‘E-LOK’, which was also instrumental in initiating the garden. The association participates in the annual “long day of urban nature” by providing tours of the garden and its history. An annual harvest festival is held in autumn, and smaller workshops have taken place in garden. See figure 5 for organisational diagram of Bürgergarten Laskerwiese.

![Image of Bürgergarten Laskerwiese in September 2009](Source: Pim Bendt)

**Figure 6. Bürgergarten Laskerwiese in September 2009**

*Source: Pim Bendt*
The association ‘Trägerverein Lichtenrader Volkspark e.V.’ was founded in 1981 after local residents had struggled for two years to secure a park in the local area. In 1984 a contract was signed between the association and the municipality granting the former managing responsibility for the park. Since then the park has been managed entirely by the association, and has grown to now encompass 30’000 square meters. The association receives no financial support for this work. The amount of support members have varied over the years, with a peak of about 300 in the early 1990’s, to then settle at around 100 over the last 10 years. The association has a board consisting of the chairmen and two vice chairmen, a treasurer and a secretary. The association participates in the annual “long day of urban nature” by providing tours of the park and its history. Se figure 6 for organisational diagram of Lichtenrader Volkspark.

Figure 7. Organisational diagram of Bürgergarten Laskerwiese
Source: Pim Bendt, inspired by but not equal to organisational diagram in Liesegang (2009)
Figure 8. Lichtenrade Volkspark in 1983 and 2009: From open field to forested park
*Source:* Hagen Pelka (left picture), Pim Bendt (right picture)

Figure 9. Organisational diagram of Lichtenrade Volkspark
*Source:* Pim Bendt, inspired by but not equal to organisational diagram in Liesegang (2009)
Rosa Rose Garten

The garden was founded in 2004 as local residents led by members of a housing cooperative began gardening a plot of undeveloped land on Kizigstrasse in Friedrichshain. Here the garden was developed for 4 years in an ad-hoc manner without an association being formed. It became a extensively frequented social spot for people in the area. In 2008 and 2009 the garden had to move as property was sold and development began. Plants and trees were moved to another location nearby for the 2009 season. But since the garden couldn’t stay here either it moved to its third, and present, location in 2010. It is now in the process of forming an association and signing a contract with the city of Berlin for the land it currently occupies in a park area between several large apartment blocks from the 1970’s. Se figure 7 for organisational diagram of Rosa Rose in its original location in 2008. As Rosa Rose garden was being moved while this research study was being conducted an organisational diagram could only be constructed for the garden in its original location.

Figure 10. Rosa Rose Garten in winter and summer (in its original location)
Source: Rosa Rose Website (http://www.protopage.com/garten-rosarose#Der_Garten/Impressionen)
METHODS

Study design

Due to the explorative and qualitative nature of this study the research design has been ‘an active process rather than a passive alignment with a position or doctrine’ (Mason 2002:54) Yet, over time is has come to be characterised by a combination of ethnographic and interpretative approaches. It has been ethnographic in the sense that my ‘first hand’ experience (Blomberg et al. 1993:126) of the various settings- through observing and participating in various community gardening activities – has provided me with a contextualised understanding of local practice and its meaning to participants. It has been interpretative in that I have also viewed ‘people, and their interpretations, perceptions, meanings and understandings, as primary data sources’ (Mason 2002:56) in those events when I have had to rely solely upon interviews and grey data to develop an understanding of individual or collective meanings.

This study didn’t begin with set research questions; they developed as I became acquainted with the field. Therefore, the method section is structured chronologically in order to reflect
the explorative nature of the research journey. It has been divided into three main research phases, mirroring the gradual narrowing of research questions, case study selection, selection of interview subjects, and interview guides. It should be noted that these phases were not entirely clear-cut, as they overlapped to some extent.

**Phase 1 – Pilot Study (September 2009)**
Fieldwork began with a pilot phase where existing community garden projects (CGPs) in Berlin were identified, mapped, and contacted through two on-line urban gardening forums. Some contacts were also established through personal acquaintances. In total 26 CGPs were identified (see figure 3). Responses were received from 13 gardens (see table 2 and 3). Of these 11 were visited in company with a contact person from the respective project, enabling initial open-ended conversations. It soon became apparent that a handful of key individuals were responsible for most of the networking between CGPs in the city, as well as for pushing the issue of community gardening in general through holding meetings or running the urban gardening site urbanacker referenced above. Open-ended interviews were conducted with several of them, at this point without using an interview guide. During this phase I also began attending workdays and meetings in the different CGPs, as well as between the key networking group.

Although conversations and open-ended interviews during the pilot phase were conducted without specific research questions in mind, the lens of social learning in communities of practice - drawn from the pre-empirical conceptual framework - still guided data collection. Consequently, the general line of inquiry aimed at exploring community dynamics and institutional structures in various CGPs, as well as at how they interacted with, and were influenced by, their respective contexts. This phase ended with the formulation of research question 1:

- Do community gardens support the generation of communities-of-practice?

**Phase 2 – Exploration of research questions (October-November 2009)**
An interview guide was now put together (see interview guide 1 in Appendix A) and used during 16 conversations and semi-structured interviews with people from 9 different CGPs (see table 2). These interviews aimed at identifying differences in practice between gardens, as well as identifying suitable case studies for in-depth investigation. This phase also involved increased participation in gardening activities as well as participatory observation during meetings, workdays, and garden related gatherings. In Lichtenrade Volkspark I regularised my participation, eventually spending 3–4 hours in the garden every Wednesday during a two month period. Extensive participatory observation was deemed necessary in this case to

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2) **www.urbanacker.net** is an on-line forum listing and connecting various urban greening projects in Berlin. 2) The Stiftung Interkultur website lists intercultural garden projects in cities across Germany.
compensate for the lack of English speakers in the group, which might comprise the quality of eventual interviews using an interpreter. In November I also joined a 3-day workshop in the town of Lebus where key actors from the community gardening movement in Berlin gathered to strengthen cooperation between CGPs different projects, and build a common platform for communicating with government bodies.

This phase was characterised by an adductive process of formulating, testing, scrapping, and re-formulating a second research question. Angles explored included:

- Community gardens and sense of place;
- Community gardens and co-management designs for urban green space;
- Relationships between different types of communities-of-practice and their generation of bridging and bonding social capital.

Eventually, however, all these perspectives were abandoned and a basic focus on learning in communities-of-practice was adopted, leading to the formulation of research question 2:

- What ‘streams of learning’ are supported in respective community garden projects?

### Table 2. Data collection in visited community garden projects

<table>
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<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Schöneberg</td>
<td>Lichtenberg</td>
<td>Neukölln</td>
<td>Prenzlauerberg</td>
<td>Friedrichshain</td>
<td>Kreuzberg</td>
<td>Kreuzberg</td>
<td>Zehlendorf</td>
<td>Kreuzberg</td>
</tr>
<tr>
<td>Visits</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Participatory observation</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td></td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informal conversations</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Formal Interviews</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
Phase 3 – Case study interviews (November 2009-January 2010)

A second interview guide was put together to guide open-ended interviews in the four CGPs selected for further investigation (see interview guide 2 in Appendix A).

Table 3. Data collection in investigated community garden projects

<table>
<thead>
<tr>
<th>Investigated community garden projects</th>
<th>Bürgergarten Laskerwiese</th>
<th>Lichtenrade Volkspark</th>
<th>Prinzessinnen-garten</th>
<th>Rosa Rose Garten</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Friedrichshain</td>
<td>Lichtenrade</td>
<td>Kreuzberg</td>
<td>Friedrichshain</td>
</tr>
<tr>
<td>Visits</td>
<td>6</td>
<td>8</td>
<td>10+</td>
<td>5</td>
</tr>
<tr>
<td>Participatory observation</td>
<td>1</td>
<td>8</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Informal conversations</td>
<td>2</td>
<td>-</td>
<td>10+</td>
<td>10+</td>
</tr>
<tr>
<td>Formal Interviews</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

Case selection

While visiting 13 different CGPs, and speaking to and interviewing a range of people involved in them or related organisations, I was looking for cases which would suit my pre-empirical conceptual framework. That is, CGPs which were clearly open to the public, thus potentially connecting a locally anchored community of practice with the social dynamics of its wider context. However, my case selection was also determined by 1) the age or intensity of the project, 2) the willingness of participants to be interviewed, 3) as well as their level of English or access to interpreters.

There were three other CGPs which also combined local practice and public access in similar ways, but they were deemed unsuitable for reasons listed in table 4.

Table 4. Open community garden projects dismissed for further study

<table>
<thead>
<tr>
<th>Community garden project</th>
<th>Why potentially relevant</th>
<th>Reason for being deemed unsuitable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ton Steine garten</td>
<td>Located in a public park and open 24 hours a day.</td>
<td>Project was in start-up phase when this study began so the development of a CoP was unlikely.</td>
</tr>
<tr>
<td>Wreizener Freiraumlabor</td>
<td>Located in a public park and open 24 hours a day.</td>
<td>The gardening group was very small, and only a couple of participants were willing to give interviews.</td>
</tr>
<tr>
<td>Bunte Beete</td>
<td>Located in a school yard and open 24 hours a day.</td>
<td>Although it was always open the location was too hidden to be deemed accessible to the</td>
</tr>
</tbody>
</table>
Selection of respondents

Potential respondents were contacted through attending meetings in the respective gardens as well as through emailing project mailing lists. Only a few respondents volunteered for interviews without being approached, the rest agreed after me requesting an interview. In each case either chairmen or founders of the garden were interviewed in order to get a clear picture of the trajectory and history of the project. All additional respondents sustained a medium to high level of engagement in their respective CGPs, and had been part of the project for at least one season (most respondents had participated in their projects for longer). I defined a medium level of engagement as working in the garden at least once a week during warm seasons. Although interviews with less involved members would certainly have contributed valuable perspectives on how peripheral participants engaged in practice, it was deemed more important to gather data from subjects with enough involvement to be able to answer questions concerning a wide range of variables within the projects.

The aim was to interview 5 people in each project, a goal which was achieved in Bürgergarten Laskerwiese and Prinzessinnengarten, whereas I only conducted 4 interviews in Lichtenrade Volkspark and Rosa Rose Garten respectively due to lack of further participants willing to be interviewed.

Since only a handful of participants in each CGP were interviewed, results concerning learning themes supported in the different projects should not be considered as exhaustive of actually existing streams of learning. As for dynamics and the nature of each community of practice results may be considered more comprehensive as interviews were complemented by other data sets, such as informal conversations, observation, participant observation, and reading of printed materials, statutes and blogs.

Interviews

Interviews were used to gain an understanding of participants perceptions of community dynamics and learning experiences in their respective CGP. They were also used to elicit individual perceptions of the impact and relevance of the CGP for them personally, as well as for the wider social and institutional context within which these projects are embedded, be that the local neighbourhood or interactions with local government. Interviews were open-ended and semi-structured in order to foster a flexible and reflective conversations. This was a desirable mode of interviewing as the analytical framework of social learning aims to highlight both tangible, consciously experienced learning, as well less clearly articulated forms of learning resulting from whatever practices the CoP engages in. An open conversation is more likely to elicit information about these later forms of learning than direct and structured questions. All formal interviews were recorded and transcribed.
**Observation and participatory observation**

Observation and participant observation was conducted continuously in various CGPs throughout the fieldwork period. In some gardens the occasions soon became too many to keep track of, but table 4 provides an indication of amount and frequency.

**Phase 4 – Data analysis – (March – April 2010)**

The data analysis process was qualitative and interpretative, that is, results were arrived at through integrating analysis of transcribed interview responses with observed behaviours, informal data (data received through informal conversations) and grey data.

I was intending to employ Atlas.ti software to organise the coding process, but was inhibited from doing so due to technical difficulties. Hence, transcribed interviews were simply colour coded in relation to research question 1 and for the discussion question (see coding scheme in Appendix B). This meant that I had to limit the amount of codes used since complexity would otherwise become impossible to handle without using software. Indexed data has therefore been treated as ‘unfinished resources’, enabling me to locate themes across data sets, rather than to conduct advanced cross-sectional comparisons (Mason 2002).

**RQ1- Do the studies community garden projects generate communities-of-practice?**

Here observed practices, grey data, and transcribed interview responses were analysed through looking for the three dimensions of practice which links it to the formation of communities. Table 1 describes the analytical framework utilised to identify these dimensions. In accordance with this framework a community of practice was deemed to exist if some development had taken place along all three dimensions. In addition, an understanding of differences between the respective CoP was gained from questions concerning organisational structures, decision-making, and division of labour within the core groups.

Although employed approach was sufficient to establish whether CoP existed or not in the respective CGP, it was less successful at establishing differences between them in a rigid and transparent way. Here, it may have been useful to map out and compare the extent to which the various CoP engaged in participation, and produced reification, beyond their own boundaries, in order to measure how ‘open’ they were to their societal context.

**RQ2 - What streams of learning are supported in the respective community garden projects?**

For research question two interviews responses were coded according to various learning topics. Initially they were many, but as analysis and further participatory observation progresses they were narrowed down to the six main ‘streams of learning’ described in the results. Although axial-open coding wasn’t employed in full, the coding process still involved separating *emic* and *epic* codes; the former referring to codes denoting themes as explicitly
articulated by respondents, and the latter referring to codes utilised by the interpreting researcher (myself) to denote themes as derived from other data sources as well as the theoretical framework (Crang 2005). This approach was deemed suitable because the notion of ‘streams of learning’ is meant to encompass both learning as explicitly experienced by respondents (emic codes), as well as more implicit learning which emerges out of the meanings negotiated through the practices they engage in.

**Limitations**

One major limitation of this study is that German literature on community gardening and urban greening in Berlin could not be reviewed since I don’t speak sufficient German. The most seminal piece of literature missed out here is probably Marit Rosol’s PhD thesis from 2006 which constitutes the first comprehensive study into community gardening in the city (Rosol 2006). Finally, my lack of German has also inhibited a review of government and municipal reports reviewing civic engagement in urban greening such as the “Öffentlich-private Kooperationen in der Grünflächenpflege: Möglichkeiten und Grenzen” (Elpers and Kohlbrenner 2006). However, since the onus of this study lies on practice and learning within studied CGPs, rather than on civic engagement in green area management in Berlin in general, I deem my inability to review contextual literature less compromising for the research.

Another limitation of this study is that all respondents in case study CGPs were either core or active participants. Hence, it doesn’t include direct accounts representing the perspectives of peripheral participants or ad-hoc visitors which would have provided a more comprehensive overview of the ways in which CGPs generate learning also outside their respective CoP.

**Critical reflection on methods and data**

Since this study has been explorative and relied to a great extent on qualitative data it is important to emphasise its fundamentally ‘interpretative’ and ‘reflexive’ character (Mason 2002:78). Therefore, interpretations and conclusions emanating from the research are as much a reflection of me and the adopted theoretical framework of social learning, as they are a reflection of a discrete “reality”. Thus, this study should be viewed as one of many potential ways of telling the story at hand; another person, employing a different theoretical framework, would probably have answered the same questions differently.

The fact that the study was is conducted in a context where I didn’t speak the native language obviously impacted the research. Spending 6 months in the field enabled me to gain a descent overview of the local community gardening “scene”; yet, although sitting through countless meetings gave me a sense of the atmosphere and the main issues discussed, I never penetrated

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3 English translation: *Public-private partnerships in green area management: Possibilities and limitation*
the finer textures and nuances of communication due to my lack of German, as well as lack of sensitivity to social and cultural contingencies.

In addition, my lack of German certainly impacted the quality of several interviews where English wasn’t the respondents first language; potentially causing misinterpretations on my part as meanings where lost in translation. It is also possible that respondents didn’t always interpret my questions as I intended them. The significance of this limitation properly dawned on me as I discovered the difference in qualitative depth of data between interviews with respondents fluent in English, and interviews where language barriers existed. In the case of Lichtenräd Volkspark where no respondents spoke English, and all interviews where conducted through interpreters, this limitation was pre-empted and compensated for by conducting extensive participatory observation during 7 full workdays in the park. I am sincerely grateful to all respondents who agreed to interviews despite my lack of German.

As the fieldwork unfolded I started making friends among the people I studied and interviewed, thus making it increasingly difficult to separate ‘the field’ from the ‘non-field’, which may raise questions concerning scientific rigour. However, it would have been impossible to gain the insights that I did without establishing relationships of mutual interest and respect with several respondents, granting me access to finer dimensions of practice within - and networking between - various community garden projects. Accordingly, I would like to iterate Cindi Katz when she emphasises the futility of separating field and non-field given that we always exist in ‘the blurry space of everyday life that…is also the field’ (Katz 1994:67). In addition, this also feeds into questions concerning politics of knowledge when I as a scientist attempt to translate local knowledge and learning processes into terms which will be taken seriously by policy-makers “whose evidentiary preferences still takes statistical analysis as its template’ (Whatmore and Hinchliffe 2003:10). Accordingly, Whatmore and Hinchliffe (2003:11) urge social scientists to invest more of their energies in intervening in the terms on which city residents and other urban constituencies are invited, and enabled, to engage in the policy-making process’. I take the explorative nature of this study to constitute an initial stepping stone in this direction as I have collected data and constructed my arguments not by setting myself apart and above the people I’ve studied, but through continuously engaging with them in practice and dialogue, concerning both the direction as of urban community greening in general, and the direction of my research in particular.

The social learning perspective adopted in this study locates learning in practice and sees knowledge as stored also in the physical artefacts produced through this practice (Wenger 1998). Hence the physical character and location of the gardens are inseparable from any analysis of learning therein. Accordingly, I tried to the furthest extent possible to conduct interviews in, or in proximity to, the respective gardens. Yet, although the gardening season continued for much longer than I thought (people still being active till mid-December) it
eventually became difficult to catch people “in-action”, as cold weather forced us to retreat indoors. This means that a couple of interviews were conducted in mid-winter, presumably limiting the associative capacity of respondents when recalling experiences and practices from the gardens.

Furthermore, the research process also made increasingly clear the limitations of interviews as methodological tool for gathering data on learning as embodied in, and produced through, practice, in so far as it ‘…require people to be able to put their knowledge into words…’ (Whatmore and Hinchliffe 2003:10). Hence, I’m in agreement with Whatmore and Hinchliffe when they state that…

‘...a focus on practices, or what people do, as opposed to discourses or what people say, requires a methodological investment in new and still experimental approaches like visual ethnography.’ (Whatmore and Hinchliffe 2003:10)

So, if I had a chance to do this all again, I would perhaps attempt to employ visual technologies to ‘amplify the bodily registers of ecological knowledge practices and the range of affective sense, feelings and habits that they exercise’ (Whatmore and Hinchliffe 2003:10).

However, all these weaknesses displayed, I want to reinforce that this study is founded on extensive and strong empirical observations as well as continuous revaluation of indicative findings in relation to on-going fieldwork, conversations with community gardeners, and in-depth interviews.

**RESULTS**

**Do investigated community garden projects support communities-of-practice?**

The short answer to the question above is yes, all four CGPs have generated CoP. This conclusion has been reached by establishing that the three dimensions of learning in practice - mutual engagement, joint enterprise, and shared repertoire – have been effected to some degree in all cases. Table 6 provides an overview of these findings.
Table 5. Dimensions of practice fostering the creation of communities-of-practice in investigated community garden projects

<table>
<thead>
<tr>
<th>Community Project</th>
<th>Garden Project</th>
<th>Mutual Engagement</th>
<th>Joint Enterprise</th>
<th>Shared Repertoire</th>
</tr>
</thead>
</table>
| Bürgergarten Laskerwiese | Bürgergarten | • Collective workdays.  
• Board meetings.  
• Ad-hoc interaction in garden.  
• Core members spend time in the garden daily during warm season.  
• Active members come weekly during warm season.  
• Interaction on blog; exchange of recipes, pictures, etc.  
• E-mail discussions. | • Gardening.  
• Securing a plot to grow vegetables in the city.  
• Maintaining a public park (core members).  
• Maintaining a functional association (core and active members).  
• Experimenting with civic management of public space. | • Plants, trees, and bushes  
• The physical structure of gardening area.  
• The park area.  
• The pond.  
• Compost.  
• Benjes Hedge.  
• The container with tools, toilets and cutlery.  
• The blog.  
Stories and discourses  
A sense of participating in experimentation with civic engagement in public space. |
| Prinzessinnengarten | Prinzessinnengarten | • Continuous work in garden, with vegetables boxes, café, cultural events, workshops, social programmes, and social events.  
• Core participants also engage when planning, dealing with external actors, research cooperations, and fund raising.  
• Active participants work in garden several times a week  
• E-mail discussions (core and active members). | • Urban agriculture (core participants).  
• Maintaining a participatory green space.  
• Maintaining an open arena for creativity, socialising.  
• Creating ‘green’ jobs (core participants).  
• Fostering local empowerment.  
• Spreading awareness about urban food production. | • Plants, trees, and bushes  
• The physical structure of the garden.  
• The mobile gardening boxes  
• Composts  
• Benjes Hedges  
• Shared Tools  
• Take-away’ gardens  
• The café containers  
• The ‘stadtsafari’ logo  
• The g.Gmbh and employment contracts.  
Stories and discourses  
The value of fusing participatory gardening and social enterprising. |
| Lichtenrade Volkspark | Lichtenrade Volkspark | • Core members work in garden/park 6 hours on Wednesdays and Thursdays.  
• Many of them spend every day in garden/park during warm season.  
• Board meetings.  
• Social activities outside of garden, watching tv together (eg yearly trip to Bayern).  
• Annual Harvest festival involve close interaction with general public. | • Maintaining a public park for the local neighbourhood.  
• Maintaining and developing the ’werkhof’ area and its gardens.  
• Nurturing their social community. | • Plants, trees, and bushes.  
• The physical structure of the park and “werkhof” area.  
• Shared tools.  
• The association.  
Stories and discourses  
A sense of pride over having created and managed a public park. |
| Rosa Rosa Garten | Rosa Rosa Garten | • Ad-hoc gardening together.  
• Social events  
• Gardening actions across the city.  
• Political manifestation events  
• Meetings (core participants)  
• E-mail discussions (core and active members) | • Gardening  
• Maintaining an open social garden in city.  
• Countering commercial development of urban space.  
• Presenting alternative interpretations of how to use urban space. | • Plants, trees, and bushes  
• The physical structure of the garden.  
• Shared tools.  
• Website.  
• Rosa Rose slogans  
• Graphical tags and logos  
• Stickers  
Stories and discourses  
An articulated sense of solidarity and communal life styles. |
Accordingly, the four CGP support learning environments in so far as they change the participants ability to engage in on-going activities, provide them with an understanding of why they do so, and provide them with tools and guidelines to develop their engagement further.

Saying that all CGPs have generated CoPs, however, isn’t to say that the two are synonymous. The respective CoPs have developed within and in relation to each CGP, but the latter obviously includes many dimensions, and involve many actors, which aren’t part of the local CoP.

The size, coherence, and fluidity of CoP differ from garden to garden. In some cases they are distinct, clearly bounded, and easy to identify like in Lichtenrade Volkspark (where the same 8-12 people interact several days a week), whereas in others they are more irregular and shifty in character, yet still coherent enough to create a shared history of learning, such as in Rosa Rose garten (where participants in, and composition of, the group has changed continuously, while still retaining a distinct identity and character associated with the garden).

The four CoP have different institutional structures for decision-making. Lichtenrade Volkspark and Bürgergarten Laskerwiese are associations (vereins) with boards and chairmen. In Rosa Rose there are no official structures and decisions are taken in an ad-hoc manner. In Prinzessinnengarten decisions are ultimately made by the founders of the enterprise, but in everyday development of practice decisions are made by various participants on an ad-hoc basis. Rules-in-use differ between the gardens as well. While individual beds for gardening are praxis on Bürgergarten Laskerwiese, the other three projects generally pursue gardening collectively. Yet, Lichtenrade Volkspark the members have different specialities, such as caring for roses or nursing of trees, and in Rosa members have at times cared for individual beds.

The level of boundary interactions differed greatly between the four CoP, with Prinzessinnengarten engaging with the public and multiple external actors on a daily basis, while the Lichtenrade CoP generally devotes its attention to tending the park and its internal social relations. Rosa Rose is generally interactive as the original garden was an important social meeting point in the local area. Boundary interactions among of Rosa Rose CoP have been significantly reinforced by their struggle to save their garden from eviction as this has involved public manifestations, extensive interaction with press, and general social turmoil around the garden.

More detailed descriptions of the four respective CoP can be found under Appendix C.
What streams of learning are supported in respective community garden project?

Any attempt to tease out distinct categories of learning when looking at heterogeneous groups, engaged in an array of activates, spanning across different scales in space and time, will obviously result in superficial distinctions and arbitrary separations. However, in order to illuminate the fact that the community garden projects in this study engage people in processes of practice and learning which span beyond mere gardening, I will use the notion of “streams of learning” to distinguish between the main topics people seem to be learning about.

In accordance with Wenger’s social theory of learning these ‘streams’ do not only denote learning as consciously experienced and expressed by individual respondents; they encompass all the learning concerning a particular topic - conscious and unconscious, individual as well as collective - which takes place as people engage in the various practices they pursue. Thus, the term ‘stream’ denotes a variety of practices and interactions which in aggregate push learning in a particular direction, as people gather, work, cooperate, discuss and disagree in the process of developing the community garden projects of which they are part, contribute to, or sway influence over.

Figure 12 below provides a visual illustration of the presence and relative strength of the six main identified streams of learning in the four cases, which are:

- Learning about gardening and local ecological conditions
- Learning about social organisation and participation
- Learning about social integration and your neighbourhood
- Learning about the politics of space…through park management
- Learning about the politics of space…through political struggles and local empowerment workshops
- Learning about social entrepreneurship

This list is by no means exhaustive, as it is obviously impossible to identify a ‘total’ number of learning streams. These six streams are however those which stood out most clearly as I observed practice and analysed interviews, and they are described under their respective headings below.
Learning about gardening and local ecological conditions

Given the nature of the projects it is assumed that participants learn about gardening. Therefore this section focuses of learning about local ecological conditions, understood in terms of the two first levels of ecological knowledge as defined by Berkes (1999). That is, ‘(1) ‘the names of living (e.g., plants, animals) and physical (e.g., soils, water, weather) components of ecosystems; (2) the functions and uses of each component...’ (Berkes 1999 in Pilgrim et al. 2008:1004).
In **Prinzessinnengarten** all respondents testified to increased knowledge and enthusiasm concerning gardening and growing vegetables through their engagement in the garden. For some it entailed profound realizations like understanding that urban agriculture was possible at all (Roschka). Another respondent, educated in organic agriculture, talked about how he was now learning how small scale urban agriculture presented very different challenges than rural ecological farming (Oliver). He also explained that the process was very experimental, since they wouldn’t know if the method developed theoretically in his thesis would work in practice until next season when the “resting” composting boxes would finally be planted in.

The garden also appeared to function as locus of knowledge where less experienced participants could get advice from those who knew more (Rachael, Roschka, Oliver). Rachael, who engaged in “guerrilla gardening” by a nearby roundabout, testified to increasing her knowledge concerning which plants were suitable for the dry and poor conditions of most public spaces through her involvement in Prinzessinnengarten. She also mentioned increased attentiveness to the weather in general. Such increased awareness also points to how learning and practice in the garden has the capacity to instil participants with new, or reinforced, awareness of issues and processes operating on greater scales than the garden itself. Another respondent mentioned how her concern for environmental issues increased through her engagement with the garden, as well as the way she perceived the city. She now often found herself continuously assessing the potential for greening wherever she went. Similarly, Roschka mentioned how books on gardening and urban issues suddenly started “sticking out” when in book shops.

For some, in addition, the garden seems to have presented the possibility to explore in practice their thoughts concerning environment and sustainability:

“I think its definitely a practice in applying biodiversity into the city. I think its definitely happening, but for it to work we would need a lot more of these projects (...) ...patches from here to here so that you have really a green band going through the city... ” (Oliver)

In **Lichtenrade Volkspark**, all respondents said they knew very little when asked about local ecological circumstances. Yet, their answers to less pointed questions painted another picture. For example, Erika lets me know that through changing flowers year to year in the park, she has learnt that Asdan just wont grow because the soil is too rich in lime. Heinz has come to realize that they shouldn’t plant pine trees because they drink too much water, which is scarce here. Furthermore, he adds, they also acidify the ground around them which causes problems for other plants; so lately they have been cutting some of them down (which I participated in doing during one of my workdays with the group). Heinz is also passionate about roses, so he continuously conducts soil tests in search of clay since their roots require soil with high capacity for water retention. He is also nurturing a wild meadow by removing shrubs and
nettles to create space for native flowers. He thinks its important that the park isn’t “just green”, but features colours that change with the seasons.

Although, these knowledges may be anecdotal, the fact that some of the members have actively participated in the development of the park for 30 years - seeing it go from a barren field to a forested park - suggests that the group retains extensive knowledge concerning ecological features of the park, even if they are not directly conscious of this. They have nursed its trees, tested its soils, and composted its waste for three decades.

Four of the respondents in Bürgergarten Laskerwiese expressed learning concerning local ecological circumstances, such as soil quality in the garden (Roland), shade patterns and heat levels in different parts (Gerlinde), impact of Berlin climate on gardening Claudia), and local wind patterns (Gerlinde):

“the kiwis are interesting, male and female are on different plants (...) so its important from which way the wind comes, so if you plant in wrong manner then you get no fruit, but we did it right” (Gerlinde)

Respondents also expressed that they had to adapt their prior knowledge to local ecological circumstances:

“you may know how to grow tomatoes... but you have to also know the particularities of the ground, so the other members told me, oh its really poor ground don’t try this or don’t try that, its not worth all the efforts because it won’t grow here.. you see our garden is really exposed to sun as it is quite a new area with only a few trees, so have to think about not to plant plants which are sensitive to the sun..” (4K)

In Rosa Rose Garten both Susanne and Renate expressed learning concerning the local circumstances for gardening:

“I’m totally not used to this soil here, I’m used to have really good dark soil, and this here is sandy, and I learned what grows here, I learned much about compost... we have our own (...) because the soil is so bad (...) I got to know plants I didn’t know before, because they don’t grow where I grew up... (Renate)

Concerning local ecological conditions Renate emphasises that any knowledge she has gained is of very general character, such as shade patterns and wind conditions. She adds, however, that several years ago, in its original location, the NGO ‘Friends of the Earth Germany’ conducted an ecological inventory of Rosa Rose to se if they could establish it as a biodiversity zone in order to protect it from impending commercial development. Although they identified multiple species of plants and animals they couldn’t build a case strong enough to motivate legal protection

Susanne mentioned the value of engaging with soil to discover what impacts the city have on it,:

“...we live in the city and we produce this dirt, so why not eat it and feel it... ” (Susanne)
She also talked about how gardening involved adapting the garden to the habits of the people visiting it:

‘...is this the place where maybe people will sit down when we screen a movie, or there will be a pathway probably, or this bed doesn’t work because people step over it, ok maybe we need to move it to another side...’ (Susanne)

This weaving together of ecological and social dimensions is interesting as it points out how these collectively managed gardens entail adapting one’s practice to “nature” and “society” simultaneously.

The reflection by Claudia quoted below on the limited water supply in Laskerwiese nicely illustrates this by pin-pointing the on-going negotiation – learning - concerning how to garden according to local conditions, as well as the multiplicity of processes, actors, and relations which effect this practice:

‘the problem of Berlin is that its very dry, so we (...) talked about... how we could put some big barrels... to get rainwater... but on the other hand you can say “like the year is there is you garden”, when the year is good for growing you have a good harvest, when it is not then it looks bad (...) so what comes comes (...) like nice rats that like to eat all the tulip onions, then you don’t have any tulips ha ha ha. .. that’s how nature is, I like that, I mean that’s how it is... and there are some people who like to steal the tomatoes. but that’s okay, when its not too much its okay....

Learning about social organisation and participation
The various accounts below illustrate ongoing “negotiation” concerning organisational structures and the meaning of participation for a diversity of urban citizens in Berlin. The learning stream has thus been labelled social organisation and participation.

In Laskerwiese all the respondents mentioned learning about how to manage an association, mainly in reference to the collective work days and monthly meetings, and the discussions and struggles being played out there.

One topic of recent contention mentioned by all was the feeling on part of some of the members that most fun and substantial jobs related to management of the park area were monopolized by the small group of members spending time in the garden every day, only leaving the boring tasks of picking up garbage or dogs droppings for the collective work days. Many also felt that meetings were dominated by the board, the same people chairing and writing protocols every time. Steps had recently been taken to begin rotating these roles. Yet, here opinions differed as some felt that the association and park’s whole existence depended on the dedication of the board, as well as the container group, referring to the unwillingness of other members to take on more responsibility. A perspective reinforced by my own participatory observations at a meeting where it took 15-20 minutes for somebody to
volunteer for the vacant position on the board, a position which if left unfilled would jeopardise the fundamental legality of the association, and thus its contract for the land with the city. Here Claudia suggested they imitate allotment garden associations by introducing mandatory four hours of communal work per member and year, which if unfulfilled require a certain payment to vereign treasury.

The above conflict appears to centre around people’s sense of lack of ownership of tangible processes in the park section of the garden. And, indeed, one respondent expressed a desire for more change in garden, mentioning how several new ideas had been raised in meetings, like developing a “wild” section, “public vegetable beds” or an “English” garden. But she felt that there didn’t seem to be much scope for change to established lay out and routine. For, Kati, however, this wasn’t seen a problem:

‘...me for example I just wanted to do gardening, I’m not interested in constructing I don’t what, I came there to do gardening and that’s it and I’m not bored... the usual tasks, this is what I expected, but apparently there are others who expected something else...” (4K,51:00)

The extent to which Prinzessinnengarten has managed to include a variety of voices within the ambit of its activities appears to depend on several variables. Firstly, as mentioned above, its location is favourable in this respect as it sits right at the heart of the ethnically and socially diverse neighbourhood of Kreuzberg. However, as accounted by several respondents, the diversity of its inhabitants seldom translates into mutual engagement between its different social groupings. Some of the respondents attribute the partial success of Prinzessinnengarten in actually fostering such engagement to the attractive pull, and neutral character, of vegetable gardening. The legality of the project, in contrast to squatting projects with activist agendas, was also mentioned as possibly contributing to the willingness of a range of actors and social groups to get involved (Rachael). Some also believe the no-strings-attached character of Prinzessinnengarten encourages broad-based participation, in contrast to community garden projects with an associational (verein) structure (Roschka, Marco, Rachael). Rachael had the impression that many people with migrant background avoided associations because they found it difficult enough to deal with “German bureaucracy” in every other aspect of their life.

Similar impressions are echoed in the following reflection by Robert:

‘...the structure of a ‘vereign’ is much more open to people who want to go in to it and take part in a responsible position, but on the other hand it kind of excludes people who just want to help and don’t want responsibility for it, they just want to come by for two hours and don’t be responsible for what they do..’

The pros and cons of being a company rather than an association is something the founders of Prinzessinnengarten have discussed extensively since its current legal status as a social enterprise was given from the outset. This discussion has also revolved around the
participatory character of the garden. “We are always careful with this term”, says Marco, who then goes on to explain that the garden…

‘...is not participatory in a democratic way, (the participants) form the place, they are this place, they create the atmosphere, but they don’t decide what’s going on there...’

Robert agrees, and then adds:

‘...we got this model where we are still open to other structures, we gave away space to the guys who are going to build a house, to a friend who’s starting a garden gallery, but we don’t give away the power to decide were to go because this thing was set up as a company it cant wait for everybody, it has to earn a living, it cant wait for everybody to decide...

In Rosa Rose social organisation has always been a key learning stream since it has up until recently had no association or other official structure to rely upon. Instead, organisation has meant improvising, much like in the case of Prinzessinnengarten, with the difference that no resources have been acquired through commercial activity. Frauke, who has also set up several other community gardens in Friedrichshain-Kreuzberg, reflects upon the Rosa Rose experience in the following way:

‘...in the Rosa Rose we had to organize everything by our own, and it was really amazing for me to see that I don’t think we had less, but we had other ways to get the stuff, like we had a lot of trees that people gave to us, I mean we were able to provide everything we needed... which in the other gardens, like in the Bunte Beete, which is on a school ground (...) there was right from the beginning a financial budget for the garden, to buy soil, to make a fence, to buy some trees and plants and so on.. ’

In contrast, Lichtenrade Volkspark has had a clearly articulated associational structure since the mid 80’s. Yet, the chairmen still replies that ‘the importance of keeping people together’ has been one of the main lessons learned during his chairmanship. Eva, who has been part of the group for the last couple of years, mentions how she has learnt a lot about how people can be incorporated into the gardening process to find their special niche.

In general, much of the practice of the Lichtenrade group is devoted to community maintenance in terms of socializing, and fine-tuning their respective roles. Since all interviewees talked about difficulties in recruiting new members, one might speculate that the distinctiveness and efficiency of internal cohesion and mutuality in the CoP may have negatively impacted its capacity to reach out beyond its boundaries.

Learning about social integration and your neighbourhood

Although there is no clear boundary between learning pertaining to social organisation and that which pertains to social integration, I intend the learning stream described here to denote learning which happens when people discover and consolidate new perspectives on their local areas, or on life in the city in general, rather than learning pertaining to how to
organize interaction. Yet, it is obvious that social integration as a learning stream also pertains directly to the question of how to foster participation in CGPs.

Although the initial ambition behind the Prinzessinnengarten was simply to create space in the city to grow some plants, the founders quickly realized they were becoming immersed in a range of other issues as well. Today, says Marco…

‘...one of my most important concerns connected to this garden is the question of what is urban lifestyle, for me (it) is the mixture of people, that people come together who usually don’t mix (...) they work together, they see what the other people do.’

‘...really, that’s what I think as well, that’s the quality, the Turkish ladies planting things with the young German couple...and they do things together and it’s really lucky.’ (Robert)

All the respondents from Prinzessinnengarten talked about the garden as a place where people from different backgrounds meet, and how the visibility of activities seemed to draw new people in all the time. When asked about how one of the more frequent participants joined the project Marco answered:

‘She just came by the fact that things are going on there, and other women with migrant background come by the fact that there are plants growing... and then we have people who are just curious to what’s happening, and then we have people coming by with stuff from their gardens...’

They also mentioned how the diversity of people, and their mutual engagement in continuously developing and shaping the garden, started feeding back into their own perception of the local neighbourhood. This became even more explicit during the “Stadtsafari” project which dealt specifically with local empowerment and urban development. Rachael, reflects upon engaging with local youth during this project:

‘it was great working with them, just to have a whole new vision on your neighbourhood, its brilliant...”

Even though most respondents had lived in Kreuzberg (renowned for being socially and culturally heterogeneous) for a long time, none of them had previously interacted with youth with migrant backgrounds. Roschka recounts how when planning the Stadtsafari project they worried about whether they would be able to communicate with these kids at all. And Marco explains that he never previously noted that Turkish kids didn’t skate (use skateboards), the reason being that skate-boards are too expensive. Similar first time encounters were mentioned by other respondents in relation to working with a group of people on employment benefit involved in the garden. The extent to which this engagement across usually separate social groups affected one of the participants is illustrated in the following account:

‘...and then in the Stadtsafari the diversity became very high (...) at this last event it was a very big get-together of a lot of different people...like kids and their families, and their grandmothers, and aunts, and I think for me like it was the first time that you had really that (...) “Kreuzberg utopian thing” became true for a little bit, that its really togetherness, and not like the different groups living beside each other..’
..and eh, yeah that was very impressive, for me this garden has been something.. like a lot of things are possible somehow...”

In Rosa Rose Garten different people from the neighbourhood were brought together through gardening, but even more so as a social community space where concerts, performances, film screenings and workshops would be held. In this way it also became a place where people would just come to hang out; a quality amplified further by the fact that the garden had wireless internet and that customers from the neighbouring “kneiper” also sat in the garden drinking their beer. However, the garden also brought people together around the problems that arose. Renate tells me about how an old trailer where gardening tools were stored became a hang-out for competing groups of teenagers.

‘...it was awful, you always came to the garden and they had smashed our vegetables, and smashed things we had there.. it was really like social work you know, every afternoon you came to the garden you had to fight with these kids, and say “no no, your not allowed to do that, and if you’re going to use it you have to use it properly” (...) and they said “yeah but you don’t own it either, bla bla bla” ...but the point was that we continued to go there and use it and to make the negotiation and then people from the neighbourhood came to say “I saw them yesterday and we told their parents that they cannot do that” , people which are not related to the garden, but who saw what’s happening. For me it was a big part of this community aspect, that people started to know each other.. (...) people dropped by and came in and intermingled (...) and I think that only worked because we were more people than just two or so, so it was very likely that someone from the garden was there almost every day...”

In Laskerwiese a learning stream concerning social integration was less pronounced in interviews. What was mentioned was how the project involved people from both former east and west Germany, since its location - in what was formerly east Berlin - has many residents who have stayed on after unification of the country, as well as many who moved there from the west after the wall came down (Gerlinde). Gerlinde and Kati both mentioned how this gave rise to fruitful exchanges, as well as conflicts, as these different histories where interlaced in the practice of developing the garden and park.

Learning about politics of space...

The learning stream ‘politics of space’ is meant to denote learning which arises out of friction and negotiation of meaning concerning the use and development of space in the city. As such it encompasses both learning which springs from experimentation with civic management of public space as in Bürgerpark Laskerwiese and Lichtenrade Volkspark, as well as learning produced by workshop projects like ‘Stadtsafari’ in Prinzessinnengarten or through political struggles such as those pursued by Rosa Rose Garten in order to save their garden.

...through Park management

In Bürgergarten Laskerwiese several respondents mentioned how the garden was at times a place where political positions were formulated and expressed (Frauke, Roland), such as
people having an opinion about the new motorway, or commercial development along the river Spree” (Claudia)

Roland, who had been part of the project for one year when I interviewed him, described how the garden for him involved learning along multiple dimensions:

“For me it’s the three areas, flowers, politics, and social, this are the three parts I deal with and I learn from, and I think these are big areas...and including the public, we have this conversation, and misunderstandings, in Wedding where he used to live before] I didn’t have dealings in this way…”

So, never before had Roland been in a position where his realm of responsibility was impacted by the behaviour of the public. His experience, then, appears to be one of discovering or being “sensitized” to the agency of the anonymous public, and its impact upon his city; and not just in the sense that most of us witness littering in the city, but in a way where he (as part of the CGP) had to offer a response through engaging in “negotiation” with the users of the park. This negotiation took the form of for example speaking to people who walked their dogs in the park and putting up signs asking people to keep it clean. In a sense, then, the public also participates in the negotiation of what the park should be. Vandalism and theft of vegetables is also an issue which forces the gardeners to adapt their practice vis a vis the public. There are also on-going efforts to increase public involvement in the park through, for example, festive events such as harvest festivals. Other ideas include “public beds” where the public is encouraged to harvest the vegetables, or plant their own.

Local negotiations concerning how the park should be used is also paralleled by continuous communication between the association and the local municipality concerning who is responsible for what in the park; garbage collection, side-walk cleaning, putting up new signs (Kati, Roland, Gerlinde). Communication with the city is handled almost exclusively by the board, information only trickling down to other members at meetings or in relation to specific topics of contention. Communication with the municipality is also ad-hoc, revolving around issues of contention and as obstacles arise (Gerlinde). Gerlinde doesn’t feel that the municipality need to get involved further in the practical maintenance of the park, but she thinks regular meetings every 6 months so would be helpful, as well as some recognition of the financial value of the work done by the association.

“It is a completely new idea to share the work with citizens, therefore there are many things which are not clearly defined. Our Laskerwiese project is a kind of “learning by doing”, amongst others to find out how work between the park department and the gardeners can be shared and which rules would have to be defined. It seems that there are really no fixed rules.” (Kati)

Interviews in Lichtenrade Volkspark showed that the CoP adapted their practice to the ways in which the public used and abused the park (Wolfgang, Erika). Simple examples include solving the littering problem by removing the garbage bins around which garbage would pile up, or lifting the ban on barbecues in the park after accepting that they had no way of
enforcing it. Given that the CoP sustained by the active members of Lichtenrade Volkspark has managed the park for 30 years, it presumably retains valuable knowledge concerning the history and social dynamics of the local area.

…through political struggles and local empowerment workshops

Since *Rosa Rose Garten* was erected illegally on a private piece of property left undeveloped for decades, it became political project from the very start, and the garden quickly became a place where political statements would be displayed. For example, the original garden featured information posters about organic gardening and non-GM crops along with demonstrational growing of non-GM Bantam corn. One member was also always pushing the issue of “food sovereignty” (Ernährungs-Souveränität) – which emphasises people right to define their own food systems, rather than being subjected to global market forces.

“…and when there was G8 summit in Heilegendamm, it was Hanns big issue that we must (...) use the garden as a site for political statement, so we made this banner, so it was used as a public space for information…” (Renate)

At one point the garden was even black-listed by a neo-Nazi website as hang-out for anti-fascist activists.

The political nature of Rosa Rose became even more pronounced as the struggle intensified to promote, maintain, and defend the unconventional type of urban space the garden represented. When the garden was initiated in 2004 undeveloped spaces were still plentiful in Friedrichshain, and commercial interest in developing them was low. Thus, the garden received a lot of positive attention from the public, media, and local politicians, for cleaning up the space and turning it into a pleasurable garden for everyone. As property development took off in the area, however, Rosa Rose was soon threatened with eviction, and was eventually forced to abandon its original location during 2008 and 2009. It was then relocated to an empty plot behind a closed down school. But as negotiations concerning this space didn’t work out it moved once again to its present location in a courtyard between several large apartment blocs in the same area. The twists and turns of this story are many and complex, involving multiple activist actions, solidarity events, media spurs, extensive negotiations with the municipality, a failed attempt to buy the land, and finally police evictions and even law-suits.  

The process gave rise to a plethora of slogans such as:

“Ein Garten von allen für alle!” (A garden by all, for all!)

“Kein Profit auf kosten anderer” (No profit at the cost of others)

“Eine andere Welt is pflanzbar – Rosa Rose bleibt” (Another world is plantable – Rosa Rose must stay)

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4 Video clips documenting this process can be viewed at http://www.rosarose-garten.net/en/video
This struggle appears to have constituted the most tangible stream of learning experienced by those I interviewed, and constitutes a very literal point-of-negotiation between a range of actors from government, private sector and civil society in the area.

".. (before) I never had a clue... about what’s happening around me in the neighbourhood, who has got power and how, (...) this helps me also more to think how to intervene and how to be active in this... (Susanne)

"And getting to know the structures of the problems, it was also the same for me, to get into it and how the city works.” (Renate)

"I think I learned more about this than about gardening.” (Susanne)

"Ha ha, yes, far more...” (Renate)

The story of Rosa Rose is interesting because it shows how the interaction, as well as friction, between participants of the garden project, different physical locations, various local actors, and local power structures has generated a lot of thinking and learning concerning the structure, process and direction of urban development in the local area (Susanne, Renate, Julia, Frauke. This learning is evident among the project participants, but it seems safe to say that it has also encompassed other local residents and actors, including local politicians. When Rosa Rose was founded in 2004 there were no so called Bürgerparks – public parks managed by local groups of citizens - in Friedrichshain-Kreuzberg municipality. As Rosa Rose is now about to sign a contract with the municipality, granting them use and responsibility for a piece of public space, it will be the fourth official Bürgerpark in the municipality. One might speculate that the journey of Rosa Rose, along with the efforts of other grass-root urban greeners and forward thinking officials, has helped concretise the relevance and value of civic engagement in the management of public green space. For some of the respondents there is definitely a sense that their engagement with the garden is far bigger question than growing vegetables:

“...[being part of Rosa Rose] gives me the feeling to do some important work for the future also, not just to grow my stupid little vegetables which didn’t grow so well... (Susanne)

Unlike Rosa Rose, Prinzessinnengarten has not been engaged in any major conflicts. However, here the politics of space have been addressed through running workshop programmes for local youth about their neighbourhood. Through the ‘Stadtsafari’ programme local children and teenagers were encouraged to reflect upon their neighbourhood; what they liked and what they didn’t like? For whom and by whom was it being developed? It also involved designing and building things which they would like to see in their area, such as an urban pony-farm, a pink cinema castle, or a ‘parcour’ track for free-running.

*Learning about social enterprising*
In the quote above Oliver reflects upon the significance of Prinzessinnengarten’s attempt to combine urban agriculture and a community garden with social enterprising. For the founders, one of the major learning streams certainly revolves around how to pursue their social enterprise in a way which work out financially, but without loosing its participatory character. But this learning stream seems to involve other participants as well, as illuminated by Oliver’s quote above. Several respondents attest to the significant challenges involved in making ends meet in the project, but this struggle appears to give birth to new ideas continuously, such as the ‘take-away’ gardens with herbs planted in reused milk-cartons. Various events are also held to attract customers to the café and vegetable sales. Additional funds are procured through running various workshops where foundations grant money, or local schools pay for the service.

Marco mentions how being an enterprise, rather than a ‘normal’ community garden association has meant that they have been able to interact with private sector actors on equal terms, striking sponsorship or business deals which wouldn’t have been possible otherwise. Moreover, the commercial character of the project has attracted a lot of attention. Marco, Robert and other key participants have been giving interviews on a weekly basis and several TV channels - German as well as international - have already featured reports about the garden.

In sum, the fact that Prinzessinnengarten tries to pursue community gardening along commercial lines appears to have brought the basic message of urban greening and local subsistence to a far wider audience than many other projects do. Yet, this isn’t entirely unproblematic as non-commercial community gardening projects have expressed that it undermines their struggle to preserve non-commercial spaces in the city.
DISCUSSION

**Countering extinction-of-experience in community gardens**

This study set out by stating that cities today suffer from extinction-of-experience as people lack meaningful engagement with nature (Miller 2005). One of the aims of the study was to explore whether community gardens provide potential routes for addressing this problem since they combine local management of green areas with public access.

The result section established that investigated community garden projects have generated communities-of-practice, and that practice in these communities support learning streams along both ecological and social - and sometimes also political and economic - trajectories. In addition, it has become evident that these CoP interact with a range of different actors within civil society, local government, and private sector (Figures 4-7 in the case study background provide an overview of external actors related to the respective CGPs). Figure 9 below provides an overview of the extent to which the CoP in respective community garden project interacts with external actor groups.

I would here like to argue that community garden projects investigated in this study constitute arenas for creation of affective experiences, as locally anchored CoPs foster meaningful engagement with nature and learning about local ecosystem dynamics. In this way they directly counteract the extinction-of-experience in urban landscapes.

When I say that community garden projects constitute arenas for creation of experience, it is important to point out that I’m referring to processes where people’s engagement is effectively meaningful; be that in the sense of deepening or reinforcing an established practice and associated learning, or be it through gaining new experiences, acquiring new perspectives, and thus embarking upon novel trajectories of learning.

Interestingly it has become apparent that creation of experience in investigated community garden projects isn’t limited only to meaningful engagement with nature; but includes also new ways of engaging with the social, cultural, political, and economic dynamics of the city. The discussion will now move on to discuss the significance of this.
It has been explained that learning in communities-of-practice happens if individual experiences and socially defined competences realign and shape each other. Individuals learn as they align their experiences with the competence of the community. Communities learn as they incorporate the experiences of participating individuals.
For example, it was described in the results section how practice in Prinzessinnengarten, at times, succeeded in weaving together previously parallel experiences and interpretations of a local neighbourhood:

‘...people in the neighbourhood they are going through the change [of the neighbourhood] ...so if you have them involved ... they can also start bringing those changes in... ’ (Rachael)

Consequently, then, we may assume that over time, the practice and social structures of the CoP will somehow contain these different perspectives, creating a forum where negotiation of meaning becomes possible between them, in turn giving rise to novel learning. So creation of experience in CoP, also necessarily entails integration of experiences in those cases when individuals and communities realign.

However, the multiple streams of learning described in the results section made it clear that much of the learning within the CoP was related to their boundary interactions with external actors such as the public, other organisations, or local authorities.

For example, the section on ‘learning as social integration’ in the results section above described how the core group of Laskerwiese Bürgergarten was continuously concerned with how to manage their relationship to the public - trying to affect its behaviour in the direction of tidiness and respect for others in the park – as well as to the park department through conflicts over cleaning side-walks, funding or access to information. The CoP learns as these interactions force them to continuously adapt and fine-tune their practice in relation to other processes in society. The same appeared to the case for Rosa Rose’s CoP as it managed conflicts with local youth groups, or shaped their garden to accommodate the flow of non-participating visitors who just hung out in the garden. These findings rhyme well with Tidball and Krasny’s suggestion that community gardens foster capacity for self-organisation and adaptive learning among urban citizens; in their view valuable for building resilience before and after disasters (Tidball and Krasny 2007).

An interesting question, here, becomes whether these boundary interactions also give rise to learning on part of external actors? That is, do open community garden projects not only foster different streams of learning internally in their CoP, but do they foster learning, and counter extinction-of-experience of nature in wider society as well?

I would argue that they do. In the most basic sense I believe this to be the case because the social perspective on learning employed in this study pin-points friction between different perspective as the basic mechanism which drives learning (Wenger 2000:226).

‘...the need for coordinating perspectives is a source of new meanings as much as it is a source of obstacles... ’ (Wenger 1998:84)
Diverging perspectives give rise to new meanings as long as they don’t diverge so much that there is no common ground at all upon which to negotiate differences. So, as long as interaction between the CoP in a given community garden project and an external actor doesn’t only entail confrontation or hostility we may assume that there is enough common ground for some negotiation of meaning to take place. Accordingly, we may assume that the civil society actors, private enterprises, educational institutions, as well as the government actors, which in different ways engage with the CoPs studies here do acquire some learning in the process as they fine-tune their practices in relation to respective community garden project.

The learning stream labelled ‘politics of space’ illustrated how a range of external actors become involved in learning processes revolving around community garden projects. The “learning journey” of Rosa Rose garten is perhaps the most illustrative example. As commercial developers, local politicians, the press, and garden activists fought it out over the fate of the garden, many of those involved - individuals as well as organisational bodies – were forced to adapt their practices and stand-points. While starting of as a squatting action in 2004, Rosa Rose has today become an association with a legal contract for its new location. As for Freiedrichshain-Kreuzberg municipality, on the other hand, the most striking evidence of adapted practices in response to participatory greening activates such as Rosa Rose and other community garden projects, is perhaps the formal institutionalisation of - and continuous experimentation with - the Bürgerpark concept of civic management of public parks. When Rosa Rose was founded in 2004 Friedrichshain-Kreuzberg had no Bürgerparks, today it has four (Ton-Steine garten, Wreizener Freiraumlabor, Laskerwiese, and Rosa Rose). Here it should be mentioned, however, that the dire financial situation of the municipality has presumably also contributed to its willingness to devolve responsibility to local citizens. Yet such devolution is unlikely to have happened had not people on the ground been asking for it.

In sum, then, it appears that the development of practice in community garden projects which to some extent engage in boundary interactions holds potential for generating new practices and learning on at least three basic levels:

- **The individual:** Learning as individual identities are shaped in relation to communities-of-practice
- **The CoP:** Learning vested in social structures as heterogeneous experiences are intertwined through practice.
• The urban context: New physical environments or legal frameworks as community garden projects generate ripples in physical, social or institutional structures beyond their boundaries.

Figure 10 below illustrates how communities-of-practice located in open community garden projects with may foster learning among individuals as well as in the wider urban context from the perspective of the city a social learning system. The significance of this, then, is that studied CGP may not only counter extinction-of-experience among the people they directly involve, but perhaps also in a broader sense since their open character forces the CoP to actively engage beyond its boundaries, increasing the probability that their internally negotiated experiences and meanings are disseminated into wider society.

Figure 14. Potential impact of open community garden projects in the city conceptualised as a social learning system

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5 The last of these three levels, labelled ‘urban context, is obviously a ‘black box’ as it can represent everything from changes in attitude of local government, new institutional constructs such as the Bürgerparks, or shifts in public perception of civic greening activities, as well as novel forms of urban space in the city.
Community gardens and sustainability

Having established that community garden projects generate CoP, and that these CoP can shape both the individuals which they involve directly, as well as the larger social contexts within which they exist, the next step is to look at what makes CoP anchored in collective management of green space particularly interesting.

I suggest that they carry relevance in relation to advancing, on a local level, the goals of sustainable development in cities - understood as the need to integrate social, economic and environmental concerns in order to build 'urban futures that are ecologically sustainable, economically dynamic, and socially equitable' (Grove 2009:284).

The World Conservation Union (IUCN) in its Future of Sustainability report from 2006 argues that new ideas, concepts, and ways of engaging citizens in relation to sustainability are needed since its formulation over the last couple of decades has been to ‘loose to drive effective change on the scale required’ (Adams 2006:10). The complexity of necessary economic, cultural and political changes means that every location will require a different strategy; there are no blue-print solutions. The report then continues by stating that although the drive of market economies in combination with government regulation are key to achieving 'creative structural change', it is ultimately citizens who 'need to need to provide the driving forces for new economies through their… ability to balance long term human interests as citizens, parents and neighbours in making short-term consumer choices' (Adams 2006:16). Thus, it continues, 'the complex and difficult transitions ahead demand popular support' (emphasis added), which will only 'be realised if ideas connect with heart and emotion' (Adams 2006:16).

Returning to the community garden projects investigated in this study I would like to reiterate the quote by Etienne Wenger from the beginning of this paper:

‘...writing legislation to protect the environment does not replace instilling in our children a love and respect for nature.' (Wenger 1998:92)

What Wenger tries to point out here is that in order to change or sustain particular behaviours among people, reificatory processes such as legislation must be complemented with participatory processes in order for new approaches to be anchored in practice, hence clearly echoing IUCN’s emphasis on anchoring ideas about sustainability in peoples 'heart and emotion’. The findings of this study suggest that CGPs hold promise in relation to such ends.

In the most basic sense CGPs promote practice which resonate well with fostering sustainability in cities because they intertwine social processes and relations with the ecological dynamics and preconditions of the urban setting. In CGPs people learn how to garden through aligning their practice with the rhythms of ’nature’ at the same time as they
learn how to engage with each other and manage various social dynamics of the city.

In Laskerwiese, for example, the links between social and ecological dynamics of the city have been reified through artefacts such as; the cistern which is filled with water from the roof of the neighbouring supermarket; the ‘benjes’ hedge constituting both a fence and habitat for birds and insects; and the aesthetically pleasing pond which is oxygenated by a little stream driven by a solar powered pump. Moreover, these physical structures don’t only reflect the ideas and ambitions of the CoP, but also make them visible to others through writing them into the physical landscape of the city.

In Rosa Rose, the issue of environmental justice and social equity has become central to practice as the CoP has engaged in struggles concerning the use and accessibility of urban green space. A struggle which pitched an open and collectively managed neighbourhood garden against commercial residential development granting access only to those with capacity to purchase an apartment. Since Rosa Rose is today in the process of becoming a so called Bürgerpark, it has reified its take on environmental justice in the form of an official institutional framework. Such novel forms of civic engagement in urban green space clearly echo the emphasis placed by IUCN on local solutions that ‘different actors can own and drive’ (Adams 2006:16).

Lichtenrade Volkspark, which initially emerged from a similar struggle, has over three decades developed to become not just an open community garden, but a forested green area with public park status; covering an area of such extent (30’000 square meters) that it presumably provides significant habitat for multitudes of non-human urban residents as well, thus constituting an example of how local management can work to extend environmental benefits to wider sets of urban residents.

In Prinzessinnengarten the pursuit of participatory urban gardening has, in contrast to Rosa Rose, directly engaged rather than confronted private sector actors. Here the negotiation concerning how urban space should be utilised has been driven by the development of a social enterprise, engaging civil society, educational institutions, government actors, the public, as well as other companies in its practices. So, rather than opposing the effects of capitalism on urban development, through acts such as illegal squatting or public demonstrations, Prinzessinnengarten tries to weave the dynamics of the liberal market economy into its pursuit of participatory urban gardening.

It is to early to say whether this engagement will prove successful in teasing out new forms of practice capable of harnessing benefits from nature, society, and the market simultaneously. However it could perhaps be described as an attempt, conscious or unconscious, to pursue the alignment of heterogeneous, and often contradictory, relations and processes, through
weaving them all into the development of a local practice, anchored in, and manifested through, the physical fabric of the city.

These findings fall in line with Holland’s (2004) study of original intentions behind, and eventual purposes in, community gardens and urban agriculture projects in the UK. He found that ‘the number of present purposes was higher than the original intention for most of the [projects]’ (Holland 2004:295). Holland also emphasises the value of such emergent diversification in relation to sustainability, adding generic strength to findings in this study which indicate that gardening projects that explicitly emphasise collective practice, and interaction at their boundaries, support sustainable development on the local level through pursuing multiple sociatal goals at once. However, this study also confirms Holland’s findings that ‘social and environmental aspects were far more in evidence than economic or business activites’ in surveyed community garden projects (Holland 2004:304). In response to this Holland poses the question of whether community development projects generally se economic development as outside their merit? If so, he suggests, partnerships with the private sector could prove valuable for ‘encouraging a greater consideration of the economic benefits that community gardening can deliver’ (Holland 2004:304). Indeed, the attention that Prinzessinnengarten’s business model has attracted reinforces his point.

An example from a totally different context worth mentioning here is the cooperation currently being developed between the British supermarket chain Budgens and a group of local community gardeners in Crouch End in north London. The plan is to grow organic vegetables on the roof-top of the supermarket, which are then to be sold down-stairs. This ‘FOOD from the SKY’ initiative has received a lot of media attention, and has already spurred similar projects elsewhere (http://foodfromthesky.ning.com/).

**Learning in open garden projects**

Identifying friction between different perspectives as a key driving force behind learning within, and in relation to, a given CGP, suggests that the degree to which its CoP is open to its wider social context impacts the variety and intensity of novel learning. The tentative finding of this study, already alludes to above, is that the more open the CoP of a given CGP is, the greater the amount of learning streams supported within it. Yet, here is it is critical to distinguish between openness of a given CoP and openness of the garden it is anchored in. For, even if locally managed garden or park may be open to the public 24 hours a day, this doesn’t automatically translate into openness on part of the managing CoP. The cases in this study reflect this in that Lichtenrade and Laskerwiese – the two CGP with public park status – appeared to support less open CoP than Prinzessinnengarten and Rosa Rose, of which the former is only open during day-time. Interestingly, it is also Lichtenrade Volkspark and Bürgergarten Laskerwiese which are legal associations with set institutional frameworks for participation and decision making in the CoP. This prompt questions concerning the
suitability of set institutional frameworks for fostering broad-based participation in urban greening projects. Do existing legal constructs suffice to reach out to and engage the heterogeneous populations of cities today?

Rachael from Prinzessinnengarten touched upon this question when mentioning how associational structures didn’t seem to suit many residents in Kreuzberg:

‘…people who aren’t German don’t want to get involved in [associations] in there free time, they find it difficult enough dealing with [bureaucratic structures] in every other aspect of their life…’

Respondents in both Rosa Rose and Prinzessinnengarten expressed that the highly mobile population of Berlin, as a city where many people come and go, means that people only want to get involved for a short while, or very intermittently, which doesn’t rhyme well the responsibilities often associated with joining associations (Marco, Frauke, Rachael, Renate). This seems to imply that countering extinction-of-experience of nature in modern cities might require looser forms of participation which enable people to come and go as they please. The popularity of the open work-days in Prinzessinnengarten every Thursday reinforces this impression.

Another factor which appears to influence the diversity of learning in CGP is - unsurprisingly - the degree to which the CoP actively draws people into its practices, as well as the amount of time and resources at its disposal to do so. Given that Prinzessinnengarten is the only of the studied CGP which has two people employed full-time in order to nurture and manage practice in the garden, it perhaps isn’t so surprising that it is also Prinzessinnengarten which displays the highest influx of participants and diversity of learning streams. This implies that if governments want to tackle extinction-of-experience in their cities, they may have to devote resources to fund not only the management of green areas, but also practices capable of actively engaging citizens in them.

In addition, the capacity of gardens like Prinzessinnengarten and Rosa Rose to draw people into the garden appears to be related to the variety of activates which took place there. For while both Lichtenrade Volkspark and Bürgergarten Laskerwiese hosted harvest festivals and occasional events, they didn’t feature concerts, performances, political actions, and workshops to the extent that Prinzessinnengarten and Rosa Rose did.

This suggests that in order to reach people who are not seeking engagement with nature in the first place, collective urban gardening needs to be combined with other practices exerting different appeals. The assumption is that collective gardening combined with, for example, community development, art, music, back-to-work programmes, or business development may be capable of countering extinction-of-experience on far wider scales in society. This is an interesting dimension worthy of further research. Especially interesting would be empirical
comparisons between open community gardens and more closed forms of urban gardening such as allotment gardens in order to assess potential differences in depth and width of knowledge generation. It would also be interesting to investigate more specifically how peripheral participants and visitors are affected by practice in these gardens, and the extent to which they acquire learning.

Institutional diversity and emergent qualities in open community gardens

The discussion of openness above should no be misinterpreted as an argument for only fostering community garden projects which are active at the boundaries. For although it seems that such projects are better at incorporating new participants and experiences, more tight-knit and internally oriented CGPs presumably nurture other values. It has, for example, been suggested that the tight-knit CoP in Lichtenrade Volkspark contains a depth of knowledge about their garden-park which is unparalleled in other projects. After all, they’ve seen this land go from a barren field to a lush forest park over the last three decades.

The point then, is, that the aggregate value of studied CGPs lies in their diversity. The absence of set institutional frameworks for community gardens in Berlin has meant that each garden has had to negotiate itself into existence in different ways. Each CGP has had to draw and rely upon different actors and different institutional structures in order to secure their survival; generating different repercussions in the local area, local government, or within civil and private sector. In aggregate this has fostered institutional diversity, both in term of internal organisation giving rise to a variety of management forms for urban green areas, as well as in formal institutional structures for green area management on municipal level as represented by the institution of Bürgerparks.

In addition, these processes have been emergent, emanating from local incentives maturing over time. This gives studied CGP a distinctly ‘relational’ character; and it lies, I would argue, in their explicit emphasis on collective action and participation. Hence they shape urban space in process, rather than according to pre-conceived plans. This also means that one can never pre-determine what directions these processes will take. A fact which may be challenging for local government. But it is precisely this devolution of power over the direction of urban development which, I would argue, distinguishes the type of community gardens investigated in this study from many, if not most, other urban spaces, where official influence over their physical development is institutionally defined and monopolised by either local government or private owners. And it is also this devolution of power which, I would argue, render open community garden projects worthy of attention. For just like Wenger (2008) argues that the learning capacity of already existing communities-of-practice in organisations can be greatly increased if leadership chooses to nurture and harness their intrinsic dynamism, so do post-structural perspectives on urban planning suggest that the inherently relational and fluid
nature of space can give birth to innovation if we appreciate this vitality, instead of trying to quell it with our static conceptions of discrete and stable spaces (Murdoch 2006).

Furthermore, if space is innately relational, rendering discrete spaces only temporarily stabilized out of complex and dynamic processes of change, the question in relation to current sustainability challenges becomes which types of temporary spatial ‘permanences’ (Harvey in Murdoch 2006) we should foster and support? Murdoch answers this question by referring to the ‘principles of ecology’ which propose that ‘permanences should consist of alignments or partnerships between natural and social entities… on terms that sustain the well-being of all’ (Murdoch 2006:194). It is precisely such a category of ‘temporary permanences’ that the CGP investigated here seem to constitute through nurturing relationships to nature and society simultaneously.

Yet this should not be interpreted as an argument for institutionalising the creation and protection of distinct type of urban green space labelled ‘community gardens’. This would be missing the basic point; which is to create opportunities for as many people as possible to engage with urban nature, and urban society, in the widest possible diversity of ways, so as to reverse extinction-of-experience. If urban areas are to provide such diversity, participatory garden projects presumably need to be realized in a range of different ways, by varying constellations of actors. There development needs to be ‘relational’ and bottom-up, rather than planned from above.

So, ultimately then, this study calls upon all urban citizens – gardeners, politicians, civil servants, teenagers, consumers, and activist – encouraging them to think-up, create, and support new forms of urban greening. In the ideal situation politicians and civil servants would dare stand behind projects despite not knowing precisely where they are heading, while people on the ground continued to translate into action their alternative interpretations of what urban space should be.

The basic point made here is, then, not that we want more community gardens at the expense of, for example, allotment gardens or public parks. But that the category of locally-driven-publically-accessible gardens studies here are worth considering if we want to nurture emergent and relational learning and innovation in the direction of sustainable urban futures.

CONCLUSION

‘…[W]e must build landscapes that heal, connect and empower, that make intelligent our relations with each other and with the natural world.’ (Wilson in Irvine et al. 1999:35)
This study has illustrated how community garden projects in Berlin counter extinction-of-experience by generating communities-of-practice which learn about and develop meaningful relationships to the dynamics of urban ecosystems.

Interestingly, practice and learning in these garden has also revolved around multiple social dimensions of life in the city, such as social organisation and neighbourhood integration; the politics of space and urban development; or, as in one instance, social enterprising.

This multiplicity of learning has been related to the generally open character of these projects. By inviting the city into their gardens, rather than using them to retreat from the city, the content of practice and learning seems to have diversified. Moreover, the respective communities-of-practice have in aggregate generated a diverse set of local institutions and practices, exerting different appeals and enabling participation on different terms. This seems promising for reverting extinction-of-experience in modern cities, where the heterogeneity of citizens speaks against one-size-fits-all solutions.

In addition, this study argues that such an array of locally anchored learning forums hold potential in relation to advancing sustainability on a local level. For if cities are social learning systems, the challenges ahead suggest that they need to contain communities-of-practice where ecological sustainability, social equity, and economic dynamism are pursued and experimented with simultaneously. The communities described in this study are making steady progress towards at least two of these goals, and in one case all three. Furthermore, it has been found that the products of their practice – such as novel learning, new perspectives on urban nature and urban development, or institutional structures for collective management – have, at times, been fed back into the wider urban context. Perhaps most notably exemplified by the increasing number of municipally sanctioned so called Bürgerparks in Friedrichshain-Kreuzberg.

Today the majority of people in the world are urban dwellers, turning cities into power-houses of human wealth, innovation and influence. Yet ecosystem degradation and biodiversity loss is making it increasingly evident that human civilisation continues to develop in ways which undermine the resource base upon which it depends (MEA 2005). Thus, it is pivotal that the sentiments and creative capacities of urban populations are channelled towards an appreciation of nature, rather than further away from it. And although cities are complex adaptive systems in constant motion, the physical structures we prioritise today will determine possible trajectories of development for a long time to come. So saving space for urban nature is key. But perhaps it is even more critical that we cultivate urban spaces which allow people and nature to practically engage in experimentation concerning how to co-exist
For, if we want to see a future where the networks and processes of the “natural” and “human” world intertwine in ways which bolster, rather than compromise, the integrity of the other, then we must create space today for novel alignments between nature and society to form.

From this perspective, the sustainable city doesn’t only weave nature into its physical landscape, but into the everyday practices and experiences of its citizens as well. It has been argued here that open community garden projects provide multiple avenues for doing precisely this.
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Appendix A: Interview guides

Interview guide 1

Interview guide during research phase 2 - Explorative

- What do you like best about gardening? What do you like least?

- Who/what made you start gardening?

- What is the history of the garden? How did it come about? Which were the instigating actors? Major obstacles or opportunities?

- Does the garden currently face any major challenges? In the past?

- Status of garden? Is its future existence secured?

- When, how, and why did you join the community garden (CG)?

- How much time do you spend working in it? What is your former experience of gardening and green area management?

- What are the main features of the garden?

- Have you learned new things about (1) gardening, (2) management of green areas (3) the institutional and regulatory landscape relating to gardens?

- Where has new knowledge come from? Individuals? Authorities? Other sources? How is new knowledge stored in CG group?

- Have you shared your knowledge through garden, taught others something?

- Are other any other non-governmental actors involved in or use the CG? Do they have any impact or influence upon it? If they wanted to have this would it be possible and how would they go about it?

- Do public have access to CG? Do they have possibility to influence it, and if so, how would they go about it?

- Do any governmental actors have a stake in, or influence the CG? Is there any dialogue between CG and authorities? If so, with which authorities and about what?
How does work in garden take place? In private plots, for communal/public spaces?

How are decisions made? Who wields influence over them?

Do you have idea about management? If you did could you influence it?

Are there discussions about development of garden? Are there disagreements?

Have management and gardening routines changed since you joined?

What is the number of members? What is the age range within the CG group? Background? How many children in CG group?

What does one do to become a member? What defines who gets to become member? Membership fee?

Interview guide 2

Interview guide during research phase 3 – Learning in community garden projects

Have you learned new things about (1) gardening, (2) management of green areas (3) the institutional and regulatory landscape relating to gardens?

Do people in group have specific competences? Areas of responsibility?

Which tools are most commonly used? Do you identify with any specific tool or practice?

Does the Lichtenrade Volkspark group identify with any specific tool or practice?

Where does new knowledge come from? Individuals? Authorities? Other sources?

How is new knowledge stored in CGP group?

Have you shared your knowledge through garden, taught others something?

Have you used knowledge acquired in the CGP at home or elsewhere?

Do non-members ever come to the garden to learn things?

Do you have any specific words or phrases which are used a lot within the group, or in relation or the garden?

Do any governmental actors have a stake in, or influence the CG? Is there any dialogue between CG and authorities? If so, with which authorities and about what?

How does planning take for the garden and park take place? Is it the same for both of them?
• Are there discussions about development of garden? Are there disagreements?

• How are decisions made? Who wields influence over them?

• Have the way you do things in the garden changed over time?

• What do you know about biodiversity, ecosystem processes, and environmental issues?

• Does this influence how you work in the garden?

• What is the purpose of the garden and park?

**Appendix B: Coding Scheme**

<table>
<thead>
<tr>
<th>Research question</th>
<th>Code colour</th>
<th>Category of data</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1 – Do the studies community garden projects generate communities-of-practice?</td>
<td>Dark red</td>
<td>Participation</td>
</tr>
<tr>
<td></td>
<td>Dark blue</td>
<td>Reification</td>
</tr>
<tr>
<td></td>
<td>Bright pink</td>
<td>Mutual engagement</td>
</tr>
<tr>
<td></td>
<td>Bright Blue</td>
<td>Joint enterprise</td>
</tr>
<tr>
<td></td>
<td>Bright green</td>
<td>Shared repertoire</td>
</tr>
<tr>
<td></td>
<td>Bright Cyan</td>
<td>Reflections concerning institutions</td>
</tr>
<tr>
<td></td>
<td>Light green</td>
<td>Learning by doing</td>
</tr>
<tr>
<td></td>
<td>Beige</td>
<td>Imitation</td>
</tr>
<tr>
<td></td>
<td>Lavender</td>
<td>Reading</td>
</tr>
<tr>
<td></td>
<td>Light blue</td>
<td>Testing/experimenting</td>
</tr>
<tr>
<td></td>
<td>Brown</td>
<td>Working together</td>
</tr>
<tr>
<td>RQ 2 – What external actors do the respective community gardens interact with?</td>
<td>Terracotta</td>
<td>Information or comments about external actors</td>
</tr>
<tr>
<td>RQ 3 – What streams of learning are supported in the respective community garden projects</td>
<td>Green</td>
<td>Learning about gardening</td>
</tr>
<tr>
<td>Color</td>
<td>Learning about ...</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Beige green</td>
<td>Learning about local ecosystem</td>
<td></td>
</tr>
<tr>
<td>Dark green</td>
<td>Learning about park management</td>
<td></td>
</tr>
<tr>
<td>Light grey</td>
<td>Learning about urban development</td>
<td></td>
</tr>
<tr>
<td>Purple</td>
<td>Learning about other cultures /</td>
<td></td>
</tr>
<tr>
<td>Orange</td>
<td>Learning about other social groups</td>
<td></td>
</tr>
<tr>
<td>Pink</td>
<td>Learning about social organisation</td>
<td></td>
</tr>
<tr>
<td>Mustard colour</td>
<td>Learning about cooking</td>
<td></td>
</tr>
<tr>
<td>Salmon colour</td>
<td>Learning about environmental issues</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>Becoming aware of your neighbourhood</td>
<td></td>
</tr>
<tr>
<td><strong>Miscellaneous</strong></td>
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<tr>
<td>Light red</td>
<td>Social diversity</td>
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<tr>
<td>Turquoise</td>
<td>Continuity and change</td>
<td></td>
</tr>
<tr>
<td>Cyan</td>
<td>Comments concerning private vs. public space</td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td>Reflections concerning other community gardens and green areas.</td>
<td></td>
</tr>
</tbody>
</table>

**Appendix C: Brief descriptions of communities-of-practice in investigated community garden projects**

*Bürgergarten Laskerwiese (BLW)*

The perception of community and practice in BLW differed between the 5 respondents. Three of them use the garden to care for their own little plot of land, sometimes also spending time in park to relax or to participate in the collective workdays (Roland, Claudia, Kati). Kati often takes care of interested visitors or researchers who contact the CGP, Roland has run a workshop with local children measuring soil quality, and Claudia usually brings her child when working in the garden. All three try to attend the monthly meetings but don’t always make it. The other two respondent are involved on a more regular basis. Gerlinde, the current chairman, cares for administrative work and engages with the park management. Frauke, a key board member until recently, also communicates with authorities and networking with other garden projects.
When asked about how they learn in the garden all respondents describe processes of learning-by-doing through testing and experimenting individually, learning through imitating others, and learning through developing practice collectively. Roland pin-points the mutual engagement and negotiation involved in joint activities, such as managing the compost:

“you know a bit and you learn a bit, and a lot of things I never thought about because I didn’t have a compost, but I know about these ecosystems, about bringing the energy back in the earth...” (Roland)

Gerlinde emphasises the ad-hoc and continuous character of learning:

“...you must have a problem, if you want to learn” (Gerlinde)

She continues to describe how the garden often poses problems which set her off on learning journeys as she searches the internet and reads books for potential solutions which she then negotiates and tries out together with the other members.

“if you talk with other people, and they have an idea, or a problem, (...) things develop ... you cannot plan it, (...) you have to accept that also some of the not planned things which happen are also positive in your life...” (Gerlinde)

So, the level of mutual engagement between members appears to be uneven, with some spending almost every day there, as for example the so called “container group” (which I was unable to interview due to my lack of German) which shoulders the main responsibility for ongoing maintenance of the open part, while others only engage on an ad-hoc basis, or through the collective workdays. Yet, the CoP appears to have a core group including the “container group”, the board, and a handful of other active members.

**Prinzessinnengarten (PG)**

Several respondents talked about practice in the garden as a process of learning-by-doing, which drew people in, and relatively quickly conferring responsibility upon those willing to take it (Roschka, Oliver, Rachael):

“...you are just doing things together and then your getting it while your doing it, and then your spreading it out again because other people are coming and asking 'oh can I help', and we say 'yeah of course you can just do this and that’...” (Roschka)

Decision making appears to have functioned in similar ways:

“...like a working process, from topic to topic the decision making was done, all the calling to get soil, to get boxes, it was kind of learning by doing, or creating by doing, so it was really living in the moment, from the moment, kind of a creative chaos which I thought was really great, but all with that wish of park area community garden...” (Oliver)

It seems that a community of practice with a core group of about 10-15 people has formed around the two founders of the garden, consisting of their close friends, people with specific skills drawn into the process through networking, as well as enthusiasts from the public.
who’ve gradually taken on more responsibility. Engaged diversity has formed as most member have their special niche, be it gardening, working in the café, financial responsibilities, or human resource management. This core group also engages continuously with a flow of other people passing through the garden, be they curious visitors drinking tea, enthusiasts or organisations wishing to join on-going work, or artists or groups wishing to pursue their own projects in the space. The level of mutual engagement thus varies from intense daily interaction among core participants, to ad-hoc and intermittent among peripheral participants.

Lichtenrade Volkspark (LVP)

During the 7 Wednesdays in October-November which I spent working in Lichtenrade Volkspark I became familiar with the local routine. We would work for an hour or so, to then gather around the table under a chestnut tree for a 20-minute break. Some times the women brought tea or coffee in thermoses, while most of the men drank beer. On lucky days someone brought a snack to share with the group. A workday would involve going through this work-break cycle three to four times to then finish off with a longer break around 13:30 during which participants dropped off one after the other.

The park appeared to be a very important social context for most, if not all, participants. Spending at least six hours there twice weekly, and often every day during warm seasons, the people of the group knew each other very well. Their engagement also includes social activities outside of the park, such as opera visits or watching TV together (Erika). The group also goes for a yearly bus trip to Bavaria, along with less active members and other friends and relatives.

There was also ongoing bickering and banter between some of the participants, and knowing remarks and glances which I didn’t understand were often exchanged across the table. As a newcomer I was quickly initiated into the routines of the group. For example, if I didn’t come when a ‘pause’ was announced I would be reminded of this until I came to sit down.

In sum, Lichtenrade Volkspark seems to supports the most distinct and clearly bounded CoP of all the case studies, consisting of 8-12 core members, most of them pensioners or in their upper middle age (I was informed that they were also sometimes joined by a young man doing a degree in agriculture). The CoP is distinctly characterised by engaged diversity. The chairmen lets me know that Herbert cares for the dahlias and manages the compost and shredder with Peter, Erika cares for the flowerbeds, Eva manages the nursery, Heinz is good with roses, while Christophe, the only young person who sometimes joins the group, works with the chairmen out in the park. “He wants my job”, Wolfgang ads with a chuckle. Erika explains that when it is announced that the grass must be cut, “everybody already knows who will do this…” (Erika 1:05:00). So, although everybody contributes to the joint enterprise of
managing a public park, the degree of individual specialisation suggests that people’s learning trajectories are quite different.

**Rosa Rose Garten (RRG)**

It is difficult to give a straightforward description of the CoP centred around the Rosa Rose community garden project. First of all the garden has moved twice, occupying three different locations in the last 6 years. Furthermore, the CGP it is only recently that the process of become an association with official legal status has been begun. Before this, the people caring for and developing the garden have communicated and organised themselves informally through mailing lists and ad-hoc meetings, and there has always been a high turn-over of participants, with only two original participants still active in the CGP.

All respondents speak of the ‘special community spirit’ and culture of RRG, characterised by spontaneity, flexibility, openness, and collective action. A couple of respondents contrast RRG to allotment gardens or more organised community gardens where things are kept ‘neat and beautiful’ (Susanne, Renate). In contrast, they emphasise, Rosa Rose has always been about maintaining a good atmosphere.

“...for example I couldn’t imagine to fight because I prepared a bed and someone else put plants in, or somebody went for holiday and I took the salad, I just could not imagine fights about something like that in Rosa Rose…” (Susanne)

Although most participants garden organically, no one is pressured to use specific practices.

“...if someone says ok I want to buy supermarket seeds, ok they can do it (...) if it is not bothering other people you can really express yourself and make your own way of gardening”... (Susanne)

Yet, the “communal” character of the garden has also changed over time. For example, Renate recalls how other participants raised their eye-brows when she one day brought “her own tools” to the garden because she was fed up with the broken spades shared by everyone. She describes how one person exclaimed that individual tools would have been “unimaginable” in past years.