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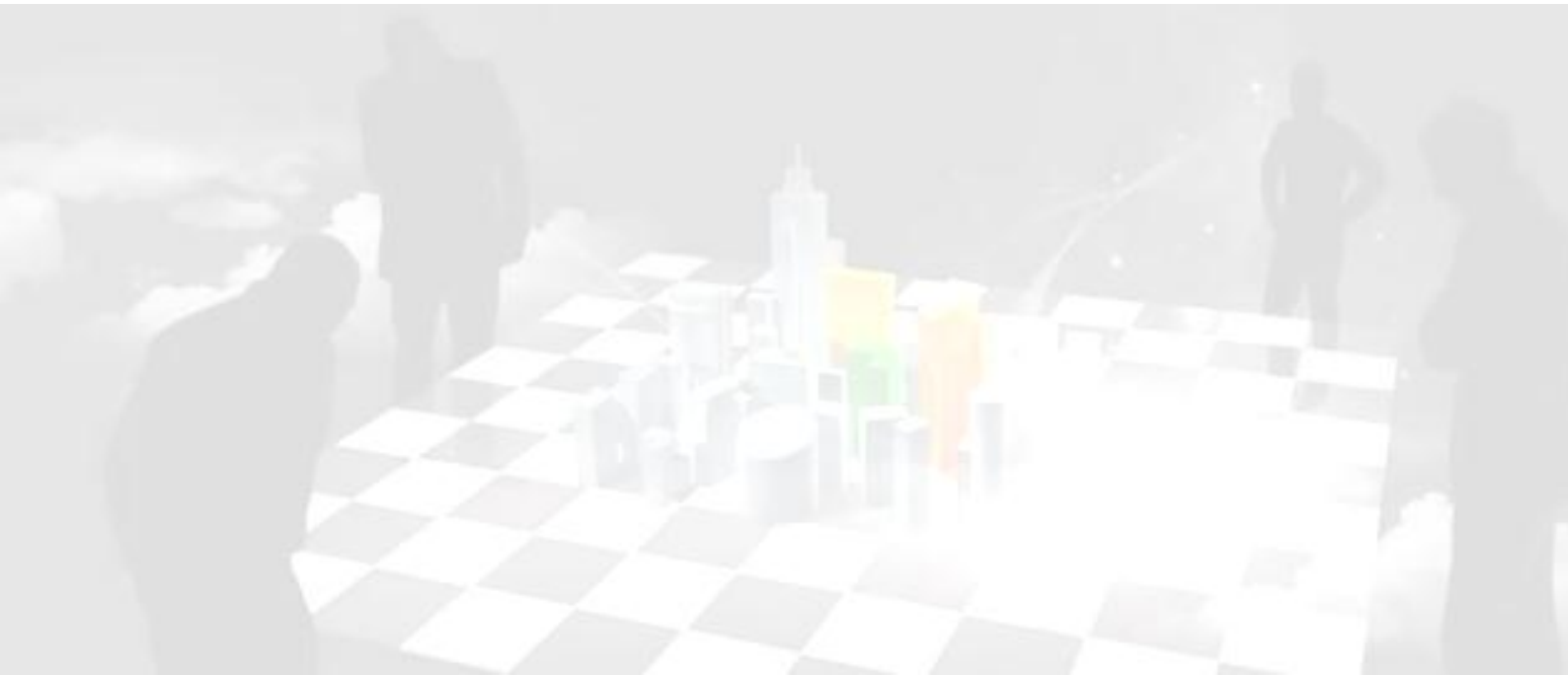
The case of the area redevelopment of airport Twente

Master thesis
Environmental and Infrastructure Planning
University of Groningen

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Groningen
January, 2013

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Preface

The idea for the subject of this thesis started during my semester of studying abroad in Urbana-Champaign, Illinois, USA, back in 2011. Through the programm of NEURUS, Network for European and U.S. Regional and Urban Studies, I came in contact with Prof. Edward Feser – who was my second supervisor during that semester – and Prof Brian Deal. They were a great help to me in determining the current subject. Altough the whole process of conducting research prior to this result was sometimes difficult; this final paper on 'serious games' within spatial planning was formed eventually. This would not be the case without the support of a number of people. I would like to thank the people of T-Xchange, who were very helpful in providing information regarding their game, and names of other key individuals. Especially Johan de Heer was very supportive concerning my research. I would also like to express my gratitude to Arie Willem Bijl and Menno Huge, who provided very useful information and also helped me to find other respondents for the data collection. Also all the other respondents that have part in this thesis, are recognized for their efforts. Furthermore, the support of Matthias Jansen and Jacqueline Gjaltema was very much appreciated, as they provided input by checking parts of this thesis in the end stage. And last but not least, I would like to thank my supervisor Ward Rauws, for all the support, time, energy and patience over the last one and a half year.

Summary

Integration of public participation in spatial planning processes is recognized as often being problematic. This study focused on the added value of a specific type of a participatory planning support system –*'serious gaming'* – on public participation, in explorative phases of area development planning processes. Therefore, the central research question of this thesis is:

"Considering the growing attention for public participation in spatial planning – mainly since the 1990's – what are the effects of the planning support system 'serious gaming' on public participation, in the initial and plan phase of area development planning?"

Since the late 80's and 90's participation of stakeholders became a central theme in planning theory and practice. Today public participation is a common element within planning processes. While participatory planning is also a criticized concept and as participation itself shouldn't be seen as the 'holy grail' of planning processes, this thesis presumes participation as a key aspect for today's planning processes.

Regarding the 'planning support system' element in the main research question, the core definition to identify a planning support system (or PSS), is "a subset of geo information technologies, dedicated to support those involved in planning to explore, represent, analyze, visualize, predict, prescribe, design, implement, monitor and discuss issues associated with the need to plan" (Batty, 1995, cited by Vonk, 2006, p. 19). In this thesis, PSS was narrowed down to participatory PSS. The goals of implementing participatory PSS or P-PSS is facilitating greater stakeholder - and public involvement in decision making, monitoring impacts of policies and stimulate effective communication and understanding between participants and planners (Geertman and Stillwell, 2009). 'Serious gaming' was chosen as a specific type of such P-PSS. The main purpose of 'serious games' is about supporting education, training and communication, not entertainment. They are "situated, interactive (learning) environments, based on a set of rules and/or an underlying model, wherein – under uncertain circumstances and some restrictions – a challenging objective is being pursued" (Hoeke, 2011, p1). These tools could be implemented for instance to reach consensus regarding policy directions among several kinds of participants. In an explorative planning phase it could be implemented to develop scenarios or alternatives together with participating groups, like in the case of airport Twente. The area development project concerning the former military airfield of Twente, near the city of Enschede in the Netherlands, is central in this case study. Two plans were designed. One plan including a public airport and one without any. The latter one was subject to the participation process wherein over 35 organizations, ranging from local and regional citizen organizations to nature preserving organizations, were involved. Through the use of 'serious gaming', developed and accompanied by consultancy company 'T-Xchange', an alternative zoning plan was being created, involving all these parties, back in early 2008.

The primary data collection is executed by means of in depth interviewing, to derive the added value of the T-Xchange 'serious game' toward public participation within the case of Twente airport. The effects of the found important elements *of* the T-Xchange 'serious game' (game design, visualization, parameter setting, coalition building, equality of participants, and time intensiveness) *on* the critical factors of public participation (clear roles of participants, knowledge building, clear goals,

collaboration, and interaction and dialogue) were examined.

Concerning the Twente airport case, it can be concluded that the T-Xchange 'serious game' appears to add value toward public participation in a number of ways. All of the characteristics of the game affected the dialogue and interaction factor of public participation in a positive way, as was collaboration enhanced through the aspect of coalition building in the game. Furthermore, also the T-Xchange game elements of participant equality and the visualization throughout the game resulted in benefiting interaction and dialogue among participants. Participant equality resulted in participants willing to interact with each other and with the planning area (on screen). Especially the visualization element contributed to four of the five participation factors (all except collaboration). Among them was 'knowledge building', which also appeared to be an important (and initially unknown) feature of public participation, during the case study. Due to the access to a 'decision makers' level of-information, knowledge building was stimulated. Time intensiveness and parameter setting were elements of the game that also appeared during this case study, where the spend time together helped to create an understanding among the participants regarding each other's roles and positioning. Setting of parameter of plans, whereby variables could be changed and circumstances adjusted, turned out to be beneficial toward the perception of responsibilities by the users as they were put in decision makers 'seat' by this aspect.

Important factors undermining this added value are first of all the general lack of trust among many participants toward the authorities and decision makers. Lack of vision prior to the gaming sessions was identified as an aspect that resulted in some participants feeling they were not to be taken that serious by the decision makers. An honest and open assignment of such a tool by the initiators, therefore, is recommended. Another recommendation concerns the application of such P-PSS instruments, as it is advised that these gaming tools are considered by planners and authorities, when a participative process is sought. Participants could be enabled to become a part of a plan, instead of only ventilate their (mostly non constructive) point of view. Important elements that deserve to be thought about here, are the inclusion of collaboration (and coalition building), (3D) visualization throughout participation session(s) and equality of participants. Furthermore, an instrument like the T-Xchange 'serious game' brings along the advantage of participants stepping in a decision maker's role. Contrasting to many more conventional ways of participation, people are compelled to extend a constructive attitude, instead of only delivering critique. When governmental actors allow room for decision makers and participants to work on a plan on a joint basis, 'serious gaming' may be an attractive and suitable instrument worth to be considered. Lastly, it is recommended that the potential of web-based 'serious games' should be employed on a wider base compared to current applications. Especially regarding spatial development plans. A large group of respondents / participants can be reached plus the barrier to participation for certain individuals is made smaller and accessibility improved.

Summary (Dutch)

Burgerparticipatie binnen ruimtelijke planprocessen wordt vaak erkend als problematisch. Dit onderzoek richt zich op de toegevoegde waarde van een specifiek type 'planning support system', namelijk 'serious gaming', naar burgerparticipatie. Hierbij gaat het om de verkenningsfase van ruimtelijke planprocessen binnen regionale gebiedsontwikkeling. De hoofdvraag van dit onderzoek is:

Met inachtneming van de groeiende aandacht voor burgerparticipatie binnen ruimtelijke planning, welke effecten heeft 'serious gaming' op deze burgerparticipatie, in de verkenningsfase van planprocessen binnen regionale gebiedsontwikkeling?

Sinds de jaren 80 en 90 werd deelname van belanghebbenden een centraal thema binnen het domein van de planologie. Tegenwoordig is burgerparticipatie meestal een vast onderdeel binnen een ruimtelijk planproces. Het is echter ook een veel besproken onderwerp en het toepassen van burgerparticipatie moet dan ook niet als doel op zich worden gezien. Dit onderzoek gaat echter uit van participatie van burgers als een belangrijk onderdeel voor ruimtelijke planprocessen in de huidige praktijk.

Kijkende naar 'planning support systems', ook wel aangeduid als PSS, de definitie zoals gebruikt in dit onderzoek is een "set van 'geo-informatie technologie', toegewijd aan hen die betrokken zijn binnen planning, met als doel om te verkennen, vertegenwoordigen, analyseren, visualiseren, voorspellen, ontwerpen, implementeren, monitoren en als hulpmiddel voor overleg" (Batty, 1995, geciteerd door Vonk, 2006, p. 19). Zulke PSS zijn specifieker gemaakt in dit onderzoek door het te hebben over participatieve PSS. Deze hebben in het bijzonder tot doel om meer betrokkenheid van belanghebbenden binnen planvorming te faciliteren, het monitoren van beleidsmaatregelen, effectieve communicatie en begrip tussen planologen / beleidsverantwoordelijken en burgers of andere belanghebbenden, te stimuleren. (Geertman en Stillwell, 2009). Er is hier gekozen voor een specifiek instrument van een P-PSS, namelijk 'serious gaming'. 'Serious games' hebben tot doel educatie, training en communicatie te ondersteunen. Dit in tegenstelling tot entertainment, welke hier niet, in de eerste plaats, bij hoort. Ze kunnen gekenmerkt worden als interactieve leeromgevingen, gepaard gaande met regels en een onderliggend model. Daarbinnen wordt een bepaald doel nagestreefd (Hoeke, 2011, p1). Binnen een verkenningsfase van planning kan het bijvoorbeeld toegepast worden om planscenario's te ontwikkelen samen met belanghebbenden, zoals is gebeurd binnen het project van vliegveld Twente. Het gebiedsontwikkelingsproject betreffende het voormalig militair vliegveld Twente, bij Enschede. Dit onderwerp is de case waar dit onderzoek zich op heeft gericht. Hierbinnen werden twee plannen ontwikkeld, een met en een zonder vliegveld. Voornamelijk bij dit tweede plan werden belanghebbenden betrokken in een participatie proces, waarbij ongeveer 35 organisaties werden vertegenwoordigd. Hierbij zaten publieke organisaties zoals Natuurmonumenten en Landschap Overijssel, maar ook veel burgerorganisaties. Er werd een alternatief plan voor een vliegveld beoogd, en ontwikkelt samen met al deze partijen en met behulp van het T-Xchange 'serious game'. Dit vond plaats in 2007 en 2008.

Het vergaren van data voor dit onderzoek is voornamelijk gebeurd door middel van diepte interviews. Hierin werd getracht de toegevoegde waarde van de T-Xchange 'serious game' op

burgerparticipatie te achterhalen. De effecten van de belangrijke elementen van de 'serious game' op de meest belangrijke randvoorwaarden voor burgerparticipatie. 'Serious gaming' is in dit onderzoek gekenmerkt met de volgende eigenschappen: spelontwerp, visualisatie, schuiven van parameters, creëren van coalities, gelijkwaardigheid van deelnemers en tijdsintensief. Wat betreft burgerparticipatie waren de belangrijkste factoren: duidelijke rollen van en voor deelnemers, kennisvorming, samenwerking, interactie en gesprek, en heldere doelstellingen.

Naar aanleiding van het project rondom vliegveld Twente kan er geconcludeerd worden dat het T-Xchange 'spel' een duidelijke toegevoegde waarde heeft gehad op een aantal manieren. Zo bleek dat alle eigenschappen van de 'serious game' bijdroegen aan het versterken van dialoog en interactie. Ook werd samenwerking gestimuleerd door het sluiten van coalities. Door gelijkwaardigheid van deelnemers werd het gesprek juist gestimuleerd. Ook had dat wat er gebeurde op het scherm, interactie tot gevolg tussen deelnemers, en tussen deelnemers en dat wat men zag gebeuren op het scherm, wat toegekend kan worden aan het element van (3D) visualisatie. Dit aspect had een voorname rol in de toegevoegde waarde van 'serious gaming' waarbij het vier van de vijf factoren voor burgerparticipatie beïnvloedde (afgezien van samenwerking). Kennisvorming bleek tijdens het verzamelen van data ook een (belangrijk) onderdeel te zijn van burgerparticipatie. Visualisatie had tot effect dat deelnemers toegang hadden tot veel informatie waar normaal gesproken alleen beleidsbepalers en experts toegang tot hebben. Tijdsintensiviteit had effect op het begrip van deelnemers onderling, wat betreft elkaars rol en doelen. Het kunnen schuiven van parameters, waarbij variabelen en uitgangspunten gewijzigd kunnen worden door de gebruikers, bleek bij te dragen aan de rollen van deelnemers, waar ze in de rol van planners en beleidsbepalers stapten en zo op een constructieve manier participeerden.

Een factor die de bijdrage van 'serious gaming' aan burgerparticipatie tegenwerkte was het wantrouwen van veel deelnemers richting de eindverantwoordelijken (gemeente en provincie). Ook het vermeende gebrek aan visie vanuit de beleidsbepalers in relatie tot het alternatieve plan, welke de 35 organisaties hebben ontwikkeld, bleek invloed te hebben op hoe de spel sessies werden ervaren door deelnemers. Het wordt geadviseerd om als verantwoordelijken op een eerlijke en open manier instrumenten zoals 'serious gaming' aan te besteden. Verder wordt het planologen en opdrachtgevers geadviseerd om instrumenten als 'serious gaming' te overwegen, wanneer burgerparticipatie wordt beoogd. Belangrijke elementen welke overwogen zouden moeten worden bij het betrekken van belanghebbenden zijn het gebruik van het element 'samenwerking' tussen en met belanghebbenden, als ook (3D) visualisatie en gelijkwaardigheid van deelnemers als uitgangspunt. In tegenstelling tot veel conventionele manieren van participatie, kan 'serious gaming' het voordeel bieden van deelnemers met de rol van beleidsbepalers, welke veelal een constructieve houding tot gevolg heeft, zoals bleek uit dit onderzoek. Wanneer overheden ruimte toekennen aan het gezamenlijk bouwen aan een plan, tussen deelnemers en beleidsbepalers, dan is 'serious gaming' het overwegen waard. Tot slot wordt het aangeraden om het potentieel van op internet gebaseerde 'serious games' op een grotere schaal uit te buiten dan momenteel gebeurt, in het bijzonder binnen ruimtelijke planning. Een grote groep respondenten kan worden bereikt waarbij bovendien voor sommigen de drempel tot deelname wordt verlaagd.

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Chapter 1   Introduction

1.1   Background and relevance

This thesis is about Planning Support Systems (PSS). They are part of so-called geo-information technologies that are being used since the 80's. The subject of this thesis concerns the role of these PSS – specifically with 'serious gaming' as a planning tool – within participative planning processes and public participation in specific. The context is the domain of regional area development within spatial planning, especially the earlier planning process phase that entails the exploration of different scenarios and / or alternatives for spatial interventions. This planning phase also is a window of opportunity for the 'public' to participate in and for the decision makers to involve public participants (as well as, of course, professional stakeholders) early on in the planning process.

Spatial planning was and is a complex field of expertise. It entails many complex processes such as the consensus seeking among multiple stakeholders and interests, gaining support for policies or concrete spatial plans or calculating quantitative implementation consequences for e.g. the environment or transport sector. To help planning practice with these and other complex or less complex tasks, planning support manifests itself in the form of information, knowledge, and instruments. These aspects can be received by those actively involved within formal spatial-planning practices. They can also enlighten (fasten, quality improvement, easier performance) their planning tasks and activities.

A 'planning support system' can be seen as a subset of planning support instruments. They are 'geo-information technology-based instruments that comprehend a suite of components (theories, data information, knowledge, methods, tools) which collectively support all or some part of a unique professional planning task" (Geertman, 2006; Brail and Klosterman, 2001; Geertman and Stillwell, 2003, Harris and Batty, 1993l; Klosterman, 1998). Another definition, that is also selected as the main definition of PSS for the upcoming chapters is the definition of Batty (1995), cited by Vonk (2006, p. 19):

"*Planning Support Systems (…) are a subset of geo information technologies, dedicated to support those involved in planning to explore, represent, analyze, visualize, predict, prescribe, design, implement, monitor and discuss issues associated with the need to plan.*"

The relevance of studying the possible added value of PSS in public participation arises from the marginal use of (participatory) PSS in planning practice, despite the accreditation of many advantages to participatory PSS (Koekoek et al., 2009. p 39). Koekoek et al. point to the "lack of empirical studies that demonstrate potential benefits and obstacles when applying participatory PSS" as part of the cause. This thesis aims to be a contribution to this challenge by means of empirical study of a specific form of PSS 'serious gaming'.

'Serious gaming' is a relatively young planning support tool and not yet commonly known. Briefly, 'serious gaming' represents enhancing and improving interaction between stakeholders and participants, challenging them to participate in a game and find solutions on a collaborative basis. Also information exchange, creating awareness and convincing, can be part of this specific PSS (for

more information: http://www.deltares.nl/en/software-alg/serious-games). The thesis' focus will be the contribution and effects of these so-called serious games on the participative planning process with a particular focus on public (citizen) participation. Another part of this focus is the early stage of planning processes and also the field of area development plans within spatial planning, both form the context for this thesis.

1.2   Research Questions

Problem statement
In spatial planning practice, public participation seems to gain more interest and attention in the last few decades. Yet there are some major shortcomings of integration of public participation, such as the absence of actual participation and instead letting people do their talking. Public organizations are also often fragmentized regarding their point of views, which makes it difficult for both sides to work together. The role of (participatory) planning support systems in all this is marginal. The potential of these tools relating to public participation in spatial planning processes is quite unclear. There also seems to be a lack of empirical studies showing potential benefits and shortcomings when applying participatory PSS.

Research Goal
The aim of this study is to explore a specific form of a participatory planning support system, called 'serious gaming' by focusing on the initial and early planning phase within regional area development planning. As another important parameter is public (citizen) participation, the effects and obstacles of 'serious gaming' as a PSS on public participation are examined. This research then aims to provide some policy recommendations concerning the incorporation of PSS in spatial planning processes, to strengthen (purposeful) public participation.

Central research question
Considering the growing attention for public participation in spatial planning – mainly since the 1990's – what are the effects of the planning support system 'serious gaming' on public participation, in the initial and planning phase of area development planning?

Sub questions:

1)   What is participatory planning and why is public participation increasingly considered as a fundamental part of a planning process?

2)   What are planning support systems and its functions, benefits, and disadvantages toward participatory planning processes?

3)   Being a subset of PSS, what is 'Serious Gaming', and how is it practiced?

4)   What is the possible contribution of 'serious games' to public participation within the early stages of spatial decision making processes?

5)   What policy recommendations could be made regarding the application of ´serious games´ in spatial planning practice?

1.3   Planning support systems

According to Vonk (2005), tools like GIS and SDSS (Spatial Decision Support Systems) are related to PSS and some overlap exist. The difference is that PSS is dedicated to planning support specifically, which is not the case for GIS and SDSS. What PSS mainly does is 'bringing together the functionalities of geographic information systems (GIS), models, and visualization to gather, structure, analyze and communicate information in planning' (Vonk, 2006, p. 27). Klosterman (1997, p. 47) defines PSS as 'an infrastructure that systematically introduces relevant (spatial) information to a specific process of related planning actions'. For example, a spatial planner might use cost-benefit analysis software, transportation models, and GIS. PSS is combining all of these. A final definition comes from Vonk (2006), stating that PSS can help planners to efficiently capture, store, update, communicate, manipulate, analyze, model and display the required knowledge.

Brömmelstroet (2010, p. 28) says PSS has several interpretations in the literature, from very narrow computer centered definitions to much broader concepts related to information and planning. He defines PSS as "any kind of infrastructure which systematically introduces relevant (spatial) information to a specific process of related planning actions". When taking this view, PSS has both a process and a substantive component (latter sometimes supported by computer technologies). Furthermore, Brömmelstroet mentions some specific tasks PSS should accomplish:

1   to facilitate interaction among planners

2   to contain structured and accessible information

3   to facilitate social interaction, interpersonal communication, and debate (to address common concerns)

4   to support a continuous and interactive process of constantly integrating new information

Those elements most important for this research are epecially the third and fourth tasks mentioned above, the facilitation of social interaction, communication and debate, and supporting a continuous and interactive process of integrating new information. So the interaction between the planners and the participants is what this thesis is about, when speaking of PSS.

As mentioned before, there is a considerable amount of literature available, concerning PSS and related themes. However, most of it is supply side oriented, often with a technical approach. And this is not only the case for the literature; also the PSS themselves are generally too inflexible, generic, complex, and oriented towards technology, rather than problem oriented (Vonk, 2006). Implementation lags far behind the supply of PSS tools, despite a large diversity of existing PSS (Brail and Klosterman, 2001, Geertman, 2002, Stillwell et al., 1999a).

Although in theory PSS promises to 'help planners efficiently capture, store, update, communicate and manipulate, analyze, model and display the required knowledge', spatial planning practice of planning support systems assessed today turns out to be far from being widespread and effectively integrated into the planning process' (Stillwell et al., 1999a). It has to be said that the new generation of PSS seems to distinguishing themselves by dedication to support the planner. However there is not abundant, or even a moderate amount of literature about concentration on these 'new generation' - PSS.

Vonk (2006) has been concentrating on bottlenecks blocking the widespread use of PSS in spatial planning. He found that the lack of both experiences and awareness regarding these systems – together with a relative lack of recognition about the value of PSS within the spatial planning community – are important factors. The author underlines that it is crucial that 'real world example projects' and in depth research on potential benefits of PSS application in planning practice are being executed. The potential of PSS within planning processes seems promising. However, as is underlined by Brömmelstroet (2010) for instance, studies show that PSS is related to serious drawbacks, when being used by planners. They 'accuse' PSS for being 'too generic, complex, inflexible, incompatible, too much tech – oriented instead of problem-oriented' and more (Bishop, 1998, Couclelis, 2005), Geertman, 2006, Vonk, 2006). In the literature, the so-called 'implementation gap' – the gap between the supply side and the demand / user side of PSS – seems to be problematic. As seen before, there is enough literature to be found, concerning the supply side, concentrating on the more technical aspects of PSS. But the demand side is appears to be under exposed. Geertman and Stillwell (2003) state that further focus is needed on the ' Planning' and ' Support' aspects of PSS, instead of on ' System'. "The deficit in demand cannot be fully be explained with reference to existing knowledge. Just how the use of PSS in practice could be enhanced is unclear…" (Vonk, 2006). This makes it a challenge for further researchers concerning what today's PSS means in practice. This study aims to provide a clearer insight in participatory planning support systems and serious gaming as a specific domain of participatory PSS, and analyzes the effects of 'serious gaming' on participation of citizens within these planning processes.

1.4   Methodology

This thesis' methodology encompasses three elements of inquiry, based on Creswell (2005) and figure 1.1 below, representing the methodological framework. The socially constructed knowledge claim is the starting perspective of the author and this research. The strategy of inquiry is a single case study. By using in depth interviewing as the main data collection method, the central approach to research – as is mentioned in the center of figure 1.1 – is a qualitative research approach. A number of ten interviews were surveyed among mostly former participants in the case of exploration of an alternative for airport Twente with the implementation of 'serious gaming' by T-xchange. The interactive sessions with the participants accompanied by 'serious gaming' took place in the third and fourth quarter of 2007 and the beginning of 2008.

Research Methodology: Research Design Framework
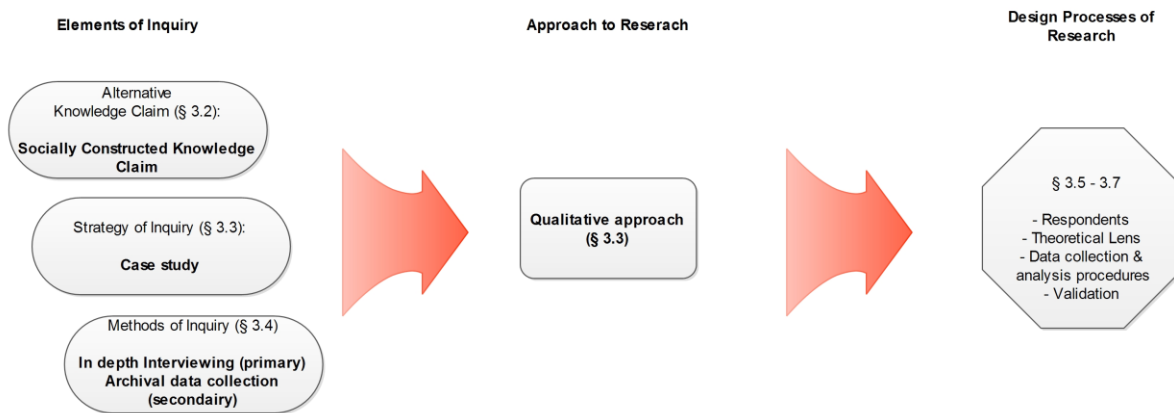
Figure 1.1   Methodological Framework including the paragraphs wherin methodological choices are further discussed

Secondary data collection is done trough analysing relevant documents such as session reports and policy documents. The analysis of the data is carried out through the steps of: organizing and preparing, reading everything, coding, preliminary analysis, and deciding on how the themes and descriptions will be represented in the case study chapter. Finally, interpretation and conclusions are made together with identifying learned lessons. The internal validation of the outcomes is examined by triangulation and by negative / discrepant information (opposing the themes and propositions made in the synthesis). The methodological design is further explained in chapter three.

1.5   Case study

In this research, a single case study was being applied. The use of 'serious gaming' within the initial and early plan phase supporting the search for an alternative spatial development plan for the formerly military airport Twente area (near the city of Enschede). In 2008, multiple sessions together with over 30 participants and stakeholders were held, accompanied by the instrument of 'serious gaming' by T-xchange. This process was initialized by VTM (Vliegwiel Twente Maatschappij) and supported by Grontmij consultancy.

In a collaborative setting, discussion was stimulated in order to develop a broadly based alternative scenario for the airport. Spatial plans could be formed by the participant and were visualized. In a gaming environment, interaction was key to work together. 'Serious gaming' developed by T-xchange, as a participatory PSS was not applied on the spatial planning domain earlier before, at least not on this scale.
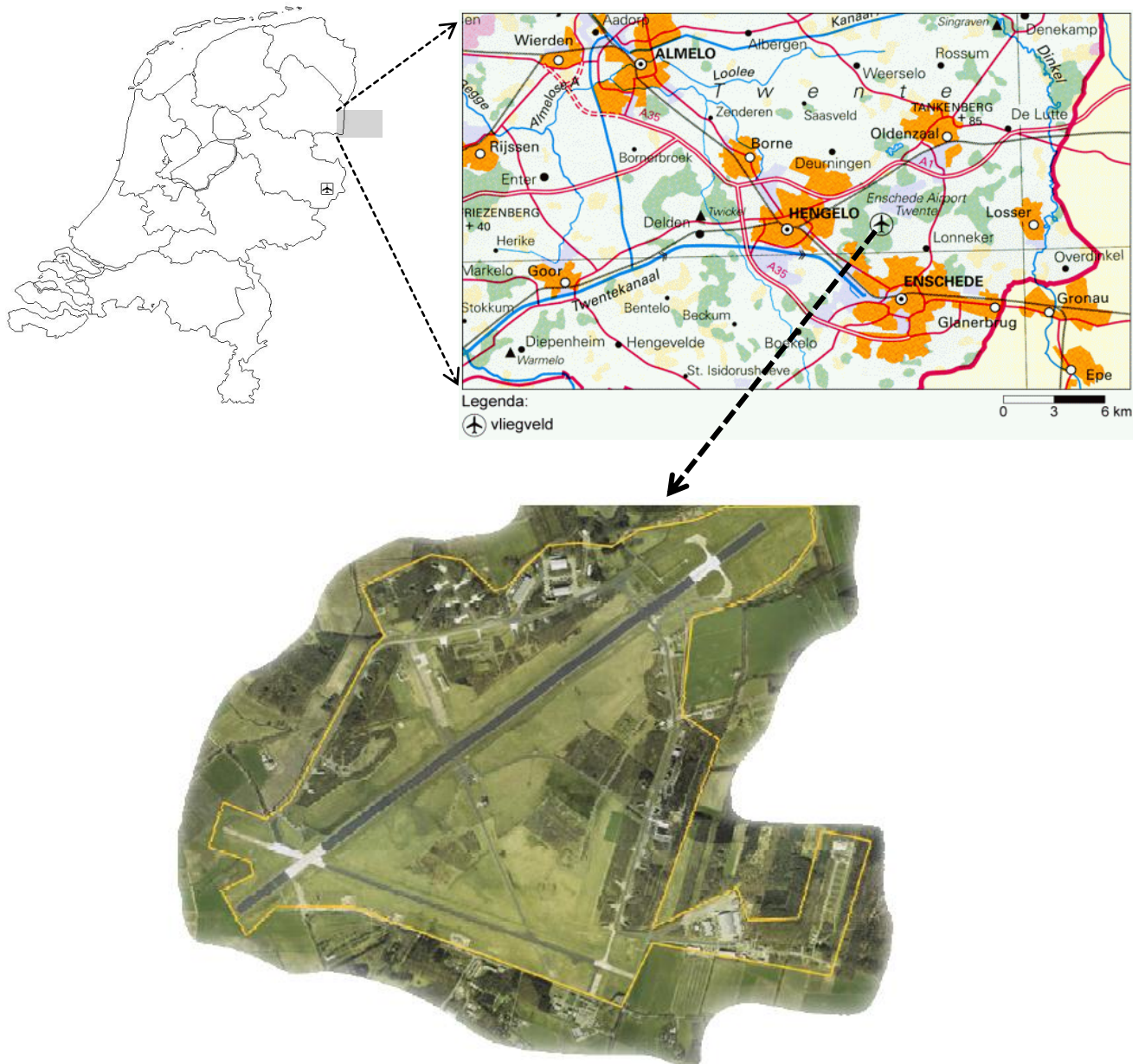
Figure 1.2   Satellite photo of area airport Twente and its locational context. (maps.google.com)

This research uses this particular case to examine what effects this instrument of 'serious gaming' had and does have on citizen participation. One of the arguments for choosing this case is the high number of participants and civil organizations represented and participating in the related sessions. Allthough this process took place quite some time ago, 'serious gaming' in the context of planning still is a relevant topic, and today development and application of such technologies in planning – and also in many other sectors – is growing further.

Chapter 2   Planning Support Systems and public participation

2.1   Introduction

This second chapter will focus on the theoretical background and knowledge in the literature, concerning planning support systems (PSS) and participatory planning. First, planning support systems (PSS) will be defined and demarcated followed by shedding light on the role(s) it can take within land use decision making processes. The background of PSS will be outlined by exploring the different purposes that PSS might fulfill. This paragraph will also provide several PSS examples in land use planning processes in order to enhance a greater understanding about their versatility in, among others, technique, public, and purpose.

In the following third paragraph, participation within planning processes is the central topic. Starting off with providing some definitions about 'participatory planning' and followed by a theoretical embedding of participatory planning within planning theory. This part of the paragraph aims to answer the research sub question of "why public participation is increasingly considered as a fundamental part of a planning process". In paragraph 2.3.2 the definition of public participation and its meaning will be clarified, thereby supported with a systemic overview of types of (public) participation.

The fourth paragraph is about positioning PSS in combination with public participation. Here, the available literature and experiences in practice on PSS and public participation are discussed as well as possible benefits, critiques, and potential. The paragraph concludes with a conceptual framework that visualizes the former discussed terms and factors and showing the key aspects and aims of this research in a conceptual model. It will also act as a link between theory and the empirical data to be collected.

2.2   Planning support systems and their current practice

As chapter two aims to provide a theoretical funding for this thesis, this paragraph contributes to this by focusing on Planning Support Systems in general, and 'serious gaming' as a specific PSS tool. In the first two paragraphs the background, definitions, and two examples of PSS are given to provide a transparent perception of what PSS are. In section 2.2.3 a SWOT analysis of PSS is performed. The fourth and last section of paragraph 2.2 then introduces 'serious gaming' – the main subject of this research – as a specific type of PSS.

2.2.1   Background and definitions

There are multiple meanings and definitions of Planning Support Systems (PSS) given in the literature. This paragraph will start with a clarification of which definition is going to be used from this point on. 'Planning support', 'planning support instruments' and 'planning support systems' are the main subjects to distinguish here. These different topics have overlapping areas. Where 'planning support' is the broadest of them all, 'planning support systems' is the most specific of the three, being a subset of 'planning support instruments'. And the latter can be brought under by the general term 'planning support' (Geertman, 2006).

First of all, what is actually meant by '*planning support*'? This umbrella term, consists of every support or help for professional planners, "in the form of dedicated information, knowledge and instruments that people actively involved within formal spatial-planning practices and can receive or enlighten (make faster, improve quality, increase ease of performance etc.) their planning tasks and activities" (Geertman, 2 006, p. 864)). Apart from professional planners, other involved actors – for instance stakeholders – are also part of the group *'planning support'* is being made for.

T o realize planning support*, planning support instruments* have to be applied. These are in particular "computer-based tools, dedicated to the support of specific professional spatial planning tasks" (Geertman, 2006, p. 864). Among others, analysis of spatial trends, scenario planning, and strengthening of participation are key aspects of planning support instruments. More specific tasks of *planning support instruments* could be, for instance, diagnosing, data collection, trend analysis, or visualization.

Planning support systems (PSS) then, are seen as *a subset* of these planning support instruments. While there are a few definitions, one of the important aspects is that they are 'geo information-technology based instruments' (Geertman, 2006, p 864, based on: Brail and Klosterman, 2001; Geertman and Stillwell, 2003, Harris and Batty, 1993l; Klosterman, 1998).

The definition of PSS taken as a basis in this thesis and already introduced in the previous chapter is:

> *"Planning Support Systems (…) as a subset of geo information technologies, dedicated to support those involved in planning to explore, represent, analyze, visualize, predict, prescribe, design, implement, monitor and discuss issues associated with the need to plan."*

A major reason for picking this definition as the basic one for this thesis is that it clearly mentions the distinct planning tasks of what PSS entails or should entail (exploring, analyzing, visualizing, predicting, designing etc.). This should support the identification of the researched planning support system in the case study of this thesis (Serious Gaming and the case of airport Twente, i.e.). So when checking whether a certain instrument actually is a PSS or not, this definition can help to identify it.

Brömmelstroet (2010) indicates several specific tasks PSS should accomplish. The first one is 'facilitating interaction among planners'. For instance, the use of models that visualize and let planners manage and eventually share spatial plans. Another specific function given is the 'containment of structured and accessible information'. The third one should be facilitating social interaction, interpersonal communication' and the fourth task of a PSS: to support a continuous and interactive process of constantly integrating new information (generated as analytical results) and thus redefining design issues' (Klosterman, 1997). Although these tasks could be applied in real life, yet it seems that daily planning practice is not applying these provided PSS that well. This so-called implementation gap has already been introduced in chapter one.

In short, three subjects were discussed, with the broader 'planning support' as an umbrella term. Derived from this broader domain, planning support instruments have been mentioned which could be summarized as computer based tools, devoted to supporting certain professional spatial planning tasks. And finally planning support systems, the domain this thesis focuses on, was briefly clarified, resulting in the core definition for this research. Besides these terms, also three framework components were given (Geertman, 2006) that form the basis of PSS.

2.2.2   Two PSS examples

PSS are a heterogeneous assembly of instruments and they differ in their roles in planning processes, the way they work and processing data but, also in their users and appearences. This paragraph provides two examples of different PSS, in order to emphasize their differing purpose, public, and methods and thereby their different applications in planning practice. This section gives an insight in the variety of those instruments and their applications.

Two examples of currently used PSS are briefly discussed here. The choice for the first instrument, LEAM – Land Use Evolution and Impact Assessment Model – is based on the authors experience when studying abroad. By having some valuable interviews with persons involved together with the insights with the model itself. In the US, LEAM has been one of the upcoming and developing PSS that is more and more widespread and implemented in the state Illinois at first, and also in several other states. It is a PSS that suits well for exemplifying in this paragraph as a differing case for the second instrument, UrbanSIM. This open source urban simulation system is funded by i.a. the National Science Foundation and the U.S. Environmental Protection Agency and implemented by states in the U.S., Europe, and Africa. Therefore UrbanSIM is a prevalent PSS around and with its features it can act as an excellent second example of a PSS resulting in a clear distinction between both examples considering their purpose, methods, and public.

LEAM

One example of a planning support system is the LEAM model, which stands for Land Use Evolution and Impact Assessment Model. LEAM is developed using an urban ecological approach, aimed to provide urban planners with decision support tools (Sun et al, 2009, p. 58). It was first developed at the Department of Urban and Regional Planning at the University of Illinois at Urbana-Champaign, in the late 1990's. LEAM is a component of a broader planning support system that is about supporting people making land use decisions while being able view what implications of decisions are (Interview B. Deal, 2011). Now, LEAM is used all around the United States and abroad.

It "utilizes cellular automata and other technological advances in spatial simulation modeling to help improve a community's ability to make ecologically and economically sound decisions" (**http://www.leam.illinois.edu/leam**). It enables users to view probable consequences of certain events, concerning urban growth, and environmental impact. Those users are local experts as well as decision makers and stakeholders. A region (gridded down by blocks of 30 x 30 meter) is being transformed by the input of urban growth data, as well as environmental drivers, and land use change is being monitored and visualized.
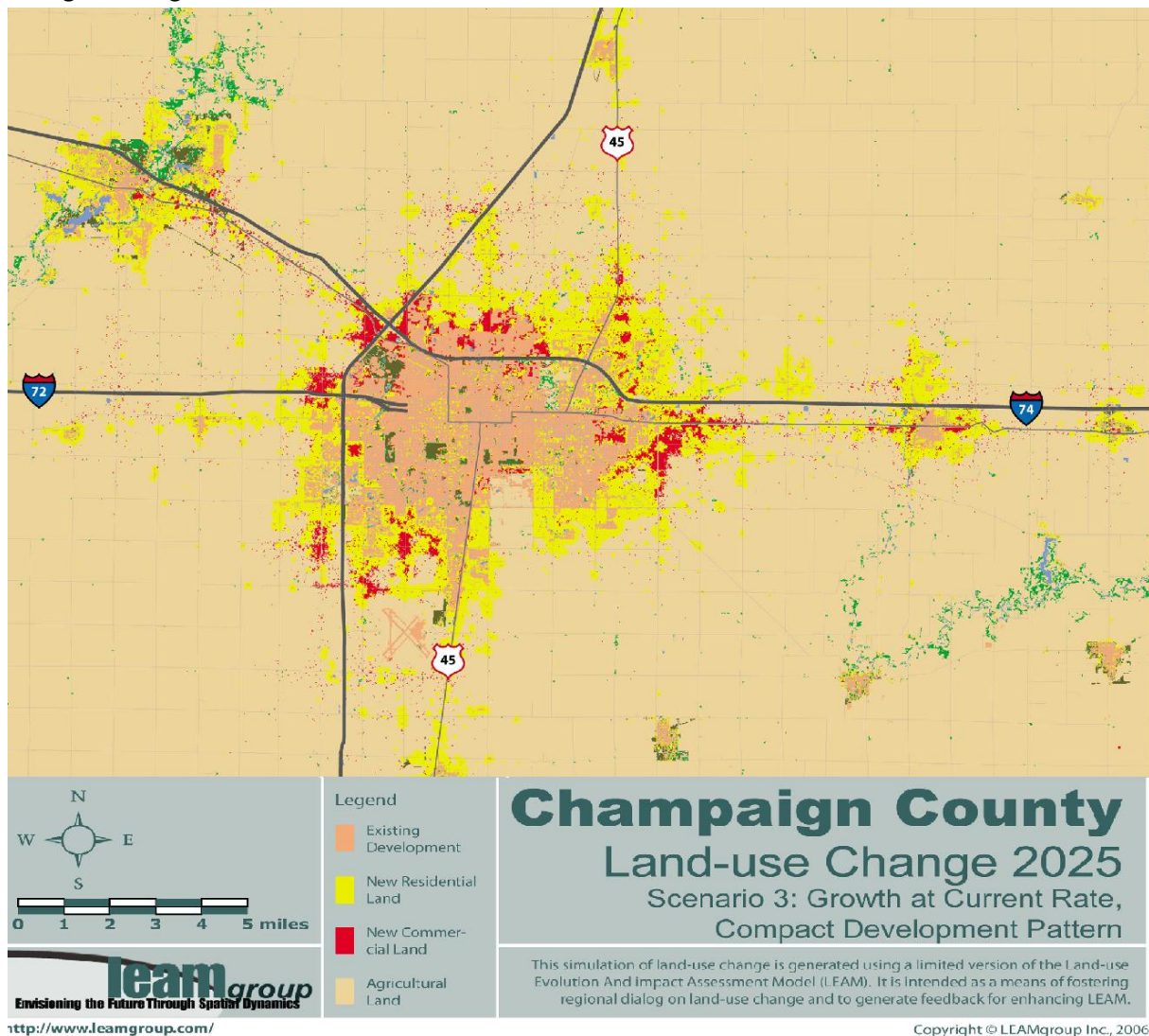
Figure 2.1   LEAM interface; Urban growth 2025 scenario 3. Urbana – Champaign, Illinois, US (*http://datacenter.leamgroup.com/cu/*)

When talking about the necessity of LEAM, planners need better tools to understand their cities and regions not just as economic systems, or as static inventories of natural recourses, but also as environmental systems that are part of regional and global networks (Campbell 1996). Remote Sensing and GIS are useful tools for planners, but inadequate to provide insights into possible urban futures. Urban systems, as complex systems, can be best understood by spatial dynamic modeling. Aiming to provide decision support tools for urban planners, LEAM is developed using an urban ecological approach. The LEAM environment enables users to capture stochastic influences and report the probable consequences of events in scenario formats.

UrbanSIM

Another example of a planning support system is 'UrbanSIM'. It is a "software based simulation system for supporting planning and analysis of urban development, incorporating the interactions between land use, transportation, the economy and the environment". (www.urbansim.org)

UrbanSIM is an urban simulation model system that has been evolving continuously since the late 1990's (Waddell, Liu and Wang, 2008, p.2). It started with a project for addressing land use effects of transit projects and highways, till then systematically being ignored. It is suggested that UrbanSim may be helpful for exploring trends, scenarios and possible outcomes for several sectors; *"exploring the effects of infrastructure and policy choices on community outcomes such as motorized and non-motorized accessibility, housing affordability, greenhouse gas emissions, and the protection of open space and environmentally sensitive habitats."*

Figure 2.2   UrbanSIM interface: number of jobs in a region (www.urbansim.org)

Supporting the coordination of land use, transportation and environmental planning at various scales remains the primary focus of the UrbanSim project, but the potential to use the model system for evaluating a wide variety of policies affecting urban development and infrastructure have led to a

rapid evolution of the system to make it adaptive to rapidly changing environments and needs (Waddell, Liu, Wang, 2008, p.2).
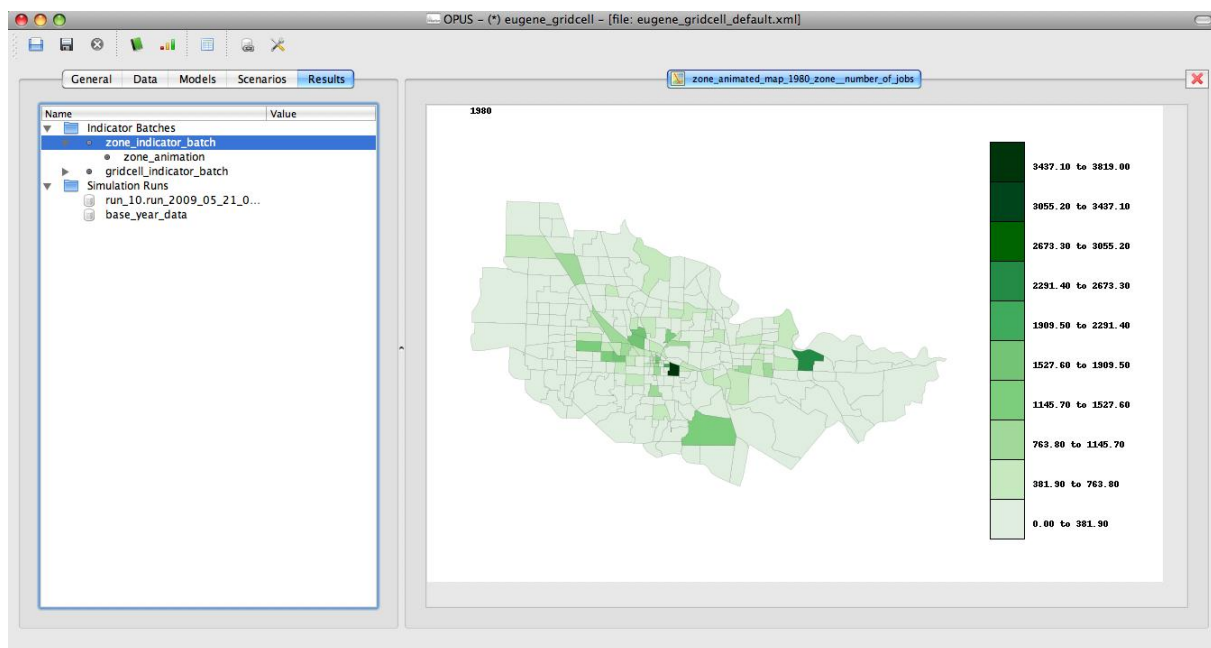
By developing a model that is behavioral in its approach, the operation of UrbanSim becomes fairly simple to understand. But it is able to capture complex interactions in the markets for land, development, and transportation. It is a valuable tool for improving the level of understanding of how a metropolitan region is developing and how various combinations of land use and transportation policies and investments are likely to shape these trends. (http://www.urbansim.org/Main/UrbanSim)

A special feature of this planning support system is that it is an open source software package, downloadable for everyone. Since its initial release in 1998, UrbanSim has increasingly been adopted for operational planning use in the U.S. and in Europe, Asia, and Africa, in planning agencies, and in university research and educational settings (http://www.urbansim.org/Main/UrbanSim).

Characteristic: Planning Support System:	Purpose	User	Method
LEAM	Decision support for planners	Planners, professional stakeholders	Modeling urban growth and environmental impact
UrbanSIM	Coordination of land use, transportation and environmental planning	Planners, professional stakeholders, public, education	Open source; web based

Table 2.2   PSS examples – overview of characteristics

This paragraph tried to clarify the presence of a wide diversity in PSS, in the way they work, for whom they are meant, and their purpose. Table 2.2 provides a tangible overview for supporting this statement. This is important to realize while speaking about PSS. It is a large 'container term' consisting of many kinds of instruments with various applications and contexts and differing roles. With this acknowledgement kept in mind, the next paragraph analyzes PSS assisted by a SWOT analysis.

2.2.3   Benefits, drawbacks and opportunities

The emergence and development of planning support systems is from quite recent. Instead of aiming on supporting general purposes in planning, planning support systems are more used to support specific tasks of planners. Since the last one and a half decade or so, researchers have been developing a wide range of PSS (Brial and Kloosterman, 2001; Geertman and Stillwell, 2003b). Since

the last couple of years, also more scientific papers were written concerning this subject. Yet it seems that PSS are still in an 'early and exploratory stage of growth' (Vonk, 2006, p. 40). One of the main problems of the implementation / adoption of PSS is the gap between researchers' activities and the practical needs of practitioners (Vonk. 2006, p. 40). This will be discussed further on in this paragraph as a 'threat'. A brief overview of PSS' strengths, weaknesses, opportunities and threats (SWOT analysis) is provided in this paragraph, to obtain a transparent view of PSS and how they actually fit in planning processes (and relating obstacles). Vonk (2006, p. 36 – 40) is the main literature source for this overview.

Strengths
One of the strengths of PSS is that they seem very useful for storing and retrieving information, like GIS instruments. Also (the quick and easy) information visualization is a key strength as it enables the user to obtain an understanding of the (mass) data, while it can also fulfill a communication purpose. (also opportunity). Furthermore it can be (and is) well employed by geo-information specialists, for the sake of analytical tasks.. A third and major strength is the 'use of pss by citizens and professionals stakeholders in terms of communicating plans, alternatives, and scenarios. We will get back on this key aspect further on in this chapter, as it touches the core of this research.

Weaknesses
Besides strengths, PSS also bring certain weaknesses along with them. For instance, the usage s of these *subsets of geo-information based technology by* planners remains limited. One other weak aspect about PSS is the underuse of the participation facilitating function of PSS. The ability of PSS – to support communication between citizens, stakeholders and planners –remains largely underused in the circumstances of minor usage of PSS in planning processes in general.

Opportunities
Opportunities are, for instance, in the participation facilitating function. It could act as a facilitator for participation in planning processes to a greater extent (Vonk, 2006, p. 38). Experts and users (according to the research of Vonk, 2006) see a high potential for PSS regarding advanced visualization of information and communication between planners, citizens, and professional stakeholders, involved in a planning process. Visualization is seen as a basis for communication and stimulates creativity during citizen participation and in other interactive settings with planners and stakeholders. (p38). This opportunity provides a good starting point for this thesis, and it will be further discussed in paragraph 2.4.1. Another opportunity is the potential use for analysis and modeling applications, also by planners and professional stakeholders, besides the current users being mainly researchers and geo-information specialists. That is, if the systems are made more user friendly and are fitted to the planning process. Among others, scenario generation, design of alternatives and impact assessment are areas that – through usage of PSS – could be more explored by planners, policymakers, and users.

Threats
Threats that may prevent realization of the opportunities are: the gap between the supply side of PSS (technical, by experts made) and the demand side (planners, decision makers - less technically oriented-) that is not taken away. Secondly, bottlenecks that may remain: lack of awareness, lack of experience – i.e. by the user – and lack of general intention to use PSS. Application of such planning

support systems may also be hindered due to policy makers and other authorities. Since they could see PSS as instruments whereby outcomes could not be controlled (directly) and fearing loss of power to the public and other stakeholder.

Strenghts	Weaknesses
- storing and retrieving information - visualization - GIS analysis - planning result insight for stakeholders and public	- usage mostly limited to easy planning tasks - low use of PSS and its participation facilitation function
Opportunities	**Threats**
- visualization by the instrument to facilitate interaction - potential use for analysis and modeling - scenario generation, design of alternatives, impact assessment	- the gap between technical oriented supply of PSS and the user itself - lack of awareness, experience, and intention for using PSS. - loss of power and control in the eyes of e.g. decision makers

Table 2.1   SWOT analysis - overview

As some important benefits, potentials and disadvantages and threats have been discussed in this paragraph, the subsequent paragraph introduces 'serious gaming' as a specific form of PSS. Table 2.1 will be used in that same section as well, assisting the exploration of this particular instrument.

2.2.4   'Serious gaming' as a planning support system

In this paragraph, 'serious gaming' is being introduced and reviewed as a specific type of, and within PSS. It provides a clear insight in what 'serious games' actually mean, do and aim for.

The concept of 'serious gaming' was first applied in 2002, with the Woodrow Wilson International Center for Scholars in Washington DC. It started an initiative for developing and stimulating the use of games for and within policy and management purposes (Kranenburg et al., 2006). With *serious* games, it is not about entertainment where games generally are made for, as is widely known. Although entertainment can still be a component, the main purpose of serious games is about education, training and communication.

A definition of a game is given by Parlett (1999, cited by Poplin, 2011) who distinguishes formal and informal gaming. Informal gaming is indicated as undirected gameplay, whereas a formal game has a twofold structure of ends and means. Ends in a way of achieving an objective, and means as "a set of equipment and procedural rules rules that can produce a winning situation" (Poplin, 2011, p. 3). This

formal side of gaming is also defined by Abt (1970, also cited by Poplin): "A game is an activity among two or more independent decision-makers seeking to achieve their objectives in same limiting context. A more conventional definition would illustrate that a game is a context with rules among adversaries trying to win objectives".

While this definition briefly identifies what a game is, the link to "serious" in 'serious gaming' should be made clear. Zyda (2005) argues that 'serious games' are created when games and simulation technology are applied to non-entertainment domains. He also defines 'serious games as "a mental contest, played with a computer in accordance with specific rules that uses entertainment to further government or corporate training, education, health, public policy, and strategic communication objectives" (Zuyda, 2005, p. 26). According to Hoeke (2011) some aspect that characterize 'serious games' are awareness-raising, motivation of learning, increase of knowledge, skill training, and excersizing a person's communicatication and collaboration.

How could 'serious games' be utilized by stakeholders such as the government? Hoeke (2011) mentions a few purposes of this kind of PSS in governmental activities. Firstly, reaching consensus about policy directions can be an important goal for practicing a 'serious game'. This could be among several kinds of participants; from experts and policymakers, to professional stakeholders and/or citizens. The same applies for sharing knowledge and information. A third goal can be a crisis situation simulation whereby participants can act like there is an actual crisis going on. Another field of appliance is employee recruiting. 'Serious games' can help in selection procedures or virtual cases in which recruits have to participate. A final mark would be the common starting point that can be provided to participants.

Apart from these different purposes, 'serious gaming' is also applicable in different phases of planning processes. In an early planning phase it could be implemented as a scenario method in order to develop scenarios or alternatives together with participating groups (Slager et al, 2007). An example for this is 'SimLandscape', developed by Nieuwland Advies, that supports the creation of plan scenarios and provides the option to compare different scenarios (Slager and Bulens, 2008). What SimLandscape contributes toward the planning process is primarily a better control of the process while it is assisting non-experts trough the ability of "adding intelligence and offering alternatives to the traditional 2D data" (Slager et al., 2007, p. 10).

In a subsequent planning phase, the main purpose of 'serious gaming' may be policy communication (for instance web based, and open for anyone who is interested). And lastly, within the implementation phase of the policy cycle, also games covering subjects as maintenance, design, inquiring of potential risks etc. may be applied.

'Serious games' as an instrument of a (participatory) PSS within area development planning seems to be a promising tool. When taking into account table 2.2 in paragraph 2.2.2, serious gaming can also be identified based on its purpose, method, and users. A main purpose of 'serious gaming' is the stimulation of interactivity between the users (i.e. planners, participants, stakeholders). When digitally applied, 'serious gaming' may provide opportunities for design support through direct feedback and visibility on maps and plans during gaming sessions. Regarding the users of 'serious gaming', especially professional stakeholders and public participants are potential users of 'serious

games'. For instance, in participatory processes wherein a public or governmental organization enables citizens and/or stakeholders to actively or passively participate in order to build a strongly based plan.

Characteristic: Planning Support System:	Purpose	User	Method
Serious Gaming	Support interaction and design in and of land use plans.	Especially stakeholders and public participants.	Interactive and visual feedback on plans and users.

Table 2.3   Characteristics of Serious Gaming

When reflecting on the SWOT analysis that was conducted in the previous paragraph, those characteristics that can be found back in 'serious gaming' are marked as bold text. As one can see, most elements of PSS are also applicable to 'serious gaming'. The ones that are not directly relating to 'serious games' are the weakness "usage mostly limited to easy planning tasks" and "the gap between technical oriented supply of PSS and the user". 'Serious games' can be implemented in many different contexts and processes, and they often enable opportunities that are normally not (easily) achieved by more conventional tools. Regarding the second missing 'threat' - aspect, 'serious games' are usually developed for the participating stakeholders or actors. Therefore this 'threat' element of general PSS does not really apply to 'serious games'.

Strenghts	*Weaknesses*
- storing and retrieving information *- visualization* *- GIS analysis* *- planning result insight for stakeholders and public*	*- usage mostly limited to easy planning tasks* *- low use of PSS and its participation facilitation function*
Opportunities	**Threats**
- visualization by the instrument to facilitate interaction *- potential use for analysis and modeling* *- scenario generation, design of alternatives, impact assessment*	*- the gap between technical oriented supply of PSS and the user himself* *- lack of awareness, experience, and intention for using PSS.* *- loss of power and control in the eyes of e.g. decision makers*

Table 2.2b   SWOT analysis PSS: 'serious gaming'

2.3   Participation in the spatial planning process

This thesis focuses on the effects of PSS – in particular 'serious gaming' – on citizen participation. Therefore it is important to look at what is actually meant by participation in planning? And since when has it been around in planning practice - and theory and what are important preconditions or factors to obtain a 'successful' participatory process? To get a clear perception of participation and how it fits in within this thesis, these questions and more are discussed in this paragraph. In the first sub paragraph, participatory planning is being reviewed while in paragraph 2.3.2, public (and citizen-) participation is the main subject. In the next section a overview of factors necessary for citizen participation is provided to the reader, that will show up again in paragraph 2.5, within this thesis' theoretical framework.

2.3.1   Participatory planning

Nowadays, participation of communities and stakeholders is a central theme in many planning projects and policy reforms, all over the world. A relatively recent topic in which participation of the public also emerged is sustainable development (Mahjabeen et al., 2006). There are many authors within the field of spatial planning, who argue that by participation of stakeholders (both professional as non-professional) in planning, these plans are likely to correspond more with the wants of the participants (Healey, 1998; Shresta and McManus, 2005), resulting in a broad support of outcomes of plans.

Public participation, or as some authors call it 'community participation', in spatial planning is believed to bring together information, knowledge and skills from multiple and different backgrounds in order to (Healey, 1997; Margerum, 2002; Sager, 1994; Mahjabeen et al, 2006):

- achieve mutual learning and personal growth of the participants
- create a sense of ownership regarding the outcomes
- generate agreement and increase support for implementation.
- improve the outcomes of plans

When looking back at the last two to three decades, participation of stakeholders became a central theme in planning theory, from the late 1980s and in the 1990s. Healey (1988; 2006) and Forester (1989) were two authors who wrote about and advocated communicative planning theory, whereby communication was a key factor (Mahjabeen, 2006). Innes (1996) build further on the concept of consensus building. By focusing more on equality in the collaborative planning process, applying to all types of stakeholders, consensus could be achieved. She added equality as a major factor and important precondition for collaborative or participatory planning. Equality in the sense of that all participating stakeholders are involved in the planning process at the same level. Joint problem solving in a process of taking and giving is Innes major conclusion, whereby conflicts are resolved and innovations could rise (Innes and Booher, 2004a). There are critics on this perspective too. Acknowledging equality in participation of different stakeholders seems to be misleading, according to Hiller (2003). Due to inequality of backgrounds, positions and power, he argues it is a misleading thought to expect equality in participation processes.

Apart from the debate whether (complete) equality in collaborative planning processes may be reached or not, Innes and Booher (2004) seem to have a adequate notion of participation and some important preconditions. Besides participation being collaborative, it should incorporate citizens and also organized interests, (non)-profit-making organizations, planners and public administrators (Innes and Booher, 2004, p. 422). They argue that the process of participation and collaboration should be interactive (not one way: citizen to government, or vice versa) whereby key aspects are communication, learning and action. The status quo can be challenged within such a process, and participants build a shared knowledge base (Innes and Booher, 2003). From the point of view of Innes and Booher, 'effective' participatory methods enclose collaboration, dialogue and interaction. These elements will return in paragraph 2.3.3 and 2.5.

While participatory planning is a criticized concept, and participation itself shouldn't be seen as the 'holy grail' of planning processes, this thesis presumes participation as a key aspect for today's planning processes. This is especially the case in the initial and early plan stage of planning processes, whereby alternatives or scenarios, policy directives, or other are at stake. While keeping these in mind, and as participatory planning has been discussed briefly, the next section of this paragraph will concentrate more on public and citizen participation and what they mean and their definitions.

2.3.2 Public participation

As paragraph 2.2.1 did discuss the positioning of participation and planning, this paragraph aims on providing a clear definition and boundary of the term 'public participation'. What is generally meant by it? What variety of public participation is there, and is this thesis focusing on any particular of them, or is public participation as a broad term being applied? According to the Cambridge dictionary, the literal meaning of the term 'participation' is "when you take part or become involved in something". 'Public' means "relating to or involving people in general, rather than being limited to a particular group of people". In the literature, public participation and citizen participation or involvement are both being used generally to indicate a process through which citizens have a voice in public policy decisions.

This research concentrates on public participation of citizens or citizen participation. From this point on 'public' and 'citizen' – participation are interchangeable terms. Still, when speaking about citizen participation, several forms exist. Public participation is a wide ranged and perceived term. Therefore it would be wise to narrow it down - if possible - to bring up a more concrete and manageable meaning of the kind of public participation this thesis employs. According to the recent published (April, 2012) WRR Rapport in the Netherlands (Wetenschappelijke Raad voor het Regeringsbeleid, a Dutch research and advice commission for governmental policy), three fields of public participation are distinguished (WRR, 2012):

1)   policy participation
2)   societal participation
3)   societal initiatives

The initiative concerning policy participation is in the hands of he policy makers. Civilians are free to participate, for example by concertation or volunteer work. It is about governmental projects and

initiatives, whereby citizens are allowed to participate. Societal participation on the other hand is about the participation of citizens in the society, and focuses more on the more vulnerable groups in our society. Voluntary work related to for instance helping the elders or is an example for this. The third form of citizen participation is about initiatives started from out of society such as a collective neighborhood –scale plan to keep the area clean, green or safe.

This thesis is about the first kind of participation, policy participation. Whereby policymakers involve 'the public' in participation sessions, that vary from informing (sometimes seen as participation by governmental organizations, while it actually is not), to joint decision making. Arnstein (1969) designed a ladder of participation in which ascended stages are labeled to an increasing level of participation. However in figure 2.3 a more recent and similar ladder is provided, based on Edelenbos and Monnikhof (2001).

Participation stages	Role citizen	Role policymaker	Relevant for this thesis
1 *Informing*	Target group for informing, no input by citizens	Sets policies independently, and informs citizens	
2 *Consultation*	Dialogue partner and consulting	Sets policies, and provides the opportunity to citizens for commenting. Not bounded to use comments	X
3 *Advising*	Advisor	Sets policies, though open to other ideas and solutions	X
4 *Co production* I	Co deciding within certain preconditions	Policymaker decides, under preceded preconditions	X
II	collaboration partner based on equality	On equality based decision making with participant	X
5 *Joint decision making*	Initiator	Provides support, and leaves decision making to the participants	

Table 2.4   Ladder of participation, based on Edelenbos and Monnikhof (2001, p. 242), Arnstein (1969).

The first stage in this figure, 'informing', does not really seem to fit in participatory planning, as it is not providing any opportunity to citizens to interact, dialogue, or collaborate at all. Most of the times, the possibility of asking questions by those who are present, is the only real 'instrument' to interact. The concerning government or decision maker manages the agenda, and informs the involved public. There is no room for significant contribution to plans by the public itself. Steps two to four, on the other hand are fitting in within participation in planning processes. By consulting, the concerning decision maker still sets the agenda. Point of difference is that citizens are seen as discussion partner. The public is consulted for opinions, experience and ideas. Though their contribution to the decision making process is not binding. When going a level higher, advising is the central theme. The public can actually contribute to the policy making. The decision maker commits itself to the input given, normally. Still there is some room for them to decide otherwise, when founded by arguments. The fourth level of participation has the name 'co – producing'. The policy maker and involved citizens both set the agenda jointly searching for solutions. The participant's role at this stage is 'collaboration partner'.

In this paragraph, the term public and citizen participation were discussed and clarified, in order to state a clear framework for this thesis. Besides the focus at citizen participation as policy participation (as reviewed in the beginning of this section), also the ladder of participation of Edelenbos and Monnikhof (2001), figure 2.3, is central framework for looking at citizen participation. By distinguishing actual participation and set it apart from the highest step on the ladder (i.e. joint decision making), three stages turn out to be relevant: consulting, advising and co production.
In the next section a set of critical factors for public (or citizen) participation is being given in order to be able to make an analysis concerning the possible added value of 'serious gaming' as a participatory PSS on public participation.

2.3.3 Critical factors for public participation

Here a set of criteria for effective citizen participation is discussed in order to be able to measure the effects of serious gaming as a PSS instrument on public participation further on. However when could one talk about 'effective participation'? Cogan (1986) argues that a successful citizen participation is the following: "Integral to the planning process and focused on its unique needs; designed to function within available resources of time, personnel, and money; and responsive to the citizen participants" (p. 298). This way, it seems to be difficult to put together a certain set of general criteria, because of the differences in planning projects and programs. However, the same author says that many successful citizen participation programs actually share some common elements. According to the same author (Cogan 1986) one main criterion is the clear articulation of goals and objectives as well as the roles and responsibilities for participants. Also public participation should be an integral part within the decision making structure. Another important precondition for 'good' public participation is the identification of those that are concerned with or affected by the concerned spatial plan. These conditions are mainly focussing on the *process* aspect of public participation. How to start off with it and its position within the decision making process.

Whereas these criteria might be seen as important elements for participation, there are also three other major factors that should be mentioned and also were briefly discussed in section 2.3.1. According to Innes and Booher (2004) they act as a fundamental part of effective or proper

participation as for they "are inclusive, not reactive" (Innes and Booher, 2004, p. 422). The three components are: collaboration, dialogue and interaction. As the authors put it, they are "self-organizing in both content and membership" (p.422). With collaboration, generally, joint creation, thinking or developing plans by participants is meant. A second meaning of collaboration could be both participants and policy makers jointly building plans, scenarios etc. Regarding dialogue, it is about conversation that take place (or not) between participant groups and individuals, whereby people are willing to discuss viewpoints. Thirdly, interaction is an important element as well, whereby public participation seems to benefits when there is interaction between participants (overlap with dialogue) or between the public and officials, or between participants and plans ('serious gaming?')

This paragraph stated the major preconditions and components of 'successful public participation'. At first some criteria focusing on the process side of public participation were given, followed by three key components that were based on the content of this type of participation. In short:

> - **Collaboration**
> - **Dialogue**
> - **Interaction**
> - **Mark clear roles and responsibilities for participants.**
> - **Clearly articulating goals and objectives**
> - Identify concerned or affected actors
> - Being an integral part of the decision making structure

In this thesis the first five aspects of 'succesful' public participation will be embedded within the conceptual framework (paragraph 2.4), and therefore taken as a basis for this case study. As this framework will point out later, it focuses on 'serious gaming' as an instrument, therefore the last two factors displayed above are not directly put into the framework. Where the primary data (interviews) will still cover these topics, they are not part of the main factors of 'public participation'. Additionally to these crtitical features of public participation, 'knowledge building' is also added. This element follows out of the primary data collection, to be seen in chapter four.

2.4   Integrating PSS in public participation

Since the former two paragraphs of this chapter have been dealing with both public participation as well as PSS, this section introduces 'participatory PSS', or P-PSS. These planning support systems are currently being developed and practiced to "support participatory spatial planning processes" (Slager et al., 2007, p.2). Section 2.4.1 will discuss a few examples of PSS / GIS based instruments wherein public participation is integrated. It will become clear this phenomenon has been occurring since the last one or two decades. The second sub paragraph, discusses the major strengths, weaknesses and potential of participatory PSS.

2.4.1   From PSS toward Participatory-PSS

Since participation of public and stakeholder actors in spatial planning has become more and more important for planners and public / governmental organizations – in detail mentioned in paragraph 2.2 – new sets of instruments have surfaced. Geertman and Stillwell (2009, p. 9) sum up some tags for several kinds of planner supporting instruments that integrate public participation, such as participatory Geographic Information Systems (P-GIS), Public Participatory Planning Support Systems (PP-PSS) and also Participatory Planning Support Systems (P-PSS). Where the authors reckon the differences between types of systems, Geertman and Stillwell point to their shared goal: supporting democratic decision making and providing options for local people to participate in proposals and (local) plans. These systems aim to facilitate involvement of both the public and stakeholders in decision making, enhancing effective communication and monitoring impacts of policies on local communities in a more effective way (Geertman and Stillwell, 2009, p. 9). From this point on, such participatory PSS or P-PSS are meant when talking about PSS instruments, concentrating on involving stakeholders and public participants.

Together with new tools, new methods are developed. One specific trend of application of P-PSS tools is via the internet. The aim is to provide online systems and mapping software to enhance participation. Especially Europe and North America are the main regions wherin these tools are increasingly being applied. It is also labeled as 'e-participation', by Koekoek et. al. (2009, p. 39). A Dutch real life case wherein this web based participation has been applied is 'Virtual Helmond', whereby a virtual city has been set up for the city government needed a tool to communicate proposed changes for the redevelopment of the city Helmond, to the citizens. A second example of a P-PSS in this field of study is the participatory platform 'E-spraak' ('E-speak') utilized in the Dutch city of Maastricht. A new bicycle plan had to be brought forward to the citizens to enhance suggestions by the citizens as participants about improvement of cycle friendliness of the town (Koekoek et al, 2009, p. 43).

A third example for a P-PSS, and also the focus of this thesis, is 'serious gaming'. While 'serious gaming could be utilized through several formats (say a web based format as described in the previous alinea), this thesis targets the use of a P-PSS in a real life gaming environment to enhance and stimulate participation of citizens and stakeholders. There are several developers and companies working on - or creating a 'serious game', and one of them is T-xchange, the institute that developed the 'serious game' that was applied within the search for an alternative for airport Twente, near the city of Enschede. A large number of participants (35 individuals and also representatives of (public) organizations) were part of the process wherein an alternative plan for an airport had to be created. In the fourth chapter, the case of 'serious gaming' and alternative aiport Enschede is further introduced and the results of the conducted research are presented there as well.

Figure 2.3   Set up of a gaming environment by T-xchange, Enschede

Returning to the topic of P-PSS, unlike many 'regular' PSS, these so-called participatory PSS aim to combine process models of spatial planning together with GIS instruments, in order to analyze, visualize, and communicate data. By focusing on these aspects of analyzing, visualizing and communication, enhanced participation is sought (Slager et al, 2007). In paragraph 2.2.1 PSS was defined as:

"Planning Support Systems (…) as a subset of geo information technologies, dedicated
to support those involved in planning to explore, represent, analyze, visualize, predict, prescribe,
design, implement, monitor and discuss issues associated with the need to plan."(Batty, 1995, cited
by Vonk, 2006, p. 19)

While PSS in general also targets analysis of data and visualization (communication is not mentioned directly), it can be indicated that participatory PSS, or P-PSS, prioritizes the participation-enhancing factors 'analyzing', 'visualizing' and 'communication'. These three main characteristics are also implemented in the conceptual framework (§2.5) together with the 'gaming design' feature of 'serious games'.

This research targets the role of 'serious games' as a P-PSS. From this point, P-PSS is used as the main 'hat stand' in this research, as it is a better manageable 'container' term compared to PSS. A specific tool of P-PSS called 'serious gaming' is the central theme of this thesis.

2.4.2   Benefits, drawbacks and opportunities of P-PSS

In order to gain a clear understanding of what P-PSS contributes to participatory planning processes, and what (possible) downsides are, a few positive and negative aspects of participatory PSS are briefly mentioned in this section. One of the benefits of this type of PSS is the facilitation of greater stakeholder - and public involvement in decision making. Also monitoring impacts of policies and stimulate effective communication and understanding between participants and planners are key aspects and advantages of P-PSS (Geertman and Stillwell, 2009). Furthermore the attraction of

different public actors, compared to traditional meetings, is a plus, as (probably) a broader range of participants is expected to be willing to participate. This is especially the case when such instruments are web based and thus easy accessible.

Potential of these instruments lies in the increasing use of the internet as it provides an advantage for the implementation of such P-PSS. People are more equally skilled, and reachable for participating trough a web based participatory spatial program. Maturing of web mapping and online systems are other aspects of the increasing use of internet, which are beneficial to P-PSS, especially web based or 'e-participation' instruments (Geertman and Stillwell, 2009, p.10).

Shortcomings and risks are first of all the possible case of quasi-participation (Koekoek et al, 2009, p. 45), since there is no face to face contact. Another critique for implementing P-PSS is the significant energy to be invested by the participants for learning how to adopt technical instruments. Also the difficulty in mapping people's perspectives, arguments, beliefs and feelings together with quantitative data to be used in the next phases is present.

This research aims on analyzing 'Serious Gaming' as a specific P-PSS, and its contribution, potential and shortcomings towards participatory planning and public participation in specific. In the next paragraph, therefore, a conceptual framework is offered which will act as a guiding framework for the empirical part of this study.

2.5   The conceptual framework

In this paragraph a conceptual framework for this thesis is presented. On the one hand it aims to simplify this thesis' direction and goal and on the other hand it acts as a summary of this chapter. The context for the conceptual model is the initial and early plan phase of participatory planning practice, as discussed in chapter one and paragraph 2.1.4. Within this context the following parts of the conceptual framework (figure 2.3) are positioned: Firstly, on the left, the Participatory Planning Support System (P-PSS) named 'serious gaming', and its main aspects (see paragraph 2.2.3 and 2.4) are displayed. These are based on the main features of P-PSS, as discussed in section 2.4. Together with a key characteristic of 'serious games' namely the 'gaming or playing design', the other three characteristics are: communication, visualization and analysis of data.

On the right, a figure representing citizen participation and its key preconditions is visualized. And the centre arrow symbolizes the effects and contribution of 'serious gaming' (on the left) on public participation (right box), which is also the main research question of this study.

This conceptual framework will be the guideline for chapter four and five. As chapter four entails the research results concerning the effects between 'serious gaming' features and public participation preconditions, chapter five will conclude also on the basis of - en reflecting on this framework. Furthermore, aspects that are missing at this stage will be discussed as well. Moreover, the characteristics showed in the left box in figure 2.3 are compared with those characteristics of the T-Xchange Serious Game being the main component of this case study. These findings can also be found back in the fifth and final chapter.
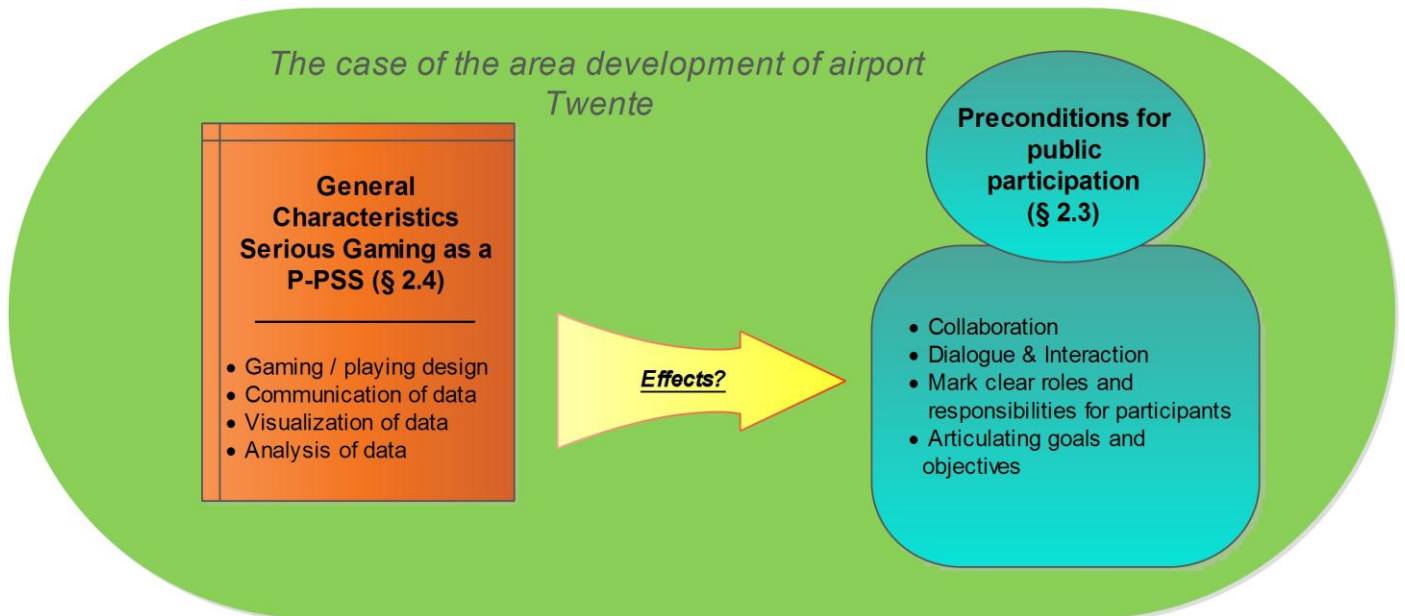
Figure 2.3   Conceptual Framework for examining the effect of 'serious gaming' on public participation

The goal of this research is to identify the contribution as well as shortcomings of 'serious gaming' as a form of a P-PSS, on to public participation. This key question is portrayed in the arrow shaped form of the framework. Where the left and right objects have been discussed in this chapter, the relationship between 'serious gaming' and citizen participation will be further examined trough a case study research. In chapter three, the research methodology is outlined, where as in chapter four the results of the data inquiry is presented.

Chapter 3 Methodology

3.1 Introduction

In this chapter the choices that were made regarding what research approach, strategy and methods to apply, will be discussed. Also the course of how data is retrieved and managed and how the research results are validated are being highlighted. First of all, and before discussing what approach to research (qualitative / quantitative) is concerned, three elements of inquiry, - central questions to research design - are mentioned, and will be discussed in the provided paragraphs (3.2, 3.3 and 3.4). These three elements of inquiry – 'knowledge claims', 'strategies of inquiry', and 'methods' (methods of data collection and analysis) – are then combined. They enable the researcher to identify which research approach to select. In paragraph 3.3, also the qualitative approach of research, which applies to this thesis research, will be reviewed. Sections 3.5 to 3.7 are discussing the research questions, the practical and more detailed discussion of data collection and analysis (how to write down the results, how to analyze them, etc.) and are also about the write up and internal - plus external validation of the research and its results.

Below, a figure is provided with a clear insight in both the Research Design Framework and this chapter's structure. Figure 3.1 (Creswell, 2005, p.5) represents the structure of the research methodology, what this chapter is all about.
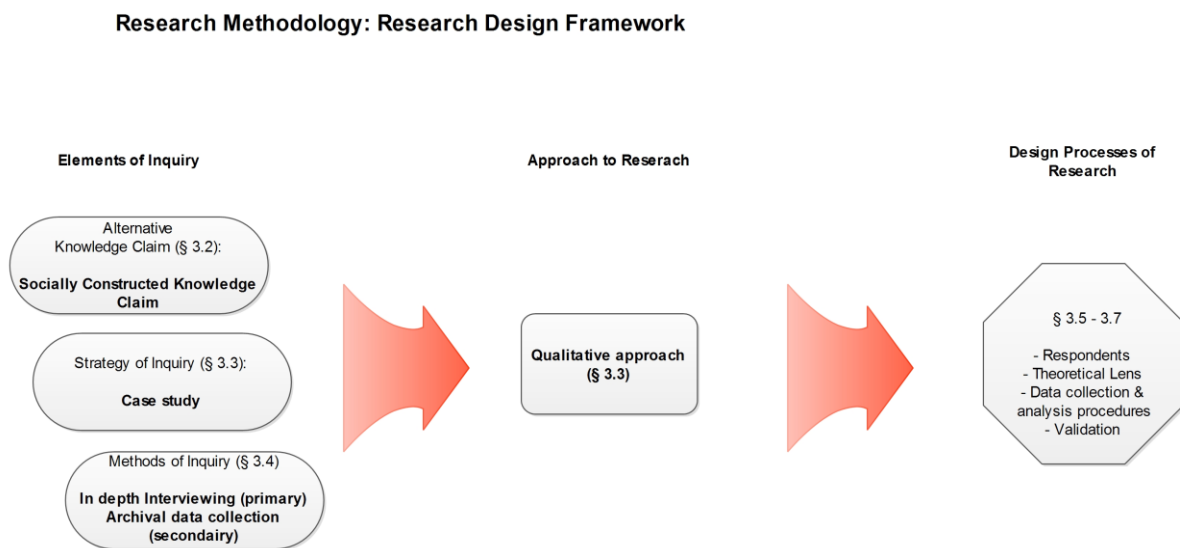

Figure 3.1   Research Methodology: Design Framework, (Creswell, 2005, p.5)

3.2   Knowledge Claims positioning

This thesis is based on a broader knowledge claim perspective. Like every other research being undertaken, researchers always start with certain assumptions about "how they will learn and what they will learn during their inquiry" (Creswell, 2005, p. 6). These claims / paradigms / philosophical assumptions / epistemologies and ontology's (Lincoln & Guba, 2000; Mertens, 1998; Crotty, 1998; Neuman, 2000, all cited by Creswell, 2005, p.6) are about what knowledge is, and how we know it, how to write about it, the processes for studying it (methodology) and so on.

There are four major schools of thought, where one in particular, the socially constructed knowledge claim, applies to this thesis and the author's assumptions of knowledge inquiry. It is also indicated as 'constructivism'.

One major key assumption of the author is his strive to understand participant's views and their meaning in their context. While generating theory is also one of the 'knowledge claim' characteristics, this research is a single case study. Since theoretical propositions should not be tried to make from out a single case, this study therefore aims to hand over suggestions and indications of the role of 'serious games' as P-PSS toward public participation.

Allthough 'theory generation' does not particularly apply to here, this study does, however, intent to contribute to eventual prospective theory generation. This aspect, and the goal of understanding meanings of participants in the concerning case, indicates why the socially constructed knowledge claim applies and is chosen in this thesis. Both 'understanding' and 'theory generation' (yet less apposite for this research) are key elements belonging to 'constructivism' as a knowledge claim position, as Creswell (2005, p. 6) explains.

3.3   Strategies of Inquiry

Where Creswell (2005, p.14, 15) provides several types of strategies of inquiry, the type fitting in best in this research design, are those methods associated with qualitative research. This can be concluded due to this study's aim to research people's understanding of the game, and their motivations. Also the exploratory character of this thesis, whereby the findings are not used to develop generalizations and theory but mainly to construct an initial understanding for further decision making and research. Methods associated with qualitative research are among others: ethnographies, grounded theory, case studies, phenomenological research and narrative research (Creswell, 2005).

'Serious gaming' as an instrument is not a common phenomenon, so only a few cases (in the Netherlands), where such a tool actually is or has been used, are present. Selecting a specific case that exemplifies a real-life application of a 'serious gaming' – instrument within the context of area development is key to this research. According to Creswell (2005, p. 15) this is an aspect of case studies wherein a program, event, or process is being researched. Following from the main research question, a particular case ('alternative airport Twente') is examined by focusing on how the use of 'serious gaming' may affect public participation.

So why has this particular case been selected? First of all, the search for an alternative plan for airport Twente was accompanied by the involvement of many participant groups. Over thirty organizations and actors were represented during the 'serious gaming' sessions back in 2007 and 2008. Despite the fact they took place quite a few years ago, it still seems as a well suiting case here to research as the case was set up at a large scale and therefore addressing former participants to be a respondent in this research should have been realizable. The fact that many citizens and public organizations were represented during the participation process, matches the aim of this study, namely the added value of 'serious games' on *public participation*. Besides this large number of participants (and more importantly, many citizens), it is one of the very few projects that includes an area development approach, also a focus of this study.

Getting back at this research being a qualitative study, as Creswell (2005, p. 18-22) argues when talking about a qualitative approach to research:, "the researcher collects open ended emerging data with the primary intent of developing themes from the data". He also says that qualitative research is mainly exploratory, not knowing the important variables to examine, when it is a new topic and little or no literature at all, regarding this subject, has been produces before. Or when no existing theories apply. This does cover the main aspects of this research, about 'serious gaming' and the area development project of airport Twente. Also the chosen main data collection method (see next paragraph) of open ended interviews directs us to the qualitative approach of research.

3.4   Methods of data collection

The primary type of data collection method utilized, is 'in depth interviewing'. By looking at the case of airport Twente, several (former) actors and organization representatives were asked about their experiences and opinions concerning Serious Gaming and their roles. In depth interviewing seems to be the most suitable primary data collection method for this thesis, when also considering the fact that the process and the involved participants, which are to be studied, can't be observed directly.

Choosing interviewing as a primary data collection method over, for instance, surveys, is mainly grounded on the ability to let the participants express their opinions and views on the matter, while being able to identify both meaning and context. It also provides the opportunity to gather historical and contextual information from participants. Some disadvantages are firstly, the filtered information by the interviewees as being apparent. Every person is biased and has a alternative view on the matter (to be researched) what results in more 'coloured' results. Also the presence of the researcher himself might bias the outcomes of the interviews. To 'neutralize' this, multiple participants are to be interviewed as well as the questioning itself is being both substantive and contextual. Besides, the questions asked in the interviews are also intended to 'help' the respondent to view the case at a more abstract level, helping them to ventilate more than one perspective on the case.

Another aspect is that not all participants are equally articulating and perceptive. This may result in certain 'stronger' opinions or views on the case. While these disadvantages of interviewing as a data collection method are present, it still seems to be the most fitting method to apply, because all the

participants will be provided with the same key questions. And since it is not a focus group environment wherein discussion is a standard element, less outspoken or articulating individuals are being provided with enough room to express themselves.

A second type of data are public documents, reports and such, concerning the process and events that took place when 'serious gaming' was utilized in the early planning stage of the regional area development plan of airport Twente. Examples of this are the 'scenario bouw rapport' documents, that were formed at the end of each process phase at that time (T-xchange & Grontmij, 2007). Since there is quite some information available on this project, in documents and reports and so on, it would be a missed opportunity not exploring this path of available data. Advantages of this type of data collection are (Creswell, 2005, p. 186):

- it enables the researcher to obtain the language and words of participants
- it represents data that are thoughtful, in that participants have given attention to compiling

Of course, some disadvantages arose as well during the study. Some information was being protected / not availablefor public access. Also materials may be incomplete, not authentic or accurate. One way to handle this was by getting information from participants and others involved (like a series of emails sent between the participants around the gaming sessions). And by not using a single or a few sources but multiple, so chances of unauthentic or inaccurate material is strongly reduced. In this thesis, archival data collection acted as a secondary type of data collection, meant to replenish to the data obtained from in depth interviewing.

3.5   Data collection procedure

The types of data that were collected, in order to answer the research questions, are twofold. One of them, also the primary type of data in this thesis, are the in depth interviews, taken among several different actors who were involved with Serious Gaming and the alternative plan for airport Twente. The interviewees who were questioned are listed below. Besides this primary type of data, the secondary was gathering of data trough reading and analyzing relevant documents and reports.

3.5.1   Primary data collection

Like paragraph 3.4 discussed already, the primary (qualitative) data was collected through the use of semi structured interviews. All interviews were recorded by tape, accompanied with notes. The audio files were transcribed later on. Not every word being said was written down. Phrases or parts of the interviews were left out of the transcriptions when not relevant for this research (see appendix IV for the interview transcriptions). Interviews were established both through face to face contact and telephone. The interviews consist of two parts. The first part is the face to face interview, dealing with questions about the respondents role, critical factors for public participation, aspects of 'serious gaming' that contributed to public participation, and the added value of 'serious gaming to public participation', and points of critique. Later on, the participants were called back for part two of the interview. The reason for this was that when most of the live interviews were conducted, the conceptual framework was still altered. Therefore part two acts as a supplement in which one

question with four variations was asked. It relates directly to the conceptual framework as it asks "what effect(s) did 'serious gaming' have on collaboration, dialogue and interaction, clarity of roles and responsibilities and communications of clear objectives – as key aspects of public participation, characterized in chapter two – and what features of 'serious gaming' contributed to these four factors?". The interview structure is showed in appendix II.

In appendix III the respondents are listed by two categories. Those who have been interviewed in the orientation and accumulating stages of this research are mentioned first. During a study semester abroad, the LEAM instrument – as introduced in paragraph 2.2.2 – provided to be an interesting example of a PSS. One of the initiators of that instrument is Brian Deal, also a staff member at the Department of Urban and Regional Planning at the University of Illinois at Urbana Champaign. He was the first who 'directed' toward such planning support systems. Via this LEAM model and also interviews with Marco Te Brömmelstroet and Klerkx & Schaminee of TNO, T-xchange and their 'serious gaming' instrument showed up as a potential case for this thesis. Together with the respondents Porskamp and Bos, these people as stated above and in the first section below assisted to focus this thesis on the plan for an alternative of airport Twente (2007/2008).

The second category then comprises those who were actually participating in - or involved with the 'serious gaming' sessions of T-xchange back in 2007/2008. The individuals in this category that were interviewed needed to be involved in the gaming sessions. To gain knowledge about the whole process, it is preferred to speak to persons that were participating in different ways. Of course citizens representing citizen organizations are included here, since this thesis is primarily about public participation. Besides this type of participants, a few stakeholders that had some interests in the alternative plan for an airport, like Martien Knigge (Landscape Overijssel, semi-governmental organization) and Menno Huge (Natural Heritage, private organization) were added to the list of interviewees as well. In the beginning, Johan de Heer and Arie Willem Bijl were key individuals who provided useful information about those who participated with 'serious gaming'. De Heer was director at T-xchange, situated in the city of Enschede. T-Xchange is the developer of the 'serious game' tool, used in i.a. the search for an alternative plan for an airport in Twente. While Johan de Heer was involved with the sessions, he also came up with the second contact, Arie Willem Bijl, who was one of the plan facilitators during the gaming sessions. He initiated the use of a 'serious game' as a supporting instrument in order to use an innovative way of letting the public and other stakeholders participate. There were over 35 organizations and associations identified for participation, what made it very complex from the start. Bijl provided a few more individuals to talk to (Knigge, Huge). Huge on his turn was able to contact many of the people that once were participants involved in the alternative plan instead of an airport. Some of them were willing to cooperate and being interviewed. (Korstanje, Feil, Minkjan & van Brakel). Again, in appendix III list of all the respondents as listed above, is provided. This method of acquiring respondents is also known as 'snowball' sampling, whereby a subject gives the researcher names of other subjects, and so on (Vogt, 1999). The social networks of identified subjects are utilized to provide the researcher with an expanding list of (potential) contacts (Atkinson and Flint, 2001).

This strategy can be viewed as a response to overcome the problems associated with sampling concealed populations such as the criminal and the isolated (Faugier and Sargeant, 1997). Snowball sampling can be placed within a wider set of link-tracing methodologies (Spreen, 1992) which seek to

take advantage of the social networks of identified respondents to provide a researcher with an ever-expanding set of potential contacts (Thomson, 1997). This process is based on the assumption that a 'bond' or 'link' exists between the initial sample and others in the same target population, allowing a series of referrals to be made within a circle of acquaintance (Berg, 1988).

3.5.2   Secondary data collection

The secondary type of data collection was performed by inquiring literature and archival documents. Articles and documents were found and selected, especially by using the search engines of Picarta and Google Scholar. Also literature was collected by using the library of the faculty of Spatial Sciences, of the University of Groningen, as well as the library of the Department of Urban and Regional Planning at the University of Illinois at Urbana Champaign (UIUC, Illinois, USA). The main key terms when searching for relevant literature where 'planning support systems', 'public participation' and 'serious gaming'. The authors Vonk, Geertman, Geertman and Stillwell and Klosterman and their works seemed to focus mostly on planning support systems, together with Brömmelstroet. There work acted as a 'hat stand' as it was able to provide support for the theoretical fundament for this thesis, in chapter two. Regarding 'serious gaming', little literature could be found covering this type of tools of planning support systems in the field of spatial planning processes. This is also one of the motives to select 'serious gaming' out of many types of instruments, as further research was and is required in this area. Therefore this thesis may be an additional source for future research on this topic.

There were also archival documents concerning the case. The 'Scenario Bouw Rapport' documents (T-Xchange and Grontmij, 2007) were especially helpful in gaining insight in the participation process preliminary to the gaming sessions. Furthermore email corresponding between the participants during the participation sessions provided a clearer background of the case and its context, to this thesis. For this, see also paragraph 4.2 of the next paragraph.

3.6   Data analysis

The way the data has been analyzed is outlined here. It will be performed manually. First of all, all the data collected through the interviews (both live and telephone) is set up in one single file (appendix IV), in which the telephone part is added to the interviews. Then the coding process is initiated, whereby the transcribed and partly selected data is being coded by both respondent and topic. The topics of the interviews are identified and the interviews were fragmented into pieces. Those pieces have been labeled with codes. For example a point of critique about the instrument of 'serious gaming' itself – given by a certain respondent – is labeled as '/KR/INS'. Every code starts with '/', and the codes themselves are divided by key codes and sub codes. 'KR' is a key code, meaning 'critique'. This key code consists of three sub codes namely 'INS' (instrument), 'PRO' (process) and 'OV' (other).

The file (appendix IV) starts with the respondents /01 to /08 and some brief information about the date and place of interviewing, and the role of the individual. After this introduction part, every coded piece of text is being displayed in alphabetical order by their labels. This means that every piece of text is categorized by their codes. The codes are ended by the respondent's number, like '/KR/INS/06', so they could be traced back to who said what. Therefore quoting respondents became

much easier that way.

Analysis of the categorical divided data is then possible. In the second part of chapter four, summarized results per topic are presented and the data interpreted regarding added value of 'serious games' to public participation in area development processes, in order to be able to draw conclusions in the final fifth chapter. In chapter four, also data that was encountered in the (archieval) documents is used, mainly to clarify the background and context of the 'serious gaming' process.

3.7   Validation and accuracy of outcome

Validation goes two ways. Both internally and externally. Internal validity is about the credibility and plausibility of the results. External validity includes the applicability of the study's results and conclusions to other cases or other circumstances. Transferability also applies to this last type.

The credibility of this research is firstly being supported by the triangulation within the primary data inquiry. A wide spectrum of perspectives on 'serious gaming' was pursued. With both civilian participants as well as professional stakeholders, a project manager and employees of T-xchange, a broad range of perspectives is present. Also by combining outcomes of both in depth interviews, documents / reports and the literature, it will strengthen the justification of themes provided in chapter five (synthesis).

In qualitative studies, reliability and 'generalizability' are less important than validity and accuracy. Especially in a case study like this research, a single case cannot act as a corner stone for a new or altered theory. Findings from one case cannot be directly translated to every similar case alike, and therefore a qualitative case study is not generalizable, or at least shouldn't be validated on that concept. So the external validity of this research, where transferability should be the key factor, is not easy to express. Shenton (2004) argues that the reader himself must determine how confident they are about "transferring the results and conclusions to other situations" (p. 69). At least when viewing research from a qualitative perspective (Trochim, 2006). What this thesis strives for is a thorough description of the context of the case, as well as the assumptions central to this research. In order that the reader is able to judge for himself whether he or she could translate the findings of this thesis to another case and different context.

Chapter 4   'Serious gaming' and the area redevelopment project of airport Twente

4.1   Introduction

In 2007 the institute VTM (Vliegwiel Twente Maatschappij) – the projectmanagament of the Twente airport area representing the Province of Overijssel, the municipality of Enschede city and the Dutch national government – assigned a participative process concerning the development of an alternative plan instead of an airport at that place. Eventually the participation process was carried by the T-Xchange 'serious game', in order that the many participation groups (among 35) could be involved in this in an innovative way, while jointly developing a plan. There was some risk in applying a very innovative and young instrument, that was also not really tested in such a (large scale) spatial planning context. Therefore the application was backed up by the Grontmij company, that would implement traditional participation opportunities at the moment this innovative instrument would not work as it was anticipated.

The case of airport Twente and the concerning area development plan is introduced and discussed in this chapter. Besides introducing the case, the results of the primary data collection are being discussed as well. In paragraph 4.2 the case will be outlined, to provide the necessary background knowledge wherein 'serious gaming' took place four years ago. The third paragraph will show the results of the interviews, while 4.4 extends some conclusions regarding the results.

4.2   Background of the area development of airport Twente

This second paragraph introduces the researched case where 'serious gaming' was embedded in: the area development project of airport Twente. After providing contextual and background information about this case, the 'serious game' named 'T-Xchange', itself will be outlined and clarified.

4.2.1   Airport Enschede

Airport Twente is situated within the province of Overijssel, in the Netherlands. To derive a certain sense of location, in figure 4.1 the Netherlands is shown with the plan area extracted (on the right). As this image displays, the airport is situated between the cities of Enschede (south), Hengelo (west) and Oldenzaal (north). In appendix I a larger and more detailed map of figure 4.2 can be found.

The former airbase entails around 414 ha. and together with the surrounding areas the total surface of this area consists of 469 ha, about 4.7 square kilometers. The airport previously served as a military airport (since 1986). However, the Dutch military left the place in the years between 2004 and 2007, and it was officially assigned to the government in December, 2007 (www.vliegclubtwente.nl). Since that same year (June), the national government, the province of Overijssel and the municipality of Enschede collaborated toward an area development plan for the former airport Twente and its area. They established the organization VTM ('Vliegwiel Twente Maatschappij') that aimed to transform the (at that time) current airbase into a 'flywheel' for an economically stronger and more sustainable region of Twente (Structuurvisies vliegveld Twente, VTM, 2009).
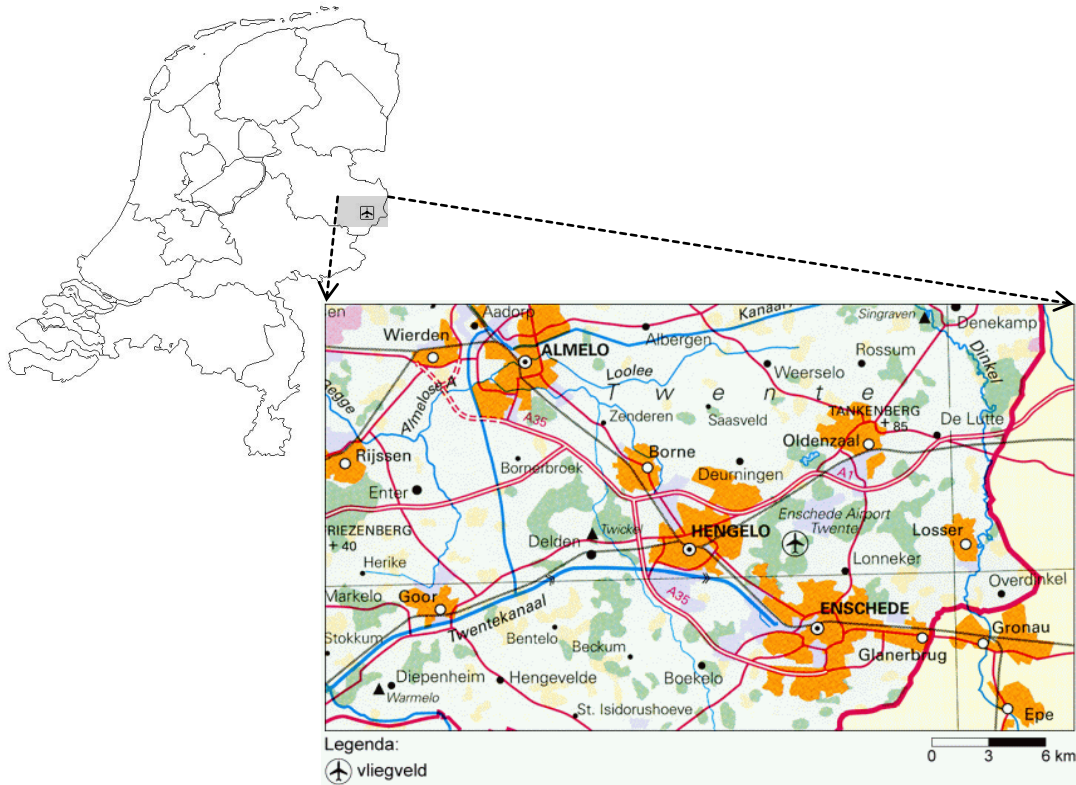
Figure 4.1   Map of The Netherlands and a more detailed map of airport Twente and its surroundings. (www.staff.science.uu.nl, www.maps.google.com)

In 2005, the group 'Maatschappelijk Platform' took off, a meeting- and conference platform for 35 public organizations that were involved in the area development process for airport Twente. The
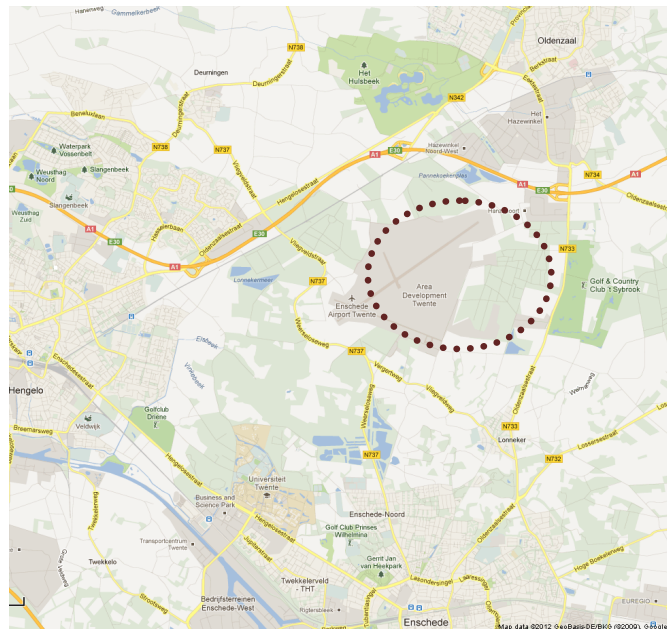
Figure 4.2   Airport Twente overview (www.maps.google.com)

participation process within this project was built upon the assistance of T-Xchange, that developed and accompanied tools that support plan making in different fields of expertise. In the case of the area development of airport Twente case, 'serous gaming' had a significant contribution to the participation of public and private actors. In section 4.2.2 'serious gaming' will be discussed further.

As there were multiple plans produced throughout the airport Twente area development process with different scenarios and both pro and contra airport, two plans ended up as being final plans. Plan A, the non-airport plan, and B, the plan with an airport. The outcomes of the participation process, in which T-Xchange and its 'serious gaming' tool acted as a basis to jointly 'produce' an alternative plan instead of an airport, ended as plan A. This plan became one of the two zoning plans that were determined later on, whereby plan B was the plan including an airport. (Structuurvisies vliegveld Twente, VTM, 2009).

As was said earlier on in this chapter, there were, and still are, about 35 organizations, , involved as participants – together part of the 'Maatschappelijk Platform' –. Interest organizations (Natuurmonumenten, Landschap Overijssel, and other networks setting in on ecology and nature), and also public organizations (Lonnekerland, Hart van Twente, Groot Driene and more). About 70% of them were citizen organizations. Also a different level of experience and knowledge existed between all of them. Before 'serious gaming' was in sight, they were involved in the 'whole airport / no airport' project for about three years. But they did not seem to have a clear view on their roles and positions, despite their one common goal: no airport (some group more anti-airport than the other). A stakeholder analysis was made prior to the start of the game sessions (A.W. Bijl, respondent).

Figure 4.3   Aerial photo of the airport (www.vliegveldtwente.wordpress.com)

When the game sessions finished in April 2008, the outcome (that was to be plan A later on) was calculated by experts twice: once in the spring of 2008, and the second time in August / September. At first the T-Xchange outcome appeared to be the 'winning' plan (the other one was a plan including an airport), but after new calculations the opposite was true. This was one of the reasons many participants didn't trust the decision makers at all, besides the distrust toward the decision makers already present before the end result. It is a special case because it was (and still is) mainly about an airport against no airport. In this context, were decision makers make the impression to be advocating an airport, regardless of the outcome of plan A, 'serious gaming' was implemented. At the time of conducting this study, there still is insecurity about whether an airport will emerge or not.

4.2.2   Serious Gaming (T-Xchange)

As was said before, the T-Xchange tool, characterized as 'serious gaming', is developed by T-Xchange that is situated in the Netherlands (supported by both the University of Enschede and Thales). This instrument can be implemented as a multi-criteria planning tool, especially suitable for early stages of planning (and other domains such as safety and risk coordination, innovation and military purposes). In short it works by taking into account the different and plentiful stakes and perspectives of participants in an early phase of the process, and to produce an outcome or several scenarios possessing public support by the participants.

What 'serious gaming' of T-Xchange characterizes is that is doesn't aim to predict the future, but tries to set up what-if analyses in a way of playing with parameters and choices by participants (see appendix 2.1 – interview with the director or T-Xchange). Also the dialogue component of participation is being stimulated by letting participants play games together and encourage interaction and open minds.

The T-Xchange 'serious game' consists of two layers. As a fundament, a geo information based planning tool is present, accompanied by a sort of communication layer that is represented by the (seeable) game itself. This top layer enables participants to tune and change the parameters of the geo information model.

To characterize 'serious gaming' as it was presented in chapter two and in the conceptual framework, the important features that characterizes 'serious games' are the communication, visualization and analysis of data, as well as a gaming / playing format or design of the tool. When looking at the T-Xchange game, there are some resemblances and differences between the set of 'serious games' – characteristics as found in the literature and the case study's instrument. The T-Xchange game is best typified by the following features, learned during the data inquiry:

1 Gaming concept (interaction, communication)

2 (3D-)visualization of input and output (visualization)

3 Parameter setting (analysis)

4 Coalition building (communication)

5 Equality of participants

6 Time intensiveness

Some of these elements which became clear are not (directly) found back in the theoretical assemblance of 'serious gaming' characteristics. One of the characteristics that did concur with each other is the gaming concept itself (1), whereby interaction and communication are supported. Also the aspect of (3D-) visualization (2) of input and output during the gaming sessions is identified as a resemblance. A third element showing similarities with those features in the conceptual framework is parameter setting (3). During the game, parameters and variables can be and were varied in order that different scenarios could be created. This could be performed by either the participating individuals or the supporting staff. This has overlap with the feature 'analysis of data', whereby analysis is done by both the game itself as well as the user, trough parameter setting.

Those characteristics found that are not directly comparable to those in the conceptual framework (i.e. the communication, visualization and analysis of data, as well as a gaming / playing format or design) are presented above, in italic (last three elements). Coalition building (4) is a feature that typifies the T-Xchange game as collaboration and communication are encouraged. Participants are stimulated and almost 'forced' to collaborate by forming coalitions. Furthermore, equality of participants (5) is an important element of the T-Xchange 'serious game' too, according to multiple respondents. This aspect is not directly found back in the number of characteristics from the literature (being a game, it might be indicated that this aspect is probably part of many 'serious games', however it was not found in the – limited amount of – concerning literature). Lastly time intensiveness (6) was pointed out as a factor to be noticed.

Regarding collaboration and coalition building (4), participants were triggered to step up from behind their 'barricades' and take on the role of a decision maker. The participants could not just only be opposing ideas and plans, but they had to add ideas themselves too. Also the coalition building facet of the game showed that participants had to form alliances required to reach next phases in the game. Equality of the participants (5) was identified as an important factor of the T-Xchange game as all the participants had the opportunity to add (for instance) functions or value to the plan. As was also noticed among several respondents, possibly 'loudish' people during conventional participation methods were roughly given the same amount of influence in the game as others. Visualization of input and output happened throughout the gaming sessions. As participants were allowed to add or change aspects to the plan, the changes and impacts were directly shown on the area map on large screens. There was also the possibility of 3-D visualizing, whereby one could 'fly' over the plan area.

These elements, and the differences and similarities between the conceptual framework

characteristics and the T-Xchange game, will return in the remaining of this chapter and in chapter five.

In the case of area development of airport Twente, VTM (especially A.W. Bijl, also a respondent in the second part of this chapter) assigned T-Xchange to lay the basis for the search for an alternative plan (plan A), that would display the jointly agreed wishes and interests of the (35) public actors (both public organizations and citizens organizations). This shows the game being a contributor toward a collaborative participation process, since the sessions resulted in a broadly developed and supported plan.

The stages wherein these 35 actors participated in order to jointly 'build' an alternative area development plan for the airport Twente zone are showed in figure 4.4 below. There were three stages: the 'Endstatement', 'Scenario Bouw' and 'Serious Gaming', together forming the so-called 'Effect Based Solution Process' (T-Xchange & Grontmij, 2007). This thesis concentrates on the third and last stage: 'serious gaming'. The preceding two phases, however, should be mentioned clearly to become aware of how the gaming itself was positioned in the whole process.

Endstatement		Scenario Bouw	Serious Gaming
Trends	(Rand)voorwaarden	Concrete ideeën	Spel
Huidige situatie	Belangenmatrix	Toekomstscenario's	Oplossing (concept)
Gewenste situatie			

Figure 4.4   The Effect Based Solution Process (T-Xchange & Grontmij, 2007)

In the first stage, the boundary conditions were pre-defined, the current and desired situation and functions were discussed and the actors' interests were outlined. These sessions took place in September 2007. The goal of the second stage (October and November of 2007) of the 'EBS Process' is to form concrete ideas and generate area development scenarios together with all the participants. The outcomes of these two phases were used by T-Xchange to develop the game that was to be used in the third phase. The goal of this 'serious gaming' stage was to jointly develop a conceptual 'solution' or plan as an alternative for an airport based plan. The gaming sessions took place on April 1, 3, 7 and 10, 2008.

4.3   Results: Effects of 'serious gaming'

This paragraph contains and analyses the results from the in depth interviews with both 'serious gaming' participants and others involved with the game used in the case of the area development project of airport Twente. In paragraph 3.5 and in appendix III more details on the interviewees participated in this research can be found. Here the effects of 'serious gaming' as a P-PSS on some aspects of public participation are showed. Every element – collaboration, dialogue and interaction, roles and responsibilities of participants and clear articulation of goals and objectives – starts with a new sub section. These four elements of public participation are derived from the conceptual framework, showed in paragraph 2.5. This section has the aim to identify the effects of the T-Xchange 'serious game' on public participation.

4.3.1   Collaboration

The majority of the respondents were enthusiastic about the collaboration element during the gaming sessions. One of the features mentioned by A.W. Bijl – the process facilitator at that time – is the gaming itself, that 'enforced' participants to become aware of the fact the goal has to be reached jointly. Specifically the trading component in the end stage of the gaming sessions seemed beneficial to collaboration among participants, as it was mentioned and remembered by half of the participants. M. Huge, a representative of 'Natuurmonumenten', and J. van Brakel, a representative of a citizen organization, were both also participants in the gaming sessions. They suggest that collaboration happened frequently during the sessions, mainly due to the known fact coalitions were essential to get any further. Collaboration was growing as the sessions passed, also because of insight in each other's ideas, thoughts and interests. One respondent (Korstanje, citizen organization representative and participant) also identified the teamwork aspect in the 'serious game', however was not sure whether the game itself caused this or not.

In the case of Twente airport, 'serious gaming' appears to affect and facilitate collaboration among participants in a positive way, through the use of gaming as discussion - and coalition building instrument. These coalitions were needed for the game to reach consecutive phases and finally a (conceptual) plan. The trading component in the end phase of the game also added to the experience of collaboration by multiple respondents.

4.3.2   Dialogue and interaction

The views on whether and how the T-Xchange game contributed to the public participation element of dialogue and interaction differ among the group of respondents. Five of the eight respondents were in some degree positive about the added value of 'serious game' T-Xchange toward these aspects of public participation. Johan de Heer – director of T-Xchange and involved in the implementation of the game in the case of airport Twente – noted that a natural form of interaction was created and that visualization of actions and ideas contributed to dialogue and interaction. Also the gaming itself and the fact that the game demanded coalitions is indicated to be contributing to the dialogue as mentioned among others by M. Huge and A.W. Bijl. Another aspect that was

indicated as a contributing factor toward dialogue and/or interaction was the equality of participants during the gaming sessions (T. Korstanje). Certain (over)active and loud individuals, who can always be found among a group of participants, are slowed down by the game since everyone is using the same instrument and is provided with the same chances and same opportunities for input. One outstanding (positive) notion about 'serious gaming' – shared by multiple interviewees - is the ability of the game to let participants 'disentangle' their opinions systematically. They are encouraged and challenged to step out of defensive positions and think about why they say what they say (for instance why certain individuals are actually opposed to the development of an airport).

Some others were not that certain about the presence of (much) dialogue / interaction due to the 'serious game'. J. van Brakel (citizen participant) positions herself in a more nuanced point of view stating that there was some dialogue to a certain extent, but not in the form of extensive discussions. People were mostly reacting to what happened on the screens, while the group was already quite aligned as well. She does point to the setting as a cause for interaction and dialogue was also stimulated due to the fact the planning area was getting tangible instead of abstract.

Dialogue and interaction seem to be affected by a few aspects of 'serious gaming' in a positive way. (3-D-) visualization is one of those. Furthermore, the coalition building component (see also the previous section) challenged people to interact with each other and is therefore one other aspect contributing to the critical element of public participation known as interaction and dialogue. It was also suggested that equality of participants also contributed to dialogue, in a way that every participant has his or her given time to act in the game. There were also some doubts among a few respondents regarding whether the (by most of respondents indicated -) positive amount of interaction and dialogue was affected by the game itself or not. No other potential factors, however, could be provided at the moments of interviewing.

4.3.3   Roles and responsibilities of participants

The general consensus regarding the added value of the T-Xchange game toward the clearness of roles and responsibilities of participants is that the (decision making-) roles that people received during the game sessions, and the increasing sense of interests of other participants, contributed to reach agreements in a more synergetic way. A critical point, given by Menno Huge, was that it was sometimes difficult to see the real-world standpoints and roles of other individuals, during the 'serious game' process.

The distribution of roles occurred somewhat natural, as Martien Knigge – representative of Landschap Overijssel and participant – points out. Due to the tangibility of the regarding area (the airport and its surroundings, its features and possibilities), it became also evident where the participants were positioning themselves. Out of this, the roles (who are supporting what aspect or facet of the upcoming plan) were distributed. Visualization seems to be a factor of the game contributing to this tangibility of the regarding area and therefore, as some respondents indicated, participants were better able to embrace their own roles and also recognize their responsibility as plan maker. Together with the visualization element, parameter setting as one of the other characteristics of the T-Xchange P-PSS instrument also added to this clearness of responsibilities, by

enabling users to become 'decision makers'.

The equality of participants is one element that has been mentioned earlier in this paragraph, but especially applies here. Real-life roles of participants differ from a range of citizens to representatives of public and private organizations. Within the 'serious gaming' sessions, however, participants are placed on a more equal base. Differences in influence and power were therefore taken away. Also sharing of backgrounds and interests between participants contributed to a clear understanding of the roles of those inside the game. Some respondents assigned this to the gaming sessions being time intensive. Due to extensiveness of the gaming session regarding the needed time of the participants, a wider understanding of each other's interests and positioning developed during the sessions.

4.3.4   Clear articulation of goals / objectives

After interviewing all the respondents, opinions regarding this topic were very divergent. It is good to make a distinction about what the respondents themselves mingled in their responses. Some indicate to the 'hidden' goals of the actual decision makers regarding their seemingly preference of the plan with an airport. Many respondents believe there is a lack of vision from these decision makers for the participation process. Suggesting that they (the respondents) couldn't really build a plan that would have a significant chance of success, due to the lack of goals from the governmental organizations. What can be seen here is that the contextual circumstances of this case strongly affect the perception of participants regarding the articulation of goals and objectives.

The other side of this point is that this vision and objectives were actually made by the respondents themselves, preliminary to the gaming sessions (see figure 4.3, the Endstatement phase), and that it was made clear these ideas and visions were taken as basis for the following (gaming) sessions. Most of the interviewees believed there were goals and objectives being made of what they ventilated through direct feedback in the game. Due to this feedback of data on the plan and from the map to the user (visualization and interpretation of the visualizations), goals and objectives were formed and kept a central place during the gaming practice.

The coverage of goals and objectives for and in the game itself seems to be provided in the earlier (Endstatement) phase of the participation process, displayed in figure 4.3. The specific context of this case, however, comprehends certain distrusts toward the decision makers (VTM, i.e. the municipality of Enschede, Province of Overijssel and the national government to a lesser degree). As this general sense of distrusts among a greater part of the respondents had the 'upper hand' in the responding of the participants, it is hard to draw conclusions about how well the preconditions, set in an earlier stage, were discussed with the participants.

4.3.5   Additional findings

The effects of 'serious gaming' pointed out by the respondents are split up by the four categories given above. There are, however, some effects that couldn't be put in these columns but are valuable to this study as they could help indicate certain missing elements regarding the used research

framework for this study.

Respondent A.W. Bijl – the process facilitator during the three participation phases (see also figure 4.3) – indicated that participants were enabled to weigh out each other's interests, eventually to be able to make their own choices in the gaming sessions. This was assigned to the instrument being a game, wherein everyone was acting on the same source level of information. Also the ability of the instrument to display the existing area and getting insight and a sense of its size and what could be implemented, is an important feature, according to i.e. Korstanje and Van Brakel (both citizen and participants). This aspect also added value to 'access to the same level of information'. It could also be identified as 'knowledge building'. For many respondents, this appeared to be a significant and critical factor for public participation. Another aspect was that the fact of the instrument being a game, perhaps contributed to keep participants interested in participating. So it appears the game had a motivating effect on the participants and the process.

On the next page an overview of the added value of the T-Xchange game toward public participation is provided. The elements that are showed in italic are those that were not initially be part of the conceptual framework. These are the factors that were found in the results of the interviews.

Participation factors → SG elements ↓ Effects	Collaboration	Dialogue & Interaction	Clear Roles	Clear Goals	*Knowledge Building*
Game Format / Design	Made participants realize the goal of the game had to be reached jointly	• Gaming stimulated interaction between participants, and in participating in general • Arguments are dismantled, people forced to think as a decision maker			
Visualization		Visualization stimulated interaction between participants and with the planning area	participants were better able to embrace their own roles and also recognize their responsibility as 'plan maker'	Participants were focused on the goals of the sessions, as the planning areas and scenarios were showed	Access to 'plan maker's' level of information by visualization of case area and its potential features
Parameter Setting			Enabling users to engage as decision maker		
Coalition Building	Collaboration was demanded for building coalitions and reach consecutive phases	Similar to the game format element, coalition building challenged people to interact and have dialogues			
Equality of Participants		Participants put on same level, enabled interaction and dialogue	Differences in power were taken away		
Time Intensiveness			A solid understanding among the participants regarding their roles and positioning		

Table 4.1   Schematic overview of interview results, the effects of (T-Xchange-) 'serious gaming' elements on public participation factors

4.3.6 Public participation

A more general view on public participation regarding the case of Twente airport, is discussed in this section. When reflecting on the public participation facet within the case of area development of Twente airport, a few observations could be made. As became evident in paragraph 4.2, the case itself is a very complex project that took many years of preparing, plan making and research about whether there should be an public airport and following on that: how and when. This should be taken into account when discussing the role of public participation in this case.

With the early involvement of the 'Societal Platform' (Maatschappelijk Platform, see also paragraph 4.2.1), public participation seemed to be provided with a decent amount of space in the planning process from the start of the project. A majority of the public actors were actually opposing (the possibility of) an airport. When it became more evident – from their perspective – that the decision makers were in some ways biased toward an area development scenario including an airport, they started to loose trust in the decision makers. However, viewing the whole process from a greater distance, quite some participation opportunities seemed to be present. With the implementation and collaboration of T-Xchange and their 'serious game', VTM searched for a way to involve all of the 35 public organizations. To let them build a plan together, instead of providing room for them to do their sayings, in a more traditional way. The choice for an innovative tool to support the participation process, in order to produce a plan / scenario alternatively to a plan including an airport, shows that the decision makers strived for an extensive way to let the public participate.

When asked about how public participation should be designed in a process, the respondents mentioned a few aspects. Firstly, public participation may be optimal when all groups / organizations are taken seriously trough listening and involving them in the planning process. What is also mentioned, is the clarification of what the course of action will be and what is expected from the participants and professionals. Also a good exchange of information, and making choices transparent (Korstanje and Huge) seemed important in the respondents' eyes. Knigge (Landschap Overijssel) defined a crucial point, namely whether the participation actually matters or not, whether it can result in a new goal setting and can contribute to plans that is supported by multiple actors. Participation can also be useful when initiators are open to varieties of their plans, which results in a different questions; 'how' instead of 'whether or not'.

It can be concluded that the context of this case played a significant role concerning the actual participation process and the perception of it by those who participated. Apart from the case being a long term project – that is still not finished at the moment of conducting this study –, the possible case of an airport was a highly debated issue among local civilians and public organizations. A certain distrust toward the decision makers and initiators existed from the beginning, and became stronger over time. The final (and in many eyes 'odd') outcome of two final plans (an airport and a non-airport based plan) in favour of the airport-plan, did not contribute to a better bond between the public and governmental organizations. When reflecting on the contextual circumstances from another point of view, the VTM project managament intended to implement an (innovative) participation instrument whereby all the 35 public actors could participate and provide an extensive way of participation (i.e. the T-Xchange game). Nevertheless, in this case the context definitely had a significant impact on

public participation in general, and how participants percepted the participative process.

4.3.7   Critique and suggestions

In order to identify the added value was of the T-Xchange instrument toward public participation, it is essential to discuss points of critique as well. That is to say, critique from out the participant group. This section therefore also contributes to suggestions to be made in the last chapter, in order that future 'serious gaming' appliances relating to public participation, may improve. Both instrument and context related concerns and suggestions are discussed here.

Generally, the respondents had a fairly positive view on the gaming as an instrument for participation. This cannot be said about the whole process or context this game was embedded in. As 4.4.1 and 4.2 outlined, a general distrust toward decision makers and others being involved in a more professional way is prevalent among many participants. To distinguish these two aspects of the case, the next part covers criticism about the game and related aspects. The second part is about the context, where the game was set in.

T-Xchange 'serious game'

Among the participants, according to the ones interviewed for this thesis, there is a shared point of critique about the 'inconsistency' of the resulting plan by the game. The term 'patchwork' was mentioned a couple times, as it lacked a kind of integral relations between different functions in the plan. As some respondents saw it, the game lacked a sort of vision or concept-based perspective on constructing plans. This lack might result in incoherent plans. A lack of seriousness among certain participants was also mentioned as a possible threat. It is, however, difficult to indicate whether or not it actually is a disadvantage of the T-Xchange game.

Another critical note is about the insight in features and parameters. Although it was provided to the participants as they could customize the plan, the technical data and radars behind those features are not accessible by them. This would probably become far too technical for non-programmers, however it still is a point to be mentioned. One respondent directed to the lack of experts during the game sessions as a negative aspect. But this critique might collide with a basic element of a serious game, namely equality of participants.

A few suggestions were given by some respondents. One is about the general conservative attitude of authorities against the use of innovative instruments (like 'serious gaming'). Especially when dealing with complex cases, those with power will hold on to more traditional participation methods most of the times. Potential lies in promotion, by actually showing and seeing how it works. Until then, conservatism will often prevail. Another suggestion that links with the critique was about the lack of designers (experts) involved in the gaming sessions. More designers could be included when dealing with making plans and the like. The use of designers within and prior to such gaming sessions could be valuable regarding the visioning of a plan, as Rauws & Van Dijk (2013) outline. Visioning may improve when designers are involved, as design can act as a synthesizing instrument in the case of multiple visions, translating ambitions of participants into concrete and embedded designs of plans,

improve joint learning and also develop alternative projections and concepts (Rauws & van Dijk, 2013, p. 26).

The context

As was mentioned earlier in this section, the context wherein the T-Xchange 'serious game' was embedded in, appeared to have a significant influence on public participation and how it was perceived. Most respondents state that there was (and still is) a distrust toward the project leaders and decision makers (VTM, municipality of Enschede and the Province). This affected 'serious gaming' once and a while. As paragraph 4.2 also made clear, this is an important contextual factor, where 'serious gaming' was being a part of. Afterwards, and according to three respondents, this case might not have been such a good project for 'serious gaming' to be implemented in, mainly because of the complexity of the whole case. However, it can be doubted whether or not one can be certain about this specific participative process being more successful without such a game.

Korstanje also criticizes the lack of a vision in the planning process and at the start of the gaming sessions. Despite the airport plan, what are features this area might need? He says no real vision existed from out the municipality or province, besides the airport plan. And many participants felt like their alternative plan, created through the 'serious game', was not to be taken that seriously due to this lack of (clear) vision provided to the participants. There may be suggested here that prior to such participation sessions a sound visioning phase should be required for an honest process of participation later on. A suggestion relating to the context in which 'serious gaming' is used is given by A.W. Bijl. He also argues that an honest and open assignment is essential when these kind of innovative instruments or methods are to be used. Such a method ('serious gaming') should only be implemented by a decision maker, when they want to take the outcomes seriously. Also more transparency about how the outcomes are used further is preferable.

The importance of these statements lies in the fact that they refer to the context of this particular case in the first place, whereby this case study shows that public participation could be well affected by this context. These suggestions are meant as important preconditions for using such gaming instruments regarding public participation.

4.4   Conclusions

Concerning the Twente airport case, it can be concluded that the T-Xchange 'serious game' adds value toward public participation in a number of ways. As table 4.1 outlines, all of the characteristics of the game affected the dialogue and interaction factor of public participation in a positive way, as was collaboration enhanced through coalition building in the game. Furthermore, also the T-Xchange game elements of participant equality and the visualization throughout the game resulted in benefiting interaction and dialogue among participants and especially the visualization element added value toward four of the five participation factors (except collaboration). Among them was 'knowledge building', that also appeared to be an important (and initially unknown) feature of public participation. Time intensiveness and parameter setting were new elements of the game that also appeared during this case study. Important factors undermining this added value are first of all the general lack of trust of many participants toward the authorities and decision makers. Lack of vision prior to the gaming sessions also is an aspect that resulted in some participants not being taken serious. An honest and open assignment of such a tool by the initiators is therefore recommended.

Chapter 5 Conclusions & Discussion

5.1 Introduction

This thesis ends with this chapter wherein conclusions of this study are presented. In 5.2.1 the conceptual framework from chapter two, as is presented below, is discussed on the basis of similarities, differences and shortcomings in relation to the results of this study. Also suggestions are given on how the framework can be revisioned by sharpening certain terms. In the following two sections, the added value of the P-PSS T-Xchange game toward public participation is discussed as well as are recommendations for planners and policy makers presented. In the last section of this fifth and concluding chapter, a reflection and discussion part is presented to the reader, to build some understanding regarding missing or limiting aspects of this study, or unexpected elements that arose during this study. Furthermore, in the last section a number of research recommendations and directions are provided.
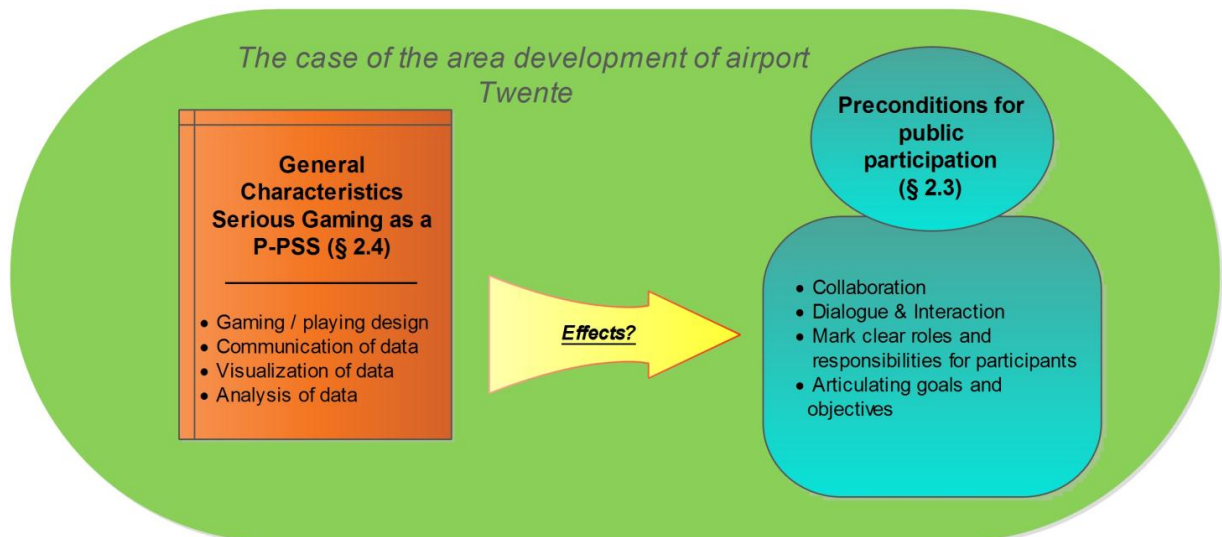

Figure 5.1   Conceptual framework

5.2   Conclusions

5.2.1   Theoretical synthesis

This section aims to provide an understanding of how the theoretical propositions made in the first two chapters correspond with the outcomes and results as were presented in chapter four. Central is the conceptual framework that was introduced in paragraph 2.5 and as showed in the previous introduction of this chapter.

In chapter two, 'serious gaming' in spatial planning processes was enclosed as a specific type of instrument of a planning support system or PSS. Then in section 2.4 of that same chapter, PSS that were implemented in participation processes were identified as participatory PSS or P-PSS. At last the T-Xchange 'serious game' was typified as a P-PSS. As became clear out of the literature PSS comprise a supply side and demand side, whereby the supply side is technical oriented and about the development of such instruments. A gap between the supply and demand side was indicated and as Vonk (2006) put it: "The deficit in demand cannot be fully be explained with reference to existing knowledge. Just how the use of PSS in practice could be enhanced is unclear". As this thesis also aims to contribute to this demand sided knowledge, an answer should be provided here on what the focus on public participation, a demand side element, from a P-PSS perspective contributed to the existing theory. As it became evident from the results presented in chapter four, public participation can benefit significantly when instruments – such as the 'serious game' of T-Xchange – are designed from a user's perspective. Critical factors of public participation like interaction and collaboration could be affected in a positive way when P-PSS are focused on the participant himself.

The conceptual framework, as it was designed from out chapter two, should be reviewed now the results of the case have become clear in the previous chapter. Firstly the characteristics of 'serious gaming as a P-PSS, similarities, additions, and more specific descriptions of the factors are presented. When viewing these P-PSS characteristics of a 'serious game', presented on the left in the conceptual model, the gaming design feature and (3D-) visualization of data were also found during the empirical research as important features of the game. Communication of data, however, appeared to be a very broad term. This communication of data that occurred in the game through both visualization, the gaming design itself, and also due to the coaltion building aspect of the T-Xchange game, can therefore be placed among those more specific characteristics. Regarding analysis of data, this element was not specifically encountered as such, during the data collection. However, as analysis was performed by and within the game and its GIS component, it was present. The way participants experienced analysis of data was through the 'parameter setting' element, whereby parameters of plans could be switched on and off, and adjusted. Therefore 'parameter setting' turned out to be a more specific and suiting element characterizing the T-Xchange game. In addition to these three elements (gaming design, (3D-) visualization and parameter setting), those elements that were encountered as new characteristisc and therefore not initially part of the conceptual framework, are the ' coalition building' aspect, ' equality of participants' and to a lesser degree 'time intensiveness'. These can be found in table 4.1 in the previous chapter, as they are shown in italic.

When examining the public participation part of the model, it can be concluded that these four elements were fairly accurate in compliance to the case study. Two comments should be made though. Firstly, an additional critical element that proved to be important as well during the case study, was 'knowledge building' among participants. Knowledge building appeared to impact the sense of participation in a positive way as participants were able to acquire information on a higher (decision maker's) level, compared to more conventional participation methods. Moreover, the elements of public participation regarding the demarcation of roles and responsibilities of participants, as well as the articulation of clear goals and objectives, appeared to be important mostly prior to the 'serious gaming' sessions. Therefore it is hard to draw conclusions regarding the added value of 'serious gaming' elements (initially left in the conceptual model, and as a revised set on the left in table 4.1 in chapter four) toward these elements of public participation. In chapter four, those aspects of both goals and objectives and roles of participants that were part of the gaming sessions, are being evaluated. It can be concluded that the conceptual framework should contain a distinction between factors of public participation that are important *during* - and those *prior* to the participation sessions of 'serious gaming'.

The conceptual framework does not take contextual factors into account. However, as it turned out during this study, the contextual circumstances that were present in the case of Twente airport appeared to affect public participation significantly. Lack of trust of participants toward the decision making actors as well as the highly debated possible arrival of a public airport, was also evident within the gaming sessions, and therefore also in the responses of the interviewees. It turns out contextual factors should be taken into account and also be integrated in the conceptual frameworks, regarding cases like in this study.

5.2.2 The added value of P-PSS T-Xchange 'serious gaming'

Here the main conclusions are formulated based on chapter four in order to answer what the added value of 'serious games' is toward public participation. Additionally in 5.2.3 recommendations regarding this added value are presented.

So what can be learned from practice? Several effects have been found, concerning the T-Xchange 'serious game' on public participation. Dialogue and interaction, one of the important critical factors for public participation, was affected by most of the features of the 'serious game'. The gaming element stimulated participation in general, especially due to curiosity toward playing within such a game, as well as interaction among participants. As interaction is a critical element of public participation, this element of gaming appears to be beneficial toward public participation. Furthermore, this feature of the T-Xchange game also caused participants to 'dismantle' their arguments while also made to think as a decision maker. This resulted in participants taking on a proactive and constructive attitude within the gaming sessions. As the participants were placed on the same level of provided information and 'power' (equality of participants), dialogue and interaction was also being triggered by this aspect. A third feature of 'serious gaming' – visualization – caused participants to keep being focused and interacting with each other and with the interactive and changing plan on the screens. Also the 'coalition building' element within the game led to participants being challenged to interact and discuss their interests and standpoints with each other

(see also the 'decision maker argument' given above).

Time intensiveness of the gaming session also played a (minor) role. Both the sessions themselves as the multiplicity of the sessions (four in total) got participants to get used to each other while they were also able to know each other's interests in participating as well. It could be argued that this element may contribute to collaboration in public participation, as participants are increasingly becoming a group over time. A more certain statement could be formed regarding collaboration which seems to be stimulated by the coalition building feature of the game, as collaboration was required to form coalitions and reach subsequent phase. This element of public participation is also believed to be affected by the 'equality of participants' factor. However no direct results are supporting this statement.

Another critical factor for public participation according to the conceptual framework is the clarity of roles of participants. This became very clear through the 'equality of participants' component of the game. People found they were acting on the same level of knowledge and 'power'. The presence of clear goals of the participation process and sessions can be attributed to the preconditions and objectives that were set preliminary to the gaming sessions. Therefore, and as is also discussed in the previous section where the conceptual model was being reviewed, clear effects of 'serious game' elements toward clearness of goals and objectives can not be identified accurately. Apart from one effect, namely keeping participants focused on the goals troughout the gaming sessions. Lastly, knowledge building also appeared to be a critical element of public participation, as participants were informed about what the concerned plan area looked like, what possible features and functions the area could own and more. Trough visualization of the area and of changes that were added, a common layer of knowledge was constructed among the participants. It can, therefore, be concluded that visualization also added value to this element of participation.

5.2.3   Recommendations

Following out of the former sections, this chapter also attempts to present some recommendations regarding the use of 'serious games' in participatory processes. This paragraph aims to provide a set of recommendations for planners, policy - and decision makers regarding the use of 'serious gaming' when public participation is sought. It is important to acknowledge here, however, that these recommendations, with the aim to improve public participation in spatial planning practice, are indications at the most. As section 5.3.2 will outline, future research has to be conducted in order for more robust statements to be produced.

♦ Implementing or even trying out innovating planning support tools like 'serious gaming', should be given an opportunity to be considered, when dealing with a participative planning process. It depends on the desired objectives for using such instruments, however, according to this research, public participation in early planning stages – wherein plans or scenarios could still be shaped – provides opportunities to for instance governmental authorities to practice 'serious gaming' as a participation tool. Participants could be enabled to become a part of a plan, instead of only ventilate their (mostly non constructive) point of view. When these tools are used by more actors, their quality will become higher as well due to their

evolution. It is adviced that the application of such P-PSS instruments are considered when a participative process is sought. Especially with respect to the early planning phases, wherein planning policies and plan alternatives are still subject to change. Important elements that deserve to be thought about are the inclusion of collaboration (and coalition building), (3D) visualization throughout participation session(s) and equality of participants.

♦ Unless public participation is mainly perceived as a box-to-be-checked, when assigning such tools regarding public participation, it is important that it is implemented from out an open and straight attitude toward the participants and the outcomes from the participation sessions. In reality, this aspect could be shaped by employing preliminary meetings between the plan initiator and the public being involved. Whereby transparency of ideas and concepts from both sides is present, and building trust is practiced.

♦ An instrument like the T-Xchange 'serious game' brings along the advantage of participants stepping in a decision maker's role. Contrasting to many more conventional ways of participation, people are compelled to extend a constructive attitude, instead of only delivering critique. When governmental policies are allowing room for decision makers and participants to work on a plan on a joint basis, 'serious gaming' may be an attractive and suitable instrument worth to be considered.

♦ A potential field of application that may be further explored is the use of 'serious games' by means of the internet. This kind of 'e-participation' currently happens as well, though occurring on a relatively small scale. Especially regarding spatial development plans. A large group of respondents / participants can be reached plus the barrier to participation for certain individuals is made smaller and accessibility improved.

♦ Regarding the public participation process in a more general way, it is recommended to perform a thorough stakeholder analysis, prior to participation sessions. An important aspect is to check participants' standpoints but moreover their attitude toward constructive participation. When collaboration and interaction are considered as fundamental elements of public participation, the will of participants to contribute is important for the participation sessions to come.

5.3   Reflection & Discussion

The shortcomings, unexpected and encountered elements and also suggestions for future research are highlighted in this last paragraph of chapter five. First of all a reflection on this research is provided, whereby shortcomings, limitations and imperfections are remarked. Also some unexpected elements that came across during the research are mentioned. The future recommendations for further research are provided at the end.

5.3.1   Limitations of the research

One of the main limitations of this thesis is the studying of a single case, instead of multiple cases. While a single case study also provides some significant advantages such as the ability of the

researcher to focus primarily on one case, it is clear that this research being a single case study also carries its implications on the generalizability of the findings. This was also briefly issued in the methodology chapter (three) but should be mentioned here as well. As for the specific context of the case of Twente airport, this study can not conclude with strong premises and generalizations regarding the added value of the T-Xchange game toward public participation. As both instruments and especially contexts of other cases differ greatly,compared to this study, only indications and directions could be following from this research. For example, the learned elements of the T-Xchange 'serious game' like 'equality of participants' or 'coalition building' does not necessarily apply to other games. So the added value of a 'serious game' like the T-Xchange instrument remains focused on this case in the first place.

A second point of critique which also relates to the previous statement, is the 'unique' context wherein the T-Xchange game was embedded in. Where chapter four provides a more detailing background of the context, this section aims to bring up a few concluding remarks. During the primary data collection (interviews) it was, sometimes, difficult to draw a line between the effects of the instrument of 'serious gaming' itself, and the context of distrust of many participants toward the decision makers. Besides the difficulty for the researcher to observe in an objective way, it was also hard for some respondents to distinguish these aspects during the interviews.

One of the critical factors for public participation, namely 'clear articulation of goals and objectives', was difficult to analyze. Due to this general sense of distrusts among a greater part of the respondents that sometimes had the 'upper hand' in the responding of the participants, it is hard to draw conclusions about how well (important) preconditions, set in an earlier stage, were discussed with the participants and therefore how serious gaming' affected this element of public participation.

When the primary data collection took off, it eventually turned out that the interview format, as it is known in this thesis (appendix II), was not yet completed at that point. This resulted in a few various interview questions among the first few interviews. Later on, a second round of interviews had to be made, achieved by telephone. This is also a critical remark, and when this research would be conducted again, the interviews would eventually be set in motion at the moment a clear interview format was finished.

In chapter two critical features of both 'serious gaming' and public participation were set. They can be found back in the conceptual framework as well as in table 4.1. After the interviews were completed and the results and conclusions could be made in the last two chapters, three new elements came up. Firstly,an extra feature of T-Xchange - 'serious gaming' that had to be mentioned was 'time intensiveness'. There were four 'gaming' sessions accompanied by a couple of preceding 'preparation meetings'. It turned out that this aspect was noted by several respondents. The 'coalition building' feature within the 'serious game' appeared to be even more important element and is also included in the conceptual framework. A third new element being added to the list of critical factors for public participation is 'knowledge building'. This was a commonly mentioned factor trough the interviews and was therefore added to the conceptual framework and captured in the shortened result-table in paragraph 4.4.3 (table 4.1). One another point of limitation is the main disadvantage of the 'snowball sampling' method, namely biased 'samples' of respondents (Johnson and Sabin, 2010). Since a few individuals (who were also interviewed) provided other respondents'

names to be interviewed, it is likely they had their own degree of influence and bias in who to refer to. This is also important to keep in mind.

5.3.2   Research recommendations

There are a few recommendations to be made concerning further needed research on the topic of 'serious gaming' and public participation, in the field of spatial planning practice.

It is adviced that further research should be done on different cases and also multiple case studies, regarding applications of 'serious games' in relation to public participation. There are many forms of application of gaming instruments, differing from other planning stages to wholly different fields of study both within and outside spatial planning. Many future research has to be conducted in order to build a theoretical fundament that covers 'serious games' and related instruments,

Moreover, 'serious games' themselves might be looked upon in a more detailed way. Localizing what elements (and when er not) such a game should entail ideally. This is an example of what this thesis did not cover, but that needs further checkup. What could also be done is conducting a (more extensive) real time study. For example, an option could be to include two phases of measuring public participation, one prior to a 'serious game' setting, and one after certain game sessions were held. For instance interviews could be utilized to let respondents ventilate their perception of public participation after both circumstances. This way a better understanding of the factors that are changing, and what caused it, could be obtained, and therefore, the added value of 'serious games' can become more tangible.

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Appendices

Appendices

Appendix I   Case area

Location of airport Twente (marked by the dashed red coloured circle), flanked by the cities of Oldenzaal, Hengelo and Enschede. (maps.google.com)
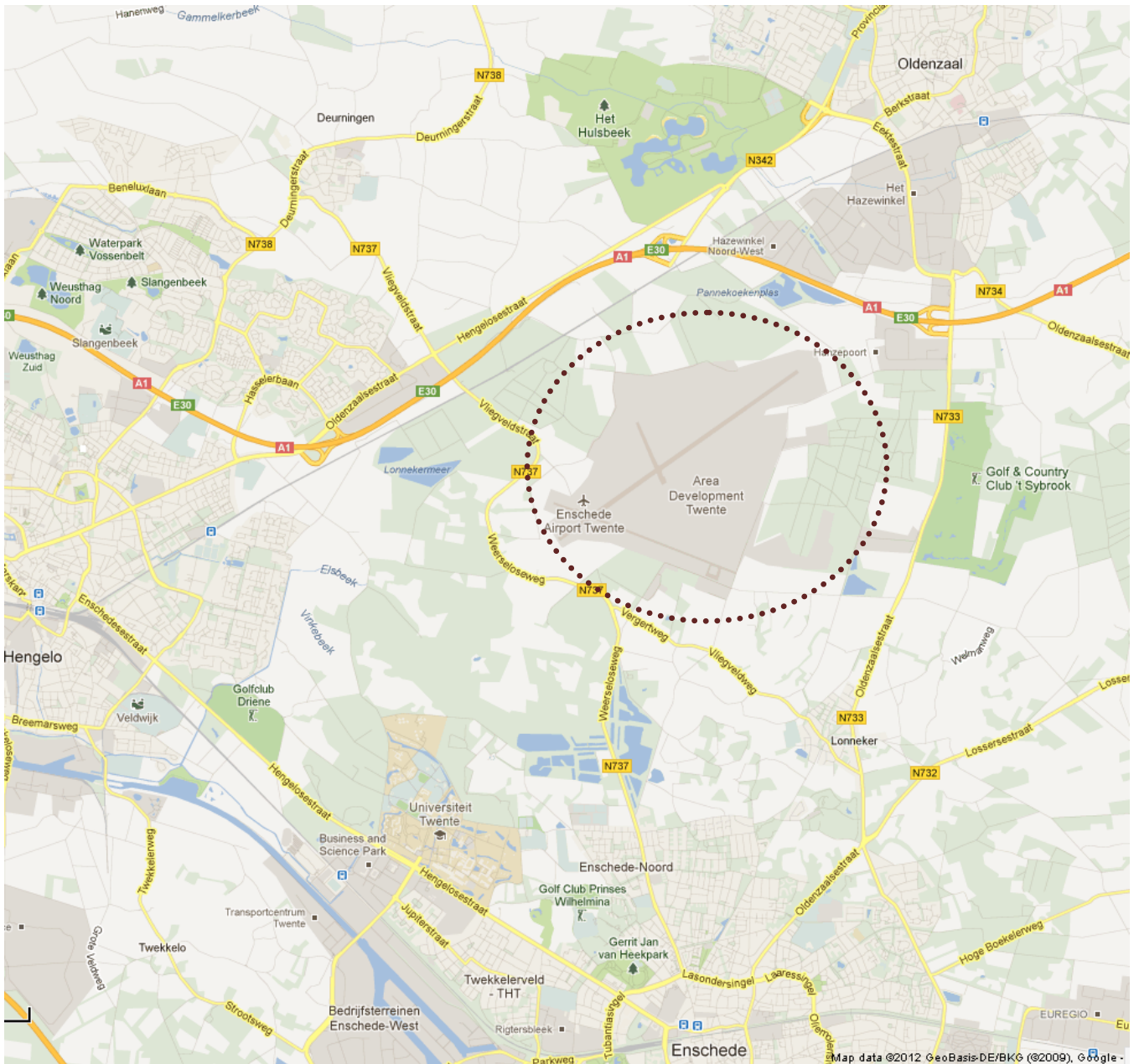
Appendix II   Interview Guide

The data recording procedure, and most importantly the interview structure is the following:

Part I   Face to face interviewing
Topic: Serious Gaming and public participation; airport Twente

Key Questions:
- How have you been involved with the project airport Twente?
- What are critical factors for public participation?
- What are key aspects of Serious Gaming that contribute to 'effective public participation'?
- What has been the added value of Serious Gaming concerning public participation in the case of airport Twente, and what were shortcomings / obstacles?

Part II   Phone interviewing

Interviews – supplement

What effect(s) did 'serious gaming' (by T-xchange) have on <1, 2, 3, and 4> and what feature of this instrument contributed to this effect?
1   Collaboration among participants
2   Dialogue and interaction among participants
3   Clarity of roles and responsibilities of participants within the game
4   Communication of clear objectives of the game sessions

Appendix III   Respondents

Primary data collection – interviewed respondents

A   Orientation phase

- Brian Deal, March 27, 2011

Researcher and developer LEAM (PSS). University of Illinois at Urbana – Champaign, Illinois, USA.

- Marco Te Brömmelstroet, September 20, 2011

Researcher in PSS, orientating interview

- Ralph Klerkx and Sander Schaminée, December 2, 2011

TNO, PSS 'Urban Strategy', also partners of T-xchange

- Paul Porskamp & Rik Bos, January 20, 2012

Employees at Txchange, experienced with working with the instrument itself (not directly related to airport Twente).

B   Data collection phase

- Johan de Heer, March 20, 2012

Director at Txchange Enschede. Txchange is the developer and operator behind the Serious Gaming instrument, and De Heer, as director of the institution / company, has the overall knowledge of both the instrument itself and the several projects they have been supporting in the past.

- Arie-Willem Bijl, June, 27, 2012

One of the initiators of the exploration – and policy making phase of the area development project of airport Twente, in 2008. Acted as a process manager and was actively involved by the implementation of the instrument Serious Gaming in the process. 35 different public actors were involved.

- Joep van Aaken, July 10, 2012 (by phone)

Works at the municipality of Enschede as project manager Urban Development, specifically airport Twente and a neighbourhood called Roombeek.

protect the natural / ecological landmarks. As a representative of this institution he was involved in the initial and plan phase in finding an alternative for airport Twente.

- Theo Korstanje, July 13, 2012

Participant in citizen organization 'Hart van Twente'.

- *Menno Huge, July 18, 2012*

    Member of 'Natuurmonumenten' concerning public affairs. It is a Dutch NGO aiming to

- *Prof. Dick Feil, July 18, 2012*

    Participant in citizen organization 'Lonnekerland'.

- *Martien Knigge, August 1, 2012*

    Landschap Overijssel, concerned with the overall landscape of the concerned province (i.e. Overijssel). His position is advisor of spatial planning and maintenance. He also was participating as one of the several participants.

- *Jacqueline van Brake and Gerda Minkjan, August 1, 2012*

    Jacqueline being a participant in citizen organization 'Groot Driene'. Gerda was observant during the gaming sessions.

Appendix IV   Interviews (coded)

Respondents:

/01.   **Interview met Johan de Heer.** 23 oktober, 2012. Directeur van T-xchange, betrokken geweest bij de gaming sessies (niet als deelnemer). Alleen deel II van het interview (telefonisch).

/02.   **Interview met Arie Willem Bijl.** 27 juni, 2012. In adviesrol werkzaam bij Vliegwiel Twente Maatschappij, procesbegeleider en initiator van en bij 'Serious Gaming' van T-xchange.

/03.   **Interview met de Theo Korstanje**. 13 juli, 2012, te Oldenzaal. Nam deel aan de T-xchange sessies vanuit stichting 'Hart van Twente',. Is uit het T-xchange proces gestapt in een later stadium.

/04.   **Interview met Menno Huge,** 18 juli 2012, te Zwolle. Vertegenwoordiger bij Natuurmonumenten, en deelnemer aan de 'serious gaming' sessies.

/05.   **Interview met Dick Feil**. 18 juli, 2012. Lid van stichting Lonnekerland en deelgenomen aan 'serious gaming'.

/06.   **Interview met Martien Knigge**. Woensdag 1 augustus, 2012, te Zwolle (thuisadres van de heer Knigge). Medewerker bij Landschap Overijssel sinds 1975, en als vertegenwoordiger betrokken bij plan alternatief vliegveld Twente.

/07.   **Interview met Jacqueline van Brakel en Gerda Minkjan**. Woensdag 1 augustus, 2012, te Hengelo. Jacqueline heeft deelgenomen aan de gaming sessies, vanuit Bewonersbelangen Groot Driene (voorzitter). Gerda Minkjan was toeschouwer tijdens de sessies. Afkomstige uitspraken zijn aangeduid door 07.1 (Jacqueline van Brakel) of 07.2 (Gerda Minkjan). Bij deel II van het interview (telefonisch) is Jacqueline van Brakel de enige respondent.

Coding legenda

The transcribed interviews were split up in individual fragments, when a single topic was covered. These fragments were categorized by three main codes and several sub codes. The codes are partially based on the following factors from paragraph 2.5, from the conceptual framework. See sub codes II.

For example, when a certain respondent – say 'no. 06' (see respondents names, background and their tracking numbers on the previous page) – mentioned how 'serious gaming' effected collaboration during the gaming session, that particular fragment of the interview with respondent 'no. 06' is labeled as '/I', since it covers the instrument and its application itself. Then, the sub code '/EF' follows right after, referring to the 'effects of 'serious gaming'. Finally an additional code is added, namely '/SAM', referring to 'collaboration'. This results in the following code: '/I/EF/SAM/06.'. The respondent's code is added to the end of the code, providing a practical way to find out who said what, so observations and comments could be put within the context of the respondent.

Main code		Subcode I		subcode II	
/I	Instrument	**/EF**	Effect	**/SAM**	Collaboration
				/DIA	Dialogue, interaction
				/ROL	Roles, responsibilities
				/DOEL	Goals
				/ALG	General
		/KR	Criticism		
		/ALG	General		
		/ADV	Suggestions		
/P	Process	**/KR**	Criticism		
		/ACHT	Background/context		
		/ADV	Suggestions		
		/OV	Other		
/R	Other	**/KR**	Criticism		
		/BP	Public participation		
		/INFO	Info about respondent		
		/OV	Other		

/I/ADV/02.   Als je kan laten zien hoe het werkt, dan zijn ze [deelnemers en bestuurders] om. Maar voordat je zover bent, zijn er heel veel mensen die afhaken. De meeste projectleiders houden, vooral bij complexe vraagstukken, vast aan de bekende methodieken. Het veilige traject, wat ze kunnen sturen. Terwijl er juist voor dit soort vraagstukken nieuwe methodieken nodig zijn om tot innovatieve oplossingen te komen.

/I/ADV/02.   Belangrijk is een stakeholder analyse voorafgaand aan het spel.

/I/ADV/03.   Ik denk toch dat er mensen bij zouden moeten zijn die goed kunnen ontwerpen, en de mensen die deelnemen zijn in principe geen ontwerpers. En dat het belangrijk is om uitgangspunten op papier te krijgen, en dan ontwerpers gelegenheid te geven dat verder uit te werken, en dat te laten zien aan de deelnemers waar ze toe gekomen zijn, zonder alles dicht te timmeren.

/I/ALG/02.   Dus door het heel systematisch afpellen van argumenten, en ook het opbouwen van gezamenlijke argumentatie om ergens toe te komen, dat vond ik wel heel krachtig.

/I/ALG/02.   Een paar partijen vertelden vooraf dat ze niet meer mee wilden doen, maar tijdens de gaming sessies gingen ze toch weer helemaal om, en raakten ze weer zo betrokken dat het leidde tot een gedragen visie op het gebied door alle betrokken partijen.

/I/ALG/02.   Ik ben bij verschillende projecten betrokken geweest, en is participatie a) bijzaak, b) als ze het doen geleidt door professionals, c) [men wordt] nooit zo uitgebreid gehoord dat je ze ook helpt om een andere argumenten op te bouwen. Daar helpt SG heel goed bij.

/I/ALG/02.   Middels dit instrument wordt iedereen ook een kans geboden hun inbreng te leveren.

/I/ALG/02.   Als je serious gaming zou afzetten tegen de meest interactieve vorm van traditionele burgerparticipatie, dan vind ik dat daar de 'lead' bij de deskundige/spelleider ligt. Bij SG zit men gelijkwaardig aan tafel, en dezelfde onderhandelingsruimte. Burgerparticipatie is vaak luisteren naar burgers, en die horen dan later wel of er wat mee is gedaan.

/I/ALG/02.   Wat ik ook bijzonder vond was de start. Er werd veel tijd besteedt om met die groepen, als kleinere groepen bij elkaar, 30 deelnemers uitgeselecteerd in verschillende groepjes, die met elkaar kunnen praten over waarom ze tegen een luchthaven, en wat zouden jullie dan wel willen helpen. Het afpellen van argumenten waarom ze ergens tegen en misschien voor zijn. En dat systematisch afpellen van argumenten van deelnemers werkt zo goed in een participatieproces, want het betekent dat mensen gedwongen zijn om uit hun loopgraaf te komen, en de oude dogma's opzij te zetten, want ze ineens moeten uitleggen waarom ze ergens tegen. En soms kunnen ze dat nog niet.

/I/ALG/03.   Het spel gaf wel bepaalde houvatten. Technisch gezien maakte dat apparaat behoorlijk wat indruk. Met name in de beginfase heeft dat mogelijkerwijs wel wat geholpen w.b.t. vertrouwen met die aanpak. Maar later werd dat wel minder dacht ik. Dialoog en interactie was redelijk, maar of dat komt door het spel, net als bij de vorige vraag, dat is de vraag.

/I/ALG/03.   Ik kan me voorstellen dat het bij bepaalde dingen veel beter is om dit instrument in te zetten. Hier staat of valt alles met de achterliggende visie.

/I/ALG/03.   Was de insteek misschien wel meer overleg i.p.v. ontwerp zelf? Ja dat [overleggen] gebeurde wel. Dat deed men er ook wel bij. Waarbij een soort handel ontstond. Wat wel leuk is, en wat het ontwerpen ook wel wat raakt, maar niet met de achtergrondkennis die daarvoor nodig is. En dat kun je niet verwachten van de mensen die daar zitten.

/I/ALG/03.   De inrichting en de apparatuur was best aardig, en je kunt er dingen mee onderbouwen en inzichtelijk maken. Maar echt een ontwerp maken (toen) was niet echt mogelijk.

/I/ALG/04.   Een meerwaarde is dat je in de positie wordt geplaatst van degene die het plan maken, en dat je afwegingen moet maken. Normaal geef je je mening, nu sta je in een positie van hoe kom je er samen uit. Dus dat je beter als deelnemer, hoe een plan vorm gaat krijgen. Het wordt wel een stuk reëler. Je moet realistischer gaan kijken.

/I/ALG/04.   Je leert de participanten en hun belangen beter kennen.

/I/ALG/04.   Ook onvrede over de dat het een uitwerking was van een idee zoals wij het niet bedoeld hadden.

/I/ALG/05.   Het spel heeft ook bijgedragen aan de informele verhoudingen tussen de deelnemers, op een positieve manier. Vooral door de informele verhoudingen, en rondom de sessies spreek je elkaar, en ook over andere onderwerpen (juist ook om te tegenstellingen niet zo te vergroten), en dat ging altijd prettig.

/I/ALG/05.   Ik vond dat heel duidelijk ja, dat was interessant ook dat je daar om een tafel zat in een grote boog, vertelde je je verhaal, en dat werd direct opgeschreven en verscheen op het scherm. Vervolgens werden die punten bij elkaar geplaatst. Dat was duidelijk, bij het noteren van de opvattingen werden deze ook goed naar voren gebracht. Er was feedback van antwoorden op de vragen die gesteld werden, en dit verscheen op het scherm.

/I/ALG/05.   Het was leuk, prettig, om daar met zijn allen bezig te zijn, dat we veel gegevens kregen, dat iedereen zijn stem kon laten horen. Ik zie niet in hoe anders een gesprek tussen

de deelnemers er had kunnen zijn. Maar in dit proces is het toch heel moeilijk geweest omdat de situatie waarbij zij veel macht hadden, om dat recht te krijgen.

/I/ALG/06.　　　　　Het sterke punt van het spel was wel dat je meedraaide aan de knoppen, maar wat voor radertjes er achter de knoppen zaten wist je weer niet. Van belang is dat je weet wat de initiatiefnemers echt willen. En dat weet je niet. Maar dat is voor het proces van participatie niet bevorderlijk.

/R/BP/06.　　　Van belang is dat je weet wat de initiatiefnemers echt willen. En dat weet je niet. Maar dat is voor het proces van participatie niet bevorderlijk.

/I/ALG/06.　　　　　Je zou je kunnen afvragen of de projectleiding (VTM, en gemeente, provincie) écht geïnteresseerd was in een niet-vliegveld variant. Dat sloop er vaak in, worden we nou aan het lijntje gehouden. Maar dat zal je waarschijnlijk nooit helder kunnen krijgen. Dat wantrouwen dat je kan constateren tussen groeperingen heeft denk ik ook het serieus gaming af en toe wel parten gespeeld.

/I/ALG/06.　　　　　Wat de ernst (afwezigheid van vrijblijvendheid) benadrukte was dat je daar in die toch wat mysterieuze ruimte zat met grote schermen, en een computer voor je neus. Die setting maakte het wel tot 'serieus'.

/I/ALG/06.　　　　　Ik kan me heel goed voorstellen dat de verenigingen van organisaties en omwonenden uitgedaagd zijn om breder te denken dat alleen het tegen-vliegveld zijn.

/I/ALG/06.　　　　　Indrukwekkende omgeving. Het was een beetje zoeken ook voor T-xchange en de Grontmij omdat er nog weinig tot geen ervaring was met (landelijke) gebiedsontwikkeling. Ik was er wel positief over toen we begonnen, en dacht dat we er alleen maar mee konden winnen. In het slotplaatje van T-xchange is het basisplan dat met een aantal deelnemende partijen was overeengekomen, ook goed terug te vinden. We waren er wel trots op dat het onbevangen werken met T-xchange toch tot dat model had geleid en voor mij zaten in het T-xchange eindplaatje alle belangrijke dingen voor natuur en landschap.

/I/ALG/06.　　　　　Verder over het spel zelf, na een aantal keren zijn we echt gaan spelen, met dobbelstenen, en punten die je kan winnen, en deals die je kan uitruilen, en dat heeft toen ook echt bijgedragen aan het eindplaatje. En toen werd het ook echt een spel, en werd duidelijk dat het niet alleen maar een brainstorm was over wat men daar zou willen, maar er werd ook een mechanisme op tafel gezet waardoor je kon gaan onderhandelen. Waarden [van functies] werden ook helderder.

/I/ALG/07.1.　　　　　Om een idee te ontwikkelen was het wel aardig, maar in feite hadden we dat idee al.

/I/ALG/07.1.   Strategisch spel om tot een consensus te komen. Ik vond het ook leuk om te doen.

/I/ALG/07.2.   Als organisaties tegen het vliegveld tijdens het spel door, hebben we ook een nauwere band gekregen. En is ook besloten om massaal achter het plan van stichting alternatieven vliegveld te scharen.

/I/EF/ALG/02.   *Is het dan vooral de gelijkwaardigheid wat het spel?* Ja dat is het eigenlijk wel, er zijn scenario's gemaakt, waarin mensen zich in kunnen herkennen (door voorgaande trajecten), of juist waartegen ze zich kunnen afzetten. En wanneer je op dat abstractieniveau gaat kijken naar wat nou een logische inrichting is voor het gebied, met daarbij veranderende aanwezige parameters waarin gevolgen als economische effecten (werkloosheid) tot uiting kwamen. Het werd hierdoor heel tastbaar.

/I/EF/ALG/02.   Niet het idee van, die professionals kunnen meer vanwege hun kennis of vanwege dat ze uit de overheid komen, maar het is zo'n open en transparant proces, simpel vertaald.

/I/EF/ALG/02.   Samenvatting voor mij: het gezamenlijk rekenen en tekenen, en op een gezamenlijk informatie niveau zitten, en heel goed de belangen van partijen kunnen afwegen en daarin dan hun eigen keuzes te kunnen maken. En door die spelvorm worden ook weer gedwongen, om daarin hun eigen keuzes te maken.

/I/EF/ALG/02.   Uiteindelijk is iedereen omgegaan, en werd gezegd dat het erg effectief is geweest voor de betrokkenen, en dat ze ook het gevoel hebben gekregen een bijdrage te hebben geleverd aan de inrichting van het gebied. En dat de negatieve perceptie om mee te werken werd omgevormd naar een positieve attitude. En dat vond ik krachtig.

/I/EF/ALG/03.   Dat het een spel is houdt wellicht de belangstelling vast, en dat is met traditionelere sessies wat lastiger.

/I/EF/ALG/03.   *Welke aspecten van het instrument zouden wel positief hebben bijgedragen aan de participatie van de deelnemers?* Velen waren denk ik onder de indruk van het spel, vonden het mooi. Wat wel goed is, is het in beeld kunnen brengen van de bestaande situatie. Inzichtelijk maken van waar het over gaat, wat er in zo'n gebied kwijt kan en welke omvang het heeft.

/I/EF/ALG/06.   *In hoeverre heeft SG bijgedragen aan participatie van burgers?* Veel. Toen Landschap Overijssel begon met het inbrengen van de mening in het vliegveld debat, was dat veelal onbekende materie. Bij een vliegveld denk je aan lawaai, verkeer, versus een soort paradijselijke situatie. Wij droegen aan om het te hebben over hoe het vliegveld er kon komen, in plaats van of. En

dat was nieuw voor zowel de autoriteiten als burgerparticipanten. Doordat we er zo lang over gedaan hebben, hebben we een uitstekende kans gekregen om iedere keer weer uit te leggen wat naar onze mening belangrijk was, namelijk het herstellen van die waterhuishouding. Dit aspect werd later door iedereen genoemd. Doordat T-xchange een behoorlijke loopduur heeft gehad, en ze ook zoveel mogelijk op basis van feiten probeerde te werken, en emoties probeerde terug te schroeven. Heb ik een uitstekende kans gekregen om iedere keer weer op herstel van het waterhuishouden terug te komen.

/I/EF/DIA/01.   Natuurlijke vorm van interactie gecreëerd. Visualisatie draagt in belangrijke mate bij aan de dialoog tussen deelnemers.

/I/EF/DIA/02.   Er was een moderator, die moest zorgen dat we steeds een stap verder kwamen, maar door het gamen gingen ze ook vooral met elkaar in overleg. Rol van de moderator was dus minimaal, en ze waren vooral erg met elkaar in dialoog.

/I/EF/DIA/02.   Ik vond het geweldig dat mensen die tijd en energie ergens in steken, omdat ze ergens tegen zijn, en als een soort actievoerende club bij elkaar komen, dat diezelfde mensen dankzij Serious gaming in staat zijn om op het zelfde niveau als de professionals te praten over de inrichting en kansen en mogelijkheden van zo'n gebied.

/I/EF/DIA/03.   *En als ik de eigenschap noem van 'bevorderen van gelijkheid'?*
Daar heb je wel gelijk in, dat heb ik niet bij stil gestaan. Iedereen moet eigenlijk hetzelfde doen, dat is wel een punt. Als je gewoon een gesprek aangaat, heb je soms dat bepaalde 'gangmakers' de toon zetten. En dat wordt hier wat afgeremd, omdat iedereen gebruikmaakt van hetzelfde instrument.

/I/EF/DIA/03.   Het spel gaf wel bepaalde houvatten. Technisch gezien maakte dat apparaat behoorlijk wat indruk. Met name in de beginfase heeft dat mogelijkerwijs wel wat geholpen w.b.t. vertrouwen met die aanpak. Maar later werd dat wel minder dacht ik. Dialoog en interactie was redelijk, maar of dat komt door het spel, net als bij de vorige vraag, dat is de vraag.

/I/EF/DIA/04.   Dialoog en interactie was er. Behoorlijke discussies gehad met een aantal mensen, krijgt een betere indruk van wat andere mensen beogen of willen. En met een deel kom je tot een samenwerking, deel niet. Maar zeker wel sprake van dialoog en interactie, en duidelijk uitwisselen van argumenten. Wat hieraan bijdroeg? In spelvorm gebracht, ruime tijd aan tafel, het spel vroeg coalities, wat door samenwerken of overtuigen bereikt kon worden.

/I/EF/DIA/05.   Er waren groepen die min of meer voor – en tegen waren. Werden niet echt coalities gevormd. Ook weinig gemerkt van late fases waarin werd onderhandeld en verhandelt (m.b.v. kaarten en dobbelstenen).

/I/EF/DIA/06.   Het [de setting] gaf wel interactie. Doordat het niet meer abstract was, niet meer wazig, moest er wel een dialoog komen. Je kwam voor iets op, of had een bepaalde bedoeling met het gebied, en dat moest wel uitgesproken worden. De omgeving, voortgang maakte wel dat je

ergens voor stond. W.b.t. dialoog, er was een spelleider, gespreksleider, en in feite was de dialoog een wisselwerking tussen haar/hem en de groep. Geloof niet dat er binnen de groep heel erg uitgesproken dialogen ontstonden. Wel interactie maar niet in vorm van uitgesponnen redeneringen onderbouwd met argumenten. Je zag iets groeien op dat scherm, en daar reageerde je op. De groep was toch tamelijk gelijkgericht. Namelijk we hebben een kans om dat vliegveld hier niet te krijgen. Kenmerk wat daaraan bijdroeg, zie vraag 1.

/I/EF/DIA/07.1.   Band tussen diverse partijen versterkt. En vooral in de beginfase waarin naar de invulling van het terrein werd gekeken, was voornamelijk dialoog. In de eindfase, spelafronding, dat was minder serieus.

/I/EF/DOEL/01.   Elk spel heeft een doel, dat is duidelijk. Zowel rollen als verantwoordelijkheden als doelen zijn helder, opgenomen binnen het spel.

/I/EF/DOEL/02.   Dat was verschrikkelijk duidelijk, want in het begin waren er een aantal bijeenkomsten waarin het gaming aspect nog niet meespeelden, maar waarin de partijen werden gevraagd hun eigen doelstellingen neer te zetten en te beargumenteren, en daar raakte men al meteen in gesprek over hoe de eigen doelstelling eventueel conflicteerde of juist synergie opleverde met d doelstellingen van anderen, en vanaf de eerste sessie is daar heel veel aandacht aan besteedt, en is ook duidelijk gemaakt dat dit de basis is voor de opbouw van de game. Daar wordt wel deskundige input bij geleverd, maar jullie ideeën en visies is de basis, en dan moeten we komen tot een gezamenlijk iets.

/I/EF/DOEL/03.   Wat mij betreft niet, daar kwam denk ik het probleem boven water dat er toch een soort van geheime agenda was, vind ik. De mensen die dat daar moesten doen, kwamen er naar mijn gevoel ook niet echt goed uit. Ze reikten wel het spel aan, maar wat dat dan voor betekenis had, en waar het op aan zou moeten komen – er werd wel een poging gedaan, dat moet ik er wel bij zeggen. Aan ruimtegebruik werd een begroting gekoppeld, en daarmee werd ook interactie bevorderd tussen de deelnemers (zie vraag 2), door middel van handel. Dat was opzich wel leuk, maar voor mij stond wel vast dat er geen resultaat uit zou komen dat enige zin had. Maar dat is mijn oude verhaal, er zit geen echte visie aan vast. Zonder visie kan je eigenlijk ook geen echte doelstellingen hebben.

/I/EF/DOEL/04.   Volgens mij wel, tijdens het spel probeerde je duidelijk het spel te beïnvloeden en oplossingen te vinden. Er kwam duidelijk naar voren wat de initiatiefnemers voor de game beoogden, de alternatieve invulling op een reële manier uitwerken, zodat er ook een reëel alternatief plan uit zou komen. En dat werd ook wel duidelijk op de vanwege de spelregels en begeleiding. Daarin werd duidelijk gezegd wat wel en niet de bedoeling is, en daarmee ook de doelstelling van het spel.

/I/EF/DOEL/05.   Ik vond dat heel duidelijk ja, dat was interessant ook dat je daar om een tafel zat in een grote boog, vertelde je je verhaal, en dat werd direct opgeschreven en verscheen op het scherm. Vervolgens werden die punten bij elkaar geplaatst. Dat was duidelijk, bij het noteren van de opvattingen werden deze ook goed naar voren gebracht. Er was feedback van antwoorden op de vragen die gesteld werden, en dit verscheen op het scherm.

/I/EF/DOEL/06.   Dat zal wel gebeurd zijn, namelijk door de spelleiding. Die zullen ongetwijfeld gezegd hebben van sessie tot sessie van hier staan we, dat werd heel duidelijk van te voren besproken – maar daar heb ik nu niet meer een heel scherp beeld van.

/I/EF/DOEL/07.1.   Daar zijn vraagtekens bij te zetten. Het doel voor de deelnemers voor henzelf was wel duidelijk, maar de rol van de organisatoren (vooral VTM) en de aannames die achter het spel zaten konden we niet controleren. Er was geen visie achter het spel.

/I/EF/ROL/01.   Onderscheid tussen binnen en buiten de game. Binnen de game worden de rollen toegekend en beschreven. Mensen gaan heel snel hun eigenlijke rol gaan mengen met de game rol, en veel informatie wordt d.m.v. zo'n game transparant gemaakt. De game maakt het mogelijk om de interactie tussen de verschillende spelers in de echte wereld, in een veilig experimentele omgeving mogelijk te maken.

/I/EF/ROL/02.   Je ziet dat iedereen beseft dat wanneer men zijn eigen belang wil behalen dat moet men dat uitwisselen met anderen, en men kreeg dus ook heel goed inzicht in de belangen met anderen. En waren ook in staat door dat inzicht, en de rol die ze af en toe opgeplakt kregen, dat heel goed uit te wisselen en tot synergie te komen.

/I/EF/ROL/03.   Ik was het niet helemaal eens met de vertegenwoordigers van de natuurorganisaties.
Die helderheid van rollen werd wel duidelijk, van de een iets meer dan de ander. Er zat er ook een met een dubbele agenda, als ik me kan herinneren.

/I/EF/ROL/04.   Verantwoordelijkheden van deelnemers in het echte leven verschillend, maar in het spel gelijkwaardig gemaakt, was duidelijk. Echter zijn de verschillende posities in de echte wereld niet duidelijk terug te vinden in het spel: leuk om als gelijkwaardige partij aan tafel te zitten, zodat alle argumenten even zwaar wegen..

/I/EF/ROL/05.   We zaten daar niet als mensen die daar ook op inbreng konden rekenen. Maar dat was ook niet onbegrijpelijk. Tijdens het spel werden ook niet nieuwe wegen ingeslagen, en die dan verder uitgewerkt. Het was meer het kwijt kunnen van je boodschap.

/I/EF/ROL/06.   Ik denk dat het heel positief was. Voordien was het toch een abstracte discussie. Txchange heeft ons duidelijk gemaakt dat er over een bepaald gebied met bepaalde afmetingen met bepaalde eigenschappen en te bepalen functies zou gaan. Dat maakte duidelijk waar het over ging, en ook waar de verschillende deelnemers stonden. En daaruit volgende een soort rolverdeling (die persoon komt voor dat aspect in de weer).

/I/EF/ROL/06.   W.b.t. verantwoordelijkheden, die waren er niet uitgesproken. We zaten daar niet met een mandaat vanuit een bepaalde groep. De verantwoordelijkheid was meer om iets goed te bereiken.

/I/EF/ROL/07.1.   Jawel, iedereen had wel zijn eigen doelstelling voor ogen.

/I/EF/SAM/01.   1^e element: dat het serieus is. Spel spreekt aan, met name de spelmodel die is gericht om die samenwerking af te dwingen, het besef het samen te moeten doen. Kwalitatieve uitspraken van mensen die hebben deelgenomen.

/I/EF/SAM/02.   En ook hoe het is opgebouwd, dat als je naar het onderhandelingstraject toe gaat, het gaming zelf als component naar voren komt, om met elkaar in overleg te komen. Alle betrokkenen waren daar ook enthousiast over.

/I/EF/SAM/02.   Twee dingen wat me heer erg is bijgebleven. Eerste dat ze als leken samen met professionals over de inrichting van het gebied konden praten. SG biedt zo'n inzicht in de materie dat je heel gauw het gevoel hebt dat je op een gelijkwaardig niveau aan het praten bent. En het tweede wat me opviel was het gaming aspect, letterlijk met de dobbelsteen aan de slag dat leidde heel erg tot het onderhandelen van de partijen. Mensen beseften dat ze ook mee moesten werken aan een plan dat niet bijv. Alleen inzet op natuurwaarden, maar ook mee moeten werken aan een plan dat werkgelegenheid oplevert. Dankzij gaming aanpak werd er letterlijk onderhandeld. Mensen beseften dat eigen belang alleen gerealiseerd kon worden als ze dat goed uitwisselen met andere belangen. De hele omgeving leidde ertoe dat iedereen op een gelijkwaardig level inzicht krijgt op de mogelijkheden, maar de echte effecten werd bereikt door het gamen.

/I/EF/SAM/03.   Die samenwerking, voor zover die daar nodig was, die leek wel redelijk. In de zin dat men elkaar niet in de haren vlogen, zeker niet in het beginstadium. De vraag alleen of dat apparaat daaraan bijgedragen heeft, daar moet ik mijn vraagtekens bij zetten. Ik heb heel wat sessies zoals inspraakvormen geleid of meegemaakt, maar zonder een apparaat maar wel met andere wat beperkte visuele middelen, en daar ging het bepaald niet slechter, laat ik het zo stellen. Als de groep groot was dan deelde we het op, in werkgroepen. Maar er werd wel duidelijk het beleid achter de samenkomsten genoemd.

/I/EF/SAM/04.   Tijdens de game veel samenwerken, om resultaat te bereiken is dit nodig, dat was aan de orde. Wat hier aan bijdroeg was de waarneming dat coalities nodig zijn om een deel van je gelijk te halen. Hierdoor ontstonden er samenwerkingsverbanden onderling. Na het spel niet meer aan de orde geweest. Nieuwe samenwerkingsverbanden zijn niet echt ontstaan na het spel, maar dus wel tijdens.

/I/EF/SAM/05.   Ik denk dat het wel geholpen heeft voor deelnemers vanuit een bepaalde organisatie, omdat zij het krachtenspel zagen en in dat opzicht beter geïnformeerd waren. Ook in het formuleren waarschijnlijk. Maar ik denk dat de zwakte van het spel was dat ieder achtereenvolgens zijn mening kon geven, en de volgende kon zijn eigen verhaal houden. Maar daartussenin heb ik niets gemerkt dat groepjes bij elkaar gingen zitten. Geen gelegenheid voor geweest. Grootste gemis ook voor het spel. Kenmerk: geen ruimte voor onderling overleg, voorstellen individueel werden niet onderling besproken.

/I/EF/SAM/06.   Ik denk dat het heel positief was. Voordien was het toch een abstracte discussie. Txchange heeft ons duidelijk gemaakt dat er over een bepaald gebied met bepaalde afmetingen met bepaalde eigenschappen en te bepalen functies zou gaan. Dat maakte duidelijk waar

het over ging, en ook waar de verschillende deelnemers stonden. En daaruit volgende een soort rolverdeling (die persoon komt voor dat aspect in de weer).

/I/EF/SAM/07.1.   De samenwerking tussen de tegenstanders van het vliegveld, die groeide. Je leert elkaar beter kennen als je meedoet aan zoiets, en ook leer je om de gedachten op elkaar af te stemmen. In het begin ging je in discussie, en krijg je wel inzicht in elkaars gedachten en ideeën. Stimuleren van discussie dus. En meer te weten komen over andersoortige bestemmingen.

/I/KR/02.   Nadeel: In die fase: vreselijk duur. Ik was opdrachtgever, maar moest wel het budget bij de projectorganisatie wegkrijgen. Uiteindelijk komen we uit op een ton of vijf, destijds. Toen hebben T-xchange en Grontmij gezegd van laten we het 50/50 verdelen. En ondertussen zijn ze zover dat ze het slimmer, beter en goedkoper kunnen aanbieden.

 /I/KR/02.   Opgebouwd als spel waarbij er ook maar een winnaar uit zou komen) en daar hadden partijen wel erg moeite mee. Alsof het gaat om wie het beste gokt die wint. Maar uiteindelijk konden we de partijen overtuigen dat het erom ging dat uiteindelijk het meest optimale resultaat gevonden zou worden.

/I/KR/02.   Veel tijd gevraagd aan deelnemers om eraan mee te doen, erg duur, het gebeurde in een wat overdonderende omgeving. Men voelde zich wat klein gemaakt, overdonderd. Het kan ook web-based [via internet op afstand], of zelfs op [project] locatie.

/I/KR/03.   Ik denk toch dat er mensen bij zouden moeten zijn die goed kunnen ontwerpen, en de mensen die deelnemen zijn in principe geen ontwerpers. En dat het belangrijk is om uitgangspunten op papier te krijgen, en dan ontwerpers gelegenheid te geven dat verder uit te werken, en dat te laten zien aan de deelnemers waar ze toe gekomen zijn, zonder alles dicht te timmeren.

/I/KR/04.   Er werden een aantal krenten eruit gehaald en daar kan je dan mee spelen, een plek geven in het gebied. Maar qua kwaliteitsbewaking op lange termijn viel het tegen, dat hebben ze niet kunnen overbrengen.

/I/KR/04.   Vraag of deze case het meest handige was. En verder dat het wel een spel is, wat inhoud dat sommige deelnemers zich ook gaan gedragen naar een spel. En minder serieus kunnen worden, verwarring stichten. En wat is dan het realiteitsgehalte van voorstellen? Niet iedereen zat er naar mijn idee serieus in. Je wordt erg aan de groep overgelaten, dus je gaat deals sluiten. Het spelelement lokte dus soms uit tot 'frivole' acties. Vooral het denken in visie en concept miste.

/I/KR/05.   *Maar er zaten weinig mensen met vraagtekens over wat ze daar deden?* Ja toch wel, je kon dit als je wil beschouwen als het laten afblazen van de aanwezigen. En door het op te schrijven worden mensen rustig, en hier gebeurd dat op een hoger niveau (digitaal etc.), niet om mensen stil te maken, maar het werd echt naar voren gebracht. Dit gaf ons in het begin veel verwachtingen. Ook het vele materiaal (kaarten, computers, setting) droeg hier aan bij.

/I/KR/05.   Het ['serious gaming'] was heel aardig, maar het was niet heel goed. Ik miste een paar dingen, waar onder het onderlinge gesprek als je in groepen zat, en dingen uit te proberen

in de groep. Het was wel ontzettend leuk. Als er iets vastgelegd werd, werd het opgetikt, en verschoven worden naar een bepaalde plaats, op het scherm. Op kleine momenten dat je dan binnen de groep te snel tot iets moet komen, met regels binnen zo'n groep dat om de beurt iemand wat in mag voeren, wat niet tot een samenhangend plan kwam. Als ik lelijk zou zijn zou ik zeggen dat het een zeer inventieve manier was om de tegenstander uit elkaar te spelen.

/I/KR/06.   Alleen een echte harde tegenstander was er niet, meer gradaties van tegenstanders van het vliegveld. En dat heeft denk ik de helderheid van het spel niet bevorderd. Het karakter van een serieus game komt het beste tot uitdrukking als alle partijen van links naar rechts van het hele spectrum daaraan meedoen, en het was dus maar een stukje van het spectrum. Daardoor bleef het ook een beetje soft denk ik. Daardoor kon de game ook niet helemaal scherp worden gemaakt.

/I/KR/07.1.   De valkuil van niet serieus bezig zijn is wel aanwezig.

/I/KR/07.1.   Wat betreft dat spel, het was best lastig omdat je (ik) best wel een leek bent, en omdat je veel achterliggende gegevens niet wist. En bij bepaalde beslissingen waren er soms gevolgen, die je niet kende, en wat ook niet terug te draaien was. Dat soort dingen waren wel vervelend. En het eindresultaat vond ik een samenraapsel, van alles wat. Wij zijn toen wel mee blijven doen, ook om wel bij het proces betrokken te blijven.

/P/ACHT/02.   Toen was het idee, we formuleren een paar uitgangspunten, de belangrijkste is eigenlijk, hoe houd je de natuur eromheen in stand? Maar ga ook eens kijken wat je kan met dat gebied, zodat het ook toegevoegde waarde kan hebben voor de duurzame economische ontwikkeling van de regio. Dat waren de uitgangspunten.

/P/ACHT/02.   Het is misgegaan bij de vraag of het model dat eruit kwam ook haalbaar was, waarbij marktpartijen erin wilden stappen. En daar is het misgegaan. Het alternatieve plan was gebaseerd op een woon / zorg – functie. Binnen de regio is geen zorgpartij die toen ging investeren, wat was onderzocht door twee onderzoeksbureaus. Uiteindelijk is het de verantwoordelijkheid van de politiek om te kiezen. Er werd gekozen voor de luchthavenvariant, mede ook door de onhaalbaarheid van het alternatieve plan. Naar de deelnemers werd gezegd dat ze er alles aan hebben gedaan om hun verhaal neer te zetten, meer kan ook niet. En wij hebben ze daar ook alle mogelijkheid toe gegeven. Wat blijft is continue het wantrouwen naar projectorganisatie en de overheid.

/P/ACHT/02.   Je had bijna 35 organisaties, waar een groot niveau verschil tussen zat. De belangenorganisaties (Natuurmonumenten, landschap Overijssel, netwerken die heel erg op natuur en ecologische belangen inzetten, van lobbyisten tot actievoerders. En ook de bewonersorganisaties (van Lonnekeland, Enschede) waar ook weer een niveau verschil tussen zat. Maar de grootste trekkers waren Natuurmonumenten en Landschap Overijssel.

/P/ACHT/02.   Met z'n drieën opgestart. Ik heb geholpen bij die opstartfase, toen zag ik dat er zo'n 35 maatschappelijke organisaties waren, die al drie jaar lang aan het lijntje waren gehouden, a.d.h.v. mooie ateliers, deskundigen, bedrijfsatelier. Maar merkte dat ze geen idee hadden wat hun rol en positie in dat geheel nu was. Maar er was een ding dat verbond; ze waren tegen een

luchthaven. Toen zijn we gaan praten, en kijken of we voor die groep een aparte structuurvisie kunnen opstellen, of zij zelf! Waarin ze gedwongen zijn te zeggen wat ze nou wel willen.

/P/ACHT/02.   Ik wilde dus een proces optuigen met die maatschappelijke organisaties, waarbij die organisaties of de mensen ervan ook het gevoel hadden dat ze echt mee konden beslissen en mee konden rekenen en tekenen aan dat gebied. Wilde ook geen ateliers, in zaaltjes met kaarten waarop mensen stikkers kunnen plakken, welke enkele weken later door deskundigen uitgelegd waarom dat allemaal niet kan. En dan gaat het gewoon door. Dat was dus een grote opgave. Maar door mazzel hoorde ik via een ambtenaar van de provincie die hadden samengewerkt bij het maken van een structuurvisie. Dit bleek Txchange te zijn, wat een mogelijke optie zou kunnen zijn. Txchange bood dit destijds aan, samen met de Grontmij. Ik ben er met hun ingedoken, en zag dat het eigenlijk nog helemaal opgebouwd moest worden, Serious Gaming voor gebiedsontwikkeling, vanuit het domein van veiligheid, naar het ruimtelijke domein. Maar wat ik niet wilde was dat de 35 partijen een soort van speelbal zouden vormen voor dit instrument. Wat de doorslag gaf voor mij was dat de Grontmij destijds beloofde dat bij een mislukking van Serious Gaming in dit project, zij het traject op een traditionele manier alsnog voort zouden zetten. Veel moeten praten als 'brugman', om provincie, gemeente en het Rijk te overtuigen om dit traject in te zetten. Ook een van de redenen dat ik dit heb gedaan is dat participatie wel met de mond wordt beleden, maar niet echt serieus genomen. Meer als onderdeel van het communicatietraject gezien, maar niet als onderdeel van het opbouwen van de planontwikkeling. Dat heb ik heel erg doorgedrukt, en samen met T-xchange daarna gekeken naar wat dit nu allemaal betekent, wat gaan we doen. Spelenderwijs zijn ze toen aan de slag gegaan.

/P/ACHT/02.   *Verhouding tussen deze twee groepen?* 70% bewonersorganisaties. Eerst een soort stakeholderanalyse gemaakt, wie komen er in aanmerking om mee te doen aan zo'n project. Je moet wel een groep vertegenwoordigen, en ook de wil hebben om tijd en energie te stoppen en te werken aan een plan waar je voor bent. Partijen die alleen maar roepen van we zitten aan tafel en we willen eigenlijk niks, die moet je niet hebben.

/P/ACHT/04.   Het is een bijzondere case, met bij veel mensen heel erg een strijd van wel of geen vliegveld. En in dat ingewikkelde spel is 'serieus gaming' terecht gekomen, waarbij beleidsmakers niet oprecht zijn geweest, en de indruk wekten ongeacht de uitkomst van het alternatieve plan voor het vliegveld te zijn. Dat wantrouwen is er nog steeds. Er was ook een sfeer van wordt je niet gewoon belazerd. Wat de case wel bijzonder maakt, waarbij die sfeer en die achtergrond wel zijn invloed heeft.

/P/ADV/02.   Mijn conclusie is ook, wat ik heb geleerd, wil je innovatieve instrumenten of methoden gebruiken bij dit soort processen, dan vereist dit een heel vrij en open opdrachtgeverschap. En dat kom je heel weinig tegen. Ook het dilemma voor dit soort methodieken.

/P/ADV/03.   Het is beter als je zo'n sessie in gaat, met een vastgesteld beleid in hoofdlijnen, zodat men weet of het bestuur gaat voor werkgelegenheid, of natuur of..

/P/ADV/03.   Achteraf is dit project misschien niet het meest gunstige om dit instrument in te gebruiken, want het is eigenlijk te complex om te veronderstellen dat zo'n hulpmiddel helpt om mensen daar inbreng te laten hebben.

/P/ADV/07.2.   Je moet het als gemeente alleen maar doen [T-xchange spel] als je ook die uitkomsten serieus neemt, en aan de hand daarvan verder rekenen. Meer openheid in hoe er verder mee gewerkt wordt.

/P/KR/03.   Men zag het instrument ook niet echt meer als een hulpmiddel, meer in de zin van dat ze dachten te gaan bepalen wat er ging komen.

/P/KR/07.1.   Het geheel is misschien te complex geweest voor dit instrument, omdat je er uiteindelijk niet uit kwam. Om een idee te ontwikkelen was het wel aardig, maar in feite hadden we dat idee al.

/P/KR/03.   *Zou het kunnen dat er uberhaupt geen beleid was vanuit de gemeente?* De visie vanuit de gemeente –niet onderbouwd – is er moet een vliegveld komen. Dat het alternatief er moest komen is afgedwongen door de reacties uit te omgeving. En daar hebben ze aan toegegeven. En dat is nou het beroerde want ik zie dat het vliegveld plan mogelijk niet doorgaat, en dan ligt er nog steeds geen alternatief.

/P/KR/03.   En het verloop van het proces duidelijk maken in het begin. In het proces zelf, het was niet duidelijk hoe het proces ging verlopen, wat er van elkaar verwacht werd.

/P/KR/03.   Wat ik gemist heb is 'planologie', waar is behoefte aan? Welke behoefte kan op die plek het beste worden gediend. Er miste visie. Voor de vorm is men mee gaan praten over het alternatief.

/P/KR/04.   Het is een bijzondere case, met bij veel mensen heel erg een strijd van wel of geen vliegveld. En in dat ingewikkelde spel is 'serieus gaming' terecht gekomen, waarbij beleidsmakers niet oprecht zijn geweest, en de indruk wekten ongeacht de uitkomst van het alternatieve plan voor het vliegveld te zijn. Dat wantrouwen is er nog steeds. Er was ook een sfeer van wordt je niet gewoon belazerd. Wat de case wel bijzonder maakt, waarbij die sfeer en die achtergrond wel zijn invloed heeft.

/P/KR/04.   Het was duidelijk waar het over ging [het alternatieve plan]. De onvrede zat hem vooral in dat het een van de alternatieven was, en het andere alternatief werd aan doorgewerkt zonder bevolking, en met het idee dat dat er toch wel werd doorgedrukt. Dat gaf de smet op 'serious gaming'.

/P/KR/05.   *Maar er zaten weinig mensen met vraagtekens over wat ze daar deden?* Ja toch wel, je kon dit als je wil beschouwen als het laten afblazen van de aanwezigen. En door het op te schrijven worden mensen rustig, en hier gebeurd dat op een hoger niveau (digitaal etc.), niet om mensen stil te maken, maar het werd echt naar voren gebracht. Dit gaf ons in het begin veel verwachtingen. Ook het vele materiaal (kaarten, computers, setting) droeg hier aan bij.

/P/KR/05.   Nee, dat vroegen we ons zelf ook steeds af. Je wist ook dat het niet kon, en dat uiteindelijk de gemeenteraad en provincie zeggenschap heeft en hield, en dat je wel suggesties kon doen en kon hopen dat zij daarnaar luisteren maar als we achteraf kijken naar de toezeggingen die zijn gedaan en wat daarvan uitgekomen is, dan merken we wel dat degenen die de macht hadden dat vasthielden en gebruikten.

/P/KR/06.   Je zou je kunnen afvragen of de projectleiding (VTM, en gemeente, provincie) écht geïnteresseerd was in een niet-vliegveld variant. Dat sloop er vaak in, worden we nou aan het lijntje gehouden. Maar dat zal je waarschijnlijk nooit helder kunnen krijgen. Dat wantrouwen dat je kan constateren tussen groeperingen heeft denk ik ook het serieus gaming af en toe wel parten gespeeld.

/P/KR/06.   Lang was er niet duidelijk of er een open keuze was voor wel of geen vliegveld.

/P/KR/07.1.   Misschien moet het plan dat eruit komt meer als startpunt gezien worden, waarmee dan verder gekeken wordt.

/P/KR/07.1.   Bij voorbaat stond al vast dat het alternatief geen kans zou hebben, en heeft ook geen kans gehad. Dat blijft het grote manco van het geheel.

/P/KR/07.1.   *Stel dat er een visie zou zijn geweest, zou dat niet averechts werken?* Opzicht kan dat wel, [een blanco plan] maar dan moet je dat ook als zodanig meewegen. En dan moeten experts het maar tot een hoger plan tillen, wat in mijn ogen niet (echt) is gebeurd.

/P/KR/07.1.   Toen kwam tot onze verrassing het plan als beste uit de bus, en na de vakantie plotseling het vliegveld plan. Toen was het vertrouwen wel weg.

/P/OV/05.   NB: Zuidkant van zowel plan A als B leken veel op elkaar, waarbij we goed hebben kunnen praten over het zuiden van de startbaan.

/P/OV/07.1   De participatie bestond al, en wij hebben toen afgedwongen om daaraan mee te doen.

/R/BP/01.   Waren de game sessies een integraal onderdeel van het besluitvormingsproces?
Ja, omdat de procesvoerder heeft aangegeven ook ondersteuning te willen dat maatschappelijk gedragen zou zijn. Het betrekken van maatschappelijk betrokken actoren gebeurde door VTM door middel van het project alternatief vliegveld Twente, d.m.v. een game. De besluitvorming ligt op een provinciaal niveau, en het uiteindelijke alternatieve plan samen met een vliegveld plan (plan B) werden meegenomen ter afweging.

/R/BP/02.   Als je serious gaming zou afzetten tegen de meest interactieve vorm van traditionele burgerparticipatie, dan vind ik dat daar de 'lead' bij de deskundige/spelleider ligt. Bij SG zit men gelijkwaardig aan tafel, en dezelfde onderhandelingsruimte. Burgerparticipatie is vaak luisteren naar burgers, en die horen dan later wel of er wat mee is gedaan.

/R/BP/02.   Effectieve burgerparticipatie is echt gezamenlijk nadenken over de inrichting van het gebied. Waarbij je wel heel duidelijk het mandaat houdt bij de politiek. Dit kan alleen maar met duidelijke randvoorwaarden, en uitgangspunten van te voren.

/R/BP/02.   *Wat zijn succesfactoren voor (effectieve) burgerparticipatie?* Wat is effectieve burgerparticipatie? Heel lastig. Voor mij is dat wanneer je alle belangengroepen serieus kunt nemen door ze, naast ernaar te luisteren, ook in je werkproces te betrekken.

/R/BP/03.   *Wat zijn belangrijke factoren voor effectieve burgerparticipatie?*
Het betrekken bij alle onderdelen van het proces. Dus ook al bij visievorming. En duidelijkheid, vertellen hoe het proces in elkaar zit, wat van elkaar verwacht wordt. Openheid van zaken gedurende het proces. En het verloop van het proces duidelijk maken in het begin. In het proces zelf, het was niet duidelijk hoe het proces ging verlopen, wat er van elkaar verwacht werd.

/R/BP/04.   *Wat zijn denkt u belangrijke randvoorwaarden voor burgerparticipatie?*
Vanaf begin af aan erbij betrekken, veel tijd stoppen in informatie-uitwisseling, de kennis geven die de kenners ook hebben waarop ze hun keuzes maken. Duidelijkheid van grenzen, waar hebben we het wel en niet over.

/R/BP/06.   Het cruciale punt is denk ik of de participatie er wezenlijk toe doet, of het tot gevolg kan hebben dat het doel gaat verschuiven, en daarmee bijdraagt aan oplossingen die door meer mensen worden ondersteund. Dit was gelijk ook het zwakke punt is voor de mensen die heel zwart wit voor of tegen het vliegveld waren. Als je tegen het vliegveld was, met goede argumenten, is het maar de vraag of de politiek ook tot een andere slotsom kan komen. Ook kan participatie zinvol zijn wanneer initiatiefnemers open staan voor varianten in hun inrichting. Dus niet de vraag of, maar 'hoe'. Ik denk dat T-xchange [serious gaming] heel veel heeft opgeleverd.

/R/BP/07.1.   Het geeft wel meer interactie dan bijvoorbeeld inspraakavonden.

/R/BP/07.2.   *Welk effect heeft dit instrument nu gehad op burgerparticipatie?*
Saamhorigheidsgevoel, contacten leggen, samen strategie bepalen, heeft iets gezelligs ook. Later misschien wat minder serieus, maar in het begin zeker wel serieus. En het gaf meer inzicht in het gebied (ook door de andere deelnemers en hun kennis).

/R/BP/07.2.   Hoe zouden jullie 'effectieve participatie' kenmerken? Wanneer bestuurders er zich ook wat van zouden aantrekken, en we [deelnemers, burgers] ook serieus genomen zouden worden en men open zou staan voor waar je mee komt.

/R/INFO/02.   Werkte bij Vliegwiel Twente maatschappij, in een adviesrol (heb ook een eigen adviesbedrijf, als het gaat om regionale of gebiedsontwikkeling). Van daaruit in een heel vroeg stadium – toen de provincie en gemeente vastliepen in hun onderhandelingen met domeinen met de overdracht van de grond. Provincie en gemeente dachten de grond goedkoop te kunnen krijgen, Domein Advies willen er wat aan verdienen. Peter Kuenchli gevraagd of hij het van de grond wilde trekken, die mij (A.W. Bijl) weer heeft gevraagd daarbij te komen. Was daarvoor wethouder in Almere, erg beziggehouden met gebiedsontwikkeling. Samen met hem een advies geschreven voor provincie en gemeente, dat eigenlijk de enige manier waarop dit kan werken, samen met het Rijk een gebiedsontwikkeling op te starten. Toen ook net het GOB ontwikkelingsbedrijf opgestart, als ontwikkelaar vanuit het Rijk. Dus naast de domeinenpoot, had je deze club die zich als ontwikkelaar vanuit het Rijk, samen met participanten vanuit de regio, zou gaan kijken naar hoe kunnen we dit gebied in ontwikkeling brengen.

/R/OV/02.   Je weet bij dit soort projecten, bij zo'n grote groep tegenstanders, daar ga je elkaar jarenlang dwarszitten. Dus dachten we laten we kijken hoe we de plannen zo kunnen bijstellen, dat iedereen daar profijt van heeft. Plus dat je ook merkt, dat bij dat soort organisaties, zit

zoveel kennis. En soms ook een leuke manier van denken en van verbanden leggen, waar soms die professionals helemaal bij in het niet blijven. Ik ben er ook van overtuigd, het is het gebied waar zij belangen hebben, dus moeten zij ook mee doen, w.b.t. het nadenken over de veranderingen en toekomst van het gebied. Meestal mond dat uit in patstellingen, of worden ze aan het lijntje gehouden, en worden ze later gedumpt. Bij het eerste blijft die patstelling bestaan, en bij het laatste draai je ze een loer, omdat je niks doet met hun inbreng.

/R/OV/02.   Ook een aantal partijen die van te voren niet wilden mee doen. "we doen wel mee, maar daarna zullen we wel aangeven het maar belachelijk en onzin was".

/R/OV/02*.   Soms natuurlijk ook meer irrationele argumenten als drijfveer.* Ja precies, maar ook van die irrationele argumenten werd gezegd dat het argumenten waren, en werden ook meegenomen. Zo zag je in die beginfase een discussie ontstaan waarbij uiteindelijk werd gezegd, als we nou een robuuste structuur kunnen neerzetten voor het groen, blauw voor dat gebied, dan is daarbinnen heel veel mogelijk (volgens mij vanuit landschap Overijssel).

/R/OV/02.   Voorbeeld: iemand van Natuurmonumenten die tegen een ander zegt dat we ook rekening moeten houden met arbeidsplaatsen, ipv alleen natuur. Met het oog op houdbaarheid van hun plan, om het te laten winnen, in een later traject. Als je dat lukt, door zo'n goeie methodiek aan te bieden, dat vond ik wel heel knap.

/R/OV/02.   Daarom is het vliegwiel genoemd, wat kan je doen dat kan dienen als vliegwiel voor de economische ontwikkeling van de regio? Een van de varianten was het vliegveld, vandaar de woordspeling.

/R/OV/06.   Wat bij de individuele deelnemers doelstellingen waren is me zeker niet duidelijk. Voor mij (als vertegenwoordiger van Landschap Overijssel) was het zaak om het watersysteem, wat voor mij de belangrijkste landschap ecologische factor in dat gebied is, om dat watersysteem bij iedereen helder te krijgen.

/R/OV/07.1.   De uitkomst had een mooi plan uit moeten komen, en dat is er niet uit gekomen. Want het vliegveld ging door.

/R/OV/07.2.   Het had misschien nog wat duidelijker gekund, maar misschien is dat ook omdat ik het zelf niet helemaal in de vingers had.

/R/OV/07.2.   Maar het meest frustrerende was wat ze ermee hebben gedaan, en dat heeft niet zoveel met het spel te maken.

/R/OV/7.1.   Het geeft geen verandering gebracht in de positie van voor en tegenstanders.