



Introduction SHARC

Tool for improving the internal strength of municipalities in the face of
future challenges.

by

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1	Introduction.....	3
2	Development of SHARC.....	3
2.1	General.....	3
2.2	Theoretical basics	4
2.2.1	Theory of sustainable development	4
2.2.2	Theory of social geography.....	4
2.2.3	Planning theory and instruments of spatial planning	5
2.3	Requirements for SHARC from utilisation	5
3	The SHARC spatial planning instrument.....	7
3.1	Structure of the tool SHARC.....	7
3.1.1	Structure of SHARC.....	7
3.1.2	SHARC points system	9
3.1.3	Structure of the database.....	10
3.2	SHARC Themes.....	12
3.2.1	Capacity to act.....	12
3.2.2	Real estate.....	13
3.2.3	Ecology.....	13
3.2.4	Mobility.....	14
3.2.5	Energy	14
3.2.6	Social	14
3.2.7	Economy.....	14
3.2.8	Safety.....	15
3.3	SHARC-procedure	15
3.3.1	Survey interview	16
3.3.2	Analysis and recommendations for action	16
3.3.3	Interim meeting / rough report.....	18
3.3.4	Citizen involvement.....	18
3.3.5	Final report.....	19
3.4	SHARC graphics and means of communication	19
4	Further utilisation of SHARC.....	20

1 Introduction

People want to shape and develop their homeland in such a way that it remains a fertile source of new life.

Over the past 40 years or so, mankind has increasingly realized that its way of life no longer serves this principle. This is followed by the call for sustainable development. Dietrich Dörner points out the dangers of actionism, unilateral decisions without adaptation options or long-term effects in the face of such complex and interwoven challenges (Dörner 2009, 257ff.). Frederik Vester recognizes the need to move away from linear thinking and towards cybernetic thinking (Vester 1997, p. 453 ff.).

SHARC (Sustainable Holistic Assessment for Regions and Communities) helps people to use and organize their homeland more sustainably. The efforts of global institutions are important, but it is the people in the smallest local authority, the community, who can best make a concret contribution.

SHARC should therefore serve to improve the inner strength of municipalities in the face of future challenges. As every region has different cultures and framework conditions, it is necessary to adapt to local conditions.

The settlements are essentially built. The 'settlement' system has a lifespan of many generations. The buildings are also highly durable, lasting several decades, some for over a hundred years. In contrast, social conditions and requirements change within a few years.

Municipalities are challenged and sometimes overwhelmed by the complexity of the tasks. There is uncertainty about the right future development. A comprehensive consideration of the challenges is only possible at a very high financial cost with the existing spatial planning practice. A new instrument is needed.

2 Development of SHARC

2.1 General

The effective organization of the municipality requires a recurring survey and inventoring, impulses for change and ongoing monitoring.

The various global and local developments in the form of different input variables are to be taken up and converted into operational output variables.

From this, further in-depth practical requirements for the instrument can be formulated:

- the direct involvement of decision-makers.
- achieving a high gain in knowledge in relation to the effort involved with the least possible time burden for political decision-makers of a municipality, i.e., a maximum of 8 hours for the survey.
- raising awareness of the weaknesses and strengths of a municipality and identifying possible solutions and strategies for action.
- the step-by-step or modular application and ongoing further development options

- the ability to integrate into the legal framework, the already existing process tools and the planning culture.
- supporting transparency, communication and participation in the spatial development of the municipality.
- supplementing existing legally anchored planning and certification instruments.

2.2 Theoretical basics

The development of the SHARC tool is based on the methodology of action research. The following theories are brought together by triangulation. Rather than creating a separate mix of theories, mutual references are established which flow directly into the development of the instrument, i.e., the actual triangulation is expressed in the instrument.

2.2.1 Theory of sustainable development

A key insight from the theory of sustainable development is not the population in general but only addressable organizations that can be sustainable. In view of the findings of planning theory and spatial planning practice, the organization 'municipality' is a suitable organization.

The main contents of the tool are the three dimensions of sustainability: ecology, economy and social issues. These should integrate the normative, operational and analytical dimensions. The principles of good governance and participation are to be incorporated into the content of the tool as values and practiced in the application of the tool.

To summarise, the theory of sustainable development gives rise to the following requirements for SHARC:

1. Addressing the themes of ecology, economy and social issues
2. Consideration of the normative, operational and analytical dimensions
3. Observance of the principles of good governance and participation

2.2.2 Theory of social geography

The theory of social geography, with the basic functions of existence of the Vienna-Munich School, provides a link to the existing spatial planning instruments. The basic functions of existence - living, working, providing for oneself, educating oneself, recreating, participating in transport and living in community - must be addressed.

The welfare geography focuses on social problems in space and, building on humanistic psychology, considers the aspect of safety as an essential requirement of space. Behaviour-oriented social geography takes a subject-specific view of the perception of the environment and the resulting behaviour. Action-orientated social geography sees subjects choosing between alternative courses of action based on the specific situation. This is based on intensive and well-structured communication. With reference to sustainability theory, the acting subject is the community.

Social ecology deals with social conditions and their spatial patterns from the perspective of the challenges of global change. It calls for a transdisciplinary approach in dealing with this complex task.

To summarise, the theory of social geography and social ecology gives rise to the following requirements for SHARC:

1. Content-related processing of the themes of living, working, providing for oneself, education, recreating, participating in transport, living in community and their spatial patterns
2. addressing the theme of safety and its spatial patterns
3. consideration of the community's behaviour and options for action
4. transdisciplinary approach in the development of the instrument

2.2.3 Planning theory and instruments of spatial planning

The integration into the structure of Frick's theory of urban development provides a good basis for practice-orientated integration into planning theory. SHARC covers contents of sustainable development and social geography and has a procedural part by the integration into the planning processes.

SHARC builds on the planning and instruments of planning theory. SHARC serves the iterative development of planning and decision-making bases and has a performative, communicative and incremental element due to the time-limited, selective application. Emotional rationality can be addressed by analysing the trust of the stakeholders in the planning process.

SHARC is a spatial planning instrument that is intended to be integrated into the set of existing spatial planning instruments. Internationally, certification systems are currently dominating the debate on the qualities of spatial development.

These considerations result in the following requirements for SHARC:

1. taking up the values of spatial planning: collective action, consensus building, future orientation, goal-oriented preparation for action and interdisciplinary, spatial content
2. support for communicative and discursive planning processes
3. usability as a project-orientated, performative building block in an iterative planning process
4. supporting the community's and decision-makers' ability to learn and steer themselves
5. reference to or supplementation of the existing instruments of zoning, development planning, spatial development concept and determination of building sites
6. reference to the qualities of existing international certification systems for sustainable settlement development.

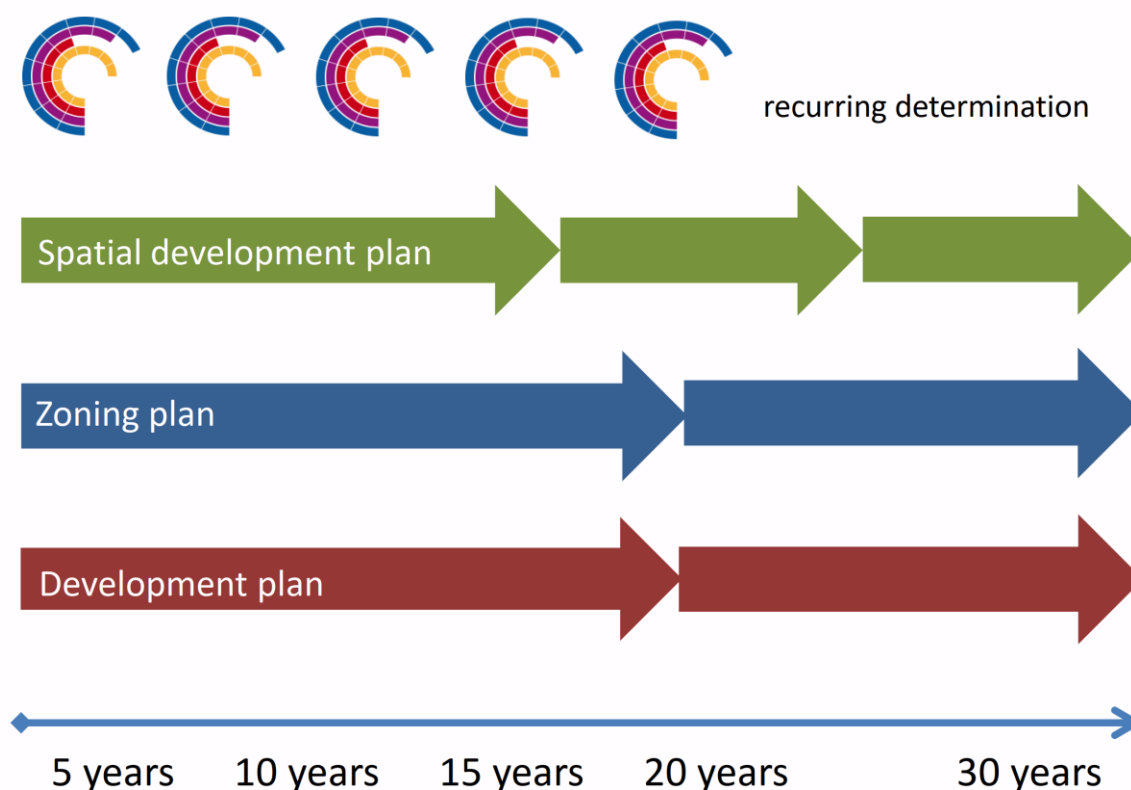
2.3 Requirements for SHARC from utilisation

The development and application of the SHARC tool must be cost-efficient. The benefits for the local authority must be significant and clearly outweigh the costs. It makes sense to aim for multiple benefits with SHARC. This could be advertising effect for the municipality, strengthening communication between political decision-

makers, the municipal administration and the citizens of the municipality, imparting state-of-the-art expertise or addressing challenges from an external perspective.

Spatial planning practice consists of the long-term planning instruments of the spatial development concept (spatial development plan), zoning and development planning. SHARC is intended to supplement these as a short-term instrument (see figure 1).

Figure 1 Integration of SHARC into existing spatial planning instruments in Vorarlberg



Source: Markus Berchtold 2014

Handling SHARC should be as easy as possible for everyone involved.

This results in the following requirements for SHARC:

1. low costs in development, application and further development
2. low expenditure for the municipalities in the implementation of SHARC and consideration of scarce financial resources and time budgets
3. enabling multiple benefits for the local authorities, e.g., recording the inventory while at the same time exchanging information with other decision-makers
4. involve decision-makers as much as possible
5. functionality and effect of the instrument without a legally binding decision by the municipal council
6. make the best possible use of what already exists
7. the best possible framework conditions for communication and feedback between experts and the decision-makers, administration and population involved

8. the most comprehensive possible view of the community, based on the latest knowledge and experience
9. making the results accessible and comprehensible for the decision-makers and the population

3 The SHARC spatial planning instrument

This chapter explains the structure of the instrument and presents the eight themes covered by SHARC. It concludes with a description of the application process.

SHARC includes

- a) A defined application process
- b) An interview guide in WORD (= questionnaire for the interviewer)
- c) A survey database in EXCEL (= collection and evaluation of feedback)
- d) A report template in WORD (report to the municipality for communicating the results)

3.1 Structure of the tool SHARC

3.1.1 Structure of SHARC

The contents of SHARC are organised according to themes, process steps, criteria and questions. SHARC is organised into levels, with the themes being the highest level, followed by the process steps, then the criteria and the questions as the lowest level (see figure 2). Questions are used to ascertain the current situation in the municipality, and this information is then summarised at the level above. Finally, the user receives the status of the respective themes in a final report.

Figure 2 Levels of SHARC

Themes																	
Process step									Process step								
Criterion			Criterion			Criterion			Criterion			Criterion			Criterion		
Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question

Source: Markus Berchtold 2015

The content of the sustainable development of a municipality is analysed using the eight themes of capacity to act, real estate, ecology, mobility, energy, social, economy and safety (see figure 3).

The SHARC themes affect the quality of life of citizens and are aimed at the sustainable development of the municipality. Based on the current challenges, they identify the opportunities and risks for the local authority and serve to communicate the necessary steps in the respective themes.

Figure 3 SHARC structure by themes

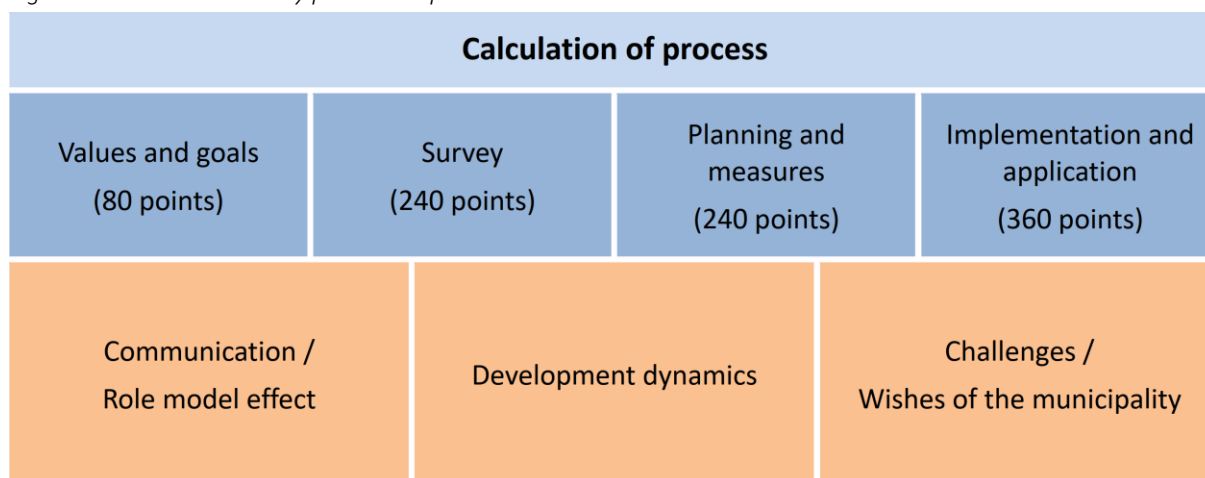
Themes		
Capacity to act (80 points)	Real estate (200 points)	Safety (90 points)
	Ecology (90 points)	
	Mobility (120 points)	
	Energy (240 points)	
	Social (90 points)	
	Economy (90 points)	

Source: Markus Berchtold 2015

The individual themes, with the exception of the capacity to act, are divided into four process steps (see figure 4). The process step 'Values and goals' comprises the formulation of the commitment to certain values and goals in the respective theme with reference to the sustainable development of the local authority. The process step 'Survey' collects the surveys actually carried out by the municipality as well as the ongoing surveys in the respective theme. The process step 'Planning and description of measures' records the thematically relevant plans, concepts, ordinances and programmes that were carried out in preparation for the implementation of actions. The 'Implementation and application' process step maps the implementation of measures to achieve objectives or the application of the planned plans.

The responses to the questions are also analysed according to the municipality's communication activities and role model effect as well as the development dynamics existing in the municipality. Furthermore, an open collection and description of the challenges and wishes of the municipality, e.g. to scientific institutions or legally superior regional authorities. These results form a further basis for analysing the municipality's situation and developing proposals for action.

Figure 4 SHARC structure by process step and themes



Source: Markus Berchtold 2015

3.1.2 SHARC points system

SHARC analyses the current situation of a municipality and presents it using a points system with 1,000 points. The number 1,000 is used for reasons of practicability in the calculation and communication.

The scoring system also allows the results to be compared across several surveys and enables planning performance and developments within a municipality to be monitored. Using mathematical operations between the themes and process steps, it is also possible to make comparisons within a municipality and with other municipalities. If there is a sufficient number of surveys, the scoring system enables further scientific analysis of developments in the municipalities and the functionality of the instrument. The points system can provide a good basis for legitimising and steering municipal development with broad public support. Building on the points system, subsidies can be linked to community development.

SHARC is divided into eight themes, which in turn are subdivided into four process steps that summarise 101 criteria. Fulfilment of the criteria is checked by answering about 520 partially open questions. Points can be awarded for those questions that are answered positively. The points for the questions are aggregated across the criteria and result in points for the process steps and these in turn for the themes. More points can be collected in the sub-levels than can flow into the superordinate level. Only the maximum possible number of points per level is relevant for the evaluation. The potential surplus of points serves on the one hand to balance out partially complementary or mutually exclusive measures and on the other hand to cushion unfavourable framework conditions of the municipality compared to other municipalities.

The questions are partly open without categorisation, partly closed on a nominal or ordinal scale or on an interval scale. The results are recorded and converted into a metric scale. The municipality is analysed on the basis of the metric scale using the themes and process steps.

The initial determination of the maximum number of points per question, criterion, process step and themes is a draft by the author in consultation with the content working group. This award takes into account the following aspects:

- the expenditure of a local authority for the fulfilment of the points in comparison to all other criteria
- the long-term impact of the criterion in relation to the sustainable development of the municipality in the respective theme
- comparison with the best possible standard based on knowledge of so-called lighthouse municipalities / lighthouse regions
- the comparison with the best possible theoretical and scientific target achievement
- the ability to communicate the weighting at the theme and process step levels (80 points is easier to communicate than 76.8 points)

The 1,000 points are distributed across the eight themes as follows:

- Capacity to act (maximum 80 points)
- Real estate (maximum 200 points)
- Ecology (maximum 90 points)
- Mobility (maximum 120 points)
- Energy (maximum 240 points)
- Social (maximum 90 points)
- Economics (maximum 90 points)
- Safety (maximum 90 points)

The 1,000 points are distributed over the four process steps as follows:

- Values and goals (maximum 80 points)
- Inventory survey (maximum 240 points)
- Planning and description of measures (maximum 240 points)
- Realisation and application (maximum 360 points)
- (in addition, capacity to act (maximum 80 points))

Fulfilment of the criteria is reviewed by a locally assembled team with the involvement of external experts or consultants on the cut-off date.

Documents that were prepared or decided on more than ten years ago are no longer used for the assessment.

In principle, the weighting of the criteria is considered to be of lesser importance for the development of the instrument. Once the instrument has been established, the weighting can be changed, e.g. due to scientific, technical or political/planning requirements, depending on how the instrument is used. Corresponding conversions must be made to compare the survey results.

For the potential application of SHARC as a certification instrument or as a control instrument, e.g. for the distribution of financial resources, the evidence to be provided for the fulfilment of the criteria is defined. In addition, a distinction is made between mandatory and optional questions, i.e. questions that must be answered in the affirmative and those that can be answered.

3.1.3 Structure of the database

All responses to the survey as well as the assessments are stored in the survey database. The database is used to analyse the survey and develop recommendations for action to improve the current situation of the

municipality. The survey database is also used for long-term documentation of the municipality's situation and as proof of the correct evaluation of the survey.

On the one hand, the survey questionnaire should provide the necessary information for the survey database and at the same time fulfil the requirements for usability in the best possible way. It is processed using standardised software programs.

Explanation of the input columns in the EXCEL tool.

Heading in the SHARC tool	Explanation
Code Country	Car licence plates for international comparisons
Code theme	Capital letter A-H
Name theme	Capacity to act Real estate Ecology Mobility Energy Social Economy Security
Code process step	Number 1-9
Name process step	Goals Inventory Planning Realisation
Code criterion	Number 1-10
Name criterion	Short description Criterion
Question objective - criterion	Benefit of the question
Code question	Lower case letter a-z
Question text	Specific question to the interviewees, basis for recording and scoring
Compilation of questionnaire	Basic structure (all questions sorted by structure for evaluation)
	Written (questions that can be sent to the interview partner in advance)
	Interview guide (all questions sorted by interview guide)
	Individual compilation of questionnaire
for sorting, for the evaluation	Overall - all points bundled across all themes
	Capacity to act - only points for this theme
	Real estate - only points for this theme
	Ecology - only points for this theme
	Mobility - only points for this theme
	Energy - only points for this theme
	Social - only points for this theme
	Economy - only points for this theme
	Safety - only points for this theme
	Values / goals - only points for this process step
	Survey - only points for this process step
	Planning / descriptions of measures - only points for this process step
	Implementation / application - only points for this process step
	Strengths / weaknesses - only points for this particular evaluation across all themes and process steps

	Wishes - only points for this particular evaluation across all themes and process steps
	Challenges - only points for this particular evaluation across all themes and process steps
	Development dynamics - only points for this particular evaluation across all themes and process steps
	cause prevention - only points for this particular evaluation across all themes and process steps
	Communication - only points for this particular evaluation across all themes and process steps
	Role model effect - only points for this particular evaluation across all themes and process steps
	Commitment - only points for this particular evaluation across all themes and process steps
	Annual survey - only points for this particular evaluation across all themes and process steps
	Individual - Individual definition of the evaluation of the answers
Must or optional question	M or O (mandatory question must be answered, optional question gives additional points)
maximum possible points	maximum possible points for the theme
	maximum possible points per process step
	maximum possible points per criterion
	maximum possible points per question
possible answer	yes / no or scale 1-10 or open answer
Explanation for scoring	Explanation of the points awarded, which are noted directly in the interview guide
indicative examples	Examples (as preparation for the interview guide)
Comments on the answer	Notes of the interviewer on the answer - only if required
Conditions suitable?	yes, is standard, in special cases deviations can be made, e.g., if a task does not exist or the fulfilment of the question is not technically possible.
actual number of points / dedicated score	Transfer from the interview guide by the interview guide as a basis for the various analyses

3.2 SHARC Themes

The contents of the eight SHARC Themes - capacity to act, real estate, ecology, mobility, energy, social issues, economy and safety - are described in more detail below.

3.2.1 Capacity to act

‘Capacity to act’ is seen as the ability of the community to have sufficient resources at its disposal or to be able to access them in order to define and achieve its own sustainable development goals (cf. Holzkamp 1985, p.

243). The local population and the local companies and organisations represent an essential 'resource'. Action itself is an activity of the actors in a community (cf. Fischer 2005, 468 f.).

It is essential for the capacity to act that the space, which is created by people's actions and at the same time provides a framework for individual actions, is or becomes understandable for people (cf. Bollnow 2004, p. 209 f.). In order to cope with the demands of sustainable development, citizens need further education (cf. Haan 2008, p. 24) in the sense of orientations for action (cf. Michelsen 2005, p. 143 f.).

The 'capacity to act' builds on the concerns of action-orientated social geography. When considering the ability to act, the processual and communicative qualities of planning in the municipality are also analysed in terms of planning theory embedding. Building trust is required in the planning theory approach of emotional rationality.

The capacity to act is the basis for all SHARC themes and is given special attention in the basic functions of existence "participating in communication" and "educating oneself".

3.2.2 Real estate

"The area of housing and construction is of outstanding importance for the realization of sustainable development. Housing is a basic need and at the same time part of culture" (Jörissen & Stelzer 2005, p. 251). Structural development is an essential factor in the sense of sustainable development. In 2013, around 27% of total final energy consumption in Europe was allocated to the construction sector (cf. Eurostat 2015).

In contrast to other spatial models such as the linear city, the garden city or the functional city, the sustainable city does not have a fixed spatial-structural concept. The guiding principles of the sustainable city are the concepts of density, mixed use and polycentricity as well as sensitive handling of the existing stock (cf. Fürst et al. 1999, p. 8).

In the theme "real estate", the building activities for the basic functions of existence "living", "working", "providing for oneself", "educating oneself", "recreating oneself" and "living in community" of functional social geography are dealt with.

For planning theory, especially for the structural-spatial dimension, the consideration of development represents the essential field of work.

3.2.3 Ecology

The theme of 'ecology' is one of the three thematic dimensions of sustainable development and is also reflected in the objectives of spatial planning and social ecology.

From a functional social geography perspective, the basic functions of existence of 'providing for oneself', 'recreation' and 'education' have an influence on ecology.

3.2.4 Mobility

Mobility' accounts for over 30% of total final energy consumption (see Eurostat 2015), making mobility another key factor in terms of sustainable development.

Functional social geography has defined its own basic function of existence as 'participating in transport'.

A separate sub-discipline, transport planning, has emerged in spatial planning. The structural, spatial, social, ecological and economic development of space has a significant influence on the organisation of mobility and vice versa.

3.2.5 Energy

In the course of developing the tool, it became apparent that energy will play an above-average role in the sustainable development of municipalities and that further development of the theoretical approaches would be useful. For this reason, a separate 'Energy' theme is being introduced.

Energy is a cross-cutting issue across all SHARC themes. The delimitation of content is based on the energy-related processing and, in case of doubt, on the taxative list of criteria.

3.2.6 Social

The theme of 'social issues' is one of the three thematic dimensions of sustainable development and is also reflected in the objectives of spatial planning.

Social geography is dedicated to the theme of social issues and, in the Vienna-Munich School of social geography, analyses the basic functions of people's existence in space and, within the framework of welfare geography, the spatial-structural social injustices and problems. Behavioural and action-oriented geography analyses the possibilities for behaviour and action of individual people in space. Social ecology analyses people's relationships with their respective natural and social environment.

From functional social geography, the basic functions of existence 'recreation', 'education' and 'living in community' have an influence on the social sphere.

3.2.7 Economy

'Economy' is another thematic dimension of sustainable development. Economic aspects are also integrated into the objectives of spatial planning.

From a functional social geography perspective, economic spatial structures are predominantly characterised by the basic functions of existence 'working', 'providing for oneself' and 'educating oneself'.

3.2.8 Safety

A key driver behind of sustainable development is the avoidance of conflicts due to unsustainable lifestyles and the preservation of security (see IPCC 2014, p. 36).

With reference to humanistic psychology, welfare geography defines security as an essential need of society in the use and organisation of space. The basic existence functions of 'participating in communication' and 'educating oneself' from functional social geography have a particular influence on the theme of 'security'.

Security is a valuable asset in spatial planning, which is expressed on the one hand in the demand for planning security and on the other hand in the expected security through planning. Spatial planning is therefore embedded in a legal framework.

Security is only possible if the municipality adapts to permanent change (Wenda 2014, p. 71 f.).

3.3 SHARC-procedure

The instrument is applied according to a defined procedure (see figure 5). The survey interview forms the basis for the entire SHARC process. This takes place on the basis of the interview guide in WORD (= survey form for interviewers). The results of the survey are continuously documented here. These are then transferred to the survey database in EXCEL for analysis.

The recommendations for action are derived from the evaluation and analysis of the interview. These are discussed, adapted and further developed in an interim meeting with those responsible for the municipality. The results are summarised in a report based on the report template in WORD.

For pragmatic reasons, the decision to involve citizens is the responsibility of the decision-makers in the respective municipality. Once the involvement of citizens in the interests of the community has been completed, a final report is compiled from the results of the individual steps, which is intended to serve as a catalogue of ideas for community development in the coming years.

The instrument also works to a certain extent without the involvement of citizens, even if this does not fulfil the requirements of the necessary participation in terms of sustainable development. Involving citizens against the political will of the decision-makers is not practicable and would lead to a lack of acceptance of the citizens' feedback. The involvement of citizens could have a counterproductive effect if the application of SHARC is merely a preliminary process for the development of a spatial development concept with much more extensive public participation.

Figure 5 Overview SHARC process



Source: Markus Berchtold 2015

3.3.1 Survey interview

The expert interview is the basis for surveying the situation in the municipality. The aim is to keep the expert interview with the decision-makers in the municipalities as short and pleasant as possible. The author has therefore set himself the goal of completing the expert interview within eight hours. Thanks to its modular structure, the expert interview can also be divided into several units. The consistent coding of the questions allows the questions to be customised independently of the SHARC database to improve the flow of the interview. A part of the interview can also be carried out in writing before the expert interview. The basis is the interview guide in WORD (= survey form for interviewers) and the survey database in EXCEL (= collection and evaluation of feedback).

3.3.2 Analysis and recommendations for action

The feedback from the survey interview is collected in the database, where it is supplemented by a scoring system and then analysed. Recommendations for action are developed on the basis of this evaluation, which are then incorporated into the raw report together with the survey results.

As part of SHARC, the survey is analysed according to various aspects, which are explained below:

- The evaluation by theme shows the municipality's commitment to the eight themes. The evaluation is carried out across all questions on all themes. The more points achieved by the municipality, the

stronger (more positive) the municipality's commitment to the respective theme. This evaluation serves to balance political activities and avoid one-sided developments.

- The evaluation by process step is carried out across all questions after all process steps. The more points achieved by the municipality, the stronger (more positive) the commitment of the municipality in the respective process step. The balance between political declarations of intent and actual implementation becomes visible.
- The presentation of the respective strengths and weaknesses of a municipality in the eight themes shows the possibilities for positioning as well as the current tasks. This evaluation is supplemented by an open collection of wishes and challenges. These analyses serve as a basis for communication with the institutions and potential network partners as well as for the further development of SHARC.
- The evaluation of the degree to which the causes of climate change are being combated in the community and the development dynamics generates knowledge about the attitudes and development dynamics in the community with regard to ongoing global and supra-regional changes. All eight themes are analysed. The municipality is categorised according to the subdivisions of the development dynamics
 - a) Adapting to the challenge or looking away, waiting, sitting it out (negation)
 - b) Combating the causes, mitigating the causes (mitigation)
 - c) Increasing one's own resilience (resilience)
 - d) Adapting to change (adaptation)
 - e) Transforming community (transformation).
- The basis for the success of a municipality on the path to sustainable development is the municipality's communication activities with its citizens. This is supplemented by an evaluation of the degree of commitment of the municipality to its own goals and plans. The evaluation is based on the governance-orientated ability to act and implementation (structures, resolutions, etc.) in all eight themes.
- In line with the research focus 'global change - regional sustainability', an evaluation of the security aspects in the remaining seven themes is carried out in addition to the evaluation in the security theme. As the instrument does not address all eventualities of municipalities in the sense of a lean instrument, there is the option of not answering questions for good reason. These are also summarised and also serve to further develop the tool. At the request of the municipality or another institution, further specific aspects can be analysed and presented.

The results of the various analyses are compared with the best possible results and with other municipalities analysed by SHARC. In particular, the deviations are analysed and commented on. Recommendations for action are developed for the weaknesses and development potential. Reference is made to those criteria that have the greatest possible point potential within a theme. Approximately three recommendations for action are formulated for each theme and for the overall situation. In total, around 25-30 recommendations for action are made for the municipality.

3.3.3 Interim meeting / rough report

The results of the analysis and the recommendations for action are presented to the decision-makers involved in the expert interview in a rough report and discussion. On the one hand, this serves to inform them of the interim results and to uncover any misunderstandings. On the other hand, the interim presentation also serves to obtain the approval and support of the decision-makers in order to prepare contact with the citizens.

This form of controlled information transfer to citizens and the late involvement of citizens must be fundamentally questioned from the point of view of sustainable development and the desired participation of citizens. Nevertheless, the author considers this restriction to be justifiable in order to enable citizen involvement in the first place.

3.3.4 Citizen involvement

The SHARC results are ultimately passed on via the decision-makers to the citizens for further processing and elaboration in various participation models. Only after the results of this participatory phase have been taken into account, a final report is drawn up.

Five different models of citizen involvement are being considered on the basis of the theoretical considerations of participation:

- **SHARC-Information**
The citizens of the municipality are informed about the SHARC results in a low-threshold manner by means of an information brochure.
- **SHARC-Focus**
Public evening event with presentation of the SHARC results and further in-depth discussion of three themes selected by citizens.
- **SHARC- Action day**
All local residents are invited to develop ideas, suggestions and participation projects in a special setting based on the SHARC results.
- **SHARC- Citizens' Council**
12-16 community citizens develop an action and implementation plan for the SHARC recommendations for action in one and a half days.
- **SHARC- Citizen check**
A group of around 10 community members reviews plans and important projects for their impact on SHARC issues and the overall SHARC result.

The municipality determines which citizen participation modules are used. The entire participation concept is based on the modular principle and can be customised and put together as required.

3.3.5 Final report

The final report is an adaptation of the raw report and summarises the results of the survey interview, the analysis and recommendations for action from the interim meeting and the citizen involvement. The final report can serve as a development guideline for the sustainable development of the municipality. The measures and implementation recommendations are intended to initiate the next projects and steps in the municipality.

The final report has a designed standard and shows the main strengths and development potential of the municipality as a whole and in the individual eight themes. It also reflects on the status of the development processes, the binding nature of the policy and the annual surveys of the municipality. Based on this, the municipality's role model effect and its communication with citizens and supra-local network partners are analysed. The basis is the report template in WORD.

The final report is submitted to the decision-makers.

3.4 SHARC graphics and means of communication

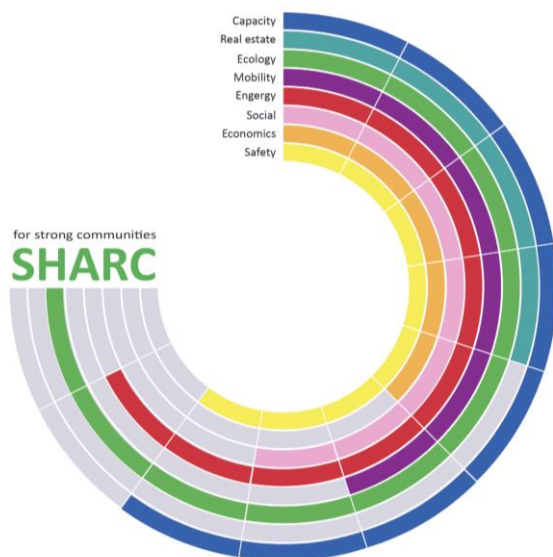
The graphic appearance of the instrument, the results and the final report is an essential basis for communication. On the one hand, the first impression counts, it should be related to the task and on the other hand, it should support the communication of the results to the population and decision-makers in a municipality. The SHARC logo and the SHARC graphic for visualising the results are shown in figure 6 and figure 7.

Figure 6 SHARC Logo



Source: Creation Graphic Design Moosbrugger 2013, adapted Markus Berchtold 2015

Figure 7 SHARC graphic for the presentation of the results of a municipality



Source: Creation Graphic Design Moosbrugger 2013, adapted Markus Berchtold 2015

4 Further utilisation of SHARC

The use of SHARC in the context of this work is primarily designed for the sustainable spatial development of a municipality. In addition to this orientation, SHARC offers numerous other possible uses.

Concretisation of sustainable development in spatial planning

SHARC takes the complexity of sustainable development and makes it more accessible to the population and decision-makers. SHARC breaks it down into themes and categories and makes it more addressable and operationalisable. This reduces the emotional charge of the term 'sustainable development'.

With the development of the SHARC spatial planning instrument, spatial planning offers a contribution to sustainable development. In this way, a clear mandate can be given to those working in spatial planning by those with political responsibility. SHARC can also be used to further the discussion on sustainability in spatial planning within the specialist discipline.

Possible SHARC applications offer a complete package

The development of the various SHARC applications - SHARC service, SHARC certification, SHARC conference or SHARC simulation - offers the opportunity to organise the sustainable spatial development of a municipality in a consistent manner. The applications interlock and complement each other, yet they can be implemented and used as individual modules by the municipalities.

SHARC thus offers municipalities or higher-level regional authorities the opportunity to become active in the field of sustainable development at every stage of development.

SHARC as a regional driving force for sustainable development

The public debate on sustainable development appears to be very generalised and conducted in an endless variety of themes. SHARC brings together some of the strands of discussion and, as a brand, can summarise the complexity and stimulate communication about sustainable development on a new level. SHARC itself is not a label, but can be developed as such from the SHARC certification.

Like any brand, SHARC supports communication between political decision-makers and citizens. It encourages communities to use SHARC to distinguish themselves and build their own story. SHARC also encourages communities to engage with sustainability issues, take up scientific findings, take appropriate action and allow for innovation.

Managing regional development

The management of regional development, e.g. in preparation for future challenges or to ensure the quality of life of citizens, requires a good basis for decision-making. Combining several SHARC applications at municipal level provides a basis for decisions at regional level.

The previous benchmarks for the success of a municipality, e.g. the location of jobs, are supplemented by success through a high score in the application of SHARC. With SHARC, the decision-making criteria for managing municipal and regional development can be written down and made transparent.

In this respect, regional development can also communicate objectives using SHARC by defining the objective as a target number of points in a theme or process step, e.g. 80% of all points in the theme area 'Development' or increasing the number of points in the process step 'Implementation' by 10%.

Municipal co-operations are rare in the field of spatial planning, SHARC offers an entry point into cross-municipal, regional consideration. An intra-regional exchange could lead to an upward levelling through the targeted management of positive competition.

Database for community development

Data for municipal development is usually stored only within the municipalities. The data is stored in various forms without a widely recognized, standardized structure. SHARC offers a structure that can serve as a starting point for the development of a database for spatial planning in general.

This spatial planning database could enable a long-term and comparative view of municipal development and thus provide a valuable basis for further research, on the one hand on the interrelationships between spatial planning themes and on the other hand on planning culture as a whole. The database could thus become an archive for future generations of spatial planners.