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"RURAL LIFE 2.0 – LOCAL INFRASTRUCTURE RESEARCH AND DEVELOPMENT FOR SHRINKING REGIONS IN GERMANY"

KEYWORDS

Participative Research
Infrastructure Design
Mobile Infrastructure

ABSTRACT:

Our leading research question is:

''Is it possible to develop Mobile Infrastructure concepts which fit the future needs of shrinking rural regions?''

The focus of "Rural Life 2.0" is the research and development of future rural infrastructure especially in Germany. "Rural Life 2.0" states that due to the changing rural demographics new infrastructure solutions have to be designed. The title "Rural Life 2.0" refers to the new participative standard of the Web 2.0 culture. Our research approach integrates rural populations into the research and design process in order to analyse the existing situation and to find solutions for the future. Therefore we need cross-disciplinary research perspectives and basic development skills from: Design, Regional Planning, Social Sciences, Architecture and Engineering.

"KoFor" means cooking and researching: a scientific gastronomic barter trade where with the help of cooking events people come together for research.

DEFINITIONS AND ABBREVIATIONS

INFRASTRUCTURE

We extend the notion infrastructure to a supply network which extends from roads, schools, health care and culture to the network of social relations and reminiscence.

KOFOR

"Ko" stands for the German word for Cooking: Kochen, "For" stands for the German word for Research: Forschung. Together "KoFor" can be understood as a combination of cooking and researching: cooking for research.

KOFOR-MOBILE

The "KoFor-Mobile" is the mobile research station which we designed to undertake systematic research tours to analyse rural living conditions and infrastructures.

MOBILE INFRASTRUCTURE UNIT (MIU)

The KoFor-Mobile is a design proposition for one possible Mobile Infrastructure Unit (MIU). We think of other MIUs offering services for health care, education or media entertainment etc.

RESEARCH APPROACH

Our research approach is based on the concept of "project-grounded research" (Findeli 2004). It applies participative design elements to enhance bottom up planning instead of top down instructions. It focusses on the perspectives of the inhabitants of rural areas by bringing them into communication with each other and the researchers. It is divided into two parts:

A) The first one analyses the change of rural infrastructure.

B) The second part develops new infrastructure concepts by realising a design intervention:

The KoFor-Mobile as a tangible design thesis for a Mobile Infrastructure Unit.

A)

There is a lack of research approaches to analyse the impact shrinking processes in rural regions on the conditions of daily life. Philipp Oswalt a German architect and urban researcher states that new concepts must be developed to address the shrinking process:

„Deutlich ist, dass die bisherigen Handlungsstrategien hierzu keine befriedigende Antwort formulieren konnten, auch wenn man akzeptiert, dass eine Umkehrung der Schrumpfung vielerorts vorläufig jenseits des Möglichen liegt." (Oswalt 2006 b).

"It is clear that the present strategies don`t give a satisfactory answer (Oswalt refers to the shrinking process. Comment of the paper authors) even if we accept that in many places a reversion of the shrinking is beyond the possible." (Translation by the paper authors).

What does conditions of daily life mean? We will investigate the situation of shopping, health care, schools, cultural events and social relations in order to outline the change process between 1982-2007. Investigating the history of e.g. shopping in one specific village will be done by research in public authority archives, surveys and interviews. To get the relevant data to document the change, we use social science methods: content analysis, observation, survey and experiment. To analyse the process we use the design method of mapping: For e.g. we will develop a map which points out the change of places for personal reminiscence: Friends and neighbours to whom one talked years ago moved away and together with them parts of the personal reminiscence, stories and experiences disappeared. A mapping shows the places of reminiscence which was concentrated in the village but is now spread over different distant places where the people connected to it moved to. Another mapping (Fig. 1). reveals the change of the personal communication network in a rural area over a time period of one generation, 20 years (Fig.2, Fig. 3).
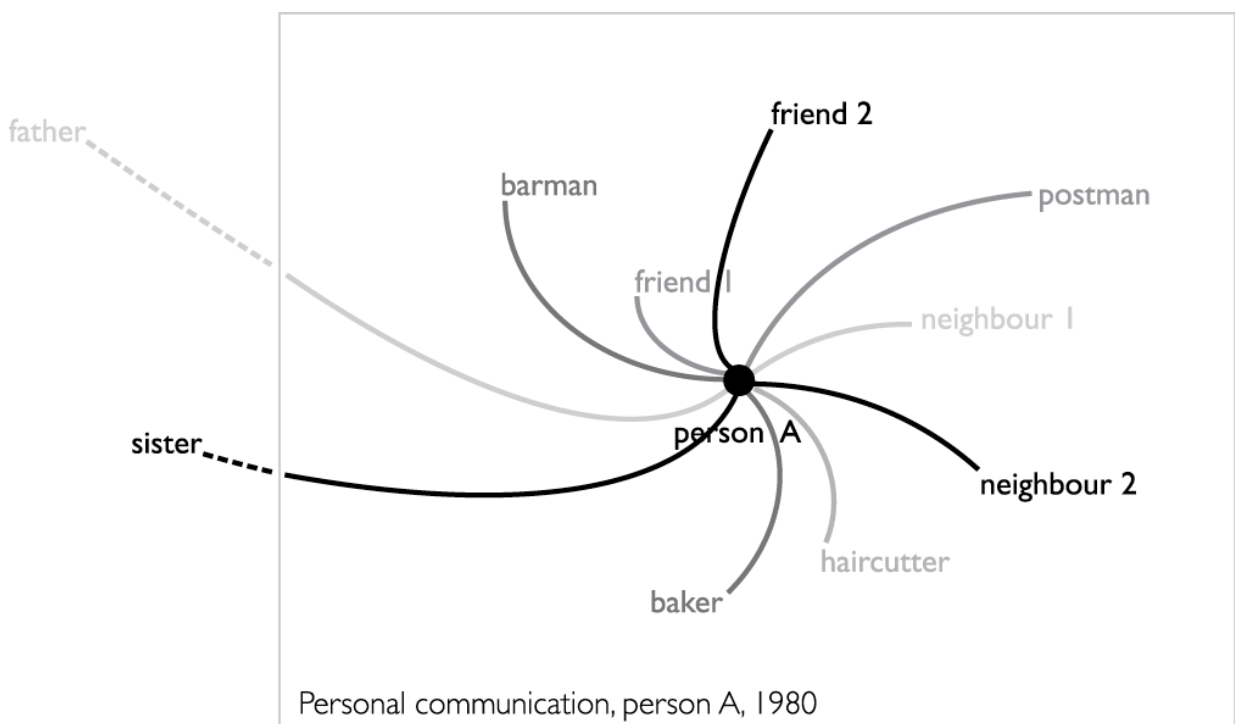

Figure 1: Mapping of the personal face to face communication network, Illustration by the authors.

Legend of the personal communication mapping out of the perspective and self-assessment of person A

1. The grey rectangle indicates the face to face communication framework for e.g. in the village. Everything outside the border indicates face to face communication to people living in another village, city or region.

2. Amount of Contacts: Further away names show people with less contact to person A. Closer people have more contact.

3. Importance of contacts: Black lines indicate very important contacts. Light grey lines demonstrate less important contacts. Intermediate levels show increasing or decreasing contact importance.

4. Dotted lines lead to people living in other villages, cities and regions.

Figure 2: Legend of the Mapping of the personal face to face communication network, Illustration by the authors.

Figure 3: Mapping of the personal face to face communication network between 1980-2000, Illustration by the authors.

Personal communication, person A, 1980

Personal communication, person A, 1990

Personal communication, person A, 2000
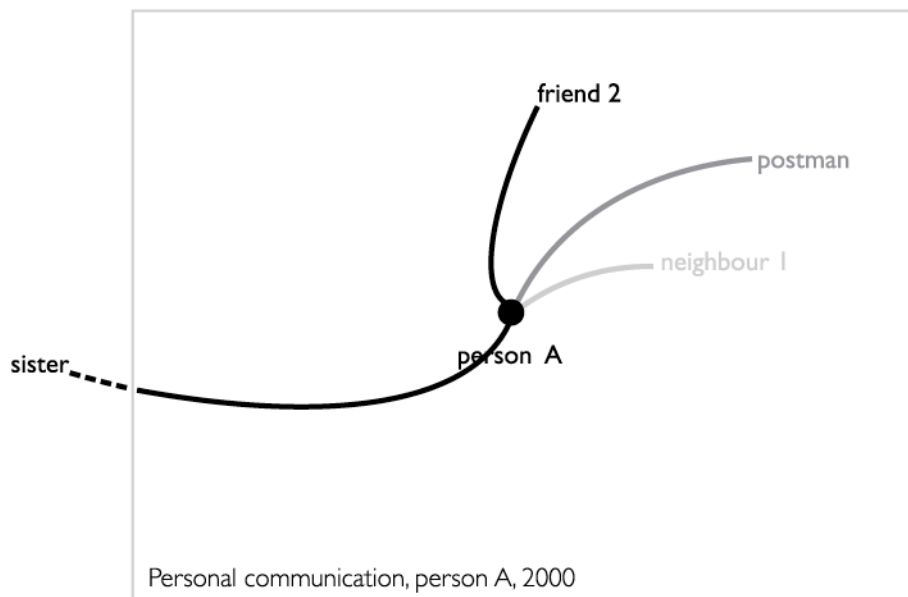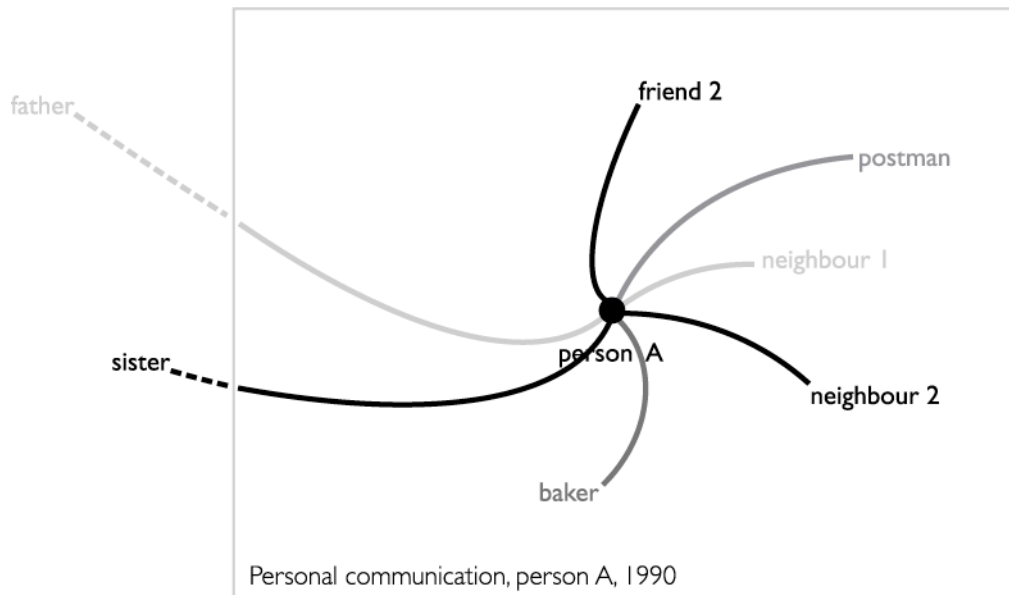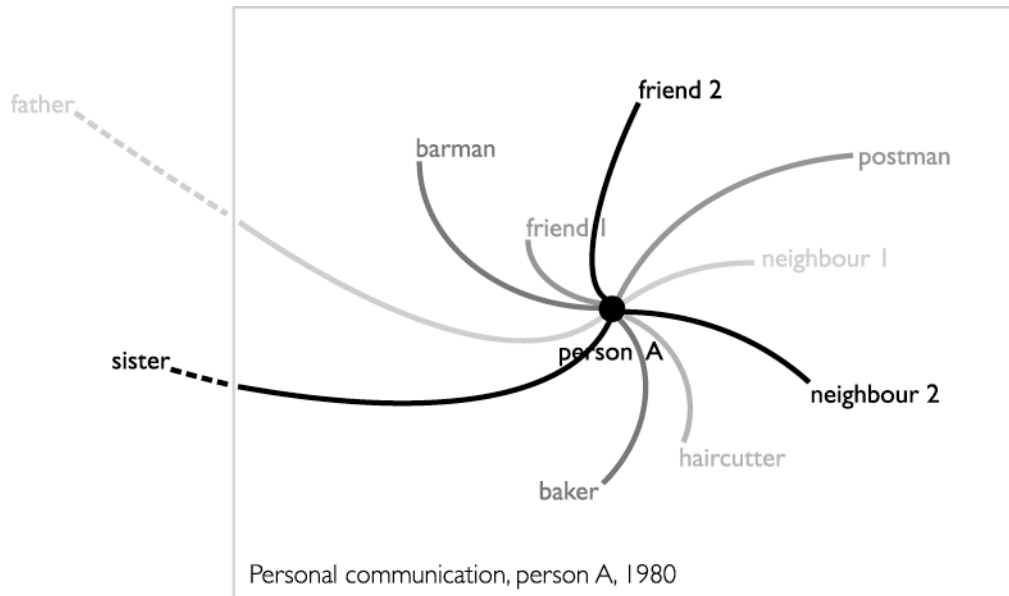
B)

The KoFor-Mobile (Fig. 6) is a materialized design thesis and not a design solution. The design concept of Mobile Infrastructure Units (Fig. 4) is an intervention. We use the KoFor-Mobile to enhance communication between residents and as a crystallization point of ideas, arguments and perspectives for future Mobile Infrastructure Units. We think of Mobile Infrastructure Units for: shopping, health care, social services, communication and media, cultural events etc. Those Service-Units are the framework for the questions:

1. What are the actual and future infrastructural needs of the people?

2. What kind of services and infrastructure matches their needs?

Figure 4: Mobile Infrastructure Units, Illustration by the authors.

1.0 ASSUMPTIONS CONCERNING THE RURAL INFRASTRUCTURE:

1.1

The rural population of the next two generations until the year 2050 will change dramatically in terms of quantity and classification. People who depend on public infrastructure like schools and healthcare etc. will have to leave rural regions (Fig. 5).

1.2

The infrastructure of today can not be provided anymore because for a shrinking rural population schools, hospitals and cultural facilities will not be affordable anylonger.

1.3

We have to develop new infrastructure concepts which match those needs. Design research does not start from the scratch. We might adapt collaborative planning techniques, like "Participatory Action Research" (Selener 1997). A Design approach with participative elements is needed because the traditional cybernetic-planning model that treats people like electric flows is not successful anymore.

Regional Trends in Germany, 2005
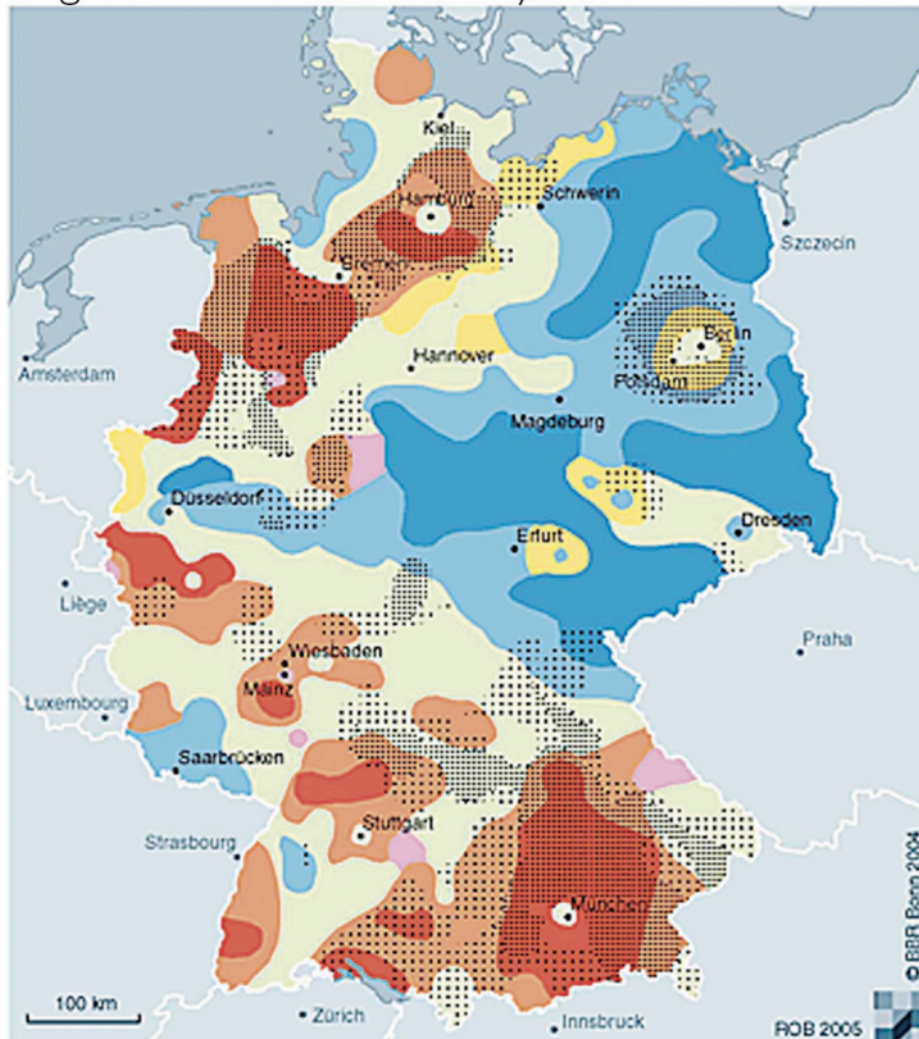
Regions were the population and employment development is affected by

- **intense shrinking** (dark blue)
- **less shrinking** (light blue)
- **diverging trends** shrinking population, increasing employment (pink)
- **stagnation** (cream)
- **diverging trends** increasing population, decreasing employment (yellow)
- **small growth** (orange)
- **big growth** (red)

Settlement Areas and traffic growth

- **intense** (fine dots)
- **very intense** (grid)

Figure 5: Regional Planning Report, Source: Raumordnungsbericht 2005, Berichte Bd. 21, Bonn, S. 85.

2.0 RESEARCH AND DEVELOPMENT HYPOTHESIS:
We think with David Hamilton that qualitative research methods are crucial for our project-grounded research:

"Qualitative research methods are key to understanding the issues surrounding design (...)." (Hamilton 1994)

2.1

The ongoing metropolitan research approach to shrinking cities and new planning concepts cannot be transferred one-to-one to shrinking rural regions because the consequences of shrinking cities are less infrastructure whereas in a rural region the consequence is no infrastructure.

2.2

The change of rural infrastructure is a complex phenomenon which has consequences ranging from remote shopping facilities over more distant schools to vanished social communication opportunities.

2.3

The KoFor-Mobil encourages communication between the residents. In villages where the traditional communication spots like backery, bar and barber are gone, the KoFor-Mobil even initiates new social communication.

2.4

Due to more dynamic infrastructure solutions parts of them will be designed and produced for a constantly changing infrastructure market.

3.0 RESEARCH STEPS

3.1 CONTENT ANALYSIS

The first step is to analyse the statistical data about the shrinking process and the demografic change in Germany in order to pre-elect the research regions. Due to the statistical data we will for instance choose the following regions: southern Saarland, western Schleswig-Holstein and southern Uckermark. Two regions are situated in the former West-Germany one is in the former East-Germany. Therefore we underline the fact that shrinking is not a specific phenomenon in former East-German regions but in regions of historic economic growth in West-Germany too. The next step is to work out the research tour, contact the local mayors and institutions as to announce our research-visit.

3.2 COOKING FOR RESEARCH: KOFOR

We offer a gastronomic event (e.g. an specific south german meal in an east german village or an indian dish in the same place) which decreases the communication barriers between researchers and residents. We hope to bring together residents who haven`t talked to each other for a long time, so that their KoFor experience is not only having a good and cheap meal but also the social communication with other residents. During the gastronomical event (Fig. 6) the research team conducts surveys and observations. We ask questions such as the following:
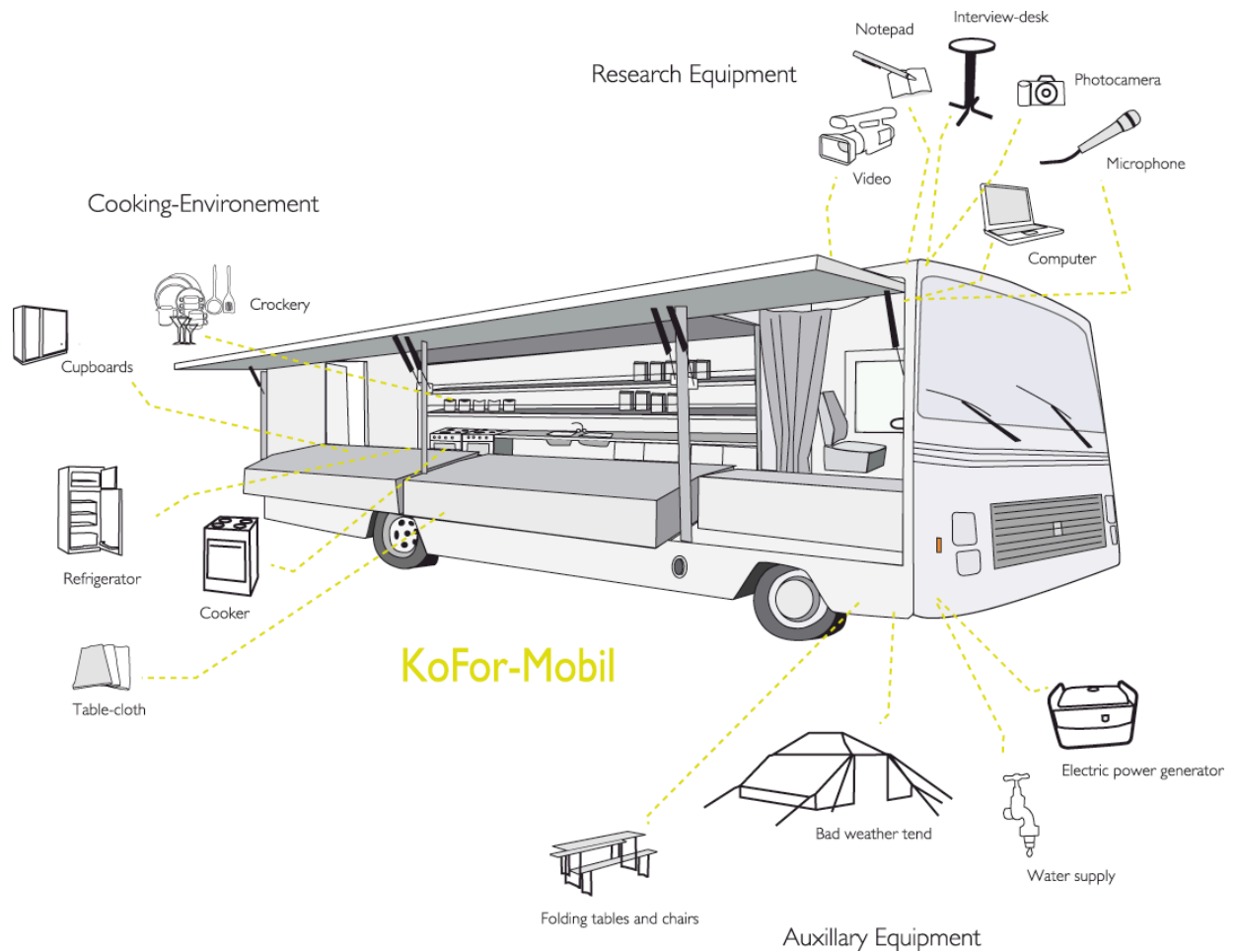
Figure 6: KoFor-Mobil, Illustration by the authors.

3.3 QUESTIONS ABOUT THE ACTUAL SITUATION:

3.3.1 Which social, cultural and everyday life oriented (lebenspraktisch) infrastructure do you use?

3.3.2 Where and how do you use these facilities?

3.3.3 Where do you go for shopping, to the doctor or in the cinema?

3.3.4 Which means of transportation do you use?

3.4 QUESTIONS ABOUT THE FUTURE EXPECTATION OF THE INFRASTRUCTURE:

3.4.1 How far would you drive to get your children to kindergarten, school or to do daily shopping?

3.4.2 Would you use a mobile health care service, e.g. a doctor, coming to your village?

3.4.3 Would you use a mobile communication/ media unit for example with internet and dvd-lending?

    3.4.3.1 How often would you use it?

    3.4.3.2 Which media do you prefer?

    3.4.3.3 Which content are you interested in?

3.4.4 If you don`t want to use for example a mobile health care service, what are your reasons?

3.4.5 Would you visit a cultural event coming in your village?

3.4.5.1 What type of cultural event are you interested in, for e.g. live music, soccer wide screen projection or a public reading?

3.4.6 Would you go to a mobile restaurant coming weekly to the village?

3.4.6.1 What kind of food do you prefer, German, Italian, Chinese?

3.4.7 Would you use yourself a rentable mobile gastronomy for neighbourhood cooking or family event cooking?

3.4.7.1 Which of the facilities of the KoFor-Mobile in front of us would you use, do you need?

3.4.7.2 Which new facilities for the mobile gastronomy do you need?

3.4.7.3 How much would you pay for renting this mobile gastronomy for one event?

3.5 RESEARCH MAPPINGS

3.5.1 Mapping personal communication networks (Fig. 1-3)

3.5.2 Mapping the social communication structure

3.5.3 Mapping spots of personal reminiscence

3.5.4 Mapping areas of social reminiscence

3.5.5 Mapping cultural activities

3.5.6 Mapping the change of the public meeting points

3.5.7 Mapping the change of health care

3.5.8 Mapping the change of education

3.5.9 Mapping the change of transportation

3.5.9.1 Mapping the change of the shopping facilities

3.6 MOBILE INFRASTRUCTURE CONCEPT

We think that the following steps will be necessary for the MIU development:

3.6.1 Bringing together the needs from the different research regions

3.6.2 Clustering the corresponding services to infrastructure units

3.6.3 Answering the questions:

Which of the services can be concentrated in Mobile Infrastructure Units and

which of them can probably implemented locally?

3.6.4 Rethinking the conceptional framework for a detailed design briefing

3.6.5 Developing the basic Mobile Infrastructure Units

Based on the research results we define which services are crucial for example for the health care unit and which ones might be optional. We also list the corresponding needs of the interviewed rural residents in order to specify which kind of health care is needed. Different needs will foster optional solutions. For example in one region a child doctor is more frequently needed than a general practitioner. Or in oneregion a mobile workshop for cars is necessary while in another a house repairing workshop is requested.

4.0 RESEARCH OBJECTIVES

The KoFor-Mobile is the starting point for a systematic discourse about the concept of Mobile Infrastructure Units (Fig. 4,6).

4.1 Describing the historic change of the infrastrucure of one specific region, small city or village

4.2 Investigating and analysing the social communication situation of the rural people

4.3 Analysis of the infrastructural needs of the resident people

4.4 Working out and evaluating a design concept for Mobile Infrastructure Units

4.5 Initiating a development process

Our objective is to initialise a communication and development process between people living in shrinking regions, communication-, industrial- and servicedesigners, rural-planning professionals, architects and engineers in order to realise a mobile infrastructure corresponding to the need analysis developed in research. Secondary we understand the start of interdisciplinary communication between the professionals as a communication design job. Based on the research data, the new concept of "Mobilised Infrastrucure" should be developed, exhibited and discussed for future infrastructure development strategies.

5.0 INTENDED OUTCOME

5.1 Research Report

The research report documents the whole research process, lists the interview transcriptions as well as the clusterings of needs and services made by the people living in the shrinking regions. Besides text based content we display the development steps of each mapping and the data appertaining to.

5.2 Exhibition

The Exhibition is a communication instrument which by different mappings, interview transcriptions and observations, describes the actual situation of shrinking regions. Also it communicates the concept of Mobile Infrastructure Units to the different involved professionals focussing on the designers. Infrastructure development should be partially understood as a design business and we will show the first Mobile Infrastructure Units which we designed.

5.3 Publication and briefing

"A design approach to develop Mobile Infrastructure Units" could be the title of a project based design publication. The publication will show the parts of the design process necessary for the Design of Mobile Infrastructure Units. At least the design criteria referring to the research results, will be elaborated in a detailed design briefing for the development of Mobile Infrastructure Units fitting for different regions.

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