

## RESILIENCE IN THE FACE OF CHANGING LIVING CONDITIONS IN GUANGZHOU, CHINA – INSIGHTS AND PERSPECTIVES FROM PSYCHOLOGY

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With 1 figure and 1 photo

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**Summary:** To respond to increasing intercity competition and to improve its leading role as the regional centre in southern China, the Guangzhou government has been constructing the “South Railway Station” in Shibi Village, the largest passenger railway station in Asia. This paper explores and reflects upon how the inhabitants of this village appraise and deal with the project’s impacts on their living conditions. In this regard, the question is particularly considered as to why some individuals show adaptive functioning in the face of significant risk or adversity while others do not. Which risk and protective factors play a role in modifying the quality of stress experience and interface with the phenomenon of individual resilience? The purpose of this article is twofold. Firstly, it aims to enrich the geographical discourse on vulnerability and resilience by taking a psychological perspective and presenting and applying aspects of the transactional stress model of LAZARUS and of current psychological research on individual resilience. Secondly, it seeks to analyze the effect of risk and protective factors especially in relation to complex person-environment relationships that seem neither amenable to modification nor controllable by “visible” action. Problem-based interviews (including narrative sequences) with Shibi’s inhabitants and auto-photography reveal that, in particular, intrapsychological problem- and emotion-focussed coping modes and person-related dispositions such as an internal locus of control or optimism contribute to features of individual resilience.

**Zusammenfassung:** Vor dem Hintergrund wachsender Positionierungs- und Profilierungsansprüche im Städtewettbewerb verfolgt die Regierung der chinesischen Megastadt Guangzhou das Ziel, mit der in Shibi Village realisierten Konstruktion der „South Railway Station“, dem größten Bahnhof ganz Asiens, die Führungsrolle der Stadt als regionales Zentrum in Südchina zu etablieren. Im Fokus des vorliegenden Beitrags steht die Analyse der Bewertungsprozesse und des Verhaltens der Einwohner von Shibi Village hinsichtlich der durch das Bahnhofprojekt hervorgerufenen Veränderungen ihrer Lebensbedingungen. Zentral ist die Frage, weshalb einige Personen im Vergleich zu anderen positive Anpassungsreaktionen trotz vorhandener Risiken oder Belastungen aufweisen. Welche Risiko- und Schutzfaktoren modifizieren die Qualität von Stresserleben und korrelieren mit dem Phänomen der individuellen Resilienz? Dieser Artikel intendiert zum einen die Erweiterung des geographischen Vulnerabilitäts- und Resilienzdiskurses um eine psychologische Perspektive mittels der Diskussion und Anwendung auserwählter Aspekte des transaktionalen Stressmodells von LAZARUS und der gegenwärtigen psychologischen Resilienzforschung. Zum anderen ist es das Ziel, insbesondere die Wirkung von Risiko- und Schutzfaktoren in komplexen, nicht durch (direkt beobachtbares) Handeln zu beeinflussende Mensch-Umwelt-Beziehungen zu analysieren. Problemfokussierte Interviews (einschließlich narrativer Sequenzen) mit den Bewohnern von Shibi Village und die Autophotographiemethode verdeutlichen, dass vor allem intrapsychische problem- und emotionsfokussierte Copingformen und Persönlichkeitsvariablen wie interne Kontrollüberzeugungen oder Optimismus zum individuellen Resilienz erleben beitragen.

**Keywords:** China, urban development, stress, resilience, risk and protective factors

### 1 Introduction

As recently as 35 years ago, the People’s Republic of China was far from integrated in the process of globalization; it remained, in fact, strongly isolated from the world’s political arena. Today, however, China is the world’s second largest economy – a benefit of the reform and open-door policy that has been implemented since the 1980s. Meanwhile, China has experienced histori-

cally unique levels of economic growth, rapid urbanization and far-reaching transformation processes of great socioeconomic, environmental and spatial significance. In particular, Chinese cities, “the country’s engine of economic growth” (WU 2007, 3), have become highly dynamic and multifaceted urban areas characterized by large-scale rural-urban migration, radical expansion of urban built-up areas, spatial restructuring of land use patterns and the implementation of flagship projects.

Guangzhou, the capital city of Guangdong Province and the largest city in southern China with approximately 10 million inhabitants, represents an excellent example showing “how the local state builds up an entrepreneurial city through place-based strategic promotion and entrepreneurial image creation under soft budget constraints” (WU et al. 2007, 206). To counter the intense pressure of urban development and increasing intercity competition on a regional, national and international scale, the Guangzhou government has adopted various pro-growth strategies since the late 1990s, focusing on megaevents (e.g. the 16<sup>th</sup> Asian Games in 2010) and large key projects (e.g. the construction of the new CBD “Zhujiang New Town”, mostly completed in 2011) that promote competitiveness and produce the image of a globalizing megacity (cf. WU and ZHANG 2007; XU and YEH 2005).

One key project of great significance with major effects for future city development has been the construction of the South Railway Station in Shibi Village, 17 km south of Guangzhou’s central business district, which started in 2004. The first part of the railway station was opened in January 2010; the whole station, consisting of 28 railway tracks, is scheduled to open in 2012. The government’s declared aim is to increase passenger handling capacity and thus to strengthen Guangzhou’s position as a regional hub city that can compete with Beijing, Shanghai, and Wuhan (ZHANG and XU 2007). Upon completion, the South Railway Station will be the largest and most modern passenger railway station in Asia with an estimated passenger capacity of over 112 million travellers per year (Guangzhou Municipality 2010). According to Zhang Guangning, the former Mayor of Guangzhou (2003-2010), the area around the railway station will be integrated into southern Guangzhou’s centre for commerce, trade and tourism and will “become the most important functional extension of the city’s central district” (Guangzhou Municipality 2010). The development area of the whole project spans 35 km<sup>2</sup> (ZHANG and XU 2007, 37), part of which was still used as farmland until 2009 and belongs to Shibi, a village that in 2011 was inhabited by about 10 000 permanent residents (villagers) and about 10 000 migrants (see also BERCHT and WEHRHAHN 2010; 2011). It is only since 2004, when the construction of the railway station began, that the inhabitants of Shibi have had to face profound impacts on present and future spatial and socioeconomic structures and their living conditions. Land expropriation, uncertainty about resettlement and compensation fees, change of employment and

income structures, and increasing in-migration of migrant labours seeking work on the railway construction site influence the quality of local man-environment transactions.

## 2 Research questions and objectives

Against this background, the research investigations presented in this paper address the issue of how the inhabitants of this transforming village appraise the reconstructing of their living environment. What kind of demands or opportunities do they perceive? Do they feel psychological stress and how do they cope with the changing structures and processes? Under comparable conditions, people differ in their sensitivity and vulnerability to certain types of events, as well as in their interpretations and reactions. In this regard, the question is particularly considered as to why some individuals show adaptive functioning in the face of significant adversity while others do not. Which risk and protective factors play a role in modifying the quality of stress experience and interface with the phenomenon of individual resilience? Drawing on the multifaceted transformation processes in Shibi Village, the essential point is the difficulty of understanding resilience in complex man-environment relationships that seem neither amenable to modification nor controllable by (“visible”) action. For instance, lacking political where-withal and legal protection, peasants usually have inadequate means of defending their interests against insufficient compensation payments by the Chinese authorities. The identification of individuals, however, who are able to “deal with” exposure to adversity without changing the “reality” of their stressful person-environment relationship raises important issues regarding environmental and in particular person-related factors and processes that lead to and strengthen resilience.

The concepts of vulnerability and resilience have been evolving as cross-cutting themes in the ecological sciences since the 1970s (cf. HOLLING 1973), in the environmental and social sciences since the 1980s (cf. CHAMBERS 1989), and explicitly in the field of geography since the 1990s (cf. ADGER 2000; BOHLE 2001, 2008; Resilience Alliance 2010). As the body of literature illustrates, vulnerability and resilience research cover a complex, multidisciplinary field including famine and poverty studies (e.g. WATTS and BOHLE 1993), natural hazards (e.g. BLAIKIE et al. 1994; WISNER et al. 2007), global environmental change (e.g. KASPERSON and KASPERSON 2001), dis-

aster and risk management (e.g. BIRKMANN 2008) and socio-ecological vulnerability in megacities (e.g. BOHLE and WARNER 2008; WEHRHAHN et al. 2008). Drawing on the different scientific backgrounds, various scholars and institutions have developed their own conceptual approaches to vulnerability and resilience (see for example the DFID's sustainable livelihood framework 1999, BOHLE's concept of the double structure of vulnerability 2001, TURNER et al.'s vulnerability framework 2003, the three-component resilience conceptualization developed by the Resilience Alliance 2010 or the pressure and release model according to WISNER et al. 2007; cf. BIRKMANN 2006 and THYWISSEN 2006 for a more detailed overview on these approaches).

However, some questions remain. While the phenomenon of external exposure to risk and contingencies has been discussed in detail (cf. BOHLE and GLADE 2008; WISNER et al. 2007), the occurrence of cognitive and emotional coping modes and/or assets has so far been widely neglected, especially in conceptual and theoretical terms. For example, the sustainable livelihood framework and the pressure and release model focus on both material and social capital but ignore intrapsychological assets such as hope or optimism which "may prevent the person from accepting the way things are and getting on with other commitments, if they remain viable" (LAZARUS 1991, 283). Similarly, BOHLE's concept of coping, the internal side of vulnerability, insufficiently considers cognitive processes that are intermediary between the exposure to contingencies and the individual's emotional and behavioural responses. The person thinks and acts and thereby changes the person-environment relationship, but what exactly does it mean to speak of changing? Can this process include the change of personal attitudes or goal commitments and hence lead to resilience that is not directly observable by others? And what is the role of appraisals that, much more clearly than perception, connote an evaluation of the personal significance of certain man-environment transactions?

A perspective is needed in which "invisible" person-related variables and the mediating psychological processes such as cognition (e.g. perceptions, appraisals) and emotion regulation (e.g. emotion-focused coping) as well as personality attributes and internal assets (e.g. beliefs, goals) are integrated into the overall analysis of exposure, sensitivity, coping response and adaptation.

Within this context, the first objective of this paper is to enrich the geographical discourse on vulnerability and social resilience by taking a psy-

chological perspective and presenting and applying aspects of the transactional stress model of LAZARUS and of current psychological research on individual resilience. Emphasis is hereby laid on the concepts of psychological stress, stress appraisal, coping, coping function, and positive adaptation. Secondly, this paper aims to identify and analyze significant coping, risk and protective factors and their impact on stress experience and individual resilience on the basis of selected research data collected in Shibi Village. A prominent place is given to the consideration of intrapsychological coping modes and coping functions.

### **3 Stress and resilience – conceptual considerations from a psychological perspective**

The study of resilience in psychology can be traced back to pioneering research with at-risk children with a background of parental mental illness or substance abuse, maltreatment, poverty or severe life events (e.g. war) during the 1960s and 1970s. The paradigmatic shift of focus from adaptational failures to positive patterns of adaptation arose from efforts to understand the individual and contextual influences that protect children growing up in adverse circumstances against poor developmental outcomes (see LUTHAR 2006; ZANDER 2008 for further details). Since then, resilience research has matured toward a broader field of analysis which includes adults (e.g. facing bereavement, illness, unemployment), societies or population groups affected by natural hazards (cf. the contributions in the "Handbook of international disaster psychology", edited by REYES and JACOBS 2006). "The ideal of resilience can be applied to any functional system", argue MASTEN and OBRADOVIĆ (2006, 14), but they emphasize as well that one cannot talk about resilience in the absence of a risk factor or adversity (cf. also RUTTER 2006; SCHOON 2006; WUSTMANN 2009). Individuals or groups must have been exposed to risk or stress that increases the likelihood of a negative consequence to instigate the study of resilience.

Adaptational behaviour thus emerges from the dialectic interplay of person and environment variables. The transactional stress model of LAZARUS (1999), a conceptual framework from cognitive and emotional psychology, refers to this confluence of person-related commitments, goals, beliefs, internal resources and environment variables such as demands, constraints or external resources and schematizes the reciprocal relationship between psy-

chological stress, coping and adaptation. LAZARUS's stress model has served as a scientific basis for a great number of contemporary psychological studies (cf. ALDWIN 2007; EPEL 2007) and provides, as discussed in the following, a useful framework for analyzing psychological stress and resilience in the context of urban transformation processes. Due to its emphasis on individual differences, the dialectic interplay of person and environment variables and its epistemological and process-centred holistic outlook, it is one of the most prominent and approved stress models (cf. COOPER and DEWE 2005; JONAS et al. 2007). In comparison to other stress models (cf. BERCHT and WEHRHAHN 2010 for further details) LAZARUS's broad frame of reference offers an integrative as well as interdisciplinary and cross-cultural analytical framework. Chinese scientists likewise apply this Western transactional stress model and embed its cognitive-motivational-relational concepts of appraisal, coping, and adaptation in their socio-cultural context; see for example CHEN et al.'s (2009) and WONG et al.'s (2001) research investigations on stress experience among students and nurses in China.

### 3.1 Psychological stress, appraisals and different functions of coping

“The essence of my theory of stress [...] is the process of *appraisal*, which has to do with the way diverse persons construe the significance for their well-being of what is happening and what might be done about it, which refers to the coping process.” (LAZARUS 1999, 9; emphasis in original). This statement of LAZARUS clearly illustrates that the relational meaning that an individual constructs from the person-environment relationship is considered to be a core element of his epistemological approach to stress conception. To speak of relational meaning implies that the interplay of person and environment variables is combined with the subjective process of appraising and that it is centred on the personal significance of that person-environment relationship, an aspect that has been undertheorized in contemporary geographical vulnerability and resilience research. The concept of threat or shock, for example, actually loses its meaning when applied to an environment without regard to the persons who transact with it. LAZARUS (1999) does not argue against the importance and influence of meso- and macro-level factors (e.g. institutions, global change) but he approaches them from an individualistic perspective. From this standpoint, LAZARUS and FOLKMAN (1984,

21) define psychological stress as a “relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being”. The authors (ibid., 56) underline, however, that a person is under stress only if events negate or endanger important personal goals and commitments. They criticize the fact that most often vulnerability is defined solely in terms of the “adequacy of the individual's resources” (ibid., 50) and argue that a deficit in resources is generally a necessary but not sufficient condition for vulnerability. The issue that an inadequacy of resources makes a person vulnerable only when the deficit refers to something that really matters has been insufficiently discussed in the field of geography (this refers for example to the cited approaches in Section 2). The relationship *between* the individual's pattern of commitments and his or her resources for warding off threats to those commitments therefore needs to be explicitly taken into account. Without a goal at stake there is no potential for loss which implies that what is appraised as stressful by one person may not be so appraised by another. In order to understand variations among individuals, the cognitive processes that intervene between the person and the environment thus need to be analysed. In this sense, vulnerability can be thought of as potential threat that is transformed into active threat when that which is considered of importance is jeopardized (LAZARUS and FOLKMAN, 1984, 51).

Based on these assumptions, LAZARUS and FOLKMAN (1984, 31) distinguish between two appraisals of stress – the primary and the secondary appraisal, each of which has a different function and deals with different sources of information, although the two operate interdependently and can appear simultaneously. Primary appraisal refers to the evaluation of whether what is happening is relevant to one's values, goals, beliefs and commitments. “Am I in trouble or being benefited, now or in the future, and in what way?” (ibid., 31). Secondary appraisal relates to evaluations about whether anything can be done to manage or improve the troubled person-environment relationship, and if so, which coping options might work. Against this background and considering the issue that decisions about coping actions vary in accordance with changing conditions and available resources, LAZARUS and FOLKMAN (1984, 141) define coping “as constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person”. By using the

word “manage”, though, the authors emphasize that coping does not necessarily mean mastering. From this perspective, coping is thereby regarded as independent of the outcome, which permits coping to include anything the person does or thinks, regardless of how successful or adaptive it is. Additionally, taking into account the notion of internal demands broadens the analytical perspectives. Internal demands refer to important goals, commitments or tasks, the postponement or unattainability of which has negative implications (*ibid.*). Vulnerability thus derives not only from exposure to external events but also from internal demands and goals. This issue is not evidently discussed for example in BOHLE’s double structure of vulnerability or in TURNER et al.’s vulnerability framework, but its consideration deepens understanding of vulnerability factors. Another important feature of LAZARUS’s conceptualization of coping is that it involves more than just problem solving. The function of problem-focused coping is to change the actual person-environment relationship by acting either on the environment and/or oneself (e.g. develop new skills). It is aimed at managing or altering the problem causing stress (LAZARUS and FOLKMAN 1984, 159). In comparison, emotion-focused coping is directed at regulating the emotional response to the problem – for instance, by avoiding thinking about a threat or reappraising it – without changing the reality of the stressful person-environment relationship (*ibid.*). Although thinking and other intrapsychological processes rather than acting are involved in emotion-focussed coping, it is, according to LAZARUS (1991, 112), by no means a passive process, but has to do with “internal restructuring” (*ibid.*). Effort is needed to change the meaning of a person-environment relationship and therefore the emotional reaction. Moreover, the quality of coping can be differentiated as offensive and defensive coping styles (as shown in the upcoming figure 1). The former refers to tightly focusing on a problem causing stress (e.g. expressed by praying, accepting), while the latter corresponds to avoiding the confrontation (e.g. detracting, ignoring).

The consideration of the concepts of relational meaning, emotion-focussed coping and appraisal – for instance, a mismatch between primary and secondary appraisal is likely to reduce coping effectiveness due to an inappropriate choice of coping modes – enables a more differentiated analysis of risk and protective factors, both internal and external, and of a relatively good functioning despite person-environment relationships that carry a major risk for stress experience. However, this raises the question

as to what is meant by “good” functioning? And who actually defines the criteria for judging good functioning (or positive adaptation) with regard to individual resilience?

### 3.2 Individual resilience

Understanding individual resilience is a challenging task. Despite intensive and far-reaching investigations it remains, as the body of literature demonstrates, an illusive construct and a “broad conceptual umbrella” (MASTEN and OBRADOVIĆ 2006, 14). There is particularly a lack of agreement on the operationalization of resilience and on gender, age or culturally unbiased patterns of successful functioning indicative of a resilient person. At a general level, however, the most agreed upon characteristics of resilience (cf. SCHOON 2006; WUSTMANN 2009) refer, firstly, to a relational conceptualization because, as mentioned above, resilience is dependent on the presence of a risk factor or the experience of adversity. Individuals cannot be considered per se as resilient. The exposure to risk or adversity is a necessary (but not sufficient) component. Secondly, in this sense, resilience is regarded as a two-dimensional construct subsuming two distinct dimensions – significant risk/adversity and positive adaptation – and thus is never directly measured, but is indirectly inferred based on the direct evaluation of the two subsumed dimensions (cf. LUTHAR 2006). Risk is thereby defined in terms of statistical probabilities and not of certainties. A risk factor that is known to be (statistically) associated with adjustment difficulties increases the likelihood of a negative outcome but it does not necessarily imply negative impacts for all individuals. Hence, a risk factor must be considered in terms of an indicator or marker for (potential) maladjustment. Positive adaptation, the second component, can be external (e.g. including directly observable actions such as rebuilding a house in case of demolition) and/or internal (e.g. relating to cognitive processes such as changing goal hierarchies or attitudes), an issue that has been widely neglected in geographical resilience approaches (see for example BOHLE 2008). According to prevailing opinion (cf. LUTHAR 2006; RUTTER 2006; WUSTMANN 2009), positive adaptation though is never permanent. Rather it is a dynamic and active process and varies over time according to changing person-environment relationships. Thus the construct of resilience neither presents a personality trait or attribute nor does it imply the consistent invulnerability of the individ-

ual. It is never an “across-the board phenomenon” (LUTHAR 2006, 741), but displays domain-specificity. An individual that shows remarkable strengths in one special person-environment relationship may have deficits in another. To ensure comprehensive analysis, current psychological resilience research addresses three classes of phenomena, namely resistance, sustained effective coping, and recovery (cf. WERNER 2010; WUSTMANN 2009).

To further concretize the broad concept of resilience in accordance with the transactional stress model of LAZARUS and its emphasis on relational meaning, the following assumptions are applied within this study (cf. also Fig. 1). Individual resilience refers to a dynamic and active domain-specific process of internal and/or external positive adaptation despite the subjectively perceived and appraised exposure to the risk of psychological stress experience or to experienced stress. The process of adaptation is defined by the interplay of coping (cf. Section 3.1 for more details), external and internal risk fac-

tors (e.g. institutional ambiguity, hopelessness) and external and internal protective factors (e.g. institutional reliability, optimism) that mediate, exacerbate, mitigate or stop stress experience (cf. SCHOON 2006). However, it needs to be emphasized that the same factor can either unfold protective or risk mechanisms which is referred to as multifinality (Section 4.2 provides a deeper insight).

Positive adaptation or good functioning is considered to exist when an individual from his or her own perspective a) resists the risk of stress experience; b) effectively copes with stress experience by reducing it or keeping it at a level that can be accepted and does not severely impact personal well-being and c) has recovered comparatively quickly from stress experience. Hence, positive adaptation is related to the quality of psychological stress experience whereas the criteria for judging it are primarily based on subjective primary and secondary appraisals. The only exceptions embrace: firstly, person-environment relationships that are, from an “objec-

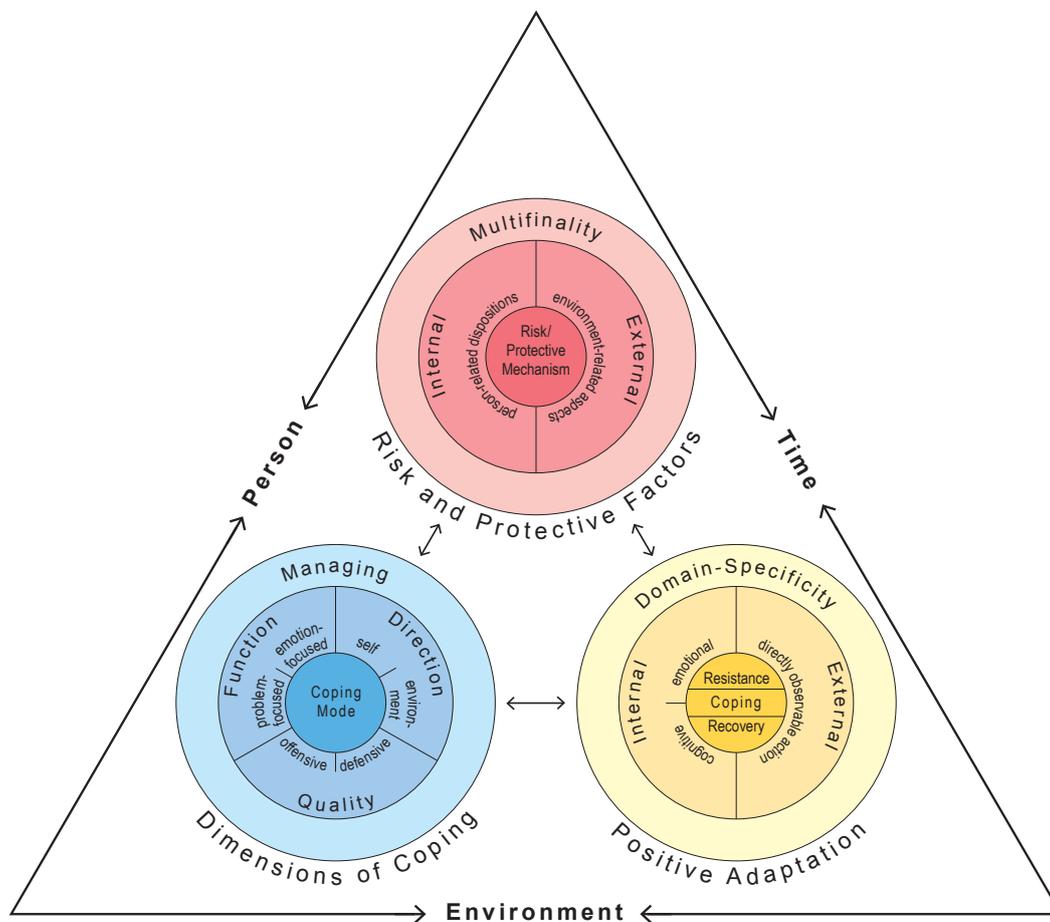


Fig. 1: Analytical triangle framework of the process of individual resilience

tive” point of view, apparently stressful (e.g. if life is significantly threatened), but the stress experience is denied or repressed by the affected individual; secondly, modes of coping (e.g. drug abuse, denial) that obviously adversely affect psychological or physical well-being (in the long run) despite (current) stress reduction.

#### 4 Empirical findings

Applying a qualitative-interpretive research design, extensive site-inspections and 62 problem-based interviews (including narrative sequences) with Shibi’s inhabitants, averaging 60-90 minutes in length, were carried out from 2007 to 2011. Additionally, the method of auto-photography was used in Shibi in order to better capture people’s emotional states and personal appraisals of their living conditions. Six interviewees were given single-use cameras to photograph anything in Shibi they related to the transformation processes and associated with positive or negative outcomes or feelings. The pictures were discussed afterwards in detail.

##### 4.1 Risk and protective factors and coping modes

The development of Shibi Village from 2004 to date shows that the village has rapidly been changing from a traditional Chinese village characterized until recently by a rural way of life to an urbanized village of predominantly urban land-use structures. The entire area of farmland had been sold by Shibi’s village committees to the government by the year 2011 (interviews 2007–2011). The top-down decision to construct the South Railway Station in Shibi was made by the government of Guangdong Province; Shibi’s inhabitants had no voice in the choice of the project’s location. The empirical data shows that along with the process of extensive land expropriation the interviewees face the risk of psychological stress experience particularly regarding unemployment, financial insecurity, insufficient payment of compensation fees from the village committees and possible resettlement.

“I’ve lost my farmland, my source of income. [...] I’ve been without work for two years. What shall I do?” asks a 55-year-old villager who has not yet made any effort to seek a new job because he believes destiny is outside his personal control (interview 2009). It seems likely that his way of thinking is rooted in the time before 1980 when the village

committee used to ensure rural employment for everyone. His primary appraisal is of harm/loss and his secondary appraisal displays a (subjectively considered) deficit of coping options which, as he himself reveals leads to severe stress experience. This interview example illustrates that personal variables such as beliefs, defined as “personally formed or culturally shared cognitive configurations” (WRUBEL et al. 1981; quoted in LAZARUS and FOLKMAN 1984, 63), are especially important in shaping appraisals of certain events and coping behaviour. Beliefs refer to how people conceive themselves and their place in the environment and form expectations about what is likely to happen in an encounter (LAZARUS and FOLKMAN 1984, 63). People with an internal locus of control believe that certain events can be influenced by their behaviour. They are more likely to appraise a demanding and ambiguous encounter as controllable and as less stressful, or indeed as non-stressful, than people with an external locus of control. The latter regard events as not contingent upon their actions, but upon luck, fate or destiny (ibid., 66). The 55-year-old interviewee is characterized by an external locus of control which, in terms of an internal risk mechanism, prevents him from changing his stressful person-environment relationship and developing features of resilience. Instead he shows resignation, a passive assumption of the seemingly inevitable circumstances. In comparison, a 35-year-old woman and her husband have a predominantly internal locus of control that evokes protective mechanisms. In the early stages of the railway station construction, they anticipated losing their steady income from agricultural land use and hence invested their savings in rebuilding their house (interview 2009). Since 2006 they have been renting the four extra floors to migrants, thus providing themselves with a basic income. “We were lucky to foresee the development [of the village; author’s remark] and to realign in time. [...] I endorse the [railway station; author’s remark] project because it makes more migrants come to Shibi and people like us can make a living by renting rooms to them.” (interview 2009). The woman’s statement demonstrates how the concurrence of beliefs, financial capital, temporal aspects with regard to imminence and, finally, successful offensive problem-focussed coping (bottom-up anti-poverty strategy of rebuilding and renting floors to migrants) leads to positive-benign appraisal. According to her interview comments, she and her husband felt stress early on in the process but totally recovered from it due to effective coping behaviour. In this case financial capi-

tal is a necessary but not sufficient protective factor. Most essential is a personal belief in the ability to achieve goals and to successfully manage external demands. This example represents positive external adaptation in relation to comparatively quick recovery from stress experience. Taking into account the aspect of domain-specificity, this type of external adaptation can be identified as occupational resilience. They have been able to change and adapt their income structure to new environmental conditions.

In any stressful situation, the demanding task for the villagers is to make a series of realistic judgements. Appraisal must approximate the flow of events. However, a mismatch between primary appraisal (e.g. “There is threat”) and secondary appraisal (“What can I do?”) is likely to reduce effective coping and thus resilience based on an inappropriate choice of coping modes. For instance, a 36-year-old unemployed villager denied the foreseeable land expropriation until shortly before it was carried out (interview 2009). In retrospect, he regrets his defensive behaviour because the emotion-focussed coping mode of denial – “it made me feel less fear” – prevented him from trying anticipative problem-focussed coping, e.g. perusing alternative job opportunities in time. This mismatch of appraisals constitutes a risk factor and makes resilience building less likely.

A 30-year-old villager expressed her worry about financial insecurity within the frame of auto-photography. She took a photograph of her daughter’s primary school in Shibi Village (see Photo 1) to emphasize the importance of her children’s education for the family’s economic and social future (interview 2008). The interviewee’s decision and motivation to represent herself through the visual scene she framed in the camera reflect her goal at stake, her severe stress experience and ego-involvement. As stated by THOMAS (2009, 246), “each photo is a lesson about the subject who took that particular picture”.

In the interviewee’s opinion, the only chance of being integrated into society, finding a profitable job and hence being able to financially support their parents in their old age is her children’s achievement of higher level education. From her perspective, the school entrance on the photograph symbolizes a gate her children have to pass through to qualify for higher academic education and thus for a better life. However, despite hard work her family’s current income level is too low to be able to save money for the school fees that are charged from year ten, which makes her feel a lot of stress. In answer to the ques-



**Photo 1: Primary school in Shibi Village** (Source: photograph taken by an interviewee within the auto-photography investigation 2008)

tion about how she copes with the stress experience, the interviewee states that she reminds herself of what she considers most important in her life. Above all, it is the existing cohesion and health of her family. “Whenever I make myself aware that we are still doing well in spite of everything I feel happier and much better” (interview 2008). Her commitments express what has meaning for her, influence her appraisals and are closely linked to goals. She reappraises her stressful person-environment relationship and consciously constructs a goal hierarchy that provides her with a new basis for evaluating personal harm and benefit. The offensive cognitive coping mode of reconstructing goal hierarchies represents the function of emotion-focussed coping changing the relational meaning but not the reality of the troubled person-environment relationship. The interviewee effectively copes with stress experience in terms of keeping it to an acceptable level and feeling happier. The protective mechanism lies in her flexibility of commitments that enables internal functioning and thus reflects the domain of cognitive resilience (cf. also COOPER et al. 2010). It stands for the individual’s intrinsic capacity to change ways of thinking and the focus of attention.

Exposed to the unavoidable restructuring of their living environment, Shibi’s inhabitants additionally face the risk of stress due to corrupt conduct on the part of the village committees. “We haven’t yet received enough compensation payments from the village committee [for land expropriation; author’s remark]. They are corrupt and keep most of the money for themselves. [...] If you look around, you notice that the committee members have the largest and most modern houses of the village” (interview 2009). According to this interviewee, this situation led to open protests and violent conflicts

taking place in Shibi in 2008. These were, however, “brutally suppressed” (interview 2009) by the police. It is difficult for the interviewed villagers to change the reality of the troubled person-environment relationship with reference to the external risk mechanism of the committee’s misconduct and suppression of resistance. A 64-year-old interviewee states that there is nothing he can do about it but hope (interview 2009). From LAZARUS’S (1991, 287) research perspective, “the capacity to retain hope in the face of despairing conditions” is a major protective factor. In comparison, the inability to hope and hence the tendency to give in to despair and resignation is less helpful in coping with stressful conditions (cf. McDONALD and STEPHENSON 2010). Asked about the personal meaning of hoping, the 64-year-old villager argues that hoping to receive compensation fees someday gives him strength and energy to go on with his life and allows him to comfort himself and his wife (interview 2009). In this example, the emotion of hope, the yearning and possibility of amelioration, unfolds internal protective mechanisms in the sense that a stressful condition is sized up more positively. Following LAZARUS (1991), the capacity to retain hope is regarded as an internal protective mechanism and the process of hoping as emotion-focussed coping. As the villager’s comments indicate, hoping enables him to keep negative emotions such as fear or anger more under control and thus helps to sustain internal emotional functioning in a stressful person-environment relationship. Hence the 64-year-old interviewee shows the domain of emotional resilience in terms of regulating his emotions in a constructive way in a situation that cannot be improved without undue expense (e.g. severe reprisal by the village committee). An important part of emotional resilience is the ability not to let negative emotions “take over” entirely and to remain emotionally stable (cf. COOPER et al 2010).

A 54-year-old villager resists stress experience because she is “optimistic that things will turn out well.” (interview 2011). In contrast to hope, optimism leaves out the aspects of yearning and uncertainty (LAZARUS 1991). The internal protective mechanism lies in her strong belief that the village committees will sooner or later pay adequate compensation. Her primary appraisal of her person-environment relationship in regard to the committee’s current misconduct is that it is irrelevant; this means that she does not consider it to have any implication for her well-being. Negative emotions and stress are thus not even evoked, which makes her emotionally resilient.

Based on the research investigations, the majority of the interviewed villagers want to stay in Shibi despite the construction of the railway station. However, they fear the risk of resettlement because some demolition work has already been started in the village. “So far the village committee hasn’t yet informed us about the houses that have to give way to the railway station but they must know about the future plans. [...] We don’t want to be relocated. I’m so anxious about the future.” (interview 2009). The villagers have a significant goal at stake with no guarantee that they will achieve it and no available resources with which to try. They lack access to solid information on resettlement measures and thus face agonising ambiguity and uncertainty. Against this background, a lot of interviewees show intrapsychological and defensive emotion-focussed coping modes such as denial (“Shibi hasn’t changed yet and won’t change in the future”), wishful thinking (“All of us will become rich because Shibi is transformed to a city with many job offers”) or distancing (“I’m too old to worry about any consequences”). These coping modes are beneficial in that the emotions of fear or anger and stress are then experienced less intensively. However, they prevent the villagers from preparing at least cognitively by looking into and confronting themselves with the consequences of resettlement in due time. Initial risk indicators (e.g. beginning of demolition, withholding of information) suggest the imminent implementation of removal. Against this background, though, it is critical to explicitly note that the notion of unsuccessful external and/or internal adaptation may never be used for blaming affected persons. Without doubt, the resilience paradigm encompasses views of persons as active agents who can influence life circumstances or cognitively reappraise stressful conditions but at the same time the person’s dispositions and resources are continually shaped by interactions with the environment (e.g. negative experiences lead to an external locus of control, limited access to social assets).

A 35-year-old villager states that she totally recovered from stress experience when she accepted the possibility of resettlement (interview 2009). Since then, she feels relief and the willingness to make the best of the situation. The intrapsychological and offensive problem-focussed coping form of accepting does not imply resignation but rather the change of oneself so that the fit between the person and the environment is redressed. She cognitively adapts by changing her way of thinking, thus displaying the pattern of cognitive resilience. The former problem of resettlement therefore no longer evokes psycho-

logical stress. A 50-year-old interviewee does not feel stress either (interview 2009). However, as his statements demonstrate, he had already decided to move from Shibi to Guangzhou city centre before possible removal became apparent. In this case, resilience patterns do not exist because he was not exposed to the risk of resettlement at any stage. As indicated in Section 3.2, risk exposure is a prerequisite for the construct of resilience. This example illustrates the importance of considering a risk factor in terms of a marker or indicator for potential stress experience but not as a safe determinant.

#### 4.2 Multifinality

In addition to discussing different coping modes and functions it is crucial to underline that, depending on the constellations of person-environment relationships, the same factor can act as a protective or a risk factor. The unfolding of this context-dependent effect, referred to as multifinality in contemporary literature (cf. WUSTMANN 2009), demonstrates the impossibility of making a priori differentiations between risk and protective factors (see also Figure 1). In this context, the protective or risk quality lies in the mechanism and not in the variable as such (cf. RUTTER 2006). This issue has been insufficiently reflected in the livelihoods and vulnerability discourse (see for instance DFID 1999; TURNER et al. 2003). Confusion thus arises when the low risk end of a risk dimension is called a protective factor and vice versa. The example of “knowledge” illustrates this point. Access to information or knowledge acquisition is usually regarded as a protective factor and hence connoted with coping options and positive functioning. However, a 55-year-old villager, deeply suffering stress from the uncertainty about resettlement, tries to find as much information as he can via internet, newspaper and exchange with neighbours about the legal regulations that apply in resettlement (interview 2009). He thought he might reduce stress and fear by leaning more about lawful and unlawful procedures, his rights and assurance of entitlements. According to his statements though, the increase in knowledge acquisition has led to an increasing stress experience. He gained a profound insight both into legal rights and into numerous case examples where resettlement implementation violated the law without negative consequences. The interviewee therefore feels even more uncertain about his future and severely fears being removed without receiving enough compensation or being offered a new house to live in that he cannot afford. Other examples

for multifinality include the factor “family cohesion” (e.g. emotional support vs. pressure to meet expectations) or pessimism: a risk factor for refraining from coping behaviour, but a protective factor against great disappointment. To sum up, in resilience research a key issue concerns the need to consider the mechanisms involved and not see risk or protection as an inherent attribute of the variable itself. Accordingly, to avoid the danger of generalizing about the impacts of risk and protective factors, it is necessary to achieve a far-reaching understanding of the person-environment interactions and the underlying processes that enable individuals to resist the risk of, cope with or recover from stress experience. Adding a psychological perspective to geographical research standpoints helps to deepen the analysis of person-related dispositions within the context in which they occur. “The person and environment interact, but it is the person who appraises what the situation signifies for personal well-being.” (LAZARUS 1999, 12).

#### 5 Conclusions

In current geographical resilience research, the complex questions of resilience have been addressed primarily from an action-based perspective, focusing on external and directly observable coping modes with less attention being given to intrapsychological emotional and cognitive ways of dealing with troubled person-environment relationships. The presentation and application of aspects of the stress model of LAZARUS and of a psychological approach to individual resilience afford the opportunity to integrate intrapsychological processes and factors in the study of adaptive functioning despite significant adversity. Resilience is a multidimensional process that is sensitive both to the environment and its demands and resources, and to person-related dispositions and internal assets such as beliefs, commitments or goals. Within the framework of empirical research in Shibi Village and the predominant focus on person-environment relationships that are appraised as not being amenable to modification by “visible” action, it became evident that the consideration of context-specific internal protective mechanisms (e.g. with regard to internal locus of control, commitments, optimism), internal risk mechanisms (e.g. in terms of external locus of control, mismatch between primary and secondary appraisal), effective intrapsychological problem- and emotion-focussed coping modes (e.g. reconstructing goal hierarchies, hoping, accepting) and ineffective emotion-focussed coping modes (e.g.

denial, wishful thinking, distancing) contributes to an understanding of why some inhabitants a) resist, b) effectively cope with or c) recover from stress experience. Taking account of the domain-specificity of resilience and referring to the risks of unemployment, financial insecurity, insufficient payment of compensation and resettlement, the domains of occupational, emotional and cognitive resilience can be identified. The wish to search for the hallmarks of resilience is far from new. However, as LAZARUS (1999) and RUTTER (2006) suggest, it is misleading to seek a general answer on resilience and universal ways of dealing with stress. Rather, it is necessary to focus on individual differences and concrete person-environment relationships that affect appraisal and coping processes and constitute the context-dependent multifinality of (risk and protective) factors.

This paper aims to make evident the benefit that human geographers or academics from neighbouring disciplines can gain from becoming more familiar with psychological research. An interdisciplinary approach is needed in which insights and theoretical backgrounds from psychology are combined with those from geography to further concretize the multifaceted concept of resilience. The application of the stress model and intrapsychological processes and factors illustrates one step towards meeting this challenge.

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