

**BONNER GEOGRAPHISCHE ABHANDLUNGEN**

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Frauke KRAAS and Wolfgang TAUBMANN (eds.)

**German Geographical Research  
on East and Southeast Asia**

Herausgeber:

K.A. Boesler - R. Dikau - E. Ehlers - R. Grotz - P. Höllermann - M. Winiger

Schriftleitung: H.-J. Ruckert



ASGARD-VERLAG SANKT AUGUSTIN 2000

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# **German Geographical Research on East and Southeast Asia**

A report to the  
International Geographical Union (IGU)

by

**Frauke KRAAS and Wolfgang TAUBMANN (eds.)**

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## German Geographical Research on East and Southeast Asia - Trends and Prospects

Frauke Kraas and Wolfgang Taubmann

The present publication has been prepared for the 29<sup>th</sup> International Geographical Congress in Seoul (August 14-18, 2000) to make the results of studies on the regions of East and Southeast Asia conducted by German-speaking researchers more accessible to the international geographic scientific community. Thus, this publication has three goals:

- a) The reports on research and literature review the current foci of research by German-speaking researchers on East and Southeast Asia. In addition, brief historic reviews show the development of country-specific research topics.
- b) The literature reviews contain selected publications in German and English by German-speaking researchers, which make the entire body of scientific publication more accessible. In our definition, "German-speaking researchers" includes the works of colleagues from the entire German-speaking region, i.e., Germany (until 1990 including the former East Germany - GDR), Austria and Switzerland.
- c) We hope this compilation will contribute to a strengthening of international cooperation in research on the regions of East and Southeast Asia, as well as of international and interdisciplinary dialogue. We hope that the respective national research bodies contribute to this goal, as well as the European Union, which supports multilateral cooperation with institutions from Asian countries as part of the 5<sup>th</sup> Framework Programme for Research and Technological Development Activities (RTD).

The authors are grateful to the editors of the "Bonner Geographische Abhandlungen" for the acceptance of the present volume into their series. This publication was made possible by a generous financial support from the Deutsche Forschungsgemeinschaft (DFG), German Research Foundation. Furthermore we thank the translators for their competent work.

A number of previous works reviewed the development of (German) Southeast Asian studies in general - if usually from a different point of view - and of the role of geography in particular (Lehmann 1940, Helbig 1943, Credner 1948, Fochler-Hauke 1948, Lautensach 1948, Schwind 1948, Wissmann 1948, Fisher 1973, Pretzell 1974, 1978, 1979, Dahm 1975, Southeast Asia and the Germans 1977, Röhl 1978, Buchholz 1988, Wirth 1988, Savage/Kong/Yeoh 1993, Schucher 1997, 1998, Kraas/Scholz 2000).

As shown by the arrangement of contributions in this volume, we have decided to **define East and Southeast Asia** rather broadly and pragmatically. Obviously, there have been numerous and often controversial debates among spatial and social scientists on the delineation of these two regions of subcontinental proportions.

Kolb coined the term "cultural subcontinent" for **East Asia**, using a number of rather complex factors for its delineation, such as homogeneous cultural and societal characteristics influenced by Confucianism, Buddhism and Daoism, "a unique combination of natural and cultural elements, with its own climate of thought and social order, and a common history" (1971: 1). The core of the cultural subcontinent is according to him the Chinese culture that extended to "what we now call south China, Korea and Japan". Kolb included in the "cultural subcontinent East Asia" the People's Republic of China (but without Inner Mongolia, Tibet and Xinjiang), Japan, North and South Korea, Vietnam, Taiwan, Hong Kong and Macau (Kolb 1963, 1971). Schöller (1978) worked along similar lines as Kolb and emphasised the importance of the Chinese culture and the Confucian idea of statehood for the cultural homogeneity of East Asia. Without falling into the

trap of geo-determinism, Schöller also emphasised the considerable importance of the Monsoon climate on the economic and societal development of the countries of East Asia. Despite the influence of Confucianism or its current, trivialised form of "meta-Confucianism" (Weggel 1993), East Asia obviously displays a strong natural, cultural, ethnic and economic diversity (cf., Lucas 1996). Therefore, any attempt to delineate the region will remain unsatisfactory. This even applies for a delineation to the outside. For example, one might have to separate the semi-arid and arid steppes and deserts of the Asian interior with its continental climate and cold winters from East Asia influenced by a monsoonal climate. However, Schöller emphasised that any study of East Asia, despite the undeniable influence of natural factors, should delineate the region by national boundaries. For the most part, we have followed this idea when establishing the concept for this publication. This means that publications have been included which cover the Asian interior and the Tibetan Plateau, but which also include at least parts of China.

There are good reasons to include Mongolia within East Asia, because there are strong historic and cultural ties between Mongolia and China. Mongolian conquerors provided several imperial dynasties in China. The current border between the Autonomous Region of Inner Mongolia, which forms part of China, and "Outer" Mongolia cuts through a region with more or less homogeneous culture and society, a region which was divided as late as the 16th century. To this date, Tibetan Buddhism plays an important role here (cf., e.g., Dürr 1978).

All of the countries listed above often were described by English-speakers with the term "Northeast Asia" to separate them clearly from Southeast Asia. In numerous cases, the larger areas of Siberia and the Russian Far East were considered part of East Asia or Northeast Asia, respectively (e.g., in the delineation of the Research School of Pacific and Asian Studies, The Australian National University, Canberra). This ignores the national borders for the last two larger regions, but a number of arguments support this delineation. After the breakup of the Soviet Union, both the Russian Far East and Siberia have obtained more autonomy. In addition, the Pacific border regions of Russia have strong structural and historic ties with East Asia (cf., e.g., Schöller 1978).

The definition and delineation of Southeast Asia, on the other hand, causes much less controversy than that of East Asia. Remarkably, the first comparative overviews over the entire region of Southeast Asia were made in German-language publications, despite a lack of German colonial interests (Bastian 1866-1871). In addition, despite statements to the contrary, the term "Südostasien" (Southeast Asia) was coined as early as the late 19th century in the German-language "Völkerkunde" (ethnology, anthropology), even if it was widely adopted only after World War I (Dahm 1975: 13-14, Uhlig 1975: 23, Pretzell 1995: 9).

The first detailed reasonings concerning the delineation of the region came from the "father of Southeast Asian studies", the Viennese ethnologist Robert Heine-Geldern (1922, 1957; later in more detail: Uhlig 1989). Today, the larger region of Southeast Asia comprises the ten ASEAN member countries Brunei, Indonesia, Cambodia, Laos, Malaysia, Myanmar/Burma, the Philippines, Singapore, Thailand and Vietnam, as well as the region of East Timor.

Any decision to include or exclude the states mentioned above in the greater regions may give rise to controversy. We have decided to use a broad definition, also to be able to present as large as possible a spectrum of German geographic research in East and Southeast Asia.

Hardly any comparative research or compendiums on East Asia have been published in German geographic circles, the sheer vastness of the research area and the natural and cultural diversity obviously being a great hindrance. From the start, German geographic research focused on specific countries, such as von Wissmann's and Credner's publications on China, Lautensach's

research on Korea, Rein's and Mecking's studies on Japan and Schulz' work on Siberia (for more information, refer to the appropriate contributions). Since World War II, only two geographical surveys on East Asia have been published: "Cultural Subcontinent East Asia" by Kolb and "East Asia", an omnibus volume by Schöllner/Dürr/Dege (1978). Besides Scholler 's introductory chapter on the similarities, differences and contrasts found in East Asia, the volume is limited to a collection of regional monographs. Depending on the tradition of research and the orientation and focus of each individual researcher or the research team, different **questions** were examined in the respective countries. These foci will be examined briefly in the following.

When showcasing the German geographic research in **China**, a much more defined separation between physiogeographic and human geographical research is necessary than in other countries of East and Southeast Asia. This is caused on the one hand by the tradition of research in China, on the other hand by the fact that German-Chinese research collaborations often focused on the Tibetan Plateau and the surrounding high mountains. Usually, these regions in central Asia were less the focus of research in economic and social geography.

The research foci of most German and German-Chinese research projects include, as shown in the contribution of Domrös:

- geomorphology and climatic change, landscape development and palaeoclimate of the Tibetan Plateau, the desert regions north of the Plateau in northwestern China including Inner Mongolia, the Loess Plateau and the surrounding mountains;
- ecology, plant geography and environmental change, particularly in High Asia;
- the present climate and/or the multitude of different climates and their influence in China, and
- the relationship between soil erosion and flood protection on the Yangtze river.

Different from physical geography, research in economic and social geography in China often suffers from data collection problems - especially on the meso and micro level. Because of this, most studies until the 1990s were overviews. Only since China has begun to open to foreign researchers, more detailed field studies have been performed by German geographers.

Overall, the following foci have developed (cf., contribution by Taubmann):

- Because of the size and diversity of the country, it is not surprising that time and again, questions of regional development have been examined, for example under the aspect of differences between East and West, North and South or rural and urban areas.
- Since the 1970s, numerous studies have focused on various aspects or certain phases of rural agrarian transformation processes.
- Another focus of German cultural geographic research are the various facets of urbanisation processes in China, including the rural-to-urban migrations, the development of urban systems and the internal differentiation of selected cities.
- While Taiwan and Macau have found little interest from German geographers, there have been numerous studies on Hong Kong, especially on the housing market, on economic aspects and - with increasing interest in recent years - on the growing interrelations between the Special Administrative Region
- and southern China.

Most physical geographic studies in China were conducted as part of larger research teams, especially since the planning and execution of expeditions is rather involved. Contrasting this,

cultural geographic research usually was done by individual researchers or, at most, by small groups of researchers.

German cultural geographic research in China at least exhibits very little interdisciplinary studies and hardly any institutional solidification. German human geography rarely is represented in interdisciplinary research on China. So far, research in China has been confined to more or less unsystematic regional studies, largely dependent on personal constellations or preferences. Obviously, an overriding goal of German economic and social geographic research in China should be a certain continuity and integration into a theoretical framework, as well as increasing interdisciplinary cooperation.

Without a doubt, the non-German geographic research in China mostly is influenced by social sciences and by North American colleagues, who often are of Chinese descent. Contrasting this, Germans dominate among western geographic researchers working in Japan. Early descriptive regional geographical research in the 1960s has been followed by increasingly differentiated studies. Since then, research has focused almost exclusively on questions of economic and population geography (cf., contribution by Flüchter). The following areas of research have been studied in detail:

- Changes in industrial structure, reclamation of land and location of industries in Japanese coastal areas, technology policies, High Tech industries and High Tech regions in international comparisons, as well as trade relations and the influence of Japan in East and Southeast Asia;
- Growth and change of Japanese urban areas, preservation of cities, questions of comparative urban development and especially urban planning, urban renewal and urban transformation in Japan;
- Problems of regional planning, national and regional development especially during the phase of extreme growth in Japan;
- Questions of population geography with special emphasis on migration and natural population trends;
- Questions of transportation geography with foci on freight mobility, airport locations and commuter traffic, as well as studies of tourism geography and leisure behaviour.

Despite the undeniable successes of German geographic research in Japan, interdisciplinary collaboration and international exchange will become increasingly important to utilise the entire potential of interdisciplinary research in Japan.

While German geographic research in Japan already forms part of a functioning network of collaboration between various social sciences and researchers from all of Europe, research in Korea remains limited to a small number of German geographers. Postwar German geographic research in Korea commenced in the 1970s. It concentrated exclusively on the following topics of economic and social geography:

- The impact of South Korea's industrialisation on the economic and social structure of its population as well on migration;
- The process of industrialisation and economic development and its regional consequences, including technology policy and High Tech industries;
- The problem of the metropolisation of Seoul within the framework of regional development and planning;

- Some initial studies on North Korea, including an urban geography of the North Korean capital, and a preliminary comparison between the two Koreas' economic development;
- Finally, publications on the Korean minority in China.

While field-based research still is not possible in North Korea, until recently this was also the case for most of **Siberia**, the **Soviet Far East** and **Mongolia**. German geographic publications mostly were based on the reception of Soviet material or on collaboration with colleagues from the Soviet Union or Mongolia. Only in very few exceptional cases were German researchers themselves able to collect data in these regions (cf., contribution by Stadelbauer). However, geographers from the former GDR (East Germany) had much better opportunities for collaboration in the former Soviet Union than researchers from the former West Germany. Between 1950 and 1990, research on Siberia, the Soviet Far East and Mongolia focused on:

- Development of the region and its natural resources, for example with respect to the influence of the centrally planned economy, the importance of traffic infrastructure, as well as so-called territorial production complexes, and the increasing importance of oil and natural gas in western Siberia;
- Questions of agriculture and the supply of the population were examined especially for the agricultural economy of southern Siberia and with respect to the application of the Soviet economic system on the traditional nomadic culture of Mongolia;
- Urban geographic studies mostly covered Bratsk and Novosibirsk, or the Soviet collective farming (kolkhoz) markets of Siberia;
- Physical geographic and ecological research covered, among others, the riparian regime of Siberia, the glacial history of Transbaikalia, the division of western Siberia into natural regions or pedologic aspects of Mongolia, while ecological studies concentrated on Lake Baikal.

After the collapse of the communist system, restrictions on travel eased and thus new possibilities opened for research. The most important new foci were:

- Physical geographic studies in the dry regions of inner Asia and in the high mountain regions, as well as their potential for development, especially in Mongolia;
- Continuation of ecological studies, now including protection of nature and the environment, especially at Lake Baikal;
- Continuation of research in the oil and natural gas regions of western Siberia and in the Kuznek Basin with its old industrial base;
- Research on ecological and economic adjustment problems of the agricultural sector mostly focus on the revitalisation of nomadic economy and culture in Mongolia and northern Siberia;
- Demographic studies examine migration processes and their influence on the settlements of Siberia and the Far East, as well as assimilation problems of ethnic minorities;
- Finally, the regional geographical overview studies of the 1950s through 1990s were continued, and the continuing process of transformation was evaluated in the first regional geographic accounts and overviews.

Currently, most collaborative research projects have moved to Mongolia, because access there is easier than in Russia. Without doubt, German geographers have worked on an impressive variety of research in Siberia, the Soviet Far East and Mongolia. However, research in several areas is still underrepresented. This includes the settlement structures, which have not yet been examined



in sufficient detail, as well as actor-oriented approaches to the analysis of the poor performance of manufacture and agriculture, or additional collaboration with Russian and Mongolian researchers on topics of agricultural economics or physical geography.

For **Southeast Asia**, German-language research to date has shown the following characteristics: On the one hand, there are a number of comparative publications that transcend national borders and often cover the entire region of Southeast Asia. Especially with regard to such comparative research - generally in all social sciences - there remains a significant need for further study. On the other hand, there are a large number of studies on individual countries and their regions, in which conditions are analysed and explained with reference to the respective national development. Here, all scientific disciplines on Southeast Asia still require basic studies on the countries of Cambodia, Laos, Vietnam and Myanmar/Burma.

The small number of comparative analyses in Southeast Asia demands further explanation. In contrast to East Asia, systematic research in and on Southeast Asia started only after World War II, when the larger region increasingly became the topic of geographic research, due to the protracted decolonisation process, the resulting confrontation of the three large geopolitical power blocks - Soviet Union, China and USA - and their proxy wars. Until then, most research activities had been limited to smaller parts of the large region, which can be explained in part by the subdivision of the region into different colonial spheres of influence - Portuguese, Dutch, British, French, Spanish and U.S. On the other hand, the perception of Southeast Asia as an individual, delineable larger region became accepted internationally only after World War II, hindered by the region's distinct heterogeneity as far as nature, religion, language and culture are concerned. German-speaking researchers have conducted comparative analyses of the following topics in Southeast Asia:

- Descriptions of entire regions as regional monographies (Helbig 1949a, b, Uhlig 1975, 1988, Dürr/Hanisch 1986), as well as collections of regional studies (Meynen/Plewe 1982, Hottes/Uhlig 1984);
- Importance and role of Southeast Asia in the global economic and political development (Kolb 1957, 1981, Kühne 1981, Uhlig 1986);
- Climatic regions as well as zonation of climate and vegetation (Lautensach 1950, Nieuwolt 1969, Gellert 1976), destruction of the environment and environmental degradation caused by development and economic use of coastal areas and of mangrove swamps (Uthoff 1995, 1999), as well as the importance of humans in the changing environment (Pelzer 1968);
- Clearcutting, cessation and revitalisation of slash-and-burn agriculture (Scholz 1982, 1986a, b, 1987), problems caused by plantations of eucalyptus (Löffler 1994);
- Consequences of the new maritime law on the utilisation of the oceans, as well as conflicts and potential for conflicts in maritime regions of Southeast Asia (Buchholz 1984, 1987, Uthoff 1990, Kraas 2000);
- Settlement of Southeast Asia (Zimmermann 1992), population trends (Kühne 1975), the importance of Overseas Chinese (Ratzel 1876, Helbig 1950/51, Horstmann 1980, Buchholt 1997), migration and resettlement processes (Pelzer 1935, Husa/Wohlschlägl 1995, 1996);
- Spontaneous and planned settlements (Uhlig 1984a) and water settlements in those regions of Asia influenced by the monsoon (Uhlig 1979);
- Rural areas, changes in agricultural lifestyles and tropical agricultural production, agricultural colonisation and especially innovations and developmental problems in rice production and

different ecosystems associated with rice production (Uhlig between 1969 and 1988, Wilhelmy 1975, Viehrig 1976, Zimmermann 1976, Röhl/Scholz/Uhlig 1980, Scholz 1984);

- Economic development dynamics, development of natural resources and utilisation of the Mekong River valley, international integration within ASEAN, importance of "growth triangles", as well as the Asian crisis (Viehrig 1973, Schätzl 1992, Uhlig 1992, Thiemann 1994, Koschatzky 1997, Kraas 1997, 1998, Wessel 1998);
- Development trends and growth-limiting factors in tourism, as well as integrated planned tourist resorts (Uthoff 1992, 1994, 1996, Vorlaufer 1997, 1998);
- Strategies for regional development (Bronger 1983).

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## German Research on the Physical Geography of China

Manfred Domroes

German research on physical geography of China must proudly recall to the pioneering explorations by Freiherr Ferdinand von Richthofen (1833-1905); his vast and impressive observations on various expeditions from 1868 until 1872 are collected in seven comprehensive volumes, published between 1877 and 1912 (Stäblein 1983). Paying great respect to him, the Qilian Shan was named "Richthofen Mountains", deeply appreciating von Richthofen's eminent personality and his important contribution to the geographical knowledge of China. Foreign research in China was, however, restricted or even banned after 1911 when the last Chinese (Qing) dynasty had ended and the Republic of China had been proclaimed, followed by a strict political seclusion that even outlasted the constitution of the People's Republic of China in 1949. Under such serious conditions, only a few German geographers had been able to carry out early research on selected phenomena of the physical geography of China, for example Schmitthenner (1929/1930, 1932, 1936) on the physical typology of geomorphological and geological structures in China and on the formation of loess, Becker (1937) on the geological conditions of the Yangtze delta, Credner (1932) on certain geomorphological aspects of valleys in Kwangtung, Panzer (1935b, 1954) on general and glacial structures of the geomorphology in southern China, Hong Kong and Formosa (Taiwan), von Wissmann (1937a, b, 1938a, b, 1939, 1954, 1959a, b, 1960/61) on various phenomena of pleistocene glaciation, karst, palaeoclimate and vegetation zonation in different parts of China. Studies carried out by von Wissmann and Panzer were based on six-years, resp. three-years visiting professorships to Nanking (Nanjing) and Canton (Guangzhou), from 1932 to 1937, and 1931 to 1933, respectively. The widely known climate classification of the earth developed by von Wissmann was substantially drawn on his basic results of research in China. Worth to mention that Panzer and von Wissmann are deeply honoured in China until present as they have vividly influenced the modern understanding and development of physical geography in China.

In the 1950s and 1960s when research in China was seriously restricted, Gellert (1962a, b, 1963) has still carried out some important studies in China (based on field observations), concentrated on two major subjects: on loess, its genetic and development, stratigraphy and morphology; and on tropical karst in South China, its structure and formation conditions.

Only after the political and diplomatic opening of China in the late 1970s, scientific research on the physical geography of China has rapidly developed over the past two decades. Thanks to the open research policy of the Chinese Government associated with generous financial support, particularly granted by the Chinese Academy of Sciences, numerous bilateral scientific exchange programmes have been established between many Departments and Institutes of Geography in Germany and China as well as between individual scientists on both sides. Research funds in Germany were mostly raised under grant programmes by the German Research Foundation (Deutsche Forschungsgemeinschaft), Max-Planck-Society and Volkswagen Foundation. As a result, field campaigns and expeditions were carried out in many parts of China, including remote and restricted areas, granted under special permits given by the Chinese Government. Vice-versa, many Chinese geographers have also been invited to visit Germany and their German partner universities. From both countries, special attention was paid to young geographers who specialized on China, resulting in several "Habilitation" theses (for example Lehmkuhl 1995a, Rost 1998a, Wünnemann 1999) and numerous Ph.D. theses (for example Böhner 1996, Bräuning



1999, Hofmann 1993, Rost 1992, Schlütz 1999) which have beneficially investigated a considerably large number of specific topics related to the physical geography of China.

Many German geographers have vastly achieved their research findings on the basis of joint German-Chinese expeditions and joint field campaigns, initiated by the first expedition to the Tibetan Plateau between geographers from Göttingen University and researchers from the Academy of Sciences, Lanzhou (1981), followed by several expeditions preferably to the Tibetan Plateau, including the surrounding high mountains, and to the desert regions (First Sino-German Kunlun Shan - Taklimakan Expedition).

Many German geographers have also been invited to international conferences and workshops in China and presented their research findings. Similarly, several German-Sino symposia and workshops took place in Germany, as, for example, the International Symposium on "Tibet and High Asia", Göttingen 1985, and the Workshop on "The Climate of China", Mainz 1986.

All the many research programmes have paved the scientific path towards closer cooperation in certain fields of physical geography and established a fruitful bi-lateral exchange of research findings. Presently, German geographers can review a substantial contribution towards a better scientific knowledge on many aspects of the physical geography of China.

As far as German research in physical geography is concerned, studies in geomorphology play a key role, topped by geographers at the Department of Geography, Göttingen University (see publications by Hövermann and collaborators between 1986 and 1998, by Böhner and collaborators between 1994 and 1999, by Kuhle between 1982 and 1999, by Lehmkuhl and collaborators between 1991 and 2000, by Pörtge/Li 1994, and by Rost 1992-1999). During the past twenty years, numerous field campaigns and expeditions have focussed mainly on geomorphology and climatic change, on landscape development and palaeoclimate of the Quaternary on the Tibetan Plateau, the desert regions north of the Plateau, on the Loess Plateau and in the surrounding mountains. These studies started in the early Eighties with the first pioneering and adventurous Chinese-German joint expedition to the North-Eastern Tibetan Plateau, in 1981 (Hövermann/Wang 1987), followed by other expeditions that also covered the desert regions (Jäkel/Zhu 1991). The more recent research focuses on Tibet (Böhner 1996, Lehmkuhl and collaborators 1997-2000, Pörtge/Li 1994, Schlütz 1999), the surrounding mountains of the Loess Plateau, and latestly, on the Ordos Plateau (Mu Us Desert). The main subjects of the current work concentrate on climatic change derived e.g. from geomorphologic and palynologic results and include the anthropogenic impact on landscape and nature.

Based on many rich scientific expeditions and field campaigns to the Tibetan Plateau and its surrounding mountains on both sides of the Chinese border, including the Himalayas, the Karakorum and the Kuen Lun, Kuhle (1982-1999) has profoundly studied the Quaternary geomorphology, geology, climatology and paleoclimatology and the risk potential of high mountains with regard to the endangering of roads and settlements by floods, glacier lake outbursts, mudflows, rock fall and avalanches. The studies were partly carried out with scholars (Iturrizaga 1999, Meiners 1996-1999), and are presented in a substantial number of papers.

The paleoclimatic observations were focused on the ice age research, i.e. the reconstruction of the prehistoric glaciation of High Asia. The most essential result is the evidence of an inland glaciation the size of 2.4 Mio km<sup>2</sup> in Tibet and its fringing mountains. This ice cover has been developed after the uplift of the Tibetan Plateau above the snowline. Measurements of radiation balance yielded global radiation values four to five times greater than that hitting the remaining Pleistocene inland ice areas of the northern hemisphere. This high subtropical radiation energy

was reflected by the Tibetan inland ice into space. The resulting loss of energy triggered the actual High Glacial.

In correspondence with the results of further international research teams the summer monsoon, commencing around 8 Mio years ago, can be explained, by the studies of Kuhle, through the uplift of Tibet up to a height of two to three kms. The winter monsoon, starting about 2.6 Mio YBP, has been proved with the help of the beginning loess sedimentation in China. It is the result of the first glaciation of parts of Tibet due to its uplift to a height of 4,300 - 4,600 meters. Having been uplifted above the snowline to such an extent 1.2 Mio years ago, Tibet has been completely glaciated. Thus, its total glaciation has triggered the actual High Glacials. This paleoclimatic reconstruction is confirmed by latest determinations of ice volumina corroborated by isotopes, giving evidence of the commence of global maximum glaciations about 1.2 Mio years YBP. Meanwhile, also the glacio-isostatic movements of Tibet could be proved by Chinese geotectonians and seismologists.

There is, however, still a controversial discussion about the extent of ice on the Tibetan Plateau, and as most international scientists also many German researchers do not share the observations of Kuhle. The discussion of the extent of Pleistocene ice on the Tibetan Plateau already started in the early 1930s when Trinkler argued for an extensive ice sheet in some areas of Western Tibet, opposite to Hedin's opinion. Recent studies on the Eastern and Southern part of the Tibetan Plateau by Hövermann and Lehmkuhl (1994a-c), Frenzel/Liu (1994) and Lehmkuhl (1995b, 1997a) give evidence for limited mountainous glaciations during the Late Quaternary.

Paying particular attention to the geomorphology of deserts, research on dunes was intensively carried out by Jäkel (and collaborators, in cooperation with the Institute of Desert Research, Chinese Academy of Sciences, Lanzhou). Early studies resulting from the First Sino-German Kunlun Shan - Taklimakan Expedition in 1986 (Jäkel/Zhu 1991), have concentrated on investigating the evolution of the Taklimakan desert studying the glacialfluvial, fluvial and aeolian processes and interactions. Referring to the recent activities, Jäkel and collaborators conducted between 1993 and 1996 several research expeditions to the Badain Jaran desert and Horqin Sandy Land. Their aim was to study climate-related dune formation processes, lake evolution in the Badain Jaran desert, groundwater conditions at the Alishan Plateau and the archaeological situation in this region. In 1998, an expedition visited the Tibetan Plateau in Qinghai Province in order to study the groundwater situation and the evolution of dunes in the region of mountain permafrost in the Schumar and Beilu basins.

In the context of profound desert and desertification research in global comparison, done by the Departments of Geography, Stuttgart and Cologne Universities, attention was also paid to the deserts in China, giving reference to land-use problems (Meckelein, Stuttgart, 1986, 1987) and to the evolution of the Taklimakan Desert and its geomorphology (Besler, Cologne, 1991, 1995). It is shown that the Taklimakan as an active erg sand sea is different to the Sahara and Arabian deserts. According to the observations by Besler the Taklimakan is rejuvenated by fluvial input of sediments, while the megadunes are completely covered by secondary dunes. With special reference to the Keriya dunes, different types were classified, including star dunes, barchansdraas and transverse dunes.

Based on a close cooperation between the University of Lanzhou and the Freie Universität Berlin (Hofmann 1992, 1993; Pachur and collaborators 1994, 1995; Wünnemann and collaborators 1998a, b) multi- and interdisciplinary geoscientific research studies have been intensively carried out over the last ten years, investigating the arid regions of the northern Tibetan forelands in northwestern China including Inner Mongolia. After studies on present and former periglacial and

glacial features in Central Helan Shan and its foreland in Inner Mongolia, research studies include a wide range of sciences related to physical geography and geomorphology that include geology/tectonics, geochronology, geophysics, limnology, botany/palynology, soil science, palaeontology, social geography, and sinology/historical ecology. Research focused on a reconstruction of the Quaternary palaeo-environment and palaeo-climate, based on geomorphological, sedimentological, paleontological and geochemical studies of lake sediments in the endorheic basins of the Badain Jaran and Tengger Deserts. In 1999, the study area was extended to include the Bosten Hu Basin on the southeastern margin of the Tien Shan. Investigations comprise preparatory remote sensing and the analysis of lacustrine sediments from outcrops and pits. Two cores measuring 70 meters (Baijan Hu) and 230 meters (Gaxun Nur) from the centres of the former terminal lakes are included. A further drilling of approximately 250 meters depth will be made at Bosten Hu. Another deep drilling in the Badain Jaran desert is under preparation within the frame of the ICDP (International Continental Drilling Programme). Under an extensive multi-disciplinary, geo-scientific joint programme, research is presently extended e.g. by Pachur and Wünnemann towards a reconstruction of the late Pleistocene and Holocene environment in western Inner Mongolia.

Contributing to the investigation of the history of glaciation in the high mountain areas of China, Böse has recently (1999) studied the glacial landforms in Taiwan and reinterpreted the last glacial snowline depression. Most recent activities are investigating in detail the following aspects of glaciation: (i) mapping distinct sedimentological evidence of late Pleistocene glaciations in mountain massifs in Taiwan; (ii) surveying the maximum extent of late Pleistocene valley glaciers; (iii) reconstructing the lowering of the snowline; (iv) dating of sediments. Present studies by Böse constitute a scientific bridge to Panzer's early field observations on glacial landforms on Formosa (Taiwan), published already in 1935a.

German geographical research on the climate of China covers the wide field of palaeo- and present climates. Many palaeoclimatic observations are included in the numerous investigations dealing with the Quaternary Tibetan inland glaciation and the glacial landscape evolution of Tibet (Hövermann, Kuhle, Lehmkuhl, Rost, Frenzel, Pachur, Wünnemann; see above).

As far as the present climate of China, referring to the instrumental period is concerned, comprehensive studies covering whole China were carried out by Domroes who, in cooperation with Peng, published in 1988 a pioneering monograph on "The Climate of China", which represents the first textbook on the climate of China other than in Chinese. The authors pay great concern on present climate variabilities over space and time, by analyzing normal (30-years) data mostly of temperature and precipitation for 279 stations. The book also contains climate tables for all variables from a large number of stations. Climate regionalization of China is discussed on a modified climate classification defined by Huang Bing-wei. Domroes has also presented several studies characterizing the multitude of different climates and their application in China (1990-1999). Böhner (1994) has described in detail the mean climatic conditions and their variabilities over Central- and High-Mountain-Asia as well as the climate history over the instrumental epoch, paying particular reference to spatial and seasonal differences.

Important studies on the climate reconstruction of China over the past 500 years were carried out by King (and collaborators Chen, Jiang, Wollesen 1997-1999). The results show important climatic variabilities over time, particularly with regard to precipitation, giving evidence of some remarkable relationships between climate change, on the one side, and sea surface temperature, Southern oscillation, El Niño and sun activity, on the other. It was also shown that the climate systems of China and the Pacific are closely interrelated. Recent climate change and climate

trends over Central and High Asia were in detail investigated by Böhner showing a remarkably large climate variabilities over space and time.

Studies in applied climatology are specifically carried out by Thomas. Having been awarded with his Ph.D. (1992, unpublished, Mainz) on a GIS based agroecological study about the agricultural carrying capacity of Yunnan Province, Thomas (1992-2000) carried out studies on the onset of the monsoon in relation to the growing season, surveys into the spatial distribution of evapotranspiration over China, on recent trends of evapotranspiration, soil moisture and crop yields, and on the climate and geocology of the Gongga Shan region. He is currently working on global change related effects on the agriculture of China and on effects of land cover changes on the agricultural carrying capacity of Tibet (in cooperation with scientists from the Chinese Academy of Sciences).

Applied-climatic studies by Richter and collaborators (1999) were carried out in five mountain ranges between the western Himalaya and Tian Shan for a numerical determination of exposure differences for vegetation as well as for the determination of altitudinal limits of periglacial landforms. The results show no major floristic differences between the various mountain ranges though climatic differences cause different periglacial landforms.

Haffner (1997) has studied the effects of mass elevation on High Asia (Tibetan Plateau) showing a positive thermal anomaly over the Plateau and the surrounding mountain ranges and discussing its eco-geographical consequences, well proved by the extreme height of the climatic snow-line and upper timberline as well as the upper limits of human settlements.

The palaeo-vegetation was reconstructed by Frenzel (1959, 1990, 1992, 1994) for the northeastern part of the Tibetan Plateau by means of pollen diagrams showing the holocene vegetation history and discussing the reasons of palaeo-vegetational changes.

Based on comprehensive field surveys since 1990, organized with the Chinese Academy of Sciences in Xining, Lanzhou, Beijing and Chengdu and with governmental institutions in Lhasa, detailed studies were carried out by G. Miehe and S. Miehe (1988, 1996) on ecology, plant geography and environmental change, particularly in High Asia, including the Kunlun Shan, Qilian Shan, Tian Shan, the Highlands of Tibet and its eastern declivity and the Himalayas. The studies are focused on interdependencies of climatic changes and the human impact on the forest and grazing resources. Complete floristic inventories (Zuerich-Montpellier approach after Braun-Blanquet) are combined with climatic measurements and evaluations of climatic data. The historical dimension of environmental changes was investigated in cooperation with palynologists.

Recent research by Miehe and collaborators is concentrating on: (i) a climatic diagram handbook of High Asia (Hindukush, Pamir, Karakorum, Qilian Shan, Himalayas, Tibet) with an enumeration of High Asian vegetation formations; (ii) the vegetation history and human impact in the Eastern Central Himalaya; (iii) palynological investigations on the vegetation and climatic history of the Holocene and the human impact in High Asia; (iv) environmental changes in the pastures of Tibet; (v) ecological and experimental research on sacred forests of Xizang and their importance for the restoration of forest resources in actually treeless environments of southern Tibet; (vi) environmental changes in the western Kunlun with special reference to fragmented forest relics.

Detailed studies by Winkler (1994, 1997) were concerned with the forest degradation on the eastern slopes of the Tibetan Plateau; as a result, present-day forest degradation is shown at an alarming rate neglecting ecological and economic principles for a sustainable forest management.

Under a very comprehensive bilateral research programme, the Department of Geography at Gießen University (King and colleagues 1991, 1994) and the Nanjing Institute of Geography and Limnology are, since 1986, jointly studying the complex relationship between soil erosion and flood protection on Yangtze river and Yangtze valley. The programme comprises four major packages of research activities: (i) Climatic Trend Analysis and El Niño Research based on semi-numerical data of the regional climatic floods and droughts history over more than 500 years. The historical proxy-data and actual measurement values are the basis for studying regional and national climatic trends. (ii) Study on Climatology, Hydrology and Flood Risk Management, measuring data of discharge, water-level, precipitation, temperature and evaporation supply for developing hydrological models, precipitation intensities and potential maximum discharges and calculating for the high-risk flood areas along the Yangtze. (iii) Analysis of land-use conflicts and connected vulnerabilities as a consequence of rapid urbanization containing a growing damage potential caused by floods. Landsat-TM-Images from 1984 to 1999, original climatological and hydrological values, socio-economic data and digital elevation models are connected in a Geographical Information System. Vulnerabilities and potential damages caused by floods are assessed. The cities of Shanghai, Huzhou, Wuxi, Nanjing, Wuhan, Chongqing and Chengdu are of special interest. (iv) Analyses of the flood origins and development of land-use options for hazard management in critical flood situations in China.

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### **Deutsche physisch-geographische Forschung über China**

Die deutsche physisch-geographische Chinaforschung hat sich nach Beginn der Öffnungspolitik der Volksrepublik China seit dem Ende der siebziger Jahre stark entwickelt. Danach erreichte die internationale Forschungszusammenarbeit mit China eine neue Dimension und schloß die Forschungslücken der Vergangenheit. Dank vieler intensiver deutsch-chinesischer Forschungsbeziehungen und Unterstützung durch die chinesischen Partner, vor allem von Seiten der Akademie der Wissenschaften (Academia Sinica), konnten zahlreiche deutsche Geographen in vielen Regionen Chinas forschen. Besondere regionale Forschungsaspekte bildeten das Qinghai-Xizang (Tibet) Plateau und die umgebenden Hochgebirge wie auch die Wüsten und

Trockenräume, vor allem die Taklimakan und Gobi. Thematische Forschungsschwerpunkte umfassen Themen wie Quartärmorphologie und -geologie, Wüsten- und Dünenbildungsprozesse, Klimatologie der instrumentellen Periode und historischen Periode wie auch Paläoklimatologie, Ökologie, Pflanzen- und Forstgeographie sowie Hydrologie. Die Forschungsergebnisse deutscher Geographen wurden in vielen Veröffentlichungen dokumentiert, teilweise mit chinesischen Ko-Autoren. Einige deutsch-chinesische Workshops und Seminare belegen ebenso die fruchtbare Forschungszusammenarbeit. Die deutsche physisch-geographische Forschung über China nimmt im internationalen Vergleich eine angemessene Rolle ein.

### **German Research on the Physical Geography of China**

German research dealing with aspects of the physical geography of China, was remarkably developed after the Government of the People's Republic of China introduced an open policy from the late 1970s onwards. Thereafter, international research on China gained a new dimension filling the lacking gaps of the past. Thanks to many close German-Chinese links and sponsorships from the Chinese host institutes, particularly under the Chinese Academy of Sciences, numerous German geographers have carried out field work in many parts of China paying greater regional reference to the Qinghai-Xizang (Tibetan) Plateau and its surrounding high-altitude mountains as well as to the desert regions such as the Taklimakan and Gobi. The topics under study were concerned with a broad range of themes in the fields of Quaternary geomorphology, glaciology, deserts and dunes formation processes, climatology in the instrumental period and in the past including paleoclimatology, ecology, plant and forest vegetation as well as paleo-vegetation and hydrology. Research findings from German geographers are well documented in many scientific publications, partly in joint cooperation with the Chinese partners and hosts. Some German-Chinese workshops and seminars have also paved the way for a fruitful scientific cooperation. German research on the physical geography of China plays an adequate role in international respect.

### **La recherche allemande de la géographie physique de la Chine**

La recherche physico-géographique allemande de la Chine s'est développée fortement après le début de la politique d'ouverture de la République populaire de Chine depuis la fin des années 1970. Après, la coopération de la recherche internationale avec la Chine a atteint une nouvelle dimension et a pu combler les lacunes de la recherche du passé. Grâce au grand nombre de relations sino-allemandes intenses et grâce au soutien par les partenaires chinois, surtout de la part de l'académie des sciences (Academia Sinica), de nombreux géographes allemands ont pu faire des recherches dans maintes régions de la Chine. Des accents de la recherche régionale spéciaux ont pu être mis sur le plateau Qinghai-Xizang (Tibet) et les montagnes aux alentours ainsi que sur les déserts et régions arides, en particulier le Taklimakan et le Gobi. Les thèmes de la recherche se sont surtout concentrés sur la morphologie et la géologie du quaternaire, les processus de formation des déserts et des dunes, la climatologie des périodes instrumentale et historique ainsi que la paléoclimatologie, l'écologie, la géographie des plantes et des forêts et l'hydrologie. Les résultats de la recherche des géographes allemands ont été documentés dans beaucoup de publications, en partie avec des coauteurs chinois. Des colloques et séminaires sino-allemands font également preuve de cette coopération fructueuse. La recherche physico-géographique allemande de la Chine joue un rôle approprié sur le plan international.

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# German Geographical Research on China's Economy and Society \*

\*including Hong Kong, Macao, and Taiwan

Wolfgang Taubmann

## 1. Introduction: The Roots of German Geographical Research in China

German geographical research in and on China has its roots in the 19<sup>th</sup> century, as in other countries of East and Southeast Asia. These roots were temporarily linked to Prussia's attempts to establish a colony in China or in Asia, or at least to sign commercial treaties with one of the Asian countries. As an example, Ferdinand von Richthofen (1833–1905) took part in a Prussian expedition to Eastern Asia (1860–1862). He was later to accomplish a pioneering feat in the exploration of China: Between 1868 and 1872 he made seven journeys into 13 of the then 18 Chinese provinces, funded by the Bank of California and later by the Chamber of Commerce in Shanghai (Stäblein 1983).

Though he was mainly interested in the relationship between the geological structure and the geomorphology of China, he also reported on the economic situation and the distribution of raw materials. The data collected during his series of journeys were laid down in his great work *China, Ergebnisse eigener Reisen und darauf gegründeter Studien (China, the Results of My Travels and the Studies Based Thereon)*. The five volumes plus two atlases were published between 1877 and 1916 (partly edited posthumously by his students).

Ferdinand von Richthofen continued and expanded the research on Central Asia done by Alexander von Humboldt and Carl Ritter. His outstanding work on China was unfortunately not carried on, because World War I interrupted the German scientific geographical tradition with its deep roots in the 19<sup>th</sup> century (Freitag 1983).

## 2. German Geographers in China in the Interwar Period

A new phase of scientific contacts between China and Germany did not begin until the 1930's, when four German geographers were called to three professorships at Chinese Universities (Kolb 1983). Günther Köhler became professor of geography at Qinghua University in Beijing in 1931 and taught there, interrupted by field trips, until 1938. He published mainly on economic and transport problems in various Chinese provinces, especially on all aspects linked with the Yellow River. After the Second World War, in 1948, Günther Köhler was appointed professor of geography at the Technical University of Dresden. Until his death in 1958, Köhler published a number of articles on settlement and transportation or on population and migration in northern China (Köhler 1951 to 1958).

In 1931 Herrmann von Wissmann was invited to accept a professorship at Nanjing University. Von Wissmann started teaching in spring 1932 and carried out several expeditions to Shanxi, Shandong, and to central China; his longest one and the broadest in scope was an expedition that led him and his Chinese colleagues to southern Yunnan for nine months (Kolb 1983). Von Wissmann's research on the physical geography of China and Central Asia was very comprehensive (see also the article of M. Domroes).

The first German geographer to become a professor at a Chinese University was Wilhelm Credner. He taught at Zhongshan (Sun Yatsen) University in Guangzhou (Canton) between 1929 and 1931. Among his scientific fieldwork an expedition to Yunnan of about four and half months was of particular importance. During that expedition Credner and his colleagues acquired

valuable knowledge of the human and physical geography of Yunnan, which formed the basis for publications on geomorphology, altitude patterns of agriculture or problems of ethnic minorities (e.g. Credner 1932 and 1935). After Credner's return to Germany, where he took over the chair of geography at the Technical University in Munich, Wolfgang Panzer became his successor in Canton. Panzer, who stayed in Canton until 1934, was mainly interested in geomorphological problems.

### **3. German Geographical Research on China After the Second World War up to the Late 1970's**

The work of German geographers in China during the interwar period was continued by some Chinese geographers, for example the late professor Lin Chao. The German contribution was also deeply acknowledged, e.g. by a Chinese-German symposium, organized by the Department of Geography at Zhongshan University in 1989.

World War II and its consequences, however, represented a sharp hiatus in German geographical research on China. Until the opening up of the People's Republic of China around 1978/79, the number of German geographers dealing with China was negligible. Most publications in scientific geographical journals were based on fieldwork done before the Second World War. Leafing through geographical magazines one hardly finds articles on relevant human geographical developments in the People's Republic. At most, the *Geographische Rundschau* sometimes published descriptions or facts and figures on China that could be used as teaching material but were not based on original findings. For example, Lenz (1957) reported on the results of the Chinese Census in 1953 or Fochler-Hauke on the changes in the economic and social structure of the People's Republic of China. Fochler-Hauke was also one of the very few German geographers who were permitted to travel in China. His journey in 1965 provided material for a brief description of the origin, characteristics and importance of the people's communes (1966).

The German geographical research on China during the post-war period was decisively influenced by the publications of Albert Kolb (1906–1990). Though his original work was on geomorphological aspects, he later produced prominent publications on economic geographical topics and regional geography augmented by historico-cultural aspects (Pfeifer 1971).

Kolb, whose interest in China was mainly aroused by Wilhelm Credner, visited China for the first time in the late 1930's, though his early studies were devoted to Southeast Asia. Kolb's first visit to China after World War II was presumably in 1957 and he returned several times in the late 1960's. His extensive travels in all parts of East and Southeast Asia led to his book on East Asia (Kolb 1963), which, similar to his book on the Philippines (1942), became a milestone after the Second World War. The idea of a "cultural subcontinent" was possibly rooted in the school of Hettner. Schmitthener spoke of "East Asian culture", Kolb of an "East Asian cultural subcontinent". "The cultural subcontinent is distinguished by its individual cultural complex – in other words, its unique combination of cultural elements.... The areas to which these cultural subcontinents correspond are as variable as the content of cultures which characterize them" (1971: 1).

Even if the idea of "cultural subcontinents" is regarded today as worthy of discussion, undeniably, Kolb's historico-culturally oriented work on East Asia can be regarded as a remarkable achievement that was based on original observations and especially on an extensive analysis of the literature. Of the about 600 pages of the German edition, 450 pages are dedicated to China. First of all, China is described as the heartland of the East Asian culture, while the development of the new China is confined to a limited number of pages. In a further chapter man and society, settlement and economy are presented, with especial attention to farming. Finally, a third part

describes the distinctive nature of individual regions in China, for instance "North China – the heartland of the Chinese culture" or the "Gansu corridor – the oasis road to the Far West". In these regional chapters, Kolb always tried to include the latest developments until about 1960. In view of the available information base, this was a difficult task. Kolb's book was translated into English and published in a somewhat updated version in 1971. Fortunately, the English edition retained the numerous maps and figures. The book gained the reputation of being the essential textbook on China in the English-speaking countries in the early 1970's.

As a second important overall description of China before the beginning of the open-door policy, the regional geography of Heiner Dürr has to be mentioned. This contribution was published within the framework of the so-called Fischer *Länderkunde* as chapter two in volume one on East Asia (1978). Dürr, a student and former assistant of Kolb, designed his publication as a modern regional geography, placing socio-political and economic concepts in the foreground, i. e. he especially described the social system of modern China, the institutional planning and administration system, the political ideology and the official development goals. Though Dürr repeatedly pointed out the problematic data base at the end of the 1970's, he sometimes fell prey to the fascination of a development model whose perceived success was not seldom the result of clever propaganda rather than reality. This holds for instance for his evaluation of the Great Leap Forward, the development of agriculture or the resettlement campaigns. Nevertheless, even today we can profit from reading his regional geography of China, because he described the relations between the political ideology and spatial development goals in a methodologically plausible manner.

#### **4. The Chinese Open-Door Policy and the Short-lived Interest of German Economic Geographers in China**

The interest of German geographers in China rose rapidly in the years between 1976 and 1978. One reason were various geographical field trips to China organized by geographers at the universities of Dortmund (1976) and Kassel (1977). A field trip of German school and university geographers to China in October 1978 had a specially strong effect. Shortly after this field trip, a larger number of mostly didactically orientated articles on China were published. Some of the participants developed a strong interest in China and later concentrated on various aspects of spatial development in the PRC (Böhn, Geers, Matzat, Taubmann, *inter alia*).

A few years later, within the scope of the research project "Documentation and Analysis of Current Trends of Regional Development in China's Regions" funded by the Deutsche Forschungsgemeinschaft (German Research Foundation, DFG), the organizers of the just mentioned field trip, Heiner Dürr and Urs Widmer, undertook a first attempt to collect provincial statistics based on various Chinese and Western sources (Dürr/Widmer 1983). They compiled 156 tables on population, economy; state budget, education and public health, living standard and culture. Shortly thereafter, the official data began to flow more abundantly. In 1983 the first Statistical Yearbook of China (containing the data for 1981) was published; since then the Statistical Yearbook has been published annually. Though the Chinese state was quite successful in establishing a modern statistical system after 1978, there are still doubts left with regard to the reliability of official data. Many reports complain about manipulated figures and massive misreporting by local governments (Herrmann-Pillath 1996).

In the following, publications by German human geographers will be presented according to subject areas. To begin with, we shall mention some regional geographies that continue the tradition of Kolb and Dürr to a certain degree, though in a more popular manner. Gellert (1987) published a sound physical-geographical description of China, including the changes in nature



and environment caused by human activities, based on a field trip in 1959/60. The monograph *China: Economic and Social Geography*, published by Klausning, Maryanski and Schultze (1989), provides a general description of population, settlements, agriculture, industry, energy, transportation and a regional geography of China's major regions and presents the "socialist modernization" of a "liberated nation". Within the series *Klett – Country Profiles* a regional geography of China was published by Chen, Ting Kai (latest edition 1982), but later replaced by a monograph written by Böhn (1987), who travelled extensively in China. Böhn's book is a useful source, describing a broad range of topics (population, natural settings, social models and spatial structures, economy, urban and rural areas); the book includes many case studies, which can be used in geography teaching. A further monograph on China was published in 1990 by Geers, who also did research in China several times and has close links with universities in Chengdu. His book affords a sensitive description of many aspects of the Chinese economy and society, including e.g. housing, education and language. Müller (1997) published a sizeable book on the diversity of China's cultural landscape, which combines beautiful colour photographs and instructive descriptions and maps to document 26 different landscapes. In 1998, Böhn and Müller brought out a collection of 44 transparencies for overhead projection, including maps, diagrams and pictures of urban and rural areas, economy and tourism, population and society.

In general, however, we have to conclude that the increasing interest in China to be observed in the fields of agronomy, economics or modern China studies is lacking among German human or economic geographers. It is true that many German geographers have travelled in China, nevertheless serious long-term field studies are rare. There are various reasons for this situation. The lack of knowledge of the Chinese language is certainly an important barrier, but the difficulties in collecting data might also deter some interested geographers. Doing successful fieldwork in China requires long-term relationships with Chinese colleagues and institutions and much patience.

### **5.1 Studies on Regional Development and Planning in China**

In connection with the above-mentioned compilation of provincial statistics, Dürr and Widmer (1984) developed a methodological approach, with the help of which they described and analysed the rural disparities in China. One of the findings was that the ongoing policies of modernization might result in increasing inter- and intra-rural disparities if no flanking measures of regional equalization were taken. In another article on China's programme of the Four Modernizations, Dürr (1981) tried to develop guidelines for better understanding China's way to self-regulation from inside.

Other publications were less ambitious; they described the structural characteristics of the Northern Chinese plain (Küchler 1981) or dealt critically with aspects of potential yields and erosion problems in the Chinese loess plateau along the middle reaches of the Yellow River (Widmer 1981). Using the south-western province of Yunnan, one of China's poorest provinces, as an example, Heberer (1986) demonstrated what practical problems centrally decided reforms could raise for the regions. Other publications dealt with the opening up of new land in China's dry areas: The extension of agricultural land in Xinjiang – the "third" agrarian expansion front – has caused a number of severe ecological problems in the arid West (Gruschke 1991).

Growing regional disparities linked to China's policy of "opening up to the outside world" and the various Special Economic Zones and other zones of preferential treatment have found increasing attention. For instance, within the context of economic change Giese and Zeng (1993) described the establishment of the five Special Economic Zones and of the Fourteen Open Coastal Cities, the opening of coastal areas and the development of Pudong/Shanghai. The

authors discussed the whole strategy of regional development and the regional conflicts that arose from this concept. In another article the two authors analysed the economic development, the extent and origin of foreign investment and trade as well as the impact on China's provinces and regions (1997). So far, Shenzhen SEZ has turned out to be the most advanced of the five SEZs. In a detailed study Schryen (1991, 1992) described the development of the SEZ and stressed the proximity to Hong Kong as the most important aspect of Shenzhen's development.

In anthologies on China Taubmann published several introductory articles on China's economic geographical differentiation and the spatial concepts of the opening up of the country and modernization (1987, 1989, 1998). The traditional East-West and rural-urban paradigms still exist; nevertheless, a new North-South paradigm has been discussed recently, stressing that Guangdong's and Fujian's proximity to Hong Kong, Macao and Taiwan fuelled the economic development of both provinces. Guangdong, the most progressive among all Chinese provinces, is Hong Kong's leading production base today.

Within the scope of an interdisciplinary project financed by the Volkswagen Foundation, the economist Bohnet and the geographers Giese and Zeng carried out a comprehensive study on the regional and economic policy of the Autonomous Region of Xinjiang (1998 and 1999). Since Xinjiang plays an important role within China's reform policy, because of its geopolitical importance and its rich natural resources, the authors evaluated the basic conditions for and the previous aims and strategies of its economic development, especially for the agricultural and industrial sector. Finally, they tried to assess the main bottlenecks (water resources and transportation) and the future development projects and concepts.

Besides this study, there are only very few publications explicitly dealing with planning issues in China. Beier (1991) gave a detailed account of the methodology and practice of regional planning in an area in Zhejiang, while Nagel (1992) discussed the problems and outcome of the first approach to regional planning as a co-operation between Chinese and German planners. Chosen for this pilot study was a county in Sichuan province, which was thought to benefit from western planning experience in farming, processing, energy supply and water pollution.

## **5.2 Agriculture and Rural Areas in China**

Still today, according to official statistics, about 70% (1998) of the Chinese population live in the countryside, while 47% (1998) of the workforce are employed in agriculture. Though the rural-urban income disparities - measured in the real per capita total income - have slightly decreased during the past years, they are still the main reason for the highly unequal income distribution in China.

In view of the rapid transformation of agriculture since the beginning of the economic reforms and in view of the related problems for employment, welfare and migration, it is astonishing that China's agriculture and rural areas have roused limited interest among German geographers.

For the pre-1978 period there exist many optimistic evaluations of China's agricultural success. However, today we know that agriculture was stagnating and that the collective farming within the system of the people's communes was highly detrimental to any principle of achievement. As late as 1976 Kolb published a very positive evaluation of the people's communes and underlined the growth rates in the agricultural sector resulting in increasing incomes of the communes, brigades and work teams. According to him, agriculture was the hub of all five-year plans and thus the dynamic factor in the development strategy. Today we know that agriculture was exploited because of the very distorted price relations for agricultural and industrial products in order to push the urban based industrialization of China.

U. Widmer (1986) was one of the first to describe the introduction of the so-called household responsibility system, which transferred production to the responsibility of the peasant families to a great extent, and to analyse the separation of administration and economic activities, which resulted in the dissolution of the people's communes and the introduction of township governments. In a recent study Bachmann (1995) analysed the effects of the agrarian reform on production, peasant households, and on labour in agriculture. Though people are leaving the land or shifting to rural industries, the agricultural area is shrinking. Other authors analysed the new development, using selected regions as examples. Wein (1988) dealt with the cultivation of various crops, fertilizer use, fruit growing, cattle, pig and poultry raising and fish rearing in the south Chinese province of Guangdong, especially in Gao Yao county, while Bokermann (1994) concentrated on vegetable growing in the industrialised province of Liaoning in northeastern China, which generally yields higher incomes than traditional mixed farming. Taubmann (1999) analysed market gardening in the countryside surrounding big cities. Due to limited transportation and storage capacities, its pattern still illustrates the land use model of J. H. von Thünen.

Other publications not only dealt with agriculture but also with the economic conditions in rural areas in general. For instance, during a field study of six months (the project was funded by the Volkswagen Foundation and conducted by Dürr) Pennarz (1995) analysed the importance of social networks for the organisation of rural markets in a poor area of Sichuan. A further publication (Pennarz 1998) based on the same project she described adaptive land-use strategies of Sichuan small-holders.

The diversification of economic activities in China's rural areas has revived many periodic markets, whose functions had been suppressed for decades. In a case study (Zouping county) in Shandong province, Matzat (1988, 1993) showed that the system of periodic markets, described in Yang Ching-kun's pioneering study of 1932/33, was revitalized after 1980 along nearly the same pattern. Because of the population growth the number of visitors and the demand have increased considerably in the higher level markets, where more and more permanent shops are being established. On the other hand many minor markets still exist.

In a multi-perspective approach, Heberer and Taubmann (1995, 1998; Taubmann 1998) tried to analyse and to appraise the rapid process of transformation in China's rural areas, not only from an economic, but also from a social and political standpoint. The authors concentrated on village and township levels and tried to give a comprehensive overview of the rural society and economy and their processes of change. The role and function of township and village enterprises, rural markets, rural urbanisation and migration, finances and taxes were analysed as well as changes in the administrative structure and the cadre system, alterations in the party structure or in the composition of the rural elite and changes in social values and attitudes, or the development of the pooling of interests as well as localism and regionalism. The basis of this detailed study was a six month field research supported by the Volkswagen Foundation and carried out in seven townships in six different provinces (Guizhou, Hebei, Heilongjiang, Jiangsu, Ningxia, and Sichuan) in 1993 and 1994. This research was carried out in close co-operation with several colleagues from the Institute of Geography, Chinese Academy of Sciences, and the Department of Geography, East China Normal University, Shanghai.

### **5.3 Development of Private Economy**

One important starting point for the development of the private sector in China was the widespread poverty in the countryside, which led to the rise of a spontaneous rural shadow economy (Heberer 1999). Some years before the introduction of economic reforms, many small private household businesses had already developed. In addition to the collective-owned township

and village enterprises they have played an increasing role since 1979 in absorbing part of the redundant agricultural labour force of about 150 to 200 million people. In 1996, about 26 million private rural enterprises employed a workforce of about 73 million persons. In the whole of China at least 170 million people were employed in the officially registered private sector, if we include all joint ventures or foreign owned enterprises employing around 25 million workers and staff members. Heberer and Taubmann were among the first to analyse the development and internal structure of the private sector, its importance for the labour market and its mutual relations with the state and collective sector. This research project was also financed by the Volkswagen Foundation (Heberer 1989, 1993; Heberer/Taubmann 1988; Taubmann 1988).

#### **5.4 Industrial Development**

As to be expected, because of the fast development of the rural and private economy, the importance of the state-owned industries decreased constantly. While around 1980 state-owned industries produced about three quarters of the total gross industrial output value, their share declined to just above one quarter in 1998. Today, collectively owned industries produce a much higher share of the total industrial output value than state-owned industries. Individually owned enterprises and joint ventures or foreign-funded enterprises together have about the same importance as collective-owned industries.

There are quite a few German geographical publications on the development and structure of Chinese industry. One article by Lu Dadao and Kolb (1982) concentrated on the regional structure and the development of the industrial enterprises, dealing especially with the deficiencies in the industrialization process during the period from 1949 to 1978 and referring to such factors as transportation infrastructure, natural resources and energy supply. Taubmann (1985) stressed the sectoral and regional problems hindering the modernization of Chinese industry, while Louven (1986) discussed the importance of infrastructural elements such as energy, transportation systems and communication networks as well as economic policy for industrial locations.

The growing importance of the collective town and township enterprises for both industrial production and the process of transformation of rural China was analysed in several publications by Fan and Taubmann (1996 to 1998). Town and township enterprises are an important source of income for the local communities and have a significant impact on the rural labour market. Since many industrial enterprises are owned collectively by the towns, townships and villages, local administrations, enterprises and local leaders are interlinked in numerous ways. Frequently, the support of the local government for the collective enterprises is of vital importance for their economic success or simply their survival. Part of the redundant agricultural labour force has been taken up by the rural industrial enterprises. In general, however, the economic significance of rural industry is more important than its effect on employment. Consequently, its power to bind the rural workforce to the local area is limited.

#### **5.5 Population and Migration**

The present problems of employment and migration are aspects of a quite dramatic development, since they might endanger the social and political stability in China. The mentioned de-collectivisation of agriculture again disclosed the latent problem of underemployment and the insignificant marginal productivity of agriculture. Even if the reported estimations about the redundant agricultural workforce vary widely, the dimension of the problem is obvious. There are at least 60 to 70 millions peasant migrants wandering around China since the loosening of migration controls and the household registration system. Rural migrants, still registered as rural inhabitants, moving into cities and towns have positive effects in terms of employment. income.

productivity and service, but unfavourable impacts in terms of housing problems, crime and an overstrained urban infrastructure (Taubmann 1991, 1993, 1997).

Population growth and birth control are naturally a long-standing problem in China. Though many pessimistic scenarios with regard to the rate of growth and the capacity of China to feed a growing population have not come true so far, the Chinese government is having to deal with many other aspects - concerning not only migration and employment but also ethnic minorities or social security systems. There have been only few contributions by German geographers highlighting these problems. Stadelbauer (1984) described various aspects of China's increasing population, including population distribution, demographic transition and the question of a secure food supply. Heberer (1984), a political scientist closely cooperating with geographers, published one of the most comprehensive descriptions of China's minorities and minority policy.

A more recent publication analyses the Chinese minority policy in the Autonomous Region of Xinjiang (Kreutzmann 1997). Xinjiang, which came under Chinese rule in 1884, is home to about 7.2 million Uygur, a minority that still comprises more than 41% of the total population of China's largest province. The regional stability in Xinjiang seems to be threatened by growing autonomy movements and a national minority policy that uses direct control and reacts to demands for self-determination prevalingly by using force. Gruschke (1997) tried to objectify the so-called Tibet question by giving a detailed account of the demographic structure and ethnic composition of the Tibetan population – a task that is quite difficult because of the lack of sufficient demographic data. However, these data are important for a critical assessment of the political situation and the cultural identity of the Tibetan people.

## **5.6 Urban Development and Urban System**

Before the adoption of economic reforms in China, extensive industrial growth combined with very limited urbanisation seemed to be the prevailing feature of the socialist mode of production. Even as late as the mid-1980's, China's urban growth remained limited in spite of remarkable economic success. This period of urban development until the early 1980's was characterized by non-Chinese authors as "development without urbanisation", "zero urban growth" or even "anti-urbanisation" while Chinese scientists stressed the slow and balanced growth as a "socialist" way of urbanisation. After the introduction of economic reforms and the so-called open-door policy the urbanisation paradigm in China suddenly changed. Now an increasing number of publications describes the rapid growth of urban population, concluding that China is presently experiencing a phase of hyper-urbanisation like many other low-income countries. An empirical evaluation of the different phases of urbanisation in China is a difficult task, since the definition of the terms "urban population", "cities" and "towns" is rather complex and inconsistent. These terms have been redefined at least three times over the years. Moreover, the published statistics for the urban population are based on different definitions that changed repeatedly from census to census (Taubmann 1986, 1996).

In the German geographical literature there is quite an extensive discussion about the process of urbanisation in China, but also about the urban fabric and structure. The most comprehensive material collection published so far was likely the monograph by Schinz (1989), who compiled numerous maps, photos and drawings of about 150 cities in China, but neglected to describe the process of urbanisation in relation to urban society and urban life.

The traditional Chinese city was considered by the Chinese Communist Party to be the very embodiment of the feudal system; "consumer cities" were therefore to be transformed into "producer cities" (Küchler, 1974, 1976). However, at a time when the prime focus was on

building up Chinese industry, this slogan was less the aim of a new urbanisation strategy but a matter of the cities being seen as low-cost locations for industrial development.

Summarizing the urban development until about 1980, Peisert (1986), stated that the level of urbanisation was still low, but there were great disparities in the regional pattern and the rank-size distribution of the cities. Furthermore, there was a vast number of fairly well developed towns that would accelerate urbanisation in the future. He concluded, however, that because of more strict governmental requirements there were fewer towns in 1980 than in 1949, and he regarded this situation as an indicator of a profound change in the city system and its territorial structure.

Since 1980 the situation has changed in different respects. According to the official figures, the share of the permanent urban population in China's total population increased from about 19.4% in 1980 to 30.4% in 1998. While until the beginning of the 1980's the process of urbanisation in China was highly influenced by the goals and investment policy laid down by the Central Government in Beijing, the post-reform urban development was characterized by a reduction of centralism and an increasing influence of regional power. Though net migration played a growing role, the main reason for the increase in the urban population was the designation of new cities, especially those at the county level, and of towns. The accelerating pace of urbanisation in China has been mainly due to an administrative reclassification and can hardly be directly compared with the urban growth in other low-income countries. Different aspects of the temporal and spatial variations of the urbanisation process were repeatedly analysed and described by Taubmann (1986, 1992, 1996, 1999).

A specific aspect of Chinese urbanisation is the so-called rural urbanisation, which refers to the rapid development of small towns since the beginning of the 1980's. It is remarkable that the number of towns (*zhen*), having reached more than 5,000 at the beginning of the first Five Year Plan (1953-1957), decreased after the beginning of the 1960's and stagnated at a level between 2,800 and 2,900 for about two decades. The stagnation of towns was also an indicator of the precarious economic situation in rural areas, because the collectivisation of agriculture and the monopolisation of rural trade by the state, the prohibition of free markets and all private economic activities robbed the towns of their basis. The situation did not improve until after the introduction of economic reforms. Now, a rapid increase in the number of towns could be observed, growing by more than six times from almost 3,000 to over 19,000 between 1983 and 1998. Some of the main reasons for the revival of towns were the introduction of the production responsibility system for peasant households, diversification and specialisation in agriculture, the increase in part-time jobs for peasants, the reopening of private markets, and last, but not least, the effects of rural industrialisation. Today, many Chinese planners and politicians hope that the small towns might attract a larger number of peasant migrants and prevent them from heading towards the big cities (Taubmann 1992, 1993, 1997, 1998).

Not only the process of urbanisation in China aroused the interest of German geographers, but also the cities' internal structure, organisation and their traditional and modern fabric.

Peisert translated and compiled significant Chinese documents and publications on urban planning and development (Jüngst/Peisert/Schulze-Göbel 1984; Peisert 1987). His dissertation on the influence of traditional ideas on the development of contemporary architecture in China shows some very interesting aspects, since he used the later development of Beijing to demonstrate central ideas of the so-called national form of architecture. Especially the remodelling of Beijing's old core shows the history of modern architecture and urban planning until the mid-1980's in an exemplary manner. Unfortunately, the doctoral thesis was published about ten years after its submission (Peisert 1996). The fundamental ideas of the layout of

Chinese cities through the centuries and their alterations since the 19<sup>th</sup> century were described by Taubmann (1992).

Other authors analysed the cellular organisation of Chinese cities. KÜchler (1976) presented a very instructive insight into the multiple functions of the urban work unit (*danwei*), based on his own experience, while Taubmann (1983) tried to analyse the administrative, organisational and spatial structure and the activities of street offices, as the lowest level of government administration in the city, and of the residents' committees as so-called mass organisations. Specific aspects of urban economy or life were dealt with in publications on retail trade (Stadelbauer 1981), on the organisation of supply and marketing (Taubmann/Widmer 1987) or on housing (Taubmann 1985).

Finally, there are a number of descriptions of individual Chinese cities, such as Beijing (Stratil-Sauer 1959), Urumqi (Roberts 1988), Shanghai (Taubmann 1994), or Xian (Schinz 1983).

## **6. Taiwan, Hong Kong and Macao**

Contrary to the mainland, Taiwan has really been neglected by German geographers. Almost no original German geographical research on this island exists. The only exception is the doctoral thesis by Koch on functional structural changes in a community in the neighbourhood of Taipei (1971). This detailed study on the development of the cultural landscape of Luchou and its agricultural and industrial development is an important document for a certain stage of Taiwanese development. In a later study, Koch (1976) extended his research to the development of the edge of the city of Taipei under the impact of industrialisation. Otherwise, Taiwan is only dealt with in regional geographies on China, e.g. in Dürr's (1978) or Böhn's (1987) above-mentioned monographs. There are some contributions on Taiwan in German geographical periodicals but written by economists. Gälli and Kögel (1996) described the successful transformation of Taiwan from a developing country into an industrial nation and a service society and they portrayed the growing economic ties between mainland China and Taiwan, while Herrmann-Pillath (1996) explained the economic relations between Taiwan and the PR of China as still being the result of the existing regional division of labour. Both governments are trying so far to control and manage economic relations in order to realise their respective political objectives.

Hong Kong has been an object of research of German geographers for several decades. Already in 1967 Schöller published a substantial article on Hong Kong's position as a world city and the so-called Third China. Only a few years later KÜchler and Sum Kong-Sut (1971) tried to explain the growing regional imbalances in the territory and offered a critical analysis of the reasons that might explain the "obstructive" attitude of the British government towards decentralization. One of the pioneering studies on Hong Kong was certainly the publication by Buchholz on population mobility and residential behaviour within a social-geographical context (1978). Buchholz, who did fieldwork in Hong Kong in 1970 and 1972, gave a detailed account of the extent of and reasons for immigration, origin and structure of residents, housing situation, mobility and density in different residential areas of Hong Kong. In 1985, Buchholz and Schöller published a comprehensive monograph on Hong Kong, characterising all aspects of the former territory's history, economy, spatial structure and its role as gateway for China. Later, a short monograph on Hong Kong was published by Buchholz (1987), while other articles described the new challenges for Hong Kong to be expected after the handover on July 1, 1997, especially in comparison to Shanghai or Beijing (Breitung/Schneider-Sliwa 1997), or pointed out the fact that Hong Kong's economy has become progressively more integrated with that of China. Hong Kong's production base has relocated to Guangdong Province to escape the former territory's high land and labour

costs. Today, Hong Kong is the source of several million manufacturing jobs in Guangdong (Breitung 2000; Taubmann 1996).

Unlike the case of Hong Kong, studies on Macao are still quite rare, though Macao had been a European outpost since 1552/7. One important source for those interested in the former Portuguese colony, is a Macao handbook written by Haberzettl and Ptak (1995), which contains comprehensive information on Macao's geography, population, administration, history and economy, including lexical entries on all aspects of Macao's economy, culture, politics, and history. Glaser and Haberzettl (1994) analysed the phases and causes of Macao's population development in the 20<sup>th</sup> century, indicating four major phases since 1900. Despite increasing immigration from China since 1978 due to the economic opening of the PRC and Macao's economic boom, the number of inhabitants (430,500 in 1999) is still limited compared to Hong Kong (6.8 million in 1999). However, the population density of around 20,500 inhabitants/sq km is among the highest in the world (Hong Kong 6,200 inhabitants/sq km). Finally, Kraas (1998, 1999) analysed Macao's development problems and potentials against the background of the Portuguese colony's handover to China on December 20<sup>th</sup>, 1999. She concluded that despite its close connection with the South Chinese economic triangle, Macao has developed a specific touristic and cultural profile.

## 7. Conclusion

The above compilation of the German economic and human geographical research on China shows that individual researchers and some geographical departments have more or less concentrated on Chinese topics; however, an institutional continuity is still lacking. China-related research projects have been carried out by the Departments of Geography of the University of Bochum (rural development), Bremen (private economy, urban development, rural urbanisation), Giessen (regional development, Xinjiang) Mainz (tourism in China), University of Munich (industrial geography) and the Technical University of Munich (regional development). Additionally, the Department of Geography in Bremen has organised a PhD study programme, that has resulted in several doctoral theses submitted by up-and-coming Chinese scientists on regional development and planning in China. However, institutionalised German geographical research on China - as in the case of the geographical research on Japan by the Institute of East Asian Studies at the University of Duisburg - is still lacking. Now and then we find young scientists who are combining Chinese language and geography, but so far such combinations are very rare.

In interdisciplinary research on China, German geography is also rarely represented. For example, there are very few German geographers participating in the European Conference on Agricultural and Rural Development in China (ECARD). So far, more or less unsystematic regional research on China has been carried out, largely dependent on personal constellations or preferences. The big desideratum for German economic and social geographical research on China is of course a certain continuity and integration into a theoretical framework and growing interdisciplinary cooperation.

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### **Deutsche Geographische Forschung zur Wirtschaft und Gesellschaft Chinas, einschließlich Hong Kong, Macao und Taiwan**

Die deutsche geographische Forschung über China wurzelt im 19. Jahrhundert und in der Zeit zwischen beiden Weltkriegen, als deutsche Geographen in China tätig waren. Vor der wirtschaftlichen Öffnung der VR China waren wirtschafts- und sozialgeographische Studien selten. Zu nennen sind vor allem zwei Länderkunden (Kolb 1963, Dürr 1978). Seit den frühen 80er Jahren hat sich das Interesse deutscher Geographen an China deutlich verstärkt, wenn auch nicht in gleicher Weise wie in sozialwissenschaftlichen Nachbarfächern. Forschungsschwerpunkte liegen im Bereich der Regionalentwicklung und Regionalplanung, in der Darstellung der Transformationsprozesse des ländlichen Raumes, in Fragen der Stadtentwicklung und Stadtplanung und der Bevölkerungsentwicklung und Migration. Wirtschafts- und bevölkerungsgeographische Probleme in Hongkong sind seit Jahrzehnten ein Interessensfeld deutscher Geographen, während Macao und Taiwan nur selten Beachtung fanden.

### **German Geographical Research on China's Economy and Society, including Hong Kong, Macao, and Taiwan**

German geographical research on China is rooted in the 19<sup>th</sup> century and in the interwar period when German geographers worked in China. Prior to the economic reforms and the policy of opening up, studies on China's economic and human geography were quite rare. To be mentioned are especially two general regional geographies of China (Kolb 1963, Dürr 1978). Since the early 1980s German geographers have shown an increasing interest in the People's Republic though not in the same manner as neighbouring subjects within the social sciences. German economic and human geographical research concentrates on aspects of regional development and planning, on the analysis of transformation processes in China's countryside or on problems of urban development and planning or population and migration. Since decades Hong Kong's economy, urban development and population are areas of interest, while Macao and Taiwan rarely found an echo among German geographers.

### **La recherche géographique allemande de l'économie et de la société chinoises, y compris Hong Kong, le Macao et la Taïwan**

La recherche géographique allemande de la Chine a ses racines dans le 19<sup>ème</sup> siècle et la période entre les deux guerres mondiales lorsque des géographes allemands travaillaient en Chine. Avant la période de l'ouverture économique de la République populaire de Chine il n'y avait pas beaucoup d'études de géographie économique et sociale. Il faut surtout citer dans ce contexte deux géographies régionales (Kolb 1963, Dürr 1978). Depuis les premières années 1980 l'intérêt des géographes allemands pour la Chine s'est renforcé considérablement, bien que moins fortement que celui des sciences sociales voisines. La recherche s'est concentrée surtout sur le développement et le planning régional, sur la présentation des processus de transformation de l'espace rural, sur les questions du développement et du planning des villes et sur le développement de la population et la migration. Les problèmes de l'économie et de la population de Hongkong sont depuis des décennies un champ d'intérêt des géographes allemands, tandis que le Macao et la Taïwan n'ont trouvé qu'un moindre intérêt.

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# German Geographical Research on Japan

Winfried Flüchter

German scholars have made a substantial contribution to the international geographical research on Japan. This is true not only of the period of seclusion and that of the opening of Japan, but also of the entire 20th century. In the following this research is divided into four periods on the basis of differences in research methods and in the main focus of research, though the greatest stress will be placed on the most recent phase.

## **1. Seclusion (Tokugawa Period 1600-1868) and Opening of Japan (Meiji Era 1868-1912): Compendiums and Encyclopaedic Regional Studies**

During the period of seclusion it was extremely difficult, indeed even dangerous to do research on Japan. This of course did not hold for the geographer Bernhard Varenus from Hitzacker (1622-1650), the author of "Descriptio Regni Japoniae". This first work on Japan ever written by a German was merely a compilation of reports by earlier travellers to East Asia, in particular Marco Polo and St. Francis Xavier. It was, however, definitely true of Engelbert Kaempfer from Lemgo (1651-1716) and Philipp Franz von Siebold from Würzburg (1796-1866), two German medical doctors in the services of the Dutch East India Company. From the Dutch trading post on the island of Deshima, an artificial island in the harbour of Nagasaki that was the only contact point with Western countries, the two carried out outstanding research on the country and its people under extremely adverse conditions.

First was Engelbert Kaempfer (in Deshima from 1690 to 1692), the most important explorer of the 17th century. His two-volume masterpiece, "Geschichte und Beschreibung von Japan" ("History and Description of Japan"), which appeared posthumously in English in 1727, in French and Dutch in 1729 and not until 1777-79 in German (reprinted 1964), deals with history, social structure, religion and natural resources. It also describes special geographical and cultural features of Nagasaki and a trip to Edo.

The second great Japan scholar of this period was Philipp Franz von Siebold. During his stay in Deshima (1823-29) and on a second trip to Japan after 1859, he managed to gain a great deal of information on botany, ethnology and literature despite the strict regulations on secrecy that were still in force. The result was a large number of publications on Japan (Engelbert Kaempfer-Franz von Siebold Commemorative Volume 1966: 119-129), including his magnum opus of 1830, "Nippon. Archiv zur Beschreibung von Japan" ("Nippon. Archives for the Description of Japan").

In the period after the opening of Japan the first professional German geographer, Johannes Justus Rein (1835-1919), explored the Japanese islands. His large two-volume work on Japan, on nature and people (<sup>1</sup>1881, <sup>2</sup>1905) and on agriculture, forestry, industry and commerce (1886), formed the basis of his professional reputation and led to his appointments as professor of geography in Marburg (1876) and Bonn (1883). This work is overwhelming in the sheer amount of details it accumulated and reliably explained, but it is still written entirely in the tradition of older compendiums and fails to reveal any of the methodology of regional geography (Aymans 1991: 198).

The German geographical publications on Japan of this entire epoch reflect the interests of their readers. There was a great demand for knowledge of unfamiliar, remote countries (Troll 1968).

## **2. Post-Meiji Era, the World Wars and the Period Between (1913-1945): Japan's Role in German Geopolitics, Japan as Seen Through Its Ports and Urban Landscapes**

In this tumultuous epoch marked by two World Wars, Karl Haushofer (1869-1945) was one of the principal influences on German research on Japan, at least with regard to its impact on public opinion. Haushofer, the leading protagonist of German geopolitics, spent the period from 1908-1910 in Japan. On the basis of his experiences there the former Bavarian army officer and later honorary professor of geography at the University of Munich developed his geopolitical doctrines of limited "Lebensraum" (living space), overpopulation and expansion (Haushofer 1928, 1937, 1939), using the East Asian island kingdom as an example (Haushofer 1913, 1923, 1933, 1941). His arguments focussed around the problem of the "overpopulation" of Japan. Following the traditional pattern, he saw the reasons for the problem as lying in the limited agricultural carrying capacity. In Haushofer's hands Ratzel's interpretation of the history of mankind as a permanent struggle for "Lebensraum" escalated to a diffuse theory that encouraged the "Lebensraum" ideology and the motto "Volk ohne Raum" (Nation Without Room [Living Space]), with which the Nazi regime justified territorial conquests. Haushofer's interpretations of Japanese conditions almost completely ignored the already obvious disparities in Japan's internal development and the possibilities for expanding and intensifying cultivation within the country. Haushofer's incapacity to recognise the opportunities afforded by industrialisation, particularly his aversion against large cities, population agglomeration and urbanisation (which he viewed exclusively negatively, as uprooting, rural exodus, dependence, instability) distorted his view of Japan, the world and Germany. In retrospect many of Haushofer's geopolitical concepts have been refuted, using Japan as an example (Schölller 1982, 1989, Flüchter 1995e).

Scientifically speaking, the most important authority on Japan of this period was Ludwig Mecking (1879-1952), who was, in contrast to Haushofer, a professional geographer and professor of geography at the University of Hamburg (Manshard 1993). His field trip to Japan in 1926 was the basis of his masterwork on Japanese ports (Mecking 1931). The principal focus of this work lay on physiognomy/location-related and historical/genetic aspects, in accordance with the geographical interests of the time: causal relationships between natural and economic determinants within the context of hinterland, port form, settlements and economic influence of ports. Further works on Japan dealt with urban and settlement research (Mecking 1930, 1931) and the development of large cities in an international context (Great Britain, Germany, USA, Japan; Mecking 1949). The theme of "affinity to the sea" is the common thread running through almost all of his works on Japan and is reflected in the title of his last major work (Mecking 1951). After decades of radical economic and cultural change many of Mecking's observations no longer hold today. This, however, makes his works anything but obsolete; instead they are a reflection of the drastic changes of the times.

## **3. War and Post-War Period: Landscape Between Nature and Culture, the Cultural Landscape as Objectified Spirit**

The greatest authority on Japan of this period was Martin Schwind (1906-1991), who taught at the German school in Tôkyô beginning in the mid-1930s. His travels in the country led to studies on glacial morphology, cultural landscape, economy, emigration and colonisation. His "habilitation" (professoral thesis), submitted to the University of Danzig (1942), was on the transformation of southern Sakhalin (which belonged to Japan from 1905-1945) into a Japanese culture area. Already in this first, unusually comprehensive study (1942), Schwind developed the concept of the cultural landscape as objectified spirit, a concept that he later enhanced. The work is a typical regional geography of its period. Beginning with geology and physical geography, it

attempts to relate the various systematic branches of geography to each other, but is predominantly descriptive in its structure.

Early in the post-war period Schwind published a study on the collapse and recovery of the Japanese economy (1954). As headmaster of a secondary school ("gymnasium") in Hannover he was caught in a dilemma between teaching and research. In 1967, at the initiative of Peter Schöller, he was appointed honorary professor at the Department of Geography of the University of Bochum. On the basis of his experiences in Japan not only before the war but also on several trips to East Asia beginning in the mid-1950s, Schwind began what he viewed as his lifework, his trilogy, "Das Japanische Inselreich" ("The Japanese Islands"), (1) The Natural Landscape, (2) The Cultural Landscape, and (3) The Urban and Town Landscapes – the last volume was not completed. Volume 1 (Schwind 1967, reviewed in Schöller 1968a) deals with landforms, climate, soils, vegetation, fauna and the natural landscape as a whole. Based on an enormous amount of literature, this impressive work presents an enormous amount of meticulously adapted material. Its digressions into the liberal arts are original and highly individualistic. The book, one of its kind in the West, is an indispensable standard work on the natural geography of Japan, although the literature cited is out of date. Volume 2 (Schwind 1981) is likewise a comprehensive and, what is more, an extremely interdisciplinary study of the cultural landscape. In it Schwind resumes his theory of the cultural landscape, already introduced in volume 1, which was influenced by Litt, Spranger and Toynbee. The central focus is on the effects on the cultural landscape of the "responses" of the Japanese state and people to the "challenges" of an "environment" composed of natural conditions, the history of the cultural landscape and decision-makers who influence spatial development. Stimulating and revealing (though occasionally rather idiosyncratic) is the manner in which he makes the reader aware of and interprets fundamental traits of Japanese spatial development in their historical dimension – "objectifications of the human spirit in the cultural landscape". The underlying speculative hermeneutics and the predominantly encyclopaedic structure of the supplementary theme, "major economic power in a limited space", were actually no longer in accordance with the current scientific view at the time of publication (1981). The fact that in an age of increasing specialisation in all fields of research an individual still found the courage to present a synoptical, highly interdisciplinary regional geography of such a "difficult" country as Japan makes it so fascinating, but also so problematic (Flüchter 1984c).

Schwind's final publication was an anthology, published on the occasion of his 80th birthday (Schwind 1987), containing 29 contributions by the author, chiefly older ones, on topics related to the geography of East Asia, in particular Japan. These papers, selected from a great variety of widely scattered publications, reflect the range of his research activity and experience from the middle of the 1930s to the middle of the 1980s.

Another of our older contemporaries was Leopold G. Scheidl, an Austrian geographer and professor at the University of Economics in Vienna. He worked intensively on Japan, particularly on the cultural landscape, in the second half of the 1930s (Scheidl 1937).

Fisheries and marine cultures, a typical branch of the Japanese economy, were the special interest of the geographer and fisheries expert Fritz Bartz (1909-1969, professor in Bonn and Freiburg), beginning in the late 1930s. Volume 2 of his three-volume work, "Die großen Fischereiräume der Welt" ("The World's Great Fishing Grounds"), devotes a great deal of space to Japanese fisheries (Bartz 1965: 279-433).

#### **4. Later Post-War Period up to 2000 – Modern Geographical Research on Japan: Increasing Specialisation, Problem Orientation, Language Skills**

##### **4.1. New accents, protagonists, institutions**

A trend-setter in geography and geographical research on Japan was Peter Schöller (1923-1988). After his accession to the chair of cultural and settlement geography at the University of Bochum in 1964, his department rapidly developed into the main centre for the study of Japanese geography and for research on Japan. Though originally not a specialist on Japan, he developed an interest in Japan by way of urban geography. He made his first visit to Japan in 1959, after finishing his "habilitation", drawn by the fascination of East Asian cities, particularly Japanese ones. A large number of research trips to East Asia and especially Japan followed, the last in 1987. Though lacking any knowledge of the Japanese language, he was still quite familiar with the problems of this island country. In this he was aided by his special antenna for things foreign. He was also supported by a large number of Japanese colleagues, who accompanied this outstanding representative of German geography on his research trips in the country with great dedication for many years. He deliberately made no attempt to learn Japanese, because he felt the price was too high at his advanced age and because his many activities as teacher and scientist did not leave him the time. Quite often he referred to himself as the last Stone Age scholar, whose lack of language proficiency he asked people to excuse. In the future, however, he felt that precisely because the cultures of East Asia are so very different from the West, serious research without a knowledge of the language should not be condoned. He urgently recommended the younger generation of researchers to obtain a sound knowledge of the language as the key to in-depth empirical work in the social sciences.

In the generation of Schöller's students, Winfried Flüchter (born 1943, since 1987 professor of human geography at the University of Duisburg and founding director of its Institute of East Asian Studies) was the first to follow up on this advice. After graduation he studied Japanese intensively and was one of the first persons to do geographical field research in Japan on the basis of a sound knowledge of the language. He was also among the first whose scientific work, including his Ph.D. thesis and his "habilitation", concentrated on Japan. Since Schöller's death in 1988 the focus of German geographical research on Japan has shifted from Bochum to Duisburg. Here, within the framework of new East Asia-related study courses, the Department of Geography has institutional ties to Japan (since 1987) and China (since 1998) (Flüchter 1995a, Derichs et al. 1995). At the University of Duisburg – and this is unique in Germany – it is possible to study geography, along with economics and social sciences, as a major or minor in an integrated programme of East Asian Studies that includes intensive Japanese language training (since 1998 also Chinese). Another student of Schöller's, Uta Hohn (since 1988 "Wissenschaftliche Assistentin" of Flüchter and since 1998 lecturer in Duisburg), has also made a name for herself in Japanese studies, especially with her "habilitation" on urban planning (Hohn 2000). Very recently Thomas Feldhoff, the first Duisburg student to complete his studies in the East Asian Studies programme with a major in geography, contributed important studies on transportation in Japan (2000).

Parallel to Schöller's work we have that of the Swiss geographer Hans Boesch (1911-1978). Though originally a geologist, his later work was in the field of economic geography. The holder of a chair in the Department of Geography of the University of Zurich, he visited Japan regularly in the last years of his life and published his findings in a volume on Japan (*Geographica Helvetica* 4, 1978: 169-172; Schöller 1980).

This phase also includes the work of Gerhard Aymans (1931-1996), professor at the Department of Geography of the University of Bonn, who was originally a student of Bartz. Between the 1960s and the 1980s Aymans travelled repeatedly in Japan and published studies on coastal marine economy, including his (unfortunately never published) "habilitation", and population geography. Since the 1990s the population geographer and Japan expert Ralph Lützel, who worked for many years at the German Institute for Japanese Studies in Tôkyô and is currently "Wissenschaftlicher Assistent" under Josef Kreiner in the Department of Japanology in Bonn, is continuing the Bonn tradition of geographical research on Japan that goes back to J.J. Rein.

There are a few further geographers of the younger generation who have at least a dissertation to demonstrate their expertise on Japan. They include the economist, economic and transportation geographer Jochen Legewie (Ph.D. from the School of Economic and Social Sciences of the University of Cologne), who is currently working at the German Institute for Japanese Studies in Tôkyô. Another is the economic geographer Rolf Schlunze (Ph.D. from the Department of Geography of the University of Tôkyô), who worked on a project under Peter Dicken in Manchester for a while and is currently lecturer at the Ôtemon Gakuin University in Ibaraki/Ôsaka. Carolin Funck (Ph.D. from the University of Freiburg) is doing research on tourism and regional development and is currently a lecturer at the University of Hiroshima. Finally there is the urban geographer Silke Vogt who focusses research on city planning and planning culture (Ph.D. from the University of Bonn 2000).

Characteristic of the above mentioned younger generation of scholars is increasing professional specialisation and a good to excellent knowledge of the language. Though (for the latter reason) Rolf Sternberg, professor of economic geography at the University of Cologne, cannot be included among the inner circle of geographers working on Japan, his in-depth comparative studies that include Japan, for instance his "habilitation" (1995), deserve due respect. This also holds for all of the geographical colleagues who work only sporadically, but with great expertise on Japan, e.g. the research group of Wolf Gaebe, Reinhold Grotz and Boris Braun (Stuttgart/Bonn) on innovation oriented small and medium enterprises.

## **4.2. Problem oriented regional geography**

As Schöller pointed out (1978a), in the second half of the 20th century a regional geography must concentrate on certain major themes, i.e. it must contain a deliberate selection of topics that would be treated equally in an encyclopaedic regional geography. They should include elementary cultural-historical and political-societal forces, a description and appraisal of the natural features and an analysis of the connections between physical, cultural, economic and social structures. An example that is illustrative and problem oriented, though statistically no longer up-to-date, is Schöller's chapter on Japan in the volume "East Asia" of the Fischer series, "Länderkunde" ([Regional Geography], 1978b: 325-440). As a monograph it was translated into the Japanese under the title, "Japan from the Viewpoint of a West German Geographer" (Schöller 1980e).

The regional geography by Boesch, also published in 1978, focussed on socio-economic problems. According to their significance for the present time, they are dealt with in the following order: urbanisation, industry, services and original production. Physical geography is only considered where it contributes to the understanding of central problems. Briefer regional geographical publications are structured around various themes to meet individual priorities, e.g. those by Aymans (1974, 1985) and Flüchter (1981, 1994/1998) and textbooks for the senior forms of secondary schools by Flüchter/von der Ruhren (1994) and Hermleben (1989).

### 4.3. Publications in various branches of geography

In *physical geography* little has been published since the handbook by Schwind (1967), except for a few brief articles on periglacial and glacial morphology (Ellenberg 1976, 1977; Ellenberg/Hirakawa 1982) and on vegetation geography (Thannheiser 1994). Other short articles have been on the *significance of physical geography for human beings* (Ellenberg 1979, Flüchter 1986) and on *natural disasters* (Hohn/Hohn 1990).

*Economic geography* is heavily represented, especially *industrial geography*. Aymans emphasised the *primary sector* with his papers on fisheries (1976) and aquacultures (1965, 1980a). Agriculture (Bronny 1986), however, has been almost completely disregarded. As for the *secondary sector*, Schöller dealt with the changing industrial structure (1962) within the context of cultural change (1966). Flüchter studied land reclamation along the Japanese coasts to provide space for new industries, a feature that was typical for the phase of rapid growth. The focus was on the functions, structures and impact of the reclaimed areas (*umetate-chi*) (1975, Ph.D. thesis), i.e. on heavy industry in the form of Japanese industrial combines (Flüchter 1976). He also investigated land reclamation from the viewpoints of the expansion of modern infrastructure, the persons involved and the resulting environmental problems (Flüchter 1984b). In particular he dealt with the Bay of Tōkyō, its changing structure and regional planning problems (Flüchter 1985), and the bay reclamation in an international context (1989). The manifold causes of Japan's extraordinarily impressive economic success up until the beginning of the 1990s, including geographically relevant factors, were analysed by Flüchter (1995c). Hemmert/Lützelner (1998) combined general geography and history with economic development. In his "habilitation", Sternberg (1995<sup>2</sup>/1998) analysed technology policies, high tech industries and high tech regions in an international comparison, in which he subjected sample regions in the U.S., France and Japan (Kyūshū) to a cross-sectional and longitudinal analysis. Legewie (1997b) dealt with the problems arising as Japanese companies are moving production into foreign countries. Economic geographical studies on urban, e.g. enterprise oriented *services* (Eichhorn 1997) are the exception so far.

Geographical studies on *world economics* and Japan's *foreign orientation* have only existed for a few years. Attention should be drawn to Schlunze's dissertation (1996), which contains a regionally differentiated analysis of Japanese investments in Germany. Flüchter has written about Japan's role and influence in East and Southeast Asia (1996), especially with regard to the Japanese electronics industry (1998b). At present it is Legewie who is doing the most intensive research on Japan's foreign trade connections (Legewie 1998a, 1999b; Blechinger/Legewie 1998), with a special view to Southeast Asia (1997a), 1998c, 1998d, 1999c) and the automobile industry there (1999a).

A striking number of papers are concerned with *settlement geography*, especially *urban geography*. The trailblazer was Schöller with his studies on the growth and change of Japanese urban regions (1962), a century of urban development since the Meiji Restoration (1969), development of underground city centres (1976), urban conservation and environmental preservation (1979), urban concepts of values (1980c) and regional urban types (1983). In addition there are his studies in settlement and religion geography dealing with the centres of Japan's new religions (Schöller 1984) and with temple towns and temple centres (1986). Flüchter analysed the nature and port-city relationship of large Japanese port cities (1983) and compared the urban development of Tōkyō with that of Berlin (1997a). Studies on *centrality* were published by Schöller (1962, 1980a) and Flüchter (1980a, 1980b), the latter especially with regard to central place preference.

After almost two decades of standstill, research on the structure and problems of Japanese *urban planning* (Flüchter 1978) has been reactivated and intensively pursued by Hohn, initially from the standpoint of urban conservation (1997, 1998), but especially with a view to urban planning, urban renewal and urban reconstruction. Hohn's comprehensive, profound empirical study (1998, "habilitation"; Hohn 2000) is essentially a handbook on Japanese urban planning and fills an important gap in Western research on Japan. It is a "must" for anyone who is seriously interested in planning history, legislation, practice and theory, not only in relation to Japan but on an international scale and as an interdisciplinary challenge (Hohn 1999). Approaches of modern Japanese city planning culture on the micro-level of Tōkyō based on selected machizukuri projects are represented by Vogt (2000).

The particularly severe problems in *regional planning and regional development* faced by Japan in its phase of rapid growth were studied by Schöller (1970) and since then particularly by Flüchter (1990a, 1994-95) and most recently by Lützel (1998). The central problem is that of the growing concentration on the capital, Tōkyō (Schöller 1976, Flüchter 1990b) and, in this connection, the question of the chances (agglomeration advantages) and limits (agglomeration disadvantages) of metropolitan growth (Flüchter 1997b). There have been various studies on regional development on the basis of the technopolis concept (Schöller 1984, Flüchter 1984<sup>2</sup>1998: 34-38, Sternberg 1995, 1997). The influence of the new media policy on Japanese regional development was investigated by Sternberg (1999).

*Population geography* is represented by a goodly number of studies. In the phase of rapid economic growth Schöller was interested in the problems of internal migration in the context of urban growth and regional development (1968, 1970a, 1970b, 1973). Zielke (1982, dissertation) studied the mobility of Japanese managers in Düsseldorf as an example of international migration for a limited period of time. Aymans analysed historical family registers as a source for studies on population geography (1969). He also looked at certain peculiarities in the population development, such as the Japanese generative behaviour in the "year of the fire horse", 1966 (1980b). Bronny (1984) wrote about the Ainu as a subpolar minority. Since the beginning of the 1990s Lützel has turned his attention to population geography, initially analysing the natural population change from the viewpoint of life expectancy (1991), rapid economic growth (1992, "Diplom" thesis) and especially mortality as an indicator of regional living conditions (1994a, Ph.D. thesis). Further studies have included an investigation of the regional dimension of social problems (Lützel 1994b, 1995a), a review of Japanese language demographical literature (1996a) and, finally, aspects of the population structure: the foreign population (1995b), the family (1996b) and the elderly (1997).

In the area of *education and educational behaviour*, which is very illuminating for an understanding of Japan, Flüchter (1990, "habilitation") analysed the connections between university locations, access to education, educational migration in relation to metropolisation, Tōkyō-centricity, regional planning and regional, social and gender specific equality.

The fascinating potential of *transportation* in Japan, dealt with in older studies on the Tokaidō high-speed train (Schöller 1964) and on airport locations (Mayr 1984), has only recently stimulated research. Examples include, first, freight transportation and changes in the logistics of companies (Legewie 1996, Ph.D. thesis) and energy, transportation and telecommunications (Legewie 1998); second, commuting in the Greater Tōkyō region (Eichhorn 1996 "Diplom" thesis, Feldhoff 1998 "Diplom" thesis), and third, air traffic, airport locations and competition between airports (Feldhoff 2000, Ph.D. thesis). The latter outstanding compendium on air traffic in Japan links ecological, economic, political and socio-cultural processes at different levels of



scale and provides insights into the role of air traffic in the international competitiveness of large Japanese cities.

*Tourism and recreational behaviour*, themes of a contribution by Schöller (1980), have been intensively investigated by Funck, especially from the viewpoint of regional imbalances (1999, Ph.D. thesis).

Only older articles exist on *environmental protection* (Schwind 1975, Flüchter 1984).

Informative from the point of view of *geography education* is the study by Hillenbrand (1987, "habilitation") on the view of Germany portrayed in Japanese geography books and geography education.

Apart from Kyūshū/Okinawa (Hemmert/Lützel 1998) and Hokkaidō (Heltmann 1990, 1996, M.A. thesis), studies on Japanese *regional geography* are almost exclusively limited to the Greater Tōkyō region (cf. above).

## 5. Desiderata and Research Perspectives

Looking at the studies briefly mentioned above, a few suggestions for future research priorities come to mind, though the following list does not pretend to be complete.

5.1. More attention needs to be paid to the *human ecology* paradigm. Geography, the connecting link and interface between the natural and cultural sciences, should more clearly articulate its competence to evaluate physical, cultural and socio-economic relationships. As examples let us mention: (1) elucidating the contrast between the special Japanese affinity to nature and love of nature so often apostrophised in the literature and their environmental problems and massive interventions in the ecology; (2) research on risks with a view to natural disasters and disaster management and especially the earthquake hazard.

5.2. More research is necessary along the lines of *decision theory* at different levels of scale, focussing on the *causes* leading to spatially relevant results and trends, i.e. particularly political and societal *forces*. Here we should especially look at the role of the notorious Japanese "iron triangle", composed of politics, state bureaucracy and economy, not only in relation to national decisions, e.g. mega-infrastructure projects or moving the capital, but also to regional concerns and impacts, e.g. in the construction branch and in regional development.

5.3. Due attention should focus on *globalisation* and the challenges to *national, regional and local decision makers* and their (re)actions. Examples that could be mentioned are (1) the status of Japanese *agriculture* from the standpoints of trade liberalisation, economic policies, self-sufficiency and the cultural landscape (with particular consideration to national ideology and the highly charged topic of "paddy rice agriculture"); (2) Japanese *direct investments* and the "hollowing out" of Japanese industry, as production is increasingly being shifted to foreign countries; (3) globalisation and Japan's *urban system* with particular regard to the *financial system*; (4) a close scrutiny of the "global city" theory, especially in relation to intra-urban disparities.

5.4. Much more attention should be paid to the *tertiary sector*, particularly including *qualitatively high ranking services* ("quaternary sector"), with a view to hierarchisation and regional differentiation. This holds not only for the urban system, but also for regional and national development. An example is the education and qualification system and its significance for the structure of regional labour markets and the revitalisation of regions.

5.5 More *theory-based* research: it is essential to integrate the research results gained in Japan into the international context, simultaneously questioning or emphasising the Japanese

peculiarities. The goal is to overcome both an idiographic approach, which assigns a special or unique role to Japan without perceiving common intercultural features, and a universalistic approach, in which Japan serves merely as a test case to confirm prior hypotheses.

## **6. Co-operation and Future Research**

### **6.1. Intradisciplinary co-operation**

A scholar whose research concentrates on Japan and who has a good command of the Japanese language – though it can never be perfect – is in danger of falling behind the level of highly specialised colleagues in his field. They, in turn, are lacking the socio-cultural and linguistic basis for serious research on Japan. Co-operation between the two, Japan experts and specialists in systematic branches of geography, would provide new ideas and result in more in-depth research. Unfortunately, neither side has shown much interest so far, whether from fear of exposing their own ignorance or from inertia. The new Working Group East Asia (spokesman: Winfried Flüchter), which was established at the 52nd German Geographical Congress in Hamburg on 7 October 1999, affords opportunities for intradisciplinary work.

### **6.2. Interdisciplinary co-operation**

Intradisciplinary co-operation is difficult enough; interdisciplinary co-operation, though frequently extolled, is even more so. Meanwhile Germany has an institutional infrastructure that encourages interdisciplinary co-operation. In 1989 the "Vereinigung für sozialwissenschaftliche Japanforschung" (VSJF: Association for Social Science Research on Japan) was founded by representatives from a number of universities. Its executive board includes a geographer (Winfried Flüchter). The VSJF holds regular annual meetings with an interdisciplinary structure on a designated theme. Before and during the annual meeting of the VSJF there are interdisciplinary open workshops and sessions for various groups of specialists. One of the seven specialised groups, "urban and regional research", is headed by geographers (Winfried Flüchter and Uta Hohn).

Interdisciplinary and international exchange is made possible by the European Association of Japanese Studies (EAJS) through its congresses, which are held every three years in a European country and which also attract a large number of Japanese scholars. The congresses of the EAJS are divided into several sections. The section "Urban and Environmental Studies" was founded in 1990 by geographers (Augustin Berque and Winfried Flüchter), but also addresses urban and regional researchers, architects and engineers. Two German geographers have served as convenors so far, Winfried Flüchter (1991 in Berlin) and Uta Hohn (1997 in Budapest).

At the university level, there is the already mentioned interdisciplinary Institut für Ostasienwissenschaften of the University of Duisburg. With its range of subjects and the coherence of the subjects – geography, economics, political and social science, language and culture and– this institution offers (for Germany) unique potentials for interdisciplinary research on Japan and East Asia. The members of this institute are currently working on a joint application for an interdisciplinary project, "East Asia between structural change and systemic stability".

### **6.3. International co-operation**

The Japanese-German Geographical Conferences (*Nichi-Doku Chiri Gakkai*) provide opportunities for a regular scientific dialogue between Japanese and German geographers. This institution, founded at the end of the 1960s by Taiji Yazawa and Peter Schöller, has proven its worth meanwhile, having existed for more than 30 years. Alternating between Japan and

Germany, the conferences take place at intervals of a few years.<sup>1</sup> In accordance with the idea of their founders, the participants deal with concrete problems and comparisons, with the objective of gaining new and more profound insights, which will allow them to understand foreign things better, but will also stimulate them to scrutinise familiar things and see them in a new light. The conferences also serve to intensify existing contacts between Japanese and German colleagues on the human as well as the academic level and to form new contacts. The current co-ordinators of these conferences are Kenji Yamamoto (Hōsei University, Tōkyō) for the Japanese side and Winfried Flüchter for the German side.

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<sup>1</sup> The following reports exist on the previous conferences: Schöllner 1972, 1977, Flüchter 1986a, 1995b; The Organizing Committee of the 8th Japanese-German Geographical Congress 1998.

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### **Deutsche Geographische Forschung über Japan**

Im internationalen Vergleich ist die ausländische geographische Japanforschung in entscheidendem Maße von Deutschen geprägt. Dies gilt nicht nur für die Zeit der Abschließung und Öffnung Japans, sondern auch für das gesamte 20. Jahrhundert. Der Beitrag unterscheidet vier Forschungsphasen, differenziert nach Forschungsmethoden und Themenschwerpunkten:

1. Abschließung (Tokugawa-Ära 1600-1868) und Öffnung Japans (Meiji-Ära 1868-1912): Compendien und enzyklopädische Landeskunden.
2. Post-Meiji-Ära, Kriegs- und Zwischenkriegszeit 1913-1945: Bedeutung Japans für die deutsche Geopolitik, Japan im Spiegel seiner Hafen- und Stadtlandschaft.
3. Kriegs- und Nachkriegszeit: Landschaft im Spannungsfeld zwischen Natur und Kultur, Kulturlandschaft als objektivierter Geist.
4. Spätere Nachkriegszeit bis 2000 - moderne geographische Japanforschung: zunehmende Spezialisierung, Problemorientierung, Sprachkompetenz.

Der Schwerpunkt liegt auf der jüngsten Forschungsphase, in der neue Akzente, Akteure, Institutionen, Ergebnisse und Desiderata vorgestellt werden.

### **German Geographical Research on Japan**

Comparatively speaking, Germans have made a substantial contribution to the international geographical research on Japan. This is true not only of the period of seclusion and the opening of Japan, but also of the entire 20th century. Four periods are differentiated on the basis of research methods and main focus of research:

1. Seclusion (Tokugawa Period 1600-1868) and Opening of Japan (Meiji Era 1868-1912): Compendiums and Encyclopaedic Regional Studies
2. Post-Meiji Era, the World Wars and the Period Between (1913-1945): Japan's Role in German Geopolitics, Japan Seen Through Its Ports and Urban Landscapes
3. War and Post-War Period: Landscape Between Nature and Culture, the Cultural Landscape as Objectified Spirit
4. Later Post-War Period up to 2000 – Modern Geographical Research on Japan: Increasing Specialisation, Problem Orientation, Language Skills

The greatest stress is placed on the most recent phase of research, in which new accents, protagonists, institutions, results and desiderata are presented.

### **La recherche géographique allemande sur le Japon**

Vue sur un plan international, la recherche géographique du Japon par des géographes étrangers est marquée d'une façon décisive par les allemands. Ceci ne vaut pas seulement pour la période de la fermeture et de l'ouverture du Japon, mais aussi pour l'ensemble du 20<sup>ème</sup> siècle. L'article distingue entre quatre phases de recherche selon les méthodes de recherche et les sujets traités:

1. La fermeture (l'ère Tokigawa 1600 – 1868) et l'ouverture (l'ère Meiji 1868 – 1912) du Japon: compendiums et géographies régionales encyclopédiques.

2. L'ère post-Meiji, les périodes de guerre et entre les guerres 1913-1945: l'importance du Japon pour la géopolitique allemande, le Japon vu à travers ses ports et villes.
3. La période de la guerre et après-guerre: le paysage entre nature et culture, les terres cultivées comme esprit objectivé.
4. De l'après-guerre à l'an 2000 – la recherche géographique moderne sur le Japon: spécialisation croissante, orientation vers les problèmes, compétence linguistique.

L'accent est mis sur la phase de recherche la plus récente, dans laquelle de nouveaux accents, acteurs, institutions, résultats et desiderata sont présentés.

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## German Geographical Research on Korea

Eckart Dege

Whereas quite a number of German geographers are doing or have done research on Japan and China, the situation in Korea is quite different. You can count not only the German geographers, but all geographers publishing in Western languages on the fingers of one hand. This may have something to do with the fact that school curricula like to stress the differences between Japan and China with their diametrically opposed modes of development. The "country in between" is simply overlooked, despite its interesting function as a bridge between continental Asia and its island rim.

It was the trailblazing work of Hermann Lautensach (1886-1971) that first brought Korea to the attention of German geographers. During the fieldwork that led to the first volume of his "Geography of Portugal" (published in 1932), he began developing his system of regional change ("geographischer Formenwandel"). Out of this arose an interest in Korea, a country at the same geographical latitude on the other side of the Eurasian continent, which he could compare with Portugal. In spring 1933 he took all of his savings and, with the support of the former *Notgemeinschaft der deutschen Wissenschaft* (German Research Council) and the Giessen University Society, he took the Trans-Siberian Railroad (third class) to East Asia to test his system on the Korean peninsula. During his fieldwork in Korea (March to November 1933) he travelled the length and breadth of the country, from Paektu-san in the extreme North to the island of Cheju-do in the South. The density of his observations gives us an idea of the determination and intensity with which he travelled a total of 15,000 km in the country. In the process he gathered observations not only on the physical aspects of the country, geology, geomorphology, climate and vegetation, but also on the cultural geography, from agriculture to urban life, communications and even religion.

In his fieldwork Lautensach had the active support of the officials of the Japanese Government-General and he felt a certain admiration for the accomplishments of the Japanese administration in developing the country. Nevertheless, he always showed deep interest in and respect for the high cultural level of the Korean people and he empathised with the humiliations they were experiencing at the hands of the Japanese. This attitude has led Koreans to admire his work even today.

After his return to Germany, Lautensach wrote a large number of articles on different aspects of Korean geography, all with the purpose of eventually writing a regional geography of Korea. This work, "Korea. Eine Landeskunde auf Grund eigener Reisen und der Literatur (Korea. A Geography Based on the Author's Travels and Literature)" was completed in 1942 and finally published in 1945 (Lautensach 1945). In this book, which became the standard work on Korea and a prime example of regional geography, Lautensach applied the system of regional change that he had developed while working in Portugal. He divided the peninsula into regions on the basis of the overlap of continental-maritime, hypsometric, peripheral-central and east-west changes in geographical forms, which encompass both physical and cultural characteristics.

Just after Lautensach's "Korea" was printed, in spring 1945, most of the copies were destroyed in a bombing raid before they could be distributed. The outbreak of the Korean War in 1950 aroused interest in Korea overnight. In this situation Lautensach decided to publish an abridged version for a broader readership under the title, "Korea. Land – Volk – Schicksal" ("Korea. Land – People – Destiny", 1950). Naturally this book lacked the scientific profundity of his larger work, but it

had the advantage that the place names were written using their Korean pronunciation. Because a uniform system of romanisation of Korean names was lacking at the time, in his great regional geography of 1945 Lautensach had romanised all place names according to the Japanese pronunciation of the Chinese characters (e.g., Heijō for P'yōngyang). During the Japanese occupation this was certainly a reasonable decision, but after Korea's liberation from Japanese rule on 15 August 1945 it was no longer viable.

Very few copies of Lautensach's comprehensive regional geography survived the end of the war, and the above mentioned problems with the place names made it difficult to work with the book. On the other hand, however, this regional geography of Korea is still unrivalled today in its scientific breadth and depth. These facts led the present author, in 1988, to publish a new English edition of the book in which all of the place names mentioned in the text and in the many maps included in the text were romanised in their Korean form, the only currently acceptable form (Lautensach 1988). A new appendix containing all 1284 place names mentioned in the book was added. This index of place names includes the romanised Korean pronunciation, the Chinese characters, the Japanese romanisation used by Lautensach, the co-ordinates and the page references. With the help of this new English edition Lautensach's work is gaining the recognition it deserves in the international academic community 40 years after its original publication. The text was left unchanged, although parts of it are of course outdated today, especially those on cultural geography. The work is a historical document that shows the entire Korean peninsula at the zenith of the Japanese endeavours to develop the country.

That Korean colleagues share this view is apparent in the fact that the entire work has been translated unchanged into Korean by three Korean geographers who studied in Germany. It was published in two volumes in 1998 (Lautensach 1998).

### **South Korea**

For the author of these lines it was of course a great challenge to follow in Lautensach's footsteps and take up geographical research in Korea 38 years after he was there. The object was not to write a new regional geography, however, but to study the impact of South Korea's industrialisation on the economic and social structure of its agricultural population.

The original fieldwork, which was supported by the DFG, Deutsche Forschungsgemeinschaft (German Research Foundation), was limited by the visa to a period of three months. It soon became clear that the necessary detailed research could not be done in such a brief period of time. Much more time was required to become acquainted with the cultural background. Consequently it was fortunate that the chance arose to spend the period from 1974-76 in Korea as a visiting lecturer at the Department of Geography, Kyunghee University in Seoul, with the support of the DAAD, Deutscher Akademischer Austauschdienst (German Academic Exchange Service).

On the basis of the available data it was not possible to investigate the changes in the South Korean agricultural structure over time, except to a very limited extent. Therefore the stress of the research lay on the regional disparities in the development of South Korean agricultural regions. The various regions were in such different stages of development that they practically reflected a change over time.

The study was designed on two levels (Dege 1982). The macrolevel comprised a statistical analysis of the agricultural structure of the entire country on the basis of the 172 statistical regions, the counties (*gun*) and towns (*si*). It employed the available statistical data, particularly the Agricultural Census, taken every 10 years, and the annual Farm Household Economy Survey. On the basis of income levels derived from the Farm Household Economy Survey the agricultural

households were divided into submarginal farms, subsistence and semi-subsistence farms and market-oriented farms. Using the results of the Agricultural Census the country was divided into four socio-economically defined types of agricultural regions. The areal units defined according to relief in the 1:50,000 soil maps were evaluated and on this basis the agricultural regions were divided into relief-based types. Finally, the data on land use in the 1970 Agricultural Census served as the basis for a division of South Korea into crop regions. In this regionalisation the proportions of 29 different crops in the 172 statistical regions served as variables. By means of a cluster analysis 9 clearly demarcated, homogeneous crop regions were defined (Dege 1978a). Only the type "special crop region in the vicinity of a city" occurred several times, in each case in the hinterland of an urban centre. Further analyses included the intensity of land use, the proportion of farm population in the total population, farm household size and changes therein, agricultural population density, age structure and educational level of the farm owner, farm size, income structure and debt level. Irrigation projects and land rearrangement programs were used as indicators of government measures designed to improve the agricultural structure. The spread of vinyl greenhouses served as an indicator of innovation, and improving traffic conditions indicated closer connections between the agricultural regions and potential markets. For each indicator a computer generated map of the entire country was produced. By combining these the entire country was divided into 11 agricultural regions. The analyses revealed clearly that in South Korea, particularly in the regions with a favourable agricultural structure, the former subsistence farms had already split up into market-oriented farms on the one hand and submarginal farms on the other hand. The most important factors controlling this process proved to be farm size, agricultural population density and educational level of the farm owner.

To supplement this macroanalysis and delve deeper into the topic a microanalysis of the socio-economic structure of all 353 households in 8 selected sample villages was performed (Dege 1982). These 8 sample villages were chosen to represent the most important agricultural regions identified in the prior macroanalysis. In these interviews a standardised questionnaire with 420 questions characterising the social and economic structure of the household was employed. In addition to the interviews the land ownership structure and the land use were mapped. The basis for the mapping was the 1:1200 scale maps of the cadastral survey, updated by means of air photo interpretation. For each household these maps enabled a detailed analysis of the production base and any possible marketable surplus products. On the basis of a statistical analysis of the data from the interviews and the maps, the interviewed households were classified into socio-economic groups. Of these, only the large farms and the family farms (i.e., barely 30% of the interviewed households) had a structure that would allow them to successfully make the transition from subsistence to market-oriented farming. It was to be anticipated that in the long run the other households would leave agriculture and seek new employment in the rapidly expanding secondary or tertiary sector. Meanwhile this segregation process has almost been completed in South Korean agriculture. Results of this study were published in several papers (Dege 1975a, Dege 1975b, Dege 1978a, 1982).

The research project described above required the use of topographical and thematic maps, especially those of the cadastral survey, the topographical maps on the scales of 1:5000, 1:25,000 and 1:50,000 and the land use map (1:25,000) that are available for the entire country. Out of the intensive work with these maps grew a systematic description of the official and semi-official cartography in South Korea, which was published in the International Yearbook of Cartography (Dege 1981).

During Dege's work on the disparate development of South Korea's agricultural regions in the course of industrialisation, it became apparent that a direct consequence of these disparities was

that a large proportion of the population would leave agriculture and move into the rapidly expanding secondary and tertiary sectors. Simultaneously this was an essential condition for the transition to market-oriented farming. This process led to internal migration and urbanisation on a massive scale. Whereas in 1955 three quarters (75.5%) of the South Korean population lived in the countryside, in 1995 more than three quarters (78.5%) lived in cities with more than 50,000 inhabitants. The available statistics on migration were not sufficient for an understanding of the regional aspects of this process. Therefore data on the age structure of the population, which are collected every five years on the basis of counties (*gun*) and cities (*si*), were used for the critical period from 1960-1980. These data were made available on tape by the Korea Research Institute for Human Settlements. A statistical analysis of the age structure resulted in three types. In the areas in which outmigration is prevalent, the population is ageing because the younger age cohorts are moving out selectively in response to the pull factors of better jobs in the towns. In the areas where immigration is occurring the average age is decreasing. Finally, there are areas in which the age structure is not changing, though the population is decreasing due to "family type outmigration" triggered by the push factors of insufficient agricultural resources. The results of this study (Dege 1985) revealed that in the first phase Seoul (and also Pusan) was the primary destination of the migrating younger population. The migrants originally came mainly from the broad diagonal development axis Seoul-Pusan, because the young inhabitants of this more highly developed economic zone had a higher level of education and thus were better able to respond to the pull factor of higher income in the cities. The economically and socially stagnating regions of the Northeast and Southwest started with family type out-migration triggered by the push factors of depressed economic conditions. Not until the second phase did selective outmigration start in these peripheral regions, leading to ageing of the population here as well.

In the title of his analysis of the population shifts in South Korea between the censuses of 1965 and 1970 Martin Schwind asked with concern, "Is the Republic of Korea developing in a monoregional direction?" (Schwind 1977). However, the second phase of industrialisation, in which South developed its own heavy and petrochemical industries, led to the formation of a strong counterpole to the capital region and thus to a more balanced regional development. For strategic reasons and to facilitate the transportation of imported raw materials, these new industrial plants grew up in a new industrial belt on the southeast coast (from P'ohang to Ulsan, Pusan, Chinhae and Yösu). The process of industrialisation and its regional consequences were described in an issue of "Geographische Rundschau" devoted entirely to East and Southeast Asia (Dege 1986). For this a diagram was designed showing how South Korea's industrialisation developed in six steps (or three stages). This overview shows how South Korea's industry achieved its present depth and integration, starting from consumer goods, via successive backward linkages. Each stage began with import substitution, leading in a second step to export industrialisation. Meanwhile this diagram published in 1986 is an integral component of most German secondary school geography textbooks that deal with the economic development of the Pacific rim.

Stimulated by field trips initiated by the Verband Deutscher Schulgeographen (Association of German Geography Teachers) and mainly guided by E. Dege, two participants turned their attention to Korea. Hans Knübel (1987) compared the state and development of farming in North and South Korea in a paper in the "Zeitschrift für Agrargeographie" (Journal of Agricultural Geography) and Karl Engelhard wrote, together with Park Young-Hahn, an interesting paper on water management in South Korea that particularly stressed the importance of the new multipurpose dams (Engelhard/Park 1990). A paper on South Korea's rise from a developing country to an industrialised country followed (Engelhard 1996).

A travel guide for these field trips formed the basis for the chapter on Korea in the "Regional Geography of East Asia" (Dege 1978b). Later the material was updated and an expanded version was published (Dege 1992).

South Korea's rapid economic upswing in the 1970s and 80s also aroused the attention of international economists. They began to focus on South Korea's development strategy of world market integration, which differed fundamentally from North Korea's policy of autocratic development. The spatial differentiation processes set in motion by industrialisation and the decentralisation policies aimed at correcting them attracted the attention of economic geographers. Particularly Ludwig H. Schätzl (Hannover) played an important role in stimulating research when he included South Korea in his program of studies on regional development in newly industrialised countries.

The third German geographer to do field research in Korea (after Lautensach and Dege) was Karin Wessel. She spent a year and a half working in the country (as part of a joint project by Seoul National University and the University of Hannover that was supported by the Volkswagen Foundation). Her study of changes in the spatial structure during South Korea's development process was designed on two levels. The first level consisted in a quantitative analysis of South Korea's regional development on the basis of official South Korean statistical material. It makes reference to indicators of population development and distribution, industrial development and distribution and the socio-economic living conditions. This analysis at the national level was supplemented by two case studies evaluating industrial decentralisation policies. These case studies were based on interviews with industrial companies and employees in Ulsan and Taejŏn.

The results of this study revealed that during the entire observation period (1961 to 1986) the process of regional distribution of the population was one of concentration in favour of the capital region of Seoul, with the province of Kyŏnggi-do surrounding it, and in favour of Seoul's counterpole, Pusan, with the province of Kyŏngsang-namdo surrounding it. In contrast to the population development, the regional differences in income have not shown a trend toward increasing polarisation since the 1970s, following an initial phase of divergence. Nor have the disparities between urban and rural areas tended to converge. The spatial aspects of the industrialisation process were closely related to the three stages of industrialisation. In the 1960s, the stage of light industry focusing on consumer goods, there was a spatial concentration of industry. With the development of heavy industries producing semi-finished products in the 1970s, decentralisation trends became obvious. These were followed by renewed polarisation in the 1980s, when the focus turned to investment goods. Particularly the human capital and research-intensive electrical and electronics industries showed a tendency to concentrate in the capital region. At the regional level, however, decentralisation was occurring in favour of the province of Kyŏnggi-do, which surrounds the capital. The greater availability of land led medium-sized, already consolidated high tech firms to settle in Kyŏnggi-do, while Seoul took on an "incubator function" for the establishment of technology-intensive small enterprises. As a result of the concentration of industrial development in the two poles of Seoul and Pusan, with their respective surrounding provinces, and in Greater Taegu (with Kumi) and Taejŏn (with Ch'ŏngju), there is now an increasingly dense belt of industrial locations running diagonally across the whole country. In the urban system that has developed within this belt the polarisation trends within the hierarchy of cities have steadily declined since the second half of the 1970s. Outside this development axis, in the Southwest (in the provinces of Chŏlla-namdo and Chŏlla-pukto) and in the Northeast (in the province of Kangwŏn-do and in the northern parts of the provinces of Ch'ungch'ŏng-pukto and Kyŏngsang-pukto) there are no signs so far of a fundamental change toward a spatially and functionally balanced network of settlements.



At the beginning of the 1960s decentralisation policies were initially limited to individual relatively uncoordinated, often contradictory measures, such as the founding of Industrial Estates. The First Comprehensive National Land Development Plan (1972-1981) formulated the first regional strategies leading to effective decentralisation of population and industry at the national level. In the Second Comprehensive Land Development Plan (1982-1991) the measures of the first plan were expanded and emphasis was specifically placed on developing small and medium-sized towns to promote a more balanced polycentric spatial structure. These measures were associated with greater regionalisation at the political level, a shift of administrative functions to the local authorities concerned and eventually the reintroduction of local autonomy.

During her second period of fieldwork in August 1996, Karin Wessel concentrated on South Korean high tech industries. Out of economic considerations they show a strong tendency toward regional concentration, which runs counter to the goals of regional planning aiming at a more balanced regional development (Wessel 1997a, b).

The problem of the metropolisation of Seoul within the framework of regional development and regional planning was investigated by Dirk Bronger in comparison with the Southeast Asian metropolises of Manila and Bangkok (Bronger 1995, Bronger/Strelow 1996). He particularly looked into the question to what extent the metropolitan functional primacy, the most important feature of the regional structure of developing countries compared with industrialised countries, can be overcome in the course of the industrialisation process. The results showed that the aimed for demographic deconcentration of the Seoul Capital Region has not yet been achieved. Its once pronounced functional hegemony within the country has, however, been drastically reduced. In its regional income distribution South Korea can even bear a comparison with the industrialised countries of Western Europe.

### **North Korea**

His work on the South Korean development model with its orientation toward world market integration naturally aroused in Dege an interest in getting to know and comparing the North Korean model based on autocentric development. For many years it was impossible to visit North Korea without making politically unacceptable concessions. A change in policy allowed a few visitors to enter the country.

So far, however, it is still not possible to do geographical fieldwork in North Korea. Foreign visitors are strictly limited in their movements. Moreover, foreigners have no access to reliable data on the country, be it statistics or – even less so – maps or aerial photos. Consequently any observations could not go beyond rather general impressions and publications are limited to a travel guide (Dege 1991) and an overview of the urban geography of the North Korean capital, P'yongyang (Schinz and Dege 1990).

Dege's research opportunities were neither better nor worse than those encountered by Hans-Ulrich Pews, the only geographer of the former German Democratic Republic to specialise in North Korea. He was subject to the same limitations in his movements, and the same highly propagandistic materials prepared for foreigners were made available to him for his publications (Pews 1987, 1988). The fact that there are some differences in their observations and their evaluation of the facts is related to the different political and economic systems they belonged to.

Against the background of the German experience with reunification, Dege's work with both Koreas led to an economic scenario for a reunified Korea (Dege 1996a, 1998).

## **Koreans in China**

Already in the second half of the nineteenth century many Koreans fleeing from famine crossed the boundary rivers, Yalu and Tumen, into Manchuria. A second wave of migrants, between 1910 and 1930, was composed of political refugees who resisted the Japanese subjugation of their country. The planned settlement of landless Korean farmers by Japanese land development companies in the puppet state of Manchukuo (established in 1932) represented a third wave of migrants (Dege 1996b). Today the Koreans in China (1.9 million persons in total) have their own administrative area, the Korean Autonomous Prefecture of Yanbian, in the eastern part of the province of Jilin. Their high level of education, compared with the Han Chinese, and their economic agility have helped them to overcome the disadvantages of their peripheral settlement area to some extent. Consequently the plan, initiated by the UNDP, to found an international trade and finance centre of the calibre of Hong Kong in the delta of the Tumen on the territory of the three states, China, Russia and North Korea, was observed with especial interest. Such a supranational centre would free the Koreans in China from their isolation and release tremendous synergism in the three countries involved (Dege 1993). So far this plan has failed to be implemented, because of the differing political interests of the three countries.

## **Training of Korean Geographers in Germany**

Scientific exchange is never a one-way street. For this reason, and in view of the fact that so few German geographers have worked on Korea, the training of Korean geographers in German universities plays a particularly important role in the transfer of German scientific theories and methods to Korean geography. The first Korean geographer to get a PhD in Germany was Kim Do-jong (1966). He was followed, often because of personal connections, by 16 further geographers who finished their studies with a PhD. Of the 15 still living geographers who were trained in Germany, 12 are teaching at Korean universities and one is employed at the country's leading regional planning institute. All of them are indispensable multipliers of German geography in Korea. Seven of them devoted their dissertations to research on their home country (some in comparison with Germany) and thus, as with their later work, contributed to the German geographical knowledge of Korea.

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### **Deutsche Geographische Forschung über Korea**

Im Vergleich zu anderen Ländern Ostasiens haben nur sehr wenige ausländische Geographen in Korea gearbeitet. Im Lande geforscht haben überwiegend Deutsche.

Die deutsche Koreaforschung begann mit Hermann Lautensach. Die Ergebnisse seiner Forschungen wurden in zahlreichen Publikationen vorgelegt und bildeten schließlich die Grundlage für seine große Landeskunde (Lautensach 1945). Nach einer langen Pause wurde die deutsche geographische Koreaforschung erst 1971 durch Eckart Dege wieder aufgenommen. Er untersuchte den Einfluß der Industrialisierung auf die sozioökonomische Struktur des südkoreanischen Agrarraumes und beschäftigte sich mit der Industrialisierung, der Binnenwanderung und der Urbanisierung. Von 1988 an verglich er die wirtschaftliche und regionale Entwicklung beider Koreas.

Der räumliche Differenzierungsprozeß, der durch Südkoreas Industrialisierung ausgelöst wurde, und mögliche Maßnahmen, ihn zu steuern, begannen Ende der 80er Jahre das Interesse ausländischer Wirtschaftsgeographen zu wecken. So nahm Ludwig H. Schätzl Südkorea in sein Forschungsprogramm zur Regionalentwicklung in jung-industrialisierten Staaten auf; Karin Wessel untersuchte den räumlichen Differenzierungsprozesses in Südkorea, die südkoreanische High-Tech-Industrie und ihre Standortentscheidungen.

### **German Geographical Research on Korea**

Compared with other East Asian countries there has been very little geographical research by foreigners on Korea. What there has been was done mainly by Germans.

German geographical research on Korea started with Hermann Lautensach. His research led to a great number of publications on different aspects of the geography of Korea, culminating in his great regional geography (Lautensach 1945). After a long hiatus geographical research on Korea was resumed in 1971 by Eckart Dege. He studied the impact of industrialization on the socioeconomic structure of South Korea's farming population and concentrated on industrialization, internal migration and urbanization. From 1988 on he compared the economic and regional development of the two Koreas.

The spatial differentiation processes set in motion by South Korea's industrialization and the decentralization policies aimed at correcting them began to attract the attention of economic geographers in the late 1980s. Ludwig H. Schätzl included South Korea in his programme of studies on regional development in newly industrialized countries; Karin Wessel worked on the changes in the spatial structure during South Korea's development process. Furthermore she concentrated on South Korean high tech industries and their locational decision-making.

## **La recherche géographique allemande sur la Corée**

Par comparaison à d'autres pays de l'Asie de l'Est, seulement très peu de chercheurs étrangers ont travaillé en Corée. C'étaient surtout des allemands qui ont travaillé dans le pays même. La recherche de la Corée allemande commence avec Hermann Lautensach. Les résultats de ses recherches ont paru dans de nombreuses publications et ont constitué finalement la base pour sa grande géographie régionale (Lautensach 1945). Après une longue interruption, la recherche allemande de la Corée n'a été reprise qu'en 1971 par Eckart Dege. Il a travaillé sur l'influence de l'industrialisation sur la structure socio-économique de l'espace agraire de la Corée du Sud et s'est occupé de l'industrialisation, de la migration intérieure et de l'urbanisation. A partir de 1988 il a comparé les développements économiques et régionaux des deux Corées.

Le processus de la différenciation spatiale, déclenché par l'industrialisation de la Corée du Sud, ainsi que les mesures possibles de le contrôler ont commencé vers la fin des années 1980 d'éveiller l'intérêt de géographes économiques étrangers. C'est ainsi que Ludwig H. Schätzl a intégré la Corée du Sud dans son programme de recherche sur le développement régional dans des états récemment industrialisés. Karin Wessel a travaillé sur le processus de la différenciation en Corée du Sud, l'industrie High-Tech de la Corée du Sud et ses décisions d'emplacement.

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# **German Geographical Research on Siberia, Mongolia and the Russian Far East**

Jörg Stadelbauer

## **Preliminary Remarks**

The boundaries of the area that are to be dealt with in the following are defined in a conventional manner. Siberia and the Far East are seen as regions of Russia, i.e. they encompass the economic planning regions of Western Siberia, Eastern Siberia and the Far East. Mongolia is defined according to its current boundaries, that is, without the Autonomous Region of Inner Mongolia, which belongs to the People's Republic of China.

The overview undertaken here requires a few preliminary remarks: The report will be strictly limited to geographical literature, i.e. works written by geographers from German-speaking countries or published in geographical journals in Germany. This is a limitation that actually runs counter to the current area studies approach to regions, which is much broader in scope and interdisciplinary in nature. Being restricted to geographical publications, it will not reflect either the state of knowledge or the research style of the scholars who are working on Northeastern Asia today. Nevertheless, this course of action may be justified, as rendering an account of the knowledge to be gained from the work on the area done by geographers in the past decades.

A second preliminary remark is necessary on the different state of research in eastern and western Germany. After the division of Germany, research on Siberia, the Russian Far East and Mongolia was carried out by scholars from both East and West Germany, and in some cases scientists from the former German Democratic Republic (East Germany) had better opportunities for co-operation than those from the former Federal Republic of Germany (West Germany). Particularly worthy of mention are large scale research trips and expeditions such as that of a group of scientists from East Germany to the People's Republic of Mongolia around 1960. Additionally, in East Germany individual works by Russian authors were translated into German and thus became part of the general body of knowledge in German-speaking countries. They will not be included here, however, unless they had a German co-author (Vorob'ev and Gerloff 1987) or were published in one of the leading German-language journals.

Finally, we must remember that Siberia and the Far East were often included in general works on Russia or the former Soviet Union. Here too the scope of this report is limited, by choice. Works on Russia or the former Soviet Union as a whole will be mentioned only in passing.

## **State of Research after the Second World War**

Information on Siberia and Mongolia was spread fairly early by the great explorers who travelled there, beginning in the late Middle Ages, but especially in the eighteenth century. It is possible that Hans Schiltberger was the first German to travel in these regions. After his travels between 1394 and 1427, he reported on a country called "Ibissibur" (presumably Siberia) (Dahlmann 1999: 20). Few reports in the following period dealt specially with Siberia, because the country was only open to persons in the service of the czars. Not until the eighteenth century were there several large expeditions, in which German scientists participated by order of the czar (Henning 1906). Georg Wilhelm Steller (1709-1746), a member of the Great Northern Expedition (Second Kamchatka Expedition), wrote the first report on Kamchatka and its inhabitants, the Itelmen (Steller 1974). The investigations of Gerhard Friedrich Müller (1732-1764) yielded knowledge of both natural history and history/ethnology, whereas Johann Georg Gmelin (1709-1755) concerned

himself with botany (Dahlmann 1997, 1999, Scuria 1976). Daniel Gottlieb Messerschmidt's trip to Siberia (expedition 1720-1727), by contrast, went unnoticed for a long time and was not evaluated until the twentieth century (Winter and Figurovskij 1962ff, Brentjes 1993). Between 1768 and 1774 Peter Simon Pallas undertook a trip to Siberia, on which he gathered various types of information on the country and its people (Schorkowitz 1995). The eighteenth century journeys would have been impossible without the permission of the czar and without close collaboration with the just founded Academy of Sciences. This made an adequate scientific assessment possible, though by no means all notes were published. The fact that in the nineteenth century Siberia became a region to which unwanted elements were banished pretty much prevented further scientific activity by foreigners and thus also the work of German geographers.

The state of knowledge among German geographers in the middle of the twentieth century is exemplified by a few comprehensive regional geographies that were written as overviews in the period between the World Wars, but have retained their usefulness until the present day. The parts of these works that deal with physical geography are generally correct, at least in their basic features, though some details could be described more precisely on the basis of more recent research. The parts on anthropogeography are usually outdated, however, though they are interesting as a comparison. These overviews include systematic regional geographies of Siberia and the Ussuri region (Schultz 1923, 1932), of Tuva (Leimbach 1936), of adjacent Manchuria, from a geopolitical perspective that is suspect today (Fochler-Hauke 1941), and of Southern Sakhalin, which was under Japanese control (Schwind 1942). On his Hinggan expedition of 1932, Plaetschke visited a group of villages of emigrant Russian Cossacks on the Manchurian side of the central Argun River (Plaetschke 1937). Not until after the Second World War were regional geographies of the Soviet Far East and Mongolia published (Thiel 1953, 1958). A general description of the Soviet Union based on a thorough study of the literature can be found in the regional geography by Leimbach (1950). The two-volume work by Berg (1958-1959), translated from the Russian, is a basic handbook on the differentiation of natural regions. B. Plaetschke (1939), who died in 1942, wrote a critical overview of the state of knowledge on eastern Mongolia. For many decades the survey by E. Thiel (1934) on transportation in Russian Asia was the definitive work in the German-speaking countries. The works mentioned here combined observations made on trips in the country with a thorough evaluation of the available literature, in particular the Russian literature. They were not as much the result of problem-oriented empirical investigations in the sense of critical rationalism, however, as systematic processing of material. Because these works did include information gained from discussions during their authors' travels, their methodological approach is sometimes almost qualitative, although the emphasis was not on investigating social structure or behaviour in space, nor were behaviour-oriented or environmental relationships systematically examined. Nevertheless these works must today still be considered important collections of facts on the areas they describe.

Some geographers working in the period after the Second World War were able to revive and continue their experience and research results from the pre-War and War period. They thus represent a certain degree of continuity in the geographical investigation of the area in question. In contrast to the southern part of the European Soviet Union, however, few geographical studies dealt with Russian Asia during the Second World War. The account of the activities of German geographers during the Second World War, edited by H. von Wissmann (von Wissmann 1948), provides a brief résumé of the results together with bibliographic references. The *Geographisches Jahrbuch* (Geographical Yearbook) has a tradition of publishing research reports, of which several have dealt with the region we are discussing (Friedrichsen 1919, Fickeler 1926, Leimbach 1938-39). The last report to do so was that by Fochler-Hauke (1956) on Mongolia.

## **Geographical publications between 1950 and 1990**

The four decades between the end of the Second World War and the upheavals that led to the collapse of the Communist system and the Soviet Union produced a further series of overviews, which essentially either adopted and interpreted Soviet material or were based on collaboration with Russian and Mongolian colleagues. Independent investigations in the field were the exception, and consequently results of such studies could only sporadically be included in the works. Some contributions by Russian geographers, in particular by members of the Institute of Geography of the Siberian Division of the Russian Academy of Sciences in Irkutsk, on physiogeography, settlement structure and economic geography appeared in *Petermanns Geographische Mitteilungen*. They testify to the contacts that existed between scientists in East Germany and the USSR (Slavin 1956, Mescer'akov 1963, Murzaeva 1965, Kozlov 1969, Kunycin 1973, Medvedkova 1978, Medvedkova and Misevic 1978).

An additional important reason for studying and publishing on Siberia was the need for up-to-date information, prepared and interpreted for use in schools. Publications in the *Geographische Rundschau* and the *Zeitschrift für den Erdkundeunterricht* (East Germany), and in a few other journals, made some geographically relevant themes accessible to a broader circle of readers and users.

In the study of Siberia, the Soviet Far East and Mongolia, a few main topics began to predominate. They were ones that dealt with important regional changes and increasingly emphasised regional development and the dynamics of development:

- Regional development and resource management
- Agriculture and supplying the needs of the population
- Urban structures in the regions of colonisation
- Natural conditions and environmental issues

### **Regional development and resource management**

The continuing need for regional development along various pioneer fronts provided the stimulus for an historical review intended to yield insights into the spatial patterns of the development process (Stadelbauer 1986). The great expeditions of the eighteenth and nineteenth centuries, whose aim was to open up the area, are also part of the historical dimension of development, a topic that is attracting increasing attention at the moment. In particular, Alexander von Humboldt's journey (1829), which was originally supposed to take him to the Urals but was then extended through southwestern Siberia as far as the Altai Mountains, has been mentioned several times (Stams 1979, Honigmann 1983, Beck 1984).

The Soviet period can be divided into several phases on the basis of the development strategy employed in each. Whereas during Stalin's rule deportation and forced labour camps were the most important means of deploying labour to develop the Far North (e.g. Norilsk), under Khrushchev the approach shifted, and labourers were sought by appealing to the pioneer spirit of youth, especially the members of the Communist youth league, Komsomol. Under Brezhnev an ingenious system of privileges, bonuses and extra pay was developed (Karger 1966, Bud'kov and Bud'kova 1984, Karger and Liebmann 1986, Wein 1980, 1988a). The programme of "pushing economy into space", made possible through selective allocation of funds within the centralised economy, was reflected in models that included both the settlement system and the infrastructure (Gerloff 1978, 1981, Vorob'ev and Gerloff 1989, Giese and Klüter 1990).



An in-depth study arising from a priority research programme in Berlin on the development of industrial regions and the development of large scale industrial networks in the Stalinist era was produced by Liebmann (1981). The importance of the transportation infrastructure was revealed by studies on the Baikal-Amur Magistral, which was constructed from 1974 to 1984 (Knabe 1977, Liebmann 1978, Karger 1980, from the Soviet viewpoint: Medvedkova and Misevic 1978). Initially its significance was evaluated on the basis of its aspirations; later its actual shortcomings were viewed increasingly critically. The importance of sectoral and regional administrative structures is evident especially in the model of territorial production complexes (on the theoretical background: Bandman 1975, 1980; on the intended development: Barsch and Weisse 1979, Gerloff 1981, on the political component: Klüter 1991, cf. Klüter and Giese 1990, Stadelbauer 1990). Over the years this regional system, which was organised as a scientifically based model, increasingly became a tool for furthering the interests of individual ministries (Klüter 1991). The increasing difficulties associated with the development of peripheral regions, such as southern Yakutia, drew attention to the limited efficiency of the model and revealed the costs and organisational issues connected with regional development (Knabe 1988).

Several analyses were devoted to the economics of raw materials in association with the increasing importance of oil and natural gas (Kozlov 1969 and Kunycin 1973 from a Soviet point of view; Karger 1974, Pluhar 1977, Wein 1996, 1996a). For the most part, the development of this peripheral region took place during the phase in which the influx of labour was controlled by material incentives. Analogous to labour organisation on oil drilling platforms, spatial models for short-term deployment of labour from base settlements farther to the south were developed (Vorob'ev and Gerloff 1987). Non-energy raw materials were the subject of interpretations by Gerloff (1970) and Clement (1986), against the background of the Soviet economy as a whole. Gerloff (1962) dealt especially with southern Siberia and the coal deposits in the Krasnoyarsk region and in the area of Irkutsk, before new regional structures were created with the Kansk-Achinsk territorial energy complex (Stadelbauer 1990). Forestry resources, which played an important role not only in the country itself, but also in economic contacts to Japan, were investigated in connection with the development along the Baikal-Amur Magistral (Iljina 1979). On the whole, however, the difficulty of access to data made it quite difficult to investigate this aspect in particular.

In a general interpretation of the development processes a question that plays an important role is whether Siberia and the Far East should be considered Russian colonies. Any interpretation of necessity must consider the achievements made in regional planning and social infrastructure, especially in the education system and in the cultural sphere (Klüter 1991).

### **Agriculture and supplying the needs of the population**

Siberia has been an area of colonisation at several times since the nineteenth century. In the process, particularly the areas with good black-earth soils in the South and Southwest were developed. This was the starting point for the expansion of cultivated areas in the second half of the 1950s, most analyses of which were for the area of northern Kazakhstan. The development of agriculture in southern Siberia and the adoption of modern agricultural technology for arid regions were investigated by Wein (1981, 1983, 1986) as a study of regional development in pioneer areas.

Mongolia served as a case study for the application of the Soviet economic system to a region with traditional nomadism. Between modified traditional agriculture and superimposed "modern" agriculture, an increasing discrepancy evolved, which was manifested in a decline in agricultural productivity. This topic was investigated from different points of view by geographers in East and

West Germany (Barthel 1962, Kreuer 1982, Stadelbauer 1984; in a comparison of different developing regions Stadelbauer 1987).

The relatively small number of studies on rural areas, agriculture and the issue of supply is an indication of the difficulty of access to data; many a statement had to be based on chance observations or on the evaluation of statistical materials of uncertain reliability. Since the beginning of the 1970s it has, in principle, been possible to employ satellite images and data. This has been done descriptively, but could not be applied to the entire area, because supplementary field studies were not possible.

### **Urban structures**

Under the conditions of the Soviet administration, studies on urban geography were somewhat easier to perform than investigations in rural areas, as long as they concerned cities that were open to tourists. Geographers attempting such studies were, however, confronted by the problem of the lack of availability of data and maps, because the city maps published for tourists in no way met the needs of geographers. Nevertheless Karger (1966) managed to describe the urban development of Bratsk as part of Soviet regional development policies, and Barth (1978) sketched the urban geography of Novosibirsk with Akademgorodok. This was followed by a further assessment of Bratsk by Wein (1988). An analysis based on detailed mapping of Soviet Kolkhoz markets also included examples from Siberia (Stadelbauer 1991). Some cities were investigated as economic locations in the industrialisation process. Again the subject was often Bratsk, which the Soviet side also considered to be a paradigm of recent types of development in Soviet times (Medvedkova 1978). There could only be isolated studies on industrial geography due to limited access, although the International Geographical Congress in Moscow in 1976 held a symposium on industrial geography in Novosibirsk, which was devoted especially to the theory and practice of territorial production complexes.

### **Physical geography and environmental issues**

Whereas cultural and economic geographical analyses at a macrolevel were possible even without direct access to all areas, studies in physical geography required both access to the relevant Russian literature, and fieldwork, unless they were merely to be overviews based on Russian publications. On the other hand, they were less subject to the dictates of political conformity. In an extension of his analysis of the river regimes in European Russia, Grimm (1979) published a comprehensive work on the rivers of Siberia and its drainage systems. Two study trips formed the basis of a review of cryoturbate soil movements by Breburda, Frenzel and Zakosek (1983). Special types of periglacial landforms were investigated by Markuse (1976) in a study of permafrost that also looked at the limitations on use pertaining in vast parts of Siberia. Another study of periglacial landforms by Richter, Haase and Barthel (1963) examined the development and distribution of golez terraces (also cf. Czudek 1990). Murzaeva (1965) analysed the history of valleys and rivers in the Amur region. An investigation of climate-dependent morphology addressed the altitude zoning in the Hangayn Mountains in eastern Mongolia (Richter 1961).

Climate was also the topic of an early paper by Thiel (1951); it was later investigated by Martjanova (1980) in Transbaikal. Frenzel's studies (1955, 1959-60) on vegetation zoning are also based on the interpretation of paleoclimatic findings. Barthel's climatological study (1983) on Mongolia employed a geoeological approach.

Using an approach developed for integrative landscape study, a direction of research being followed at the Institute of Geography in Irkutsk, Richter (1978) drew up a "geogramme".

Liebmann (1988) used the division of Western Siberia into natural regions to demonstrate the nature of oil and natural gas deposits and the problems encountered in exploiting them.

Ecologically oriented studies concentrated on the Baikal region, which has attracted increasing international attention in the past two decades since the public became aware of the potential environmental hazard arising from wood processing and industrialisation (Krauklis 1987, Opp 1994a, Wein 1989, cf. also Treter 1990). A geoecological, or more specifically soil science approach was applied by Haase (1978) in his "Habilitation" (professoral thesis). He was able to carry out field studies in Mongolia (Haase 1983).

### **Regional analyses**

Between 1950 and 1990 the only geographical overviews of Siberia were a special issue of the "Geographische Berichte" published on the occasion of the International Geographical Congress in Moscow containing articles by Russian scientists (Sotchawa 19767, Worobjow, Misewitsch and Prochprov 1976, Kosmatschow and Schozki 1976, Snytko 1976, Markuse 1976), an interdisciplinary anthology in which geographers participated (Leptin 1986) and a German-Russian collaborative study (Vorob'ev and Gerloff 1987). It must be borne in mind that Siberia was included in all publications dealing with the Soviet Union as a whole. Franz' (1973) overview in the nature of a handbook dealt with the natural regions of the Soviet Union, while regional economic structures were described by Gerloff and Zimm (1978). At almost the same time Karger's (1978, current edition 1987) regional geography appeared. It is highly historical in its argumentation and has a regionally structured second part. In Karger (1979) the main focus is on an analysis of the economy as the driving force behind regional development. The first publication on Mongolia was a translation from the Russian published in 1954 (Murzaev 1954). This was later followed by a brief, but informative regional survey based on a field trip by a small group of geographers from East Germany (Barthel 1990, original version 1971), which was for a long time the only such work in the German-speaking countries. Simultaneously it supplemented the many individual publications comprising various results gathered during the expedition (overview of the regions of eastern Mongolia [Richter, Haase, Barthel 1962], individual studies on soil ecology and climatology [Haase 1978, 1983, Barthel 1983], on agriculture [Barthel 1962], on transportation geography and the settlement system [Barthel, Haase and Richter 1965, Haase, Barthel and Richter 1965]).

### **Research in the phase of transformation since 1990**

The collapse of the Communist system enabled geographers to test new research approaches, and they profited from the expanded opportunities to travel to the Asian parts of Russia and to Mongolia. Since then there have been much greater opportunities for field studies applying quantitative physical geographical methods, mapping and the methods of quantitative and qualitative social research. A number of high calibre "Diplom" and Master's theses have ensued, of which only a few were published, however (Habeck 1998). Reports of field trips also include investigations done in the field and can serve as components of a regional geography (Mattes and Lienau 1994, Klüter 1998). Mongolia's strict break with its previous political course and the opening of the country for technical co-operation with the industrialised European countries have made intensive research possible. A very active scientific and advisory group at the "Zentrum für Entwicklungsfragen" (ZELF, Centre for Development Issues) in Berlin, including Scholz, Jansen and Müller, has carried out investigations on nomadism and on settlement structure and was involved in the revival of mobile livestock keeping. Detailed investigations on the Uvs Nuur basin emerged from the collaboration of a physiogeographical working group with Mongolian colleagues (cf. below).

The opening of the region to foreign scientists thus led to a considerable expansion of the topics of research, though earlier ones were not abandoned. The most important research topics in the past decade have proved to be

- Physical geographical studies on the development of arid and high mountain regions
- Continuation of ecologically oriented inventories drawing inferences for conservation
- Natural resources and their management
- The ecological and economic adaptation of agriculture, food supply potentials and providing for the needs of the population in an economy that is in the process of transformation
- Analysis of demographic processes in relation to the development of the settlement system and
- Ethnogeographical aspects, minority problems, especially concerning ethnic Germans
- History of development and historical geography

### **Physical geography, in particular the arid and high mountain regions of Inner Asia and their development potential**

Meanwhile, scientists have better access to Mongolia than to Siberia and the Russian Far East. In 1999 several papers were published with the results of a joint geoscience and biological science research project, entitled "Paleogeographical and biospheric conditions of landscape development in the Uvs Nuur basin". This project, initiated in 1993 under the supervision of the very experienced G. Haase, combined four groups of researchers in Mainz, Göttingen, Erlangen and Berlin. Topics included soil development on ancient dunes (Grunert et al. 1999); an analysis of lake sediments in order to reconstruct fluctuations in the lake level, which can be seen as a manifestation of landscape development (Naumann 1999); investigations of pediment formation (Walther and Naumann 1997); the reconstruction of climatic development from earlier lake levels (Walther 1998, 1999); the vertical arrangement of relief forming regions (Lehmkuhl 1999); a dendrochronological and dendroecological analysis of larch forests (Sommer and Treter 1999); the mountain forest-steppe (Treter 1996); and soil geography and landscape ecology (Opp 1991, 1994, 1999). These studies illustrate the application of modern geoscience approaches to the case study regions and are at the same time an example of the complex investigation of a region within the framework of a financially supported priority research programme. The research projects combined within the programme are devoted to landscape development and paleoclimate, geomorphological processes, the condition and dynamics of the vegetation of steppes and forests, the typification and genesis of soils, climate near the ground and climate modelling, limnology and remote sensing. One objective of the investigations lies in the sphere of applied science, namely to link the study of natural features to the development of concepts for the protection and utilisation of the region for the nomadic population.

### **Environmentally oriented investigations, issues related to environmental and nature conservation**

Lake Baikal remains an important paradigm for the analysis of matters related to environmental and nature conservation and for applied studies on the establishment of nature preserves. Whereas works from the 1980s and early 1990s dealt with the investigation of pollution (Opp 1994a), more recent studies are much more oriented towards concrete applications and aim at developing recommendations for conservation and regional planning. For instance, environmentally sustainable tourism has been recommended as a possibility for the economic development of Olkhon Island (Wein et al. 1999).

## **Natural resources and their management**

The interests of economic geographers focus on Siberia's natural resources, which are viewed as a potential of the natural region. The external conditions on which their utilisation is dependent have been analysed. Particular attention has been paid to the oil and natural gas region of Western Siberia, because these raw materials are finding a receptive market in western Europe and therefore now play an especially important role in the phase of transformation (Wein 1996, 1996a; Klüter 1995 from the point of view of competition between Siberia and Kazakhstan). Fuhrmann's dissertation (1994) dealt with the development of the industrial location of Novosibirsk, including an historical review. For the Kuznetsk basin it can be shown how increasing globalisation intensifies problems in an old industrialised area that has experienced almost no technological innovations (Klüter 1997). The special economic situation in Yakut-Sakha, the extremely sparsely settled, though largest republic within the Russian Federation, also deserves particular attention because its mineral resources (gold, diamonds) are important for the world market (Wein 1991, 1993, 1997, cf. also Knabe 1988). The changing conditions since the beginning of the transformation, which are leading to emigration out of the Far North, were already briefly mentioned by Gerloff (1992) and Klüter (1991a); they were confirmed by Wein (1999a) on the basis of statistical data.

## **The ecological and economic adaptation of agriculture, food supply potential and supplying the needs of the population**

Rural areas and agriculture have been the focus of studies on the revival of nomadism in Mongolia. They revealed that the Socialist organisation forms were surmounted within only a few years by means of extensive privatisation of the herds, but that important regulations necessary for profitable mobile livestock keeping are still lacking (Müller 1994, 1995, 1997, 1999). Within a period of a few years the earlier forced settlement of nomads was reversed and the settlement system was again adapted to mobile livestock keeping. It must however be borne in mind that this has been possible in Mongolia only because of extensive foreign aid which supplies the needs of the population. Müller (1999, 1999a) pointed out that the extensive return to mobile forms of animal husbandry is associated with massive changes in the sphere of social relationships and settlements. In the process, legal provisions for pasture usage are gaining a new significance. Studies clarifying the historical traditions of grazing rights are also relevant to regional planning policies (Müller and Bold 1996, 1996a, Janzen and Bazargur 1999).

The revival of nomadic lifestyles and economic forms is not limited to Mongolia. It can also be observed among the peoples of the Far North. Wein and Egorov (1992) reported on the beginnings of such a development among Yakut reindeer nomads. In a study of reindeer herders in the Evenk autonomous district that goes back over a long period of time, Habeck (1998) showed that the process of sedentarisation in the twentieth century was only partially a matter of political force. For the most part it was an economically related process that led to an increasing degree of sedentary life and associated settlement patterns. Even during the phase of transformation this process has not been replaced by renomadisation to any great degree.

## **Demographic processes and the development of the settlement system**

Whereas in the Soviet period the partially forced, partially voluntary immigration to Siberia and the Far East aroused scientific interest, in the 1990s it was reverse demographic processes that caused the population density in the Far North to thin out and the settlements to lose population (and to some extent significance). Wein (1999a) published a preliminary analysis based on the evaluation of official statistics. He pointed out the negative migration coefficients in the administrative units of the Far North; the reason for these migrations being partly ethnic factors

and partly the drastically deteriorating economic conditions. Immigration to Siberia is coming from the "nearby foreign countries", particularly from Central Asia. In the meantime a temporal differentiation into individual phases has become possible on the basis of detailed analysis of the data.

Particularly affected are the settlement areas with ethnic German population, which attracted a great deal of interest, some of it politically motivated, at the beginning of the 1990s, related to a wave of immigration to Germany (Klüter 1992, 1992a). Before the end of the Soviet period, Klaube (1990, 1991) carried out a detailed study of the German settlements in the Kulunda Steppe, later followed by several small studies as a review for the ethnic German county of Halbstadt (Klaube 1996, 1997, 1999). After the phase of increased emigration to Germany, up to 1992-93, German policies changed and began to aim at supporting the ethnic German population remaining in southwestern Siberia, to counteract further emigration and the concomitant social problems (Klüter 1992a).

### **Ethnogeographical aspects and minority problems**

Large parts of the area dealt with here were characterised by nomadic lifestyles and economic forms before they were modified by Soviet influence. In the current phase of transformation it can be observed that the interruptions in the process of modernisation are leading to a return to nomadism. On the one hand, it can be shown that both North Eurasian reindeer nomads and Mongolian cattle and sheep nomads are deliberately returning to ecologically adapted types of use; on the other hand, empirical studies reveal that to a high degree it was the collapse of "modern" services that provoked the change. Whether the forced settlement during the Soviet period is reversible or is only being delayed by the current transformation is uncertain. Using the Evenki as an example, Habeck (1998) showed that the culture change among the indigenous peoples of Siberia and the Far East requires very sophisticated analysis and evaluation. For a Yakut settlement Wein and Egorov (1992) demonstrated that the partial return to nomadic lifestyles is a process of adaptation to the conditions of the phase of transformation.

### **History of development, historical geography**

The opening up of Siberia has long fascinated as a phenomenon in itself and as for comparison with other large developing areas of the world. There was an implicit link with ideas which since the 1930s have been associated with research on developing regions and which can be traced to Frederick Turner's frontier theory.

Closely related are analyses on historical geography or the history of science, especially on early travellers (Beck 1994). Traditionally such analyses are the field of the historical sciences (Dahlmann 1999), but this aspect is not entirely absent in geographical publications. The opening of Siberia during the Soviet period is in need of reinterpretation, as made obvious by unsuccessful settlements, population losses (Wein 1999) and difficulties in economic development.

### **Regional geographical surveys**

The transformation process is by no means complete, but first conclusions can be drawn, including a look further back in history. Stadelbauer's work (1996) encompassing the entire area of the former Soviet Union, identified a number of persisting regional structures inherited from the Soviet period, but also included changes occurring during the transformation phase. In a monograph, Wein (1999) described the development of Siberia. In it an overview of the natural regions is followed by a review of the history of the opening of Siberia and a description by sectors of Siberia as an agricultural region, transportation region, region developed in the

twentieth century (Soviet period), region of current settlements, political region and finally as an economic region, with a few selected administrative units as case studies. Finally the factually-oriented view widens to look at Siberia's position in the global economy. A small scale study, if one can use the term "small scale" in relation to the spatial dimensions of Siberia, is the analysis of Khakassia written by Klüter (1998) on the basis of material gathered during a field trip. Corresponding works on the Far East continue to be a desideratum in the German literature.

There is continuing interest in the regional geography of Siberia, though opportunities for research are currently much better in Mongolia, especially on the basis of technical aid projects, whereas logistical problems complicate access to Siberia and the Russian Far East. Our knowledge is therefore far from complete and it concentrates on a few circumscribed areas of special interest. Overviews deal with Western Siberia, the Baikal region and parts of Yakutia, more recently also Kuzbass and the areas settled by ethnic Germans in southwestern Siberia. In Mongolia, work also focuses on certain areas, but they are now defined by the boundaries of large-scale research projects rather than by chance access.

A fairly large number of research collaborations currently exist, but they are more easily established at present with Mongolia than with Russia. There the economic situation, the persisting brain drain among the young generation of scientists and the simultaneous ageing of the remaining scientists are beginning to make themselves felt, as are, once again, increasing administrative obstacles in the issuing of travel permits. On the other hand, with sufficient private initiative it is possible to visit even remote regions and to work there with qualitative methods. In Mongolia technical co-operation is opening broad opportunities for applied regional research.

### **Research deficits**

Our overview has revealed that it has been possible to investigate an abundance of issues in the field using modern methods of physical geography and empirical regional and social research, especially in the 1990s, but it also points out existing gaps and deficits in research. Too little is known about the settlement structures in either rural or urban areas, their variety and the multitude of changing factors and processes. In the analysis of the settlement system a new approach is required that does justice to the re-evaluations in the Far North, without ignoring the historical achievements in developing the area. Considering the ethnic, linguistic and religious variety within the area, we can assume that there are very different types of settlements, each associated with specific sociospatial processes. A second research deficit relates to economic conditions. At the macroeconomic level, regional disparities can be compared fairly well on the basis of (occasionally dubious) statistical materials. They need to be supplemented, however, by investigations of the persons involved in order to analyse the low productivity of processing industries and agriculture. Finally the geopolitical situation dealt with in an older article by Kolb (1983) must be investigated with the methods of modern political geography, the better to understand the economic privilege of individual regions in Siberia and the Russian Far East. Investigations of physical geography and landscape ecology have so far had to refer to the Russian literature or have remained limited to a very small scale. Here extensive bilateral and multilateral research collaborations would be useful.

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### **Deutsche Geographische Forschung über Sibirien, die Mongolei und den Russischen Fernen Osten**

Die geographische Erforschung Russisch-Asiens und der Mongolei reicht bis zu den großen Forschungsreisen des 18. Jahrhunderts zurück, kann auch auf zusammenfassende Werke im ersten und zweiten Drittel des 20. Jahrhunderts verweisen, war aber in sowjetischer Zeit in hohem Maße durch bürokratische Zwänge behindert. Nur partiell waren eigene Anschauung, Geländeerhebungen oder gar Expertengespräche möglich. Die bei den Veröffentlichungen zwischen 1960 und 1990 im Vordergrund stehenden Themenbereiche (Raumerschließung und Rohstoffnutzung, Landwirtschaft und Versorgung der Bevölkerung, Stadtstrukturen im Kolonisationsraum sowie naturräumliche Rahmenbedingungen und ökologische Fragen) mußten sich auf sekundäre Aufbereitungen russischer Originalarbeiten sowie die Auswertung des meist kargen statistischen Materials beschränken. Die Nachfrage im Schulunterricht und bei Entscheidungsträgern aus Politik und Wirtschaft war jedoch ebenso wie allgemeines wissenschaftliches Interesse immer gegeben. In der Transformationsphase nach 1990 kamen zusätzliche Forschungsschwerpunkte hinzu, so die Entwicklungsproblematik von Trocken- und Hochgebirgsräumen, die Bestandsaufnahme natürlicher Ressourcen und ihrer Nutzung, die Frage ökologischer und wirtschaftlicher Anpassungsprobleme der Landwirtschaft, ferner die Analyse demographischer Prozesse im Hinblick auf die Entwicklung des Siedlungssystems sowie ethnogeographische Aspekte und Minderheitenprobleme. Trotz des inzwischen möglichen Einsatzes gängiger Forschungsmethoden bestehen immer noch erhebliche Kenntnisdefizite.

## **German Geographical Research on Siberia, Mongolie and the Russian Far East**

The geographical exploration of Russian Asia and Mongolia extends back to the great expeditions of the 18<sup>th</sup> Century, laying the foundation for publications of geographical compendiums during the 1<sup>st</sup> and 2<sup>nd</sup> third of the 20<sup>th</sup> Century. However, bureaucratic red-tape under Soviet rule put an end to further onsite research. Personal observations, field surveys/mappings and specialist discussions were very rare. Publications between 1960 and 1990 on the fields of infrastructural expansion and utilisation of raw materials, agriculture and population supply, urban structures in colonial areas, as well as natural limitations and ecological concerns often had to make do with secondary literature of Russian research and the limited availability of Russian statistics. The demand for information on the region never ceased, be it at the school level or amongst decision-makers in political and economic spheres, a general scientific interest prevailing. In the period of transformation after 1990, the fields of research expanded to include: problems faced during development of dry and high mountainous regions, inventory compilation of natural resources and their usage, problems facing agriculture as it strives to meet changing ecological and economical demands, as well as demographic process analysis in view of settlement structure development, ethno-geographical aspects and minority problems. Despite an improvement in the application of current investigation methodology, major research deficits remain to this day.

## **La recherche géographique allemande sur la Sibérie, la Mongolie et la Russie d'extrême orient**

La recherche géographique sur l'Asie russe et la Mongolie remonte aux grandes expéditions du 18<sup>ème</sup> siècle, a produit également au premier et deuxième tiers du 20<sup>ème</sup> siècle des publications générales mais était gravement gênée par des contraintes bureaucratiques sous le régime soviétique. Ce n'est que partiellement que des recherches sur place, des recherches topographiques ou encore des discussions d'experts étaient possibles. Les sujets principaux des publications entre les années 1960 et 1990 (développement spatial et utilisation des matières premières, agriculture et alimentation de la population, les structures des villes dans les zones de colonisation ainsi que les conditions de base de l'espace naturel et les questions écologiques) ont dû se limiter à des commentaires secondaires de travaux russes ainsi qu'à l'évaluation du matériel statistique limité. La demande du côté de l'enseignement scolaire et des décideurs politiques et économiques ainsi que l'intérêt scientifique général étaient toujours existants. Pendant la phase de transformation après 1990 d'autres sujets de recherche apparaissaient, tel que les problèmes de développement de zones arides et de haute montagne, l'état des ressources et de leur utilisation, la question des problèmes de l'adaptation écologiques et économiques de l'agriculture, ensuite l'analyse de processus démographiques en vue du développement du système d'habitat ainsi que des aspects ethno-géographiques et des problèmes de minorités. Malgré le fait qu'entretemps il est bien possible de se servir de toutes les méthodes de recherche, il y a encore de grands déficits de connaissance.

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The first of the principal features of the project is the construction of a dam across the river at the site of the old mill race. This dam will be 100 feet high and will have a crest width of 20 feet. It will be of the gravity type and will have a concrete abutment on the left and a masonry abutment on the right. The dam will be 1,000 feet long and will have a crest width of 20 feet. It will be of the gravity type and will have a concrete abutment on the left and a masonry abutment on the right. The dam will be 1,000 feet long and will have a crest width of 20 feet. It will be of the gravity type and will have a concrete abutment on the left and a masonry abutment on the right.

Construction of the dam and the mill race

The dam will be 100 feet high and will have a crest width of 20 feet. It will be of the gravity type and will have a concrete abutment on the left and a masonry abutment on the right. The dam will be 1,000 feet long and will have a crest width of 20 feet. It will be of the gravity type and will have a concrete abutment on the left and a masonry abutment on the right. The dam will be 1,000 feet long and will have a crest width of 20 feet. It will be of the gravity type and will have a concrete abutment on the left and a masonry abutment on the right.

# **German Geographical Research on Thailand and Myanmar/Burma**

Frauke Kraas and Dieter Uthoff

Amongst all the South East Asian countries, the Thai Kingdom (known as Siam until June 1939), has received the most scientific attention from Austrian, German and Swiss geographic researchers. The breadth of research, the extent of bilateral co-operation and the number of relevant scientific publications ranging back to even before World War II underline the above. The reason for this focus lies in Thailand never having been subjected to European rule and Austria, Germany and Switzerland, unlike the other European powers, appearing to have no colonial intentions on Thailand.

Publications on Burma (officially named Myanmar after 1988) were also included in the research survey. The country is often considered "Siamese twin" with Thailand, particularly as the parallels in natural regionalisation are striking and both countries show common historical and socio-cultural characteristics. Unlike Thailand, Burma has been neglected by the international scientific world, as well as by the German-speaking geographic world, this being due to decades of self-inflicted isolation following independence in 1948 and international political sanctions.

## **1. From Colonialism until the end of World War II (1690-1945)**

Engelbert Kaempfer, not only one of the first but also the most influential German explorer in the 17<sup>th</sup> century, stayed in the former Siamese capital Ayutthaya in 1690 (Terwiel/Sternstein 1993). His descriptions of the legendary Ayutthaya and the highly-developed culture influenced the European perception of the Siamese Kingdom till the European colonial expansion on mainland Southeast Asia mid-19<sup>th</sup> century. Siam became a buffer state, separating the British and French spheres of interest. It is only since this period that German-speaking geographers and ethnographers have systematically set about exploring Myanmar/Burma and Thailand, these two fields at the time still being closely related. Adolf Bastian, on his journey from Moulmein to Bangkok between 1861 and 1863 crossed the Burmese-Siamese border mountain range (Bastian 1867), followed soon thereafter by Ferdinand von Richthofen travelling over the Three Pagodas Pass in the opposite direction. Between 1877 and 1880, an Austrian-Hungarian expedition led by Count Béla von Széchenyi surveyed Burma, in 1890 Otto E. Ehlers travelled through northern Burma (Helbig 1940). The groundwork for these expeditions had been laid by the first Prussian expedition under Count Fritz zu Eulenburg (1861-1862), its most significant outcome being the Treaty between the States of the German Custom Union and Siam signed in 1862 (Stoffers 1995, Kreyher 1863: 347-396). Connections between British Burma and Germany were established as a result of the employment of the botanist Dietrich Brandis from Bonn in the ranks of the British service as Superintendent of Forests between 1856 and 1862 (Hesmer 1977). His activities established close links with Germany in the fields of forestry and vegetation, sustained to this day.

During the colonial era, Germany and Siam developed a special relationship (Wenk 1977). As Germany did not pursue any colonial interests in Siam, it was welcome as a European partner. Further, the friendship between King Chulalongkorn and Emperor Wilhelm II, as well as the former's trips to Germany between 1897 and 1907 for health and travel, led to a bonding between the two states encompassing more than cultural exchange. Bilateral trade, impulses in technical development and administration (e.g. railway construction 1892-1917, the extension of the Khlong Toey Harbour and the Postal Services; Achilles 1977), as well as scientific research were the fruits of this co-operation.

Thus, by the end of the 19<sup>th</sup> century and at beginning of the 20<sup>th</sup> century, several "classical" travel journals had been published for educated members of the middle class interested in far-off, exotic countries. Of the journals published, the descriptions of old Siam by Ernst von Hesse-Wartegg (1899) and Carl Curt Hosseus (1912) should be mentioned in particular. Systematic scientific observations were followed from the 1920's onwards. During the travels by the Munich geographer Wilhelm Credner in Siam between 1927 and 1929 (Credner 1928, 1929), the foundation for the first comprehensive "geography" of the region was laid. Credner explored the questions of landscape regionalisation (1930), described morphogenetic forms and reviewed in detail the natural make-up, resources and their exploitation (in particular tin deposits and tin mining). He also discoursed on the distribution and characteristics of rural settlements (Credner 1933) and published a fundamental paper on the characteristics of ethnic groups and movement in the mountainous regions of northern Thailand (1935b). During extensive stays in both Thailand and Burma, Hugo Bernatzik explored the settlement and economic structure of mountain tribes in northern Thailand and on the Burmese Shan-Plateau (Bernatzik 1941, 1947). Impressions of the Burma Road, linking Mandalay and Yunnan, were collected by Krebs (1943).

The "classical" travel journals and geographical field trips of the pre-World War II period are mostly of encyclopaedic nature, reflecting holistic and general observations of the natural and cultural regional characteristics and are often written in the tradition of the so-called "Hettnerian schema". The same can be said about the ground-breaking work by Wilhelm Credner (a pupil of Alfred Hettner) and his "Siam - Das Land der Tai. Eine Landeskunde aufgrund eigener Reisen und Forschungen" (Siam - Land of the Tais: A regional study based on personal travels and research, 1935a). To this day, this book has not lost its significance, its value at present lying in the documentary character of the inventory-like observations made of Thailand at its threshold to modernisation.

## **2. Postwar and Present Times (1945-2000)**

After 1945, unlike its neighbouring countries in mainland Southeast Asia, Thailand did not face the same level of political upheaval during its search for national independence. This allowed the country to keep up good ties with Europe and encouraged scientific research. After the communistic take-over in the former Indochinese states, the contact between Thailand and Europe further intensified. As to Burma, history took a different path: not only was the process of decolonisation rather difficult, but national independence and decades of self-inflicted isolation on the road towards a "Burmese way of socialism" hindered systematic scientific research as international co-operation and research were faced with a politically sensitive situation. Since 1988, the international policy of sanctions against Myanmar/Burma also includes university research, teaching and co-operation.

Thailand, looking to the west, cultivated strong and manifold contacts with the Federal Republic of Germany; the German Democratic Republic and Myanmar/Burma, on the other hand, keeping up a friendly co-operation until the end of the 1980's. Although German Democratic geographers did not actually do any independent long-term field work in Myanmar/Burma, several articles on Burma and Thailand for school level were published in relevant journals in the GDR (e.g. Makosch 1962, Harzmann 1974, Bloch 1985). Further, universities in the GDR were involved in trainee programmes and student and lecturer exchange programmes with universities in Myanmar/Burma.

### **2.1 Regional Surveys**

Amongst the many postwar surveys of the region, the Fischer "Länderkunde Südostasien"

(Fischer's Regional Geography of Southeast Asia) by Uhlig stands out for its comprehensive approach. Focussing on the whole of Southeast Asia, individual chapters are also offered on the basics of Thai and Myanmar/Burmese nature, infrastructure, social economy and the prevailing settlement structure (Uhlig 1975: 149-175 and 176-202, 1988: 233-273 and 274-323).

Two scientific publications in the form of regional geographies of Thailand were presented by Wolf Donner. In "The Five Faces of Thailand", the basics of the Thai economy in the five largest regions are focussed upon (1978). Another paper is written in the "classical" style of regional geography and deals with the principal aspects of physical and human geography (Donner 1989). A further compendium on Thailand was published under the guidance of Jürgen Hohnholz, geographer from Tübingen (1980a). Besides geographical subjects, cultural, social and historical topics are also explored here. With regard to Burma, Hans-Ulrich Storz (1967) wrote a book focussing on geo-economic aspects. By means of an introduction, the physiogeographical, ethnographical and historical basics are outlined, before dealing with economic politics, infrastructural development and the Burmese energy sector, describing in great detail the different economic sectors. Both countries, however, lack more recent regional surveys which fulfil the demands of a problem-orientated theoretical concept of analysing the current structures and processes through the conscious selection of elementary historical, socio-cultural and socio-political forces. Such descriptions are also expected to make actor-orientated recommendations for solving specific core problems of the single state and society.

## **2.2 Major research programmes and projects**

The national research support programmes of Germany have enabled a number of geographical expeditions to Southeast Asia since the 1960's. This was in particular made possible by the German Research Foundation and the long-term, generous research programme of the Volkswagen Foundation. Geographers also participated in the long-standing German-Thai Highland Development Project. Examples of current large-scale research are comparative studies on secondary cities (Scheider/Vorlaufer 1997) and the comparative study on regional socio-economic disparities in Southeast Asia, financed by the Gerhard-Hess Prize of the German Research Foundation (Kraas 1999a).

## **2.3 Main Research Topics and Fields of Work, according to themes**

Due to the Second World War and its political consequences, German geographers could not proceed with their work in Thailand and Burma for a long time. During two decades, no field work could be done. On the initiative of Albert Kolb (Hamburg) and Harald Uhlig (Gießen) at the beginning of the 1960's, research in the area flourished once again. Since the end of the 1970's, the range of scientific questions and the number of researchers working in the area increased dramatically. What follows is a summary of the research carried out by German-speaking geographers.

Research in the field of physical geography has concentrated mostly on *geomorphological and soil science* and topics from *vegetation geography*, degradation and the destruction of the natural resources being one of the problems tackled. Kirsch (1998), Kubiniok (1990, 1992) and Löffler/Kubiniok (1991) focused on soil and relief dynamics in Thailand. The geomorphological development of the Lower Mun River Basin during the quaternary period interested Löffler, Thompson and Liengsakul (1984). The soils of the Doi Inthanon National Park are the focal point of Weltner's dissertation (1996). Further, several papers on the distribution and particularities of karst features have been published (Troll 1973, Ludwig 1976, Mark 1991). Landform dynamics and bioturbation of the Khorat Plateau were investigated by Löffler/Kubiniok (1996). Löffler also

looked at termites and their importance for dating sediments (1996). Large-scale analysis of natural resources and the geoeological regionalisation of northern Thailand are the focus of Stein's investigations (1992).

An overview of wood utilisation and forestry in Burma is to be found in Harzmann (1974). The question on the effectiveness of *Eucalyptus camaldulensis* as a measure against vegetation and soil degradation in Thailand is discussed in Löffler (1990, 1995). Werner, on the other hand, concentrates on the distribution and ecology of the pine trees *Pinus kesiya* and *Pinus merkusii* and the vegetation of different mountain zones (1990, 1993). Long-term research results have been published on the causes and consequences of rain forest utilisation, degradation and destruction (Schmidt-Vogt 1998, 1999, Scholz 1982a, b). Special concerns mentioned are the growth of secondary vegetation (Schmidt-Vogt 1995), the influence of slash-and-burn agriculture on tropical forests and water regimes (Loetsch 1958) and the extent of soil erosion in shifting cultivation regions (Hurni 1980).

Several papers have been published on the topic of *ecological and environmental problems* in connection with forced land development, the focus being on the consequences of extensive agriculture and land-use diversification. For example, Kubiniok (1995), Löffler/Kubiniok (1988) and Löffler/Maaß (1992) investigate the contribution made by soil degradation and soil salination to environmental loading and destruction; Uthoff highlights the rapid destruction of the coastline due to mangrove deforestation following increased aquaculture farming and the development of tourism (Uthoff 1991a, 1996). By means of remote sensing and during field trips, the extent of mangrove degradation in Myanmar/Burma could be investigated (Heymann/Löffler 1997). Various studies on the fishing industry and aquaculture are available, topics ranging from the different stages of development to the economic and ecological problems associated with maritime fishing and export-orientated intensive agriculture (Uthoff 1991b, 1993, 1994, 1996).

Until the end of the 1980's, research of rural areas and agriculture dominate the scene, deficits in the general structure of the rural areas being focussed on. As a result of the basic foundations provided by Harald Uhlig, special attention could be paid to systematising the different rice cultivation ecosystems and their inherent potential (see in particular the comparative studies of Uhlig 1984 and Wilhelmy 1975). Peculiarities of rice cultivation in northern Thailand are described in Matzat (1973).

The all-important question of land-use, with changes recorded in mountainous regions, the diversity of shifting cultivation and the disappearance and revival of slash-and-burn farming was a further central research direction (Uhlig 1980, Scholz 1982a, b). To be mentioned are also research on spontaneous development of new land and planned agricultural colonisation in Thailand (Scholz 1980, Uhlig/Riethmüller 1986). Scholz (1969) focused particularly on the farming methods of the Akha.

Studies on the changes in farming life focused on the large-scale changes which took place in land-use over the years, traditional rice cultivation giving way to cash crop farming and market-orientated crop diversification (Hohnholz 1980b, Uhlig/Riethmüller 1986, Traub 1987, 1989). Fuchs (1991) discussed to what extent tea cultivation is a suitable substitute for poppy farming in northern Thailand. "Floating gardens" as a form of intensive tropical agriculture were looked into by Wilhelmy (1986). Uhlig described and classified floating gardens as water settlements. And Uthoff defined floating gardens and water settlements as parts of the water frontiers of the oecumene by pointing out that limnic and marine settlement areas are incorporated therein (Uthoff 1998). Besides discovering major regional differences in Thai agriculture, Fuhs looked in great detail at the agricultural constitution and agricultural dynamics (1975, 1985). The potential and restrictions of

agriculture in Thailand were dealt with in Hohnholz (1975a, b, 1976). Further, under the guidance of Uhlig, Vanpen's dissertation established a basic foundation for agricultural geography studies of northern Thailand (Vanpen 1975).

Several studies thematise *population and social geography problems* in Thailand. An overall survey on population distribution, population dynamics and successful population policies is offered by Kraas (1998b). Husa (1986) analyses spatial mobility processes within Thailand, taking migration to Bangkok into special consideration. Demographic disparities between Thai and Karen due to differing developments of the medicinal infrastructure and population policy were looked into by Leisch (1994, 1996). He also deals with the problems associated with the spread of AIDS (1995, 1997).

Further problem areas investigated were ethnical groups, social dynamics and changes in social organisation in mountainous regions of Thailand after the onset of modernisation (Uhlig 1979, Husa/Wohlschlägl 1987). Current research deals with the topics of household strategies in secondary urban centres (Schneider 1998) and gender-specific developments and determinants in the Thai working-place, Phuket and Chiang Mai serving as examples (Montag 1997a, b).

Due to the strong influence exerted by rural areas on the economic development of Thailand until the mid-1980's, current studies on *settlement and urban geography* were limited to investigations on rural settlement dynamics and to general descriptions of cities and their structure (Janisch 1986, 1988b). Regarding northern Thailand investigations on structural changes in Ban Pae Lungar and Dong Brei (Troger 1960, 1968) and genetic and structural changes of Lawa villages (Matzat 1976) were published.

Interest in the major urban region of the Greater Bangkok Area arose relatively late, the onset of an economic boom in Thailand mid to end 1980 drawing the attention of German-speaking researchers. A whole range of general studies deal with the latest development problems experienced by the primate megacity Bangkok (Hatz/Husa/Wohlschlägl 1993, Husa/Wohlschlägl 1997, Kraas 1995). The dynamics of development and the governability of the Greater Bangkok Area were of particular interest (Kraas 1996a). The historical background of Bangkok's primate city character is dealt with by Schneider (1999). The Bangkok water supply serves as an example of urban resource management (Kraas 1999b). Whereas Bronger/Stelow (1996) compared the quantitative aspects of urban growth between Bangkok, Seoul and Manila, Nitichan (1988) looked at the social, ecological and aesthetic aspects of open space planning.

The development difficulties experienced by secondary cities in the urban system of Thailand are the focus of Schneider and Vorlauffer's comparative studies (1997, Vorlauffer 1997). Schneider (1994) concentrates on Chiang Mai as a product of various forces: urban forms, power relations and civilisation processes.

The *economic structure and dynamics of emerging economies* has also been intensely followed. General surveys on the structure and problems of the Thai economy during several periods have been published (Arnold 1967, Troger 1962). Husa (1987) investigated employment problems in particular. Storz' (1967) fundamental work on the development of the Burmese economy until the mid 1960's is a further example. Earlier, Karaisl (1950) examined the importance of the Burma Road. The transformation processes appearing in Myanmar/Burma since the early 1990's have also been addressed against the backdrop of political and social change (Kraas 1997).

Since the end of the 1980's, the industrialisation processes in Thailand have been the topic of several publications, some of the aspects dealt with being accelerated industrial growth due to opening up of the global market, increasing international direct investment and state-imposed infrastructural development (Husa/Wohlschlägl 1996, 1999, Kraas 1996b, 1998a). Of special

interest were the strategies of the Thai export industry, relating to added value and resource preservation (Rivet/Uthoff 1998).

Notice was taken of the tertiary sector in connection with the expansion potential of small businesses in the informal sector covering services offered at tourist centres (Wahnschafft 1984). The dynamic expansion of tourism in Thailand and its consequences have also been analysed (Vorlaufer 1995), the greatest attention being paid to structural change resulting from international tourism in Phuket (Uthoff 1997). Niederberger explores the changes induced by tourism on regularity mechanisms in soil and on soil cultivation (1996). At a more general level, the expansion of tourism in Burma, and the consequences thereof, has also been dealt with by Marcinowski (1981).

Questions concerning *regional and land-use planning*, as well as *regional politics*, in particular discussed in connection with deconcentration and decentralisation policies, have since the 1980's increasingly gained attention (Janisch 1987, 1988a, Schlörke 1992). In this light, research on growing social differentiation and increasing regional, social and economic disparities is of particular importance (Husa/Wohlschlägl 1991, Kraas 1999a). Vorlaufer (1995) explores the extent to which regional disparities are influenced by tourism-orientated regional development. Reuber (1998) explores the achievement and application of political development strategies at the regional level, taking spatial aspects of development potential into consideration.

Aspects of *political geography* are mentioned in studies investigating the background of current developments in Myanmar/Burma (Kraas 1997) and in an article on land-use conflicts and the role of recent participation movements in north-east Thailand (Reuber 1999).

Ulrich Freitag's history of cartography in Thailand lays the foundations for further research in the fields of cartography, geographical information systems (GIS) and remote sensing (1982a, b). Freitag was also involved in developing a modern concept for the methodological realisation of thematic maps in the National Atlas of Thailand (Freitag 1980, Freitag/Kamasundra 1976), as well as participating in a pioneering publication on thematic cartography (Bollmann/Breithaupt/Dransch/Freitag 1988). For an overview of the implementation of geographical information systems (GIS) in Thailand, refer to Kraas (1996c).

### **3. Research Deficits and Aims**

Against the abovementioned backdrop of research foci on Thailand and Myanmar/Burma, the following suggestions for future research priorities may be made:

- As geography is particularly strong in research fields intersecting natural and social sciences, questions on the ecological consequences of human and socio-economic activity should be brought more to the fore. Examples of specific research topics are: the influence of human activity on fragile ecosystems (e.g. mountainous regions and coastal areas); coping with natural disasters and appropriate safety measures (e.g. earthquakes, flooding); the influence of industrial progress on the urban environment of agglomerations like Bangkok and Yangon; drawing up and expanding on concepts ensuring the protection of national parks and zones of landscape conservation.
- More research is necessary on the socio-cultural and socio-political causes of spatially relevant structures and processes, on the factors and the decision-makers influencing these, research which reflects current action-orientated and actor-orientated theoretical approaches. Possible research topics could be: factors and networks influencing decision-makers in administration, politics and the economy, having regard to infrastructural development, regional development and social welfare. Alternatively, it would also be possible to look at the effects decision-

maker networks would have on the above. Other topics could be the different national and international factors influencing economic booms and crises; coping therewith and, in the case of Myanmar/Burma, coping with socio-economic transformation processes.

- Greater attention should be given to the increasing bonding of, in particular, Thailand into globalisation processes, the consequent structural changes and their effects on cultural, social, political, economic and ecological spheres.
- Research with a solid theoretical basis should be carried out to a greater extent than up to now. Doing so, it is necessary that not only current approaches discussed internationally be considered, but that the influence of specific socio-cultural attitudes in the appropriate (national) society and (regional and local) community be investigated.

#### **4. Intra-, interdisciplinary and international collaboration**

Several Thai, Myanmar/Burmese and German-language universities cultivate a variety of inter-university relations: official partnerships exist, for example, between university institutes in Saarbrücken and Chiang Mai (Masters Programme: Environmental Risk Assessment for Tropical Ecosystems), also Tübingen and Khon Kaen. Closer collaboration exists between institutes of universities at Heidelberg, Khon Kaen and Chiang Mai, Gießen and Chiang Mai, Düsseldorf, the Chulalongkorn University of Bangkok and Songkhla (Phuket Campus), as well as between Bonn, the Asian Institute of Technology (AIT) in Bangkok and the Mahidol University of Bangkok. Further, collaboration has been established between the Geographical Institute of the universities in Bonn and Yangon/Rangoon, Myanmar/Burma. Many of these contacts came into being through partially extended guest lectureships and student or trainee exchange programmes.

From the 1960's onwards, several scientific colleagues were practically involved in development projects within the framework of bilateral development co-operation. As a result, a number of studies and reports on the individual projects were compiled, as well as fundamental scientific studies published. Many German-speaking geographers have been employed on a full-time basis in governmental departments, political foundations and non-governmental-organisations (NGO's), their function often of interdisciplinary nature, such as in the Ministry of Industry, the Friedrich-Naumann-Foundation and the Population Community and Development Authority (PDA), all of which are located in Bangkok.

Established in 1996, the Southeast Asian Research Group in the Committee of the German Geographical Society is an interdisciplinary platform for German-speaking scientists working in the field of Southeast Asia. Annual meetings offering lectures and discussions, publication support and information dissemination via a homepage and the internet are several of the activities followed. Geographers of the German-speaking countries furthermore are involved in the work of the German Institute of Asian Affairs, Hamburg, and the European Association for Southeast Asian Studies. Still lacking are a centre of its own in Germany, the institutional persistence of bilateral co-operation and regular international conferences.

#### **5. Conclusion**

The above compilation of German geographical research on Thailand and Myanmar/Burma shows that individual researchers have more or less concentrated on specific topics on the two countries, the persistence of research at the institutional level, however, is still missing.

Interdisciplinary collaboration on research in Thailand has a solid basis within Germany, at some universities interdisciplinary programmes and lecture series being offered (e.g. Berlin, Bonn, Heidelberg, Tübingen and Vienna). Languages are the greatest hindrance to research and



teaching, some of the scientists working in Thailand and Myanmar/Burma being able to speak the official languages, the dependency on translators and co-operation with local researchers high. Aiming the expansion of research collaboration between universities in Thailand and in the German-speaking world, the number of international symposiums and student/lecturer exchange programmes will have to increase.

With regard to Myanmar/Burma's current ecological and socio-economical potentials and problems, structures and processes, a tremendous need for information and research exists, not only in respect of geographical topics but extending over the whole scientific field. This desire is expressed not only by fundamental research, but in practical fields like development aid and technical collaboration, the latter at present not active due to international sanctions.

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### **Deutsche Geographische Forschung über Thailand und Myanmar/Birma**

Thailand erfuhr in der geographischen Forschung in Deutschland, Österreich und der Schweiz von allen Staaten Südasiens mit Abstand die größte Aufmerksamkeit. Dies gilt für die Breite der Forschungsaktivitäten ebenso wie für den Umfang bilateraler Zusammenarbeit und die Zahl einschlägiger Fachpublikationen. Neben einer Reihe landeskundlicher Monographien widmen sich die Forschungsschwerpunkte der Publikationen aus dem deutschsprachigen Raum folgenden Fragen: Probleme von Neulanderschließung und agrarischem Strukturwandel, Wiederausbreitung des Brandrodungsfeldbaus, Potentiale der Reisbauökosysteme, ökologische Folgen verstärkter Ressourcennutzung, demographische Prozesse, Entwicklungsprobleme der Megastadt Bangkok und der Sekundärstädte, wirtschaftliche Struktur und Dynamik, Entwicklung und Konsequenzen des internationalen Tourismus, zunehmende Disparitäten und staatliche Dekonzentrations- und Dezentralisierungspolitik sowie Landnutzungskonflikte. Wenige Arbeiten liegen bisher vor zu Myanmar/Burma. Diese konzentrieren sich vor allem auf wirtschaftsgeographische Arbeiten sowie zu Ressourcennutzung und die beginnende sozioökonomische Transformation.

### **German Geographical Research on Thailand and Myanmar/Burma**

Amongst all the South East Asian countries, Thailand has received the most scientific attention from Austrian, German and Swiss geographic circles. The breadth of research, the extent of bilateral co-operation and the number of relevant scientific publications underline this. Besides a

number of regional monographs, the research foci of the German-speaking scientific world are as follows: difficulties arising from development of new land and changes in agricultural structure; revival of slash-and-burn farming; potential of rice farming ecosystems; ecological consequences of increasing demands on resources; demographic processes; development problems apparent in the Greater Bangkok Area and secondary cities; structures and dynamics in commerce; expansion and consequences of international tourism; increasing disparities; state policies regarding deconcentration and decentralisation as well as land-use conflicts. Very little work has been done on Myanmar/Burma. Of what is available, economic geography themes, resource exploitation and research on upcoming socio-economic transformation dominate.

### **La recherche géographique allemande sur le Thaïlande et la Myanmar/Birmanie**

Dans la recherche géographique de l'Allemagne, de l'Autriche et de la Suisse c'est la Thaïlande qui de tous les pays de l'Asie du sud-est a bénéficié de loin de la plus grande attention. Ceci vaut pour la largeur des activités de recherche ainsi que pour l'étendue de la coopération bilatérale et le nombre de publications techniques. À côté d'un nombre de monographies géographiques les sujets de la recherche des publications de langue allemande se consacrent aux questions suivantes: les problèmes de défrichage de nouveaux terrains et les changements de la structure agraire, la renaissance de l'agriculture sur les terrains déboisés par incendies, le potentiel des écosystèmes de la culture du riz, les conséquences écologiques de l'utilisation renforcée des ressources, les processus démographiques, les problèmes du développement de la méga-ville de Bangkok et des villes secondaires, la structure et le dynamisme économiques, le développement et les conséquences du tourisme international, les disparités croissantes et la politique étatique de déconcentration et de décentralisation ainsi que les conflits d'utilisation des terres. Il y a encore peu de publications au sujet de Myanmar/Birmanie. Celles-ci se concentrent surtout sur des travaux de géographie économique ainsi que sur l'utilisation des ressources et les débuts de la transformation socio-économique.

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# German Geographical Research on Cambodia, Laos and Vietnam

Frauke Kraas, Javier Revilla Diez, Manuela Rivet

## 1. Absence of research tradition and opportunities until the mid-1980s

Until recently German geographical research on Cambodia, Laos and Vietnam has been very limited. Due to dominating French influence during the colonial period, German geography does not have a long research tradition in the three countries that composed the former Indochina. The problematic process of decolonialisation, national independence, the Indochina and Vietnam wars, the affiliation to the Communist-Socialist block, the relative isolation after the demise of the Soviet Union and the recent processes of economic transformation led to instable political conditions, which made systematic field research difficult, affecting research and international scientific co-operation in general.

The three countries received increasing interest in Germany since the end of the Vietnam War, during the phase of friendship connections between the "Socialist brother states" and the German Democratic Republic (East Germany), being especially profitable to Vietnam and Laos. Although German geographers did not carry out any genuine scientific research involving long-term field work in the country and based on independent results, questions raised about location analysis and structural development, particularly in Vietnam found interest in a few publication (Schultze 1966, Thomasius 1966). Between the mid-1970s (increasingly after the fall of Saigon in 1975) and 1986 (the beginning of reform policies in Vietnam and Laos as a reaction to the rapidly diminishing payments from the Soviet Union), the number of publications in geographical journals in East Germany rose with the predominant focus on forestry and agricultural resource evaluation (Schrader 1984, Thomasius 1980, Uhlig 1988 and Uibrig 1983, 1985). In addition to that, there were irregular reports on statistic issues (Köhler 1982). As a part of their Socialist development aid programmes East Germany had university exchange programmes for students, particularly from Laos and Vietnam, fewer from Cambodia. Most of the students were trained in technical and medical professions, but some also received training in regional and urban planning as well as in resource development. Although several hundred students graduated from universities in East Germany, only a single thesis was written in geography (Nguyen-Thuc Nhu; archival research and interviews with colleagues from the former East Germany). Until the end of the 1980s scientists from the "Western Democratic" countries generally did not receive permits to conduct research. Accordingly, most publications were based on literature reports and general overviews (Heinzlmeier 1980, Janicke 1966, Kolb 1973, Krug 1949/50, Schwind 1960 and Wagner 1951). This changed after the beginning of the reform movement and the collapse of the Soviet Union in 1991. However, independent research is still limited to only a few projects, reasons might be found in the relatively minor role these three countries have played in the most recent phase of economic boom and crisis.

One of the few nationally oriented overviews from the post-World War II era, which included specific details on Cambodia, Laos and Vietnam as part of a volume on Southeast Asia, was Uhlig's Fischer *Länderkunde Südostasien*. This work devotes a chapter to each of the three countries and their infrastructure, natural, socio-economic and settlement conditions (Uhlig 1975: 202-263, 1988: 323-410). Bechert (1967) wrote an overview on Buddhism, state and society in the countries of Theravada Buddhism, which combines some aspects of social geography with its neighbouring sciences.

## **2. Most recent research interests: current development problems and processes**

Current studies focus on the different stages of development dynamics in the countries of Southeast Asia. Since especially Cambodia and Laos are often considered prototypes of Southeast Asian countries in the beginning of the recent economic development, this would be a chance to study how the closely related, but much higher developed Thailand and Vietnam developed before they faced the economic boom and globalisation, which changed their traditional economic and social structures. To a certain extent it may be possible to determine whether and to what degree Thailand and Vietnam's development strategies can be projected onto Cambodia and Laos, to avoid some of the negative effects of their development.

The transformation process that began in 1986 and the different extent and manner in which Cambodia, Laos and Vietnam opened to foreign trade brought with it general economic growth, but also led to radical changes in the economic, and to some degree, social systems. The three countries are still cautiously, but increasingly being assimilated into a world economy based on the international division of labour, e.g. transfer of labour intensive production to Southeast Asia, and the increasing media presence in international information, consumption patterns and value concepts. As in many other countries, the active economic areas of these three countries are becoming more strongly integrated into global processes, while their periphery is increasingly being disconnected from the national development because decentralisation has been neglected. In an ongoing research project on socio-economic development and transformation processes by the Department of Geography of the University of Bonn, a comparative analysis of the development potentials of the various regions within the countries is being carried out with the aim of developing specific strategies for decentralisation in order to reduce socio-economic disparities and the resulting potentials for conflict.

Current research on the specific situation in the individual countries differs from country to country, both thematically and in the level and intensity of the work. Consequently they will be treated separately.

### **2.1 Cambodia**

In view of the country's tragic post-war history, with its civil wars, participation in all of the Indochina Wars, the Pol Pot era, the rule of the Khmer Rouge and the extremely sluggish process of consolidation of society and economy – including the elections of 1993 and 1998 – it is not surprising that publications on Cambodia after independence are generally dominated by studies in the historical and political sciences. There are generally few geographical studies, which also holds for German-speaking countries. Aside from the already mentioned regional overviews four studies deserve mentioning.

Uhlig (1971) described specifically Cambodia's agricultural and forestry basis and discussed the political geographical aspects of the critical situation of the time (before the Pol Pot era). Today, the study is particularly interesting as a comparative work with the present time. Immediately after the end of the UNTAC mission and the elections of 1993, two new papers appeared, one on opportunities and problems arising from the revival of tourism in the areas of Angkor, Phnom Penh and the coastal region (Berger 1994) and the other on the issue of national identity as the basis of a planned reconstruction (Ragaz 1994). Zimmermann (1997b) studied the historical and current economic reasons for Phnom Penh's prominent position as a primate city in the Cambodian city system. This work takes the first statistical surveys after thirty years without social statistics into consideration, which were gathered in connection with the UNTAC mission and represent an important baseline for the most recent census of March 1998.

With the exception of Zimmermann's study however, the mentioned publications are not based on empirical investigations. Since 1993 and again since the elections in July 1998 (after a repeated phase of critical hesitation after Hun Sen's seizure of power in July 1997), the situation is gradually beginning to improve for empirical field research, which is particularly supported by France.

## **2.2 Laos**

Laos' economic structure is very basic, with agriculture as the main economic factor. The infrastructure is inefficient and large parts of the country cannot be accessed during the rainy season. Consequently the population in these parts has not been integrated into the economic network of production and trade, and the majority of the rural population lives on a subsistence basis. In general the economic, infrastructural and social development is concentrated in the area of the capital, Vientiane. Until recently there was hardly any export oriented industry and export. Foreign exchange earnings were limited to the export of natural resources. The extensive forests have therefore long been the primary export income for Laos. Krings (1996, 1998) investigated the political ecology of forest destruction in Laos and used this example to underline the global impact of forest cover reduction in the tropics.

Considering the mountainous nature of the country, the potential for hydropower projects is good, and electricity has replaced timber, lumber and plywood as the most important export product. Whether hydropower will be the main source of development for Laos in the future is debatable. Kraas (1997) studied the potentials of hydropower and the instrumentalisation of the Mekong River as a means of foreign-driven economic development in Laos. Krings (1999a) revealed the relationships between hydropower projects, rice farming and deforestation. In addition, he analysed the role and awareness of government and administration (1997). Recently Krings (1999b) also worked on the interdependence of agricultural development, the use of natural resources and ecology. These studies were carried out in connection with the interdisciplinary post-graduate course on "Socio-economics of Forest Utilisation in the Tropics and Subtropics", which is supported by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation).

Gradually the conditions for empirical field research are beginning to improve. Universities are developing to a certain extent, the administration is hesitantly becoming more receptive to development aid projects and the mountainous peripheral regions are becoming more accessible as a result of improvements of the infrastructure.

## **2.3 Vietnam**

Following the introduction of economic reforms in 1986 and the opening of the country to the world, western European scientists began to develop research contacts to Vietnam and to carry out empirical research. The economic and social geographical research on Vietnam in Germany has concentrated almost exclusively on the impacts of the reform politics introduced in the 1980s. The main emphasis of recent studies was the analysis of regional changes resulting from the transition from a planned economy to a more market oriented economic system (Revilla Diez 1993). Since the beginning of the 1990s the Department of Economic Geography, University of Hannover; the Geography Department, University of Bonn; and the Economic and Social Geography Department of Geography, University of Heidelberg, have been working on Vietnam related research projects supported by the Volkswagen Foundation and the German Research Foundation. The conducted studies have concentrated on changes in regional structure, the development of regional disparities, the role of foreign direct investments and the social impacts

of the transformation of the economic and social system. In addition to that one study dealt with the indigenous peoples in the southern central mountains of Vietnam (Zimmermann 1997a).

Together with the Central Institute for Economic Management in Hanoi and the Institute of World Economics in Kiel, the Department of Economic Geography in Hannover carried out two research projects. The main objective in the first project was to analyse the effects of the transformation initiated in 1986 at the national and the regional economic level as a basis for recommendations for the future regional economic policy (Revilla Diez 1995, 1996, 1999a). On the basis of this, secondary statistics on regional development at the provincial level were analysed, in order to trace the changes in industrial locations and in the urban system. Furthermore, interviews were carried out with representatives of centrally and locally administered state and private companies and co-operatives in various branches of industry as well as with decision makers in the administration, banks, national research institutes and international organisations in Hanoi, Danang and Ho Chi Minh City. The results showed that there are strong regional differences in the development dynamics. The economic development in southern Vietnam, with Ho Chi Minh City as its centre and driving force of development shows a very dynamic economic development due to a considerable influx of foreign direct investment, its light industry and an export oriented industrial structure. By contrast, both northern Vietnam with the capital, Hanoi, and central Vietnam with Danang are lagging behind.

While Vietnam's national economy as a whole has been remarkably successful since the initiation of reforms, great differences in the actual process of economic adjustment are taking place in the different regions, and the existing socio-economic disparities between different parts of the country are intensifying (Revilla Diez 1999b). The significance and distribution of foreign direct investments also differ greatly from region to region (Revilla Diez 1998b). Against this background the objective of the second research project was to analyse the adjustment difficulties that particularly Hanoi and northern Vietnam were experiencing and to investigate how the institutional, sectoral and regional process of economic adjustment can be accelerated in the northern region. The investigation focussed mainly on the private sector (interviews in small companies), the development of which is encountering greater obstacles here than in southern Vietnam. Further goals of this project were to identify specific economic, institutional and legal conditions (Kurths 1997, Revilla Diez 1998a).

### **3. Conclusions**

There is an enormous need for research in almost all areas – not only geography – on all three countries. Both basic research and applied development aid and technical co-operation are needed. School and university education would also profit mutually. On the German side it would be emphasised to reactivate contacts from the time of the German Democratic Republic through exchange programmes for students and teachers with the help of existing language skills. Furthermore, Germany can contribute its own experience with the transformation process in eastern Germany (i.e. the former German Democratic Republic), where the change to a market oriented economy entailed a reorientation in almost all areas of society and the economy, including changes in the systems of norms, law and administration. In view of the above mentioned ongoing research projects on Cambodia, Laos and Vietnam, continuing work appears appropriate with the following objectives: what influence do foreign direct investments have in the transformation process, specifically in joint ventures between German and local companies and on the transfer of know-how on management levels as well in product and process innovations? Considering how the process of economic adjustment is obviously lagging in northern and central Vietnam, to what extent have the institutional conditions there changed?

What specific problems are arising in the course of the transformation process for the rapidly growing, dominant metropolises, on the one hand, and for the peripheries with their retarded development on the other hand? What possibilities and measures for reducing regional disparities are realistic? What special development concepts are needed and how can they be put into practice (e.g. encouraging small trade and industry, developing supraregional marketing organisations, improving and stabilising the health and education infrastructure)?

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## **Deutsche Geographische Forschung über Kambodscha, Laos und Vietnam**

Die deutsche Geographie hat sich bislang kaum mit Kambodscha, Laos und Vietnam beschäftigt. Abgesehen von allgemeinen Länderkunden kam den drei Staaten erst mit der politischen und wirtschaftlichen Öffnung seit den achtziger Jahren leicht verstärktes Interesse zu. Forschungsschwerpunkte liegen dabei - wengleich von Land zu Land verschieden - auf den ökologischen Folgen und Konflikten der verstärkten Tropenwaldnutzung und der Vielzahl der

geplanten Wasserkraftwerke. Ein anderer Schwerpunkt widmet sich den sozio-ökonomischen Entwicklungs-, speziell den Transformationsprozessen und den spezifischen Entwicklungspotentialen einzelner Regionen der Länder. Ziel ist hierbei die Entwicklung von Strategien zur Dezentralisierung und der Reduzierung sozio-ökonomischer Disparitäten und der daraus folgenden Konfliktpotentiale.

### **German Geographical Research on Cambodia, Laos and Vietnam**

Until recently, German geographers have conducted only limited research on Cambodia, Laos and Vietnam. After a number of generalized studies, interest in the countries grew with the political and economical opening that has occurred since the 1980s. One area of research - though varying from country to country - focuses on the ecological impacts and conflicts in connection with forest destruction and hydropower projects. Another area of research concentrates on socio-economic development, especially on recent transformation processes and the specific potentials for development within the countries' various regions. The goal of these studies is the development of strategies for decentralization, as well as the reduction of socio-economic disparities and resulting conflicts.

### **La recherche géographique allemande sur le Cambodge, le Laos et le Viêt Nam**

Jusqu'ici la recherche géographique allemande ne s'est guère occupée du Cambodge, du Laos ou du Viêt Nam. Des géographies régionales générales mises à part, ce n'est qu'après l'ouverture économique depuis les années 1980 que ces trois pays ont rencontré un certain intérêt. Selon le pays recherché les accents de la recherche ont été mis sur les conséquences et conflits écologiques de l'utilisation renforcée des forêts tropicaux et du grand nombre de centrales hydro-électriques prévues. Un autre centre de gravité de la recherche se consacre au processus de développement socio-économiques, et en particulier aux processus de transformation et au potentiels de développement spécifiques de certaines régions. Le but en est le développement de stratégies pour la décentralisation et pour la réduction de disparités socio-économiques et des potentiels de conflits en résultant.

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# **German Geographical Research on Malaysia, Singapore and Brunei - Structural Change and Spatial Development**

Elmar Kulke

## **Introduction**

German geographical research in Southeast-Asia is a relatively recent development. While German geographers have been travelling and carrying out research projects in Latin-America and Africa for almost two centuries, studies on Southeast-Asia only began at the end of the 1950s and the beginning of the 1960s. These projects started with the independence of the former British (e.g. Malaysia, Singapore), Dutch (e.g. Indonesia) or French (e.g. Vietnam) colonies. Since that time the majority of projects in Malaysia and Singapore has been oriented towards aspects of human geography. Research on topics relating to culture, the economy, population or settlements included the analysis of secondary statistics and materials and primary investigations in Southeast-Asia. The few studies on topics of physical geography have been more oriented towards the documentation of secondary materials. Therefore the following discussion of projects and results of research in Malaysia, Singapore and Brunei will concentrate on aspects of human geography.

Looking at the Malaysian case, it is possible to observe a shift in research project topics during the last four decades. In the sixties and seventies several studies analysed aspects of the structure and development of the population (e.g. spatial diversity of ethnic structures, regional effects of the population growth, urbanisation) and of agriculture (e.g. cultivation systems, new land development). With the beginning of the New Economic Policy, Malaysia realised high economic growth rates mainly in manufacturing industries. During the following decades the Malaysian economy changed from an underdeveloped country heavily dependent on the export of raw materials, to a newly industrialised country with an advanced manufacturing and service sector. The aim of Malaysian economic policy is to reach the status of a highly industrialised country by the year 2020. Aspects of the economic development process were analysed by several German geographical research projects in the eighties and nineties. Initially these studies concentrated on economic instruments (e.g. Pioneer Status, industrial parks and enterprise zones), on regional economic policy and on the spatial effects of economic growth. One major question was whether national economic growth leads to a circular-cumulative process of spatial concentration in a primate city or if tendencies of a polarisation reversal can be observed after a certain period of growth. In the nineties it became more and more interesting to compare the development path of Malaysia with other economically successful countries in East or Southeast Asia. The very recent studies in addition analyse the effects of the globalisation process on the structure, development and spatial characteristics of the Malaysian economy.

Due to the special structures of the city-state of Singapore, studies of physical geography or of agricultural development are of very limited interest. During the last four decades, two areas of major activity in German geographical research can be identified. One topic is the urban development of the city, including aspects of housing, enterprise zones or service areas in the city centre. The second topic is the economic change of Singapore from a port-oriented settlement to a centre of manufacturing industries and services. Both topics have very recently been integrated in studies discussing the function of Singapore as a global city.

One general characteristic of all publications on Malaysia and Singapore is that numerous studies are carrying out primary research to derive new scientific results, but in addition many of them

are oriented towards a transfer of knowledge to school teaching. This transfer is specially interesting for the Malaysian and Singaporean case, because many developments in these countries are in some way examples for economic processes and ecological problems, or offer solutions for take-off-countries.

## **1. Structural and spatial developments in Malaysia**

### **1.1 Population**

The population of Malaysia, the ethnic origin and spatial distribution of their different religions, behaviour and economic orientations have been analysed in several studies, mainly in the seventies and at the beginning of the eighties (Küchler 1968, Kühne 1970, 1980, Uhlig 1975). Small numbers of indigenous population living in the rain-forest areas of Peninsular Malaysia and in Borneo have been analyzed regarding their degree of integration in the Malaysian society and their very traditional methods of agricultural land use, mainly shifting cultivation (Kühne 1990).

Malaysia presents itself as a multi-racial society, but in reality, as documented by the studies, the interactions and processes of mixture between the ethnic groups are very limited. The different religions, income situations and spatial distribution work against intense interrelation of the ethnic groups. In addition, the Malaysian government has established a system to support the Bumiputra (e.g. preferential treatment when entering the universities or to getting jobs in the public services) and to limit the economic influence of the other groups (e.g. limitations on land purchase in several parts of the country). Likewise the population policy is used for ethnic ends (Corvinus 1984a). Normally take-off-countries with an GDP per capita like that of Malaysia (1995: US\$ 3890) try to limit population growth. In contrast, Malaysia encourages high birth-rates, firstly to increase the share of the Bumiputra, because they usually have more children than the other groups, secondly to increase the international importance of the country by a greater number of people, and thirdly because there is still a lot of land available to be opened up. Therefore the average annual growth rate of the population in Malaysia amounted to 2.4 % in the period 1990-1995.

A further topic of German research has been the spatial mobility of the population and the special centre system in Malaysia. In contrast to other developing economies, Malaysia does not have a highly polarised settlement system with one primate city (Frohloff 1988, Kühne 1980, Schmidt 1981, Wolff 1989). Studies on population mobility and on the development of the urban system show that the historical development of several more or less comparable large towns as centres of the sultanates or colonial headquarters, and the influence of urban policy were responsible for these structures until the mid-eighties. There were movements from rural areas to the urban centres, but they have not solely been directed to Kuala Lumpur. In addition, the other towns with a long economic tradition such as Penang and Malacca, the neighbouring town to Singapore, Johor, and the new towns in the agricultural development projects (Kühne 1969, 1976) were attractive migration centres. With the accelerating economic development process of modern industries and with the impact of economic globalisation in the nineties, very recent studies (Häußer 1999, Kulke 1998) identified a more polarised development in favour of the economic centres Kuala Lumpur and Penang.

### **2.2 Agricultural structures and policies**

Major topics of agricultural-geographical research have been existing traditional cultivation systems and the changes in agricultural production and land use after the independence of Malaysia in 1957 (Jaschke 1985, Kühne 1980, Kühne 1985, Schätzl 1988, Seitz 1981, Senftleben

1969, Uhlig 1970, 1975). In 1957 Malaysia had a highly polarised agricultural structure. The production of rubber was of great importance for Malaysia's export revenues ; in 1960 the primary products rubber and tin accounted for approximately 94 % of Malaysian exports. On the other hand the small scale farms were strongly oriented towards subsistence production and sold only the overproduction of the paddies on the national market. The diversification of agricultural production to achieve a greater variety of exports and to improve the national food supply situation were major aims of economic policy after independence.

From 1970 to 1996 the share of rubber was reduced to 1.3 % and palm oil with a share of 4.1 % became the most important agricultural export product. But in total the share of primary products was reduced to 13.1 % and the export of manufactured goods became dominant.

Characteristics and specific problems of the traditional small paddy areas, such as small scattered fields, floods, the absence of irrigation, or low yields, were analysed in the seventies (Kühne 1980, Senftleben 1969, Uhlig 1975). Later studies documented the government project "in situ development" which aimed to reduce these difficulties (Kulke 1986b). By the year 1983 more than 480,000 families with more than 900,000 hectares were included in these integrated agricultural development projects. They realised an increase of between 53 % and 128 % in production per hectare.

During the sixties and seventies, the government also carried out agricultural land development projects in the vast rain forest areas to create new agricultural job opportunities for the growing population. These projects were an object of comparative studies examining the strategic approach and the economic, social and environmental impacts of agricultural new land development projects in tropical regions (Jaschke 1985, Kühne 1980, Ramakers 1996, Schmidt 1981). After land clearing infrastructure (roads, irrigation, electricity) was constructed, agricultural land was prepared and houses and villages were established. More than 95,000 settler families came to the new land development projects. But studies analysing the success of these land development projects showed that they did not achieve all their aims (Kulke 1986b, Loose 1983, Schätzl/Pienig 1988, Schmidt 1981). The investment costs were relatively high and ecological problems developed. Due to the absence of complementary service sectors with job and income opportunities in these areas, many people, especially the second generation (children of the settlers), left and migrated to the urban centres. Therefore these projects were drastically reduced in the second half of the eighties and in the nineties.

### **2.3 Spatial economic development**

The economic development of Malaysia during the last three decades is one of the most successful examples of a consistent economic policy. Several studies have discussed the instruments, results and spatial effects of Malaysian economic policy in general (Rostock 1977, Schätzl 1988) or in different sectors of the economy, such as energy production (Corvinus 1984), manufacturing industries (Koschatzky 1987a) or services (Häuser 1999, Holl 1994, Oppermann 1992).

The basic features of the New Economic Policy, declared in 1971, were to achieve dynamic economic growth with an export-oriented manufacturing sector, to eradicate poverty by reducing the percentage of households below the poverty line and to reorganise the society by the participation of all ethnic groups in all sectors according to their population share (Schätzl 1988).

The Malaysian government established a system of instruments including macroeconomic framework (e.g. incentives like the Pioneer Status with tax reduction, possibilities for foreign direct investment) and microeconomic assistance (infrastructure, industrial parks, enterprise

zones). The construction of industrial parks and export-processing zones opened up locations for investment in the manufacturing sector. In the beginning these locations were developed in centres of population and economic activity but soon (as early as the seventies) additional parks were opened in peripheral regions to encourage the spread of manufacturing firms to all parts of the country (Koschatzky 1987b, Krüger 1986a, Senfleben 1973). Nowadays fully-equipped sites for new manufacturing firms are available all over the country. This industrial strategy was accompanied by the development of medium sized towns (40,000 to 75,000 inhabitants in 1970) as growth centres (Krüger 1986b, Schätzl 1988). The Malaysian Industrial Development Authority (MIDA), the most important institutional partner for investors, is responsible for manufacturing licenses for foreign or indigenous producers and evaluates applications for incentives. State Economic Development Companies (SEDC) were established in all federal states to strengthen the economic growth of peripheral regions (Müller 1988).

In the eighties, German geographical research in Malaysia was focused on the effects of economic growth and regional economic policy on the development of spatial disparities in social and economic conditions. These studies (Frohloff 1988, Koschatzky 1987, Kulke 1986a) tried to identify the extent to which Richardson's Polarisation Reversal Hypothesis could be empirically verified in Malaysia.

An analysis of the rank size rule of the fifty largest settlements in Malaysia (Frohloff 1988) showed for the period 1957-1970 a process of increasing urban concentration in the central region. Between 1970 and 1980 intraregional decentralisation around Kuala Lumpur and interregional decentralisation to other towns along the west coast (Penang) could be observed. At the beginning of the eighties some of the east coast towns achieved high population growth rates. Studies (Koschatzky 1987a) on the changing locational distribution of manufacturing firms and of social disparities documented a similar process which could be interpreted as an development according to the polarisation reversal hypothesis. But this decentralisation was only effective for the period of labour intensive industrialisation, which ended in the late eighties. Very recent studies from the nineties (Häußer 1999, Kulke 1998) have showed that with entrance to a new phase of industrial development based on technology-intensive and human-capital-intensive sectors (microelectronics, car manufacturing), a new reconcentration in the centres with international linkages took place. Labour-intensive businesses (clothing, assembling of electrical products) belong to the typical footloose industries, which do not respond to special locational factors except the availability of cheap labour; therefore it is possible for them to locate in peripheral regions. Technology-intensive and human-capital-intensive industries are very much dependent on good international transportation links, proximity to research and development, and the availability of a diversified sectoral structure (including enterprise oriented services); therefore they are highly concentrated in the urban-industrial centres.

#### **2.4 National economic development path**

Very recent studies compare the economic strategies and the national development process in Malaysia with those of the other economically successful "Tiger-states" in east and southeast Asia (Koschatzky 1997, Kulke 1998, Schätzl 1986, Uhlig 1992 Wessel 1998). These studies identify some similarities in the development paths of the countries, which are often compared with the flight formation of wild geese.

### **3. Structural and spatial development in Singapore**

#### **3.1 National economic development**

Over a period of almost forty years Singapore achieved high economic growth rates and has reached a GDP of approximately U\$30,000. This development was driven by an economic policy which encouraged a change from a port-trade oriented facility to a modern manufacturing and service city. Several German studies have analysed the development of Singapore since its development as a colonial base of the British Empire and independence from the Malaysian Federation in 1965 (Heineberg 1986a, b, Luther 1983, Marr 1982, Niklas 1977, Menkhoff 1996).

They concentrated on the local advantages of Singapore, especially the development of an export-oriented manufacturing sector using measures such as exemption from import and export taxes, low revenue taxes, good transportation links with the port, the availability of cheap labour and the construction of good facilities (industrial estates, buildings) for manufacturing enterprises. They also considered the role of foreign direct investment in labour-intensive production, which chose Singapore as a location, becoming the driving force of economic development. In the seventies, with increasing labour costs, the government changed policy towards a secondary industrialisation based on modern technologies. Since the eighties the economic instruments, e.g. tax reductions, financial assistance, development of a high quality material infrastructure, have been used to develop five columns of growth: high-tech-industry, trade, tourism, transport/communication and "brain-services".

One factor particular to Singapore is the strong orientation towards service activities. This includes the classical trade activities, modern developed sectors like airline-transportation (Singapore Airline) in connection with tourism and shopping (Marr 1989) and globally oriented financial services or enterprise-oriented services. This development strategy is establishing Singapore's position as a global city and some publications name it as Singapore's way to a "smart city" (Menkhoff 1996). Further German research projects are planned to analyse economic development processes within the ASEAN zone of integration, the innovative activities of the firms and the spatial effects of the growth triangle strategy.

#### **3.2 Spatial development**

Population growth and the establishment of new economic activities on the very limited available land forced the administration to develop a territorial planning strategy. Some German studies have analysed this spatial development in Singapore (Heineberg 1986a, Marr 1986, Schmid 1974, Westerholt 1995), which is very different to other developing economies where primate cities are normally characterised by vast areas of unplanned urban development (e.g. squatter settlements, highly polluted industrial areas) with aggravating problems of supply (water, energy), traffic and environment (pollution). In contrast, Singaporean urban development was systematically planned by the government; during the last decades a modern well cared-for urban agglomeration has been constructed. The main elements of this policy (e.g. enlargement of the area by land reclamation, intensifying land use, changing spatial functions and improving infrastructure) have been analyzed by Westerholt (1995).

### **4. Brunei**

A doctoral thesis in economic geography (Franz 1980) deals with measures for oil production and Brunei's development problems before independence as a nation state.

## 5. Conclusion

During the last four decades German geographical research in Malaysia and Singapore has been oriented towards the most rapid observable change in these two countries. This has been the impressive economic growth; the studies analysed strategies, structural changes and economic effects and compared the path of development of the two countries. In terms of spatial development the effects of economic growth on society, on land use and on the distribution of economic activities have been the most important objects of research.

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### **Deutsche geographische Forschung über Malaysia, Singapur und Brunei - Strukturwandel und räumliche Entwicklung**

Deutsche geographische Forschung in Südostasien hat eine relativ junge Tradition. Erst in den sechziger Jahren, mit der Unabhängigkeit der Länder Singapur und Malaysia, begannen Forschungsprojekte in dieser Region. Schwepunktmäßig werden dabei Aspekte der Humangeographie behandelt.

In Malaysia läßt sich ein Wandel der Forschungsinhalte während der letzten Jahrzehnte beobachten. In den sechziger und siebziger Jahren dominierten Untersuchungen zur Bevölkerungsstruktur, zum Siedlungssystem und zur Agrargeographie. Mit dem erfolgreichen wirtschaftlichen Entwicklungsprozeß setzten in den achtziger Jahren Studien zum Entwicklungsverlauf und zu räumlichen Effekten des Wachstums ein. Die jüngsten Arbeiten vergleichen den Entwicklungsweg Malaysias mit anderen Schwellenländern und diskutieren raumwirtschaftliche Auswirkungen der Globalisierung.

Für Singapur lassen sich zwei Schwerpunkte geographischer Arbeiten identifizieren. Einen stellen Untersuchungen zur Stadtentwicklung dar, den anderen bilden Analysen des wirtschaftlichen

Wandels des Stadtstaates, von einer hafensorientierten Siedlung zu einer durch moderne Industrie und hochrangige Dienstleistungen geprägten Global City.

### **German Geographical Research on Malaysia, Singapore and Brunei - Structural Change and Spatial Development**

German geographical research on Malaysia and Singapore is a relatively new approach; these projects started in the sixties after the independence of the countries. In general German studies are focused on the human geography of these countries. During the last decades a shift in research topics can be observed in Malaysia. In the sixties and seventies studies on the structure and development of the population, the settlement system and the agriculture dominated. In the eighties, with the successful economic development process, more and more projects analyzed the development path and the spatial economic effects of national growth. Very recent studies compare the Malaysian case with other developing economies and discuss spatial effects of the globalisation. In Singapore, two main areas of German research can be identified; one is the urban development and one is the economic change in the city state, from a port oriented settlement to a global city of modern manufacturing and high ranking services.

### **La recherche géographique allemande sur la Malaisie, la Singapour et le Brunei - changement structurel et développement spatial**

La recherche géographique allemande en Asie du Sud-Est a une tradition relativement jeune. Ce n'est que dans les années 1960, avec l'indépendance de la Singapour et de la Malaisie, que commençaient les premiers projets de recherche dans cette région. Il s'agissait surtout d'aspects de la géographie humaine.

En Malaisie, on peut observer un certain changement des sujets de recherche pendant ces derniers ans. Pendant les années 1960 et 1979 ont dominé les recherches sur la structure de la population, sur la trame urbaine et sur la géographie agraire. Avec le progrès du développement économique au cours des années 1980, les études commençaient à s'occuper du processus du développement et des effets spatiaux de la croissance. Les travaux les plus récents comparent le développement de la Malaisie avec celui d'autres pays-seuil et discutent les effets spatio-économiques de la globalisation.

Pour la Singapour on peut distinguer entre deux centres de gravité de la recherche géographique. D'une part il y a les recherches sur le développement urbain, d'autre part il y a les analyses du changement économique du pays, le développement d'un port à une ville globale caractérisée par une industrie moderne et des services d'un très haut niveau.

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Wiederholungsfragen zum Thema "Die Entwicklung der Wirtschaft in den 1970er Jahren" (10 Punkte)

1. Nennen Sie drei Hauptmerkmale der Wirtschaft in den 1970er Jahren. (3 Punkte)

Die 1970er Jahre waren durch drei Hauptmerkmale gekennzeichnet: Erstens, die Ölkrise, die zu einer starken Inflation führte. Zweitens, die Stagflation, die zu einem Stillstand der Wirtschaft führte. Drittens, die Globalisierung, die zu einer stärkeren Integration der Weltwirtschaft führte.

2. Erklären Sie den Begriff "Stagflation" und nennen Sie zwei Beispiele dafür. (4 Punkte)

Stagflation bezeichnet den gleichzeitigen Auftreten von Stagnation und Inflation. Ein Beispiel dafür ist die Wirtschaftslage in den USA in den 1970er Jahren, ein weiteres Beispiel ist die Situation in Großbritannien zu dieser Zeit.

3. Welche Auswirkungen hatte die Ölkrise auf die Weltwirtschaft? (4 Punkte)

Die Ölkrise führte zu einer starken Inflation in den Industrieländern, was wiederum zu einer Rezession führte. In den Schwellenländern führte dies zu einer Verschärfung der Wirtschaftspolitik.

4. Was versteht man unter "Globalisierung"? (4 Punkte)

Globalisierung bezeichnet den Prozess der zunehmenden Integration der Weltwirtschaft durch den Handel, die Investitionen und die Technologie.

## **German Geographical Research on Indonesia**

Ulrich Scholz and Harald Leisch

### **The beginnings in the 17<sup>th</sup> and 18<sup>th</sup> century**

German geographical research on Indonesia has a long tradition beginning with travel reports from the 17<sup>th</sup> and 18<sup>th</sup> century. Most of them were written by German officials and soldiers in the services of the Dutch East India Company (VOC), the main trading company in the Indonesian archipelago between 1602 and 1797. Of especial interest are the reports by J.W. Vogel (1704) about his 10-year experience in the archipelago, J.S. Wurffain's work (1632-1646) on Maluku, E. Hesse's East Indian Travelling Report, the description of Sumatra by A. Eschels-Kroon (1781), and the report by E.C. Barchewitz on his journey to Java and the Malukus with the first map of the Banda Islands (1730). All of these authors had the chance to stay in the area for as much as several years. Although their reports cannot really be regarded as systematic geographical research, they can still be used as a basis for a serious analysis of the current situation.

### **The period of Dutch colonialism (1819-1945)**

Genuine geographical research started in the times of Dutch colonialism, and of course Dutch researchers conducted most of it, first on Java later on the Outer Islands as well. However, German geographers such as G. Müller from Metz, who was one of the first to explore the inner part of Borneo, in 1818, were also active. He was succeeded by M. Schwaner from Mannheim, who studied the Barito river basin between 1843 and 1848 and was the first to travel through the entire island of Borneo by crossing the Central Mountains. Later the Dutch named two of the main central mountain chains after Müller and Schwaner, because of their impressive achievements. S. Müller from Heidelberg was called the "predecessor of Wallace" for his field trips through New Guinea (as early as 1828), Sumatra and Borneo. I. Pfeiffer from Vienna was the first German speaking woman to do research on the archipelago. Between 1851 and 1854 she travelled around Borneo, Sumatra, Celebes and part of Maluku. In 1852 she nearly reached Lake Toba, and her plan to travel through Borneo only had to be cancelled because nobody was willing to join her. The importance of her reports can be seen from the fact that some of them have been translated into the Malay language.

The most illustrious German geographer in Indonesia during the 19<sup>th</sup> century, however, was F.W. Junghuhn from Mansfeld, whom some people at the time even compared to Humboldt. He published his research on North Sumatra in two volumes titled: "Die Battaländer auf Sumatra" (1847). Between 1852 and 1854 he wrote three volumes about "Java – seine Gestalt, Pflanzendecke und innere Bauart". Like A. v. Humboldt he described the different altitude zones and the vegetation of the island of Java. By the time of his death in 1864 he had not only climbed and measured all of Java's 45 volcanoes and three in Sumatra, he had also drawn the best maps of Java until then (Helbig 1940). He used his detailed knowledge to help decide the location of Cinchona plantations, thereby helping the Netherlands East Indies to become the main producer of cinchona bark (source of quinine against malaria) in the world.

With the growing Dutch interest in the archipelago during the second half of the 19<sup>th</sup> century, more money was spent on scientific expeditions, like that of F. and P. Sarasin in Celebes (now Sulawesi) between 1893 and 1903. The first country monograph on Indonesia was written by A. Bastian during the years 1884 and 1894.

The North Sumatra expeditions of W. Volz (1904 and 1906) resulted in two volumes "Die Battaländer" (1909) and "Die Gajoländer" (1912), which are still important publications. Other expeditions followed: the Sunda expeditions from Frankfurt (1909/10), which conducted research on land connections between the Malayan islands during the ice ages; the Maluku expedition from Freiburg (1911/12); the German New Guinea Expedition, which was led by W. Behrmann (1909-14); Lorentz' research trip through the western part of New Guinea (1910); and the second Sunda expedition organised from Frankfurt in 1927. All of these expeditions of course were not only geographical but included researchers from many disciplines.

The reports of Christian missionaries are also of importance. J. Warneck, e.g., wrote ten books about the work of the Rhenish mission between 1904 and 1939, which include many interesting geographical details about the Toba land.

Inspired by the many reports published by the expeditions and missions, many authors travelled in Indonesia and wrote reports of their travels, some of which had more to do with adventure than scientific research. Examples are the reports by A. Maas about Sumatra (1902-1912), M. Moszikowski about Central Sumatra (1907-1909) and New Guinea (1911), and later the publications of H. Lehmann about Java, Sumatra and Celebes.

During this period the first doctoral theses were also written, by J. Kowal (1922) about the pre-colonial history of Sumatra, H. Fehn (1930) about Borneo, M. Kornrumpf (1935) about people and landscape in Celebes and G. Roch (1936) about the political and geographical development of Sumatra.

For the pre-war time special attention must be paid to the works of K. Helbig, who wrote his doctoral thesis about Batavia (Jakarta) in 1931 and published eight more books about Java, Sumatra and Borneo between then and 1954. He was the first to publish a state-of-the-art paper about German geographical research in Indonesia (Helbig 1940: 343-351). At the same time, K. Pelzer started research about worker migrations in Indonesia and other Southeast Asian countries.

The research during the colonial period yielded many significant results; however, the aim was not to enlarge scientific knowledge, but to explore new regions for economic and strategic reasons.

### **Post-war period**

The Second World War interrupted German geographical field studies in Indonesia for about 20 years. Although some works by Helbig were published after 1945, they are based on research he had done before the war. The same is true of the publication by E. Reiner (1956) about the Maluku.

Genuine geographical research started again in the 1960s (Röll 1978), with H. Uhlig from Gießen being one of the first to do field research. Many geographers used the time they spent working in development co-operation projects for research: W. Röhl in Central Java, G.R. Zimmermann in Java and Sumatra and later in Kalimantan, H. Dürr in Sumatra and later in Jakarta, U. Scholz in Sumatra, F. Voss in Kalimantan.

The first monographs about Indonesia that also dealt with human and physical aspects were published already in the 1970s by W. Imber and H. Uhlig (1973), W. Röhl (1979) and H. Kötter, O.G. Roeder and K.H. Junghans (1979).

With financial support from the German Academic Exchange Service (DAAD) it became possible for German geographers to teach in Indonesia and vice versa. This exchange programme

resulted in co-operations between German and Indonesian universities, such as between Bogor-Göttingen, Padang-Bielefeld and Yogyakarta-Giessen.

Social, agricultural and regional development were the main topics for geographers in the 70s and 80s. Publications about these subjects came from: W. Röhl (1976) about land rights in the region of Surakarta, U. Scholz (1977, 1983, 1988, 2000) about the agricultural structure of the Minangkabau in West Sumatra and an agricultural geography of Sumatra, H. Dürr (1978) and H. Dequin (1978) about regional development and policies in Indonesia, G. Burger (1975) about agricultural intensification in Central Java, I. Bundschu about problems of land tenure in Bali (1985) and Indonesia (1992), K. Horstmann (1964 and 1980 together with W. Rutz) about the distribution of population in Indonesia, A. Leemann with numerous publications about Bali and (together with W. Röhl) about Lombok (1987), U. Mai and H. Buchholt about markets in Minahasa (North Sulawesi), J. Metzner (1982) about agriculture and population pressure in Flores, W. Röhl and G.R. Zimmermann (1979) about population, settlement and agricultural structure in the Central Highlands of Irian Jaya, H. Uhlig (1980) about "Man and tropical karst" in Central Java and South Sulawesi, G.R. Zimmermann (1980) about "Wirtschaftsformationen im südlichen Sumatra" and K. Brehm (1986) about the mobility of the rural population in Central Java. G.R. Zimmermann (1975) and U. Scholz (1992) studied problems of transmigration.

### **Research in physical geography**

Compared to the many studies on issues related to human geography, relatively little has been published in the area of physical geography. N. Stein (1974) conducted research on vegetation, M. Domroes (1976) on the climate of Java, J. Metzner (1977) on "Man and environment in Eastern Timor", U. Scholz (1980) on land reserves and agricultural potentials in southern Sumatra, E. Löffler (1982) about land resources in West Kalimantan and W. Donner (1987) on "Landuse and environment in Indonesia".

Finally, an interdisciplinary research team led by U. Scholz (1992) of the University of Gießen, in co-operation with the Indonesian Ministry of Technology (BPPT) in Jakarta, investigated the environmental impacts of energy strategies for Java, assessing in particular the environmental risks due to air pollutants caused by energy consumption.

### **Recent trends**

During the past decade, other topics became more important. The strong centralisation in Indonesia led to the investigation of regional development and decentralisation. H. Dürr (1995) initiated research on this topic, one that might not have been easy during the Suharto period. C. Beier (1995, 1998) followed in Dürr's footsteps and added a new aspect to geographical research by borrowing sociological theories for the studies about decentralisation and development management that he did for his doctoral thesis, which was published in 1995. Currently, Beier is continuing his research in these fields.

The increasing conflicts between traditional forest dwellers and encroaching pioneer settlers in Kalimantan is the research topic of F. Momberg.

Research on the urban system and urbanisation has been attracting increasing interest. As early as 1976 H.G. Glaesser wrote about Bandung. This was followed by W. Rutz's book on cities and towns in Indonesia (1985, English translation 1987). U. Wolfram-Seifert (1992) worked on urbanisation and the urban system in Sumatra. Jakarta and its agglomeration JABOTABEK with its enormous population growth was the focus of geographical research by the Austrians M. Heintel and G. Spreitzhofer (1998, 1999). Both authors studied the impacts of globalisation and

migration on the development of the megacity. H. Leisch (2000a, b) is doing research on new town development in JABOTABEK. He puts special emphasis on private new towns, which are designed mainly for the new middle class since this part of the society has new – partly symbolic – needs, which can no longer be fulfilled in Jakarta.

The regional development of technology-oriented regions is part of M. Fromhold-Eisebith's recent interest in Indonesia, where she works on regional networking of the industrial players and analyses the patterns of innovation-oriented development in the regions of Bandung in Indonesia and Bangalore in India.

A. Leemann (1978) was the first to discover the booming tourism on Bali as a geographic subject, later followed by G. Dress (1979), K. Vorlauffer (1998) and B. Hauser-Schäublin (1998). In Switzerland S. Wälty did research on the Kintamani of Bali (1997) and A. Hobart, U. Ramseyer and A. Leemann (1996) published a book about the people of Bali. N. Backhaus (1996, 1997, 1998) shows chances and constraints for the traditional Balinese society related to both tourism and the use of marine resources. Outside Bali research on tourism is presently being performed by M. Zempel-Gino and P. Hans in North Sumatra.

### **Perspectives for geographical research in Indonesia**

Krismon (krisis moneter = monetary/economic crisis) and Kristal (krisis total = complete/total crisis) are the big slogans in Indonesia since the middle of 1997. Does this also mean a crisis for research? On the contrary! Some researchers did not dare to study in Indonesia, because of the riots in many regions of the country and the uncertain political situation. However, there was never a real danger for any foreign researcher. Meanwhile, the public administration is much more open than it ever was before the crisis. Many civil servants realised that they are not working for themselves but for the public, which includes the international public. The administration is demonstrating that it is trying to open itself. Therefore, a researcher not infrequently gets more information than ever expected.

The country's crisis leads to new foci of research and gives old topics new dimensions. For the first time there are discussions about real decentralisation and not deconcentration. The empowerment of local administrations and fiscal decentralisation are being discussed. Therefore, now is the right time for geographers to work on this topic.

The crisis led to some changes in regional development: regions that were formerly comparatively poor are now doing well, because of a much higher export of agricultural products. On the other hand, urban Java has fallen back and has to struggle hard to regain the pre-crisis development level. This shows that there are new dimensions to regional development research. It would be a big task for physical geographers to investigate the many natural and quasi-natural hazards that are threatening Indonesia.

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### **Deutsche Geographische Forschung über Indonesien**

Deutsche Beamte im Dienst der Vereinigten Ostindischen Compagnie (VOC) im 17. und 18. Jahrhundert können als Vorläufer deutscher geographischer Forschung in Indonesien angesehen werden. Während der holländischen Kolonialzeit (1819-1945) wurden viele Expeditionen von Deutschland nach Indonesien durchgeführt, die zahlreiche Forschungsberichte hervorbrachten. Nach der vom Zweiten Weltkrieg verursachten Unterbrechung begann deutsche geographische Forschung in Indonesien erst wieder in den 1960er Jahren. Die Entwicklungszusammenarbeit wurde intensiviert und viele Wissenschaftler erhielten finanzielle Unterstützung von Einrichtungen wie der Deutschen Forschungsgemeinschaft (DFG), dem Deutschen Akademischen Austauschdienst (DAAD), oder nutzten ihre Mitarbeit in Entwicklungsprojekten der Deutschen Gesellschaft für Technische Zusammenarbeit (GTZ) für weitere Forschung. Mit der sozio-ökonomischen Entwicklung in Indonesien verlagerten sich die Forschungsschwerpunkte von Landwirtschaft und Transmigrasi zu Regionalentwicklung, Dezentralisierung und Urbanisierung.

### **German Geographical Research on Indonesia**

German officials serving with the Dutch East India Company (VOC) in the 17<sup>th</sup> and 18<sup>th</sup> century can be seen as the forerunners of German geographical research in Indonesia. During the period of Dutch colonialism (1819-1945) many German expeditions were conducted to the Indonesian archipelago. They resulted in numerous research reports. Interrupted by World War II, genuine German geographical research in Indonesia started again in the 1960s. The development cooperation was intensified and many scientists received financial support from German agencies such as the Deutsche Forschungsgemeinschaft (DFG/German Research Foundation) or the Deutscher Akademischer Austauschdienst (DAAD/German Academic Exchange Service) or used their work in development projects sponsored by the Deutsche Gesellschaft für technische Zusammenarbeit (GTZ/German Association for Technical Co-operation) for further research. With the socio-economic development in Indonesia, the focus of German geographical research shifted from agriculture and transmigrasi to regional development, decentralisation and aspects of urbanisation.

### **La recherche géographique allemande sur l'Indonésie**

Des fonctionnaires allemands au service de la Vereinigte Ostindische Compagnie (VOC – Compagnie unifié des Indes orientales) du 17<sup>ème</sup> et 18<sup>ème</sup> siècle peuvent être considérés comme les précurseurs de la recherche allemande en Indonésie. Pendant l'époque colonial hollandaise (1819-1945) beaucoup d'expéditions ont été organisées de l'Allemagne en Indonésie, qui ont produit un grand nombre de rapports. Après l'interruption causée par la seconde guerre mondiale, la recherche allemande en Indonésie n'a recommencé qu'au cours des années 1960. La coopération de développement fut intensifiée et beaucoup de scientifiques ont bénéficié d'aide financière d'institutions comme la Deutsche Forschungsgemeinschaft (DFG – Conseil de la

recherche allemande) ou le Deutsche Akademische Austauschdienst (DAAD – Service des échanges académiques allemand) ou encore ont profité de leur participation au projets de développement de la Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ – Société allemande pour la coopération technique) pour continuer leurs recherches. Avec le développement socio-économique de l'Indonésie les accents de la recherche sont passés de l'agriculture et transmigrasi au développement régional, la décentralisation et l'urbanisation.

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# **German Geographical Research on the Philippines**

## **Focus on regional development and urbanisation**

Helmut Schneider

### **1. Introduction**

Compared to the other 19th century colonial powers, Germany was a late-comer. Its imperial interests were focused on Africa rather than Asia, the short-lived appearance as a colonial power in the West Pacific (Bismarck-Archipelago 1884-1914) must be considered as only marginal in the context of German foreign policy, ending without lasting impact. Apart from distance, this historical significance may explain the, even until recently, only minor political and economic interest pertaining to Southeast Asia in general and especially for the Philippines. This situation changed considerably with the economic rise of the so called "tiger states" in East and Southeast Asia. With regard to the Philippines, the end of President Marco's martial law regime, the democratic new-beginning under the presidency of Coraçon Aquino, the considerable efforts of the country to catch up with the club of "tiger states" and last but not least the repercussions of mass tourism - although quantitatively not comparable to the tourism boom in neighbouring countries like Thailand or Malaysia - contributed to a growing awareness for the country and its development in Germany. With some time lag that growing interest would also be embraced by scientists of different disciplines. However, until the beginning of the 70s, for Germany a general delay at least of social sciences research (including geography) on Southeast Asia and especially the Philippines had to be noticed (Dahm 1975, Röhl 1978, Rütland 1983). And compared to other areas of German overseas geographical research (for an overview see Wirth 1988), research on the Philippines always held and still holds only a small share - in spite of a long tradition of preoccupation with the archipelago.

### **2. Pre-war roots of German geographical research on the Philippines**

Geographical research on the Philippines in the German language area dates back to early travel records like e.g. the voluminous work by Semper (1868-1898) or the widely distributed volume written by Jagor<sup>2</sup> (1873). Among these early publications on the Philippines, the writings of Blumentritt (e.g. 1900), an Austrian geographer, secondary school professor and friend of the Philippine national hero José Rizal, were considered the most comprehensive and well known at the turn of the century. The works of Semper, Jagor and Blumentritt, the first two not geographers by profession, were also published in geographic journals such as the well known and prestigious Petermanns Geographische Mitteilungen.

In 1926, Tuckermann published a cultural geography on the Philippines stressing the positive impact of Spanish colonial rule and the work of catholic orders in terms of settlements, economic development, political administration and education. This was aimed against the USA, at that time the Philippine's colonial power claiming to enhance the progress of civilisation in the country. An even more critical view towards the USA as a colonial power in Southeast Asia was adopted later by Kolb (1942a). In contrast, he considered the Japanese conquest of the Philippines in the course of World War II in 1942 as a "necessary" return of the archipelago to its "old community of space, blood and fate" (Kolb 1942a: 75). Political statements like this, based on

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<sup>2</sup> Already in 1875, Jagor's travel records were translated into English and Spanish. In 1982 a shortened version was re-published in Germany by a small travellers book publisher, in order to serve a growing demand of tourists for historical descriptions.

territorial characteristics and relationships were in line with the geopolitical ideology of the time, dividing the world into "natural" zones of influence<sup>3</sup>. This affinity to discredited geopolitical lines of thinking turned out to be a serious obstacle for post-war Political Geography in Germany, even for the development of critical concepts (for an overview see Sandner/Ossenbrügge 1992). Concerning the Philippines, up to now post-war geography in Germany with very few exceptions was reluctant to take up research on inter- and intra-regional political questions and conflicts like the integration process of ASEAN and the Philippine's role in it, internal conflicts relating to socio-economic disparities, agrarian reform or attempts for regional autonomy or even secession (e.g. the "Moro" rebellion in Mindanao and Sulu). The importance of these issues for the overall development process of the Philippines is immense and still growing.

However, among the works of German geographers, Kolb's (1942b) comprehensive regional geography of the Philippines is still outstanding. Kolb's "Länderkunde" summarises the results of a research trip to the archipelago in the years 1936-1937. Descriptive in a positive sense and almost encyclopaedic in its coverage, it is credited as a classic well beyond the limits of geography. To this day no other study written in German, irrespective of discipline, can compare to it in terms of comprehensiveness (Rüland 1983, Reiterer 1997). Only Bronger's (1987) important study of the late eighties on spatial structures and development problems of the Philippines may in some sense be viewed in this line of regional geography. However, the claim of this study was more limited. Being explicitly problem-oriented its focus is mainly on regional development planning, a topic central to applied geography.

### **3. Focus on urban and regional development**

The Philippines rank relatively high in comparison to other Southeast Asian countries with more than 50 per cent urban population. In looking for an explanation, the legacy of Spanish colonial rule based on a hierarchical network of settlements with Manila as the uncontested primate city must be considered. Due to this fact, urban studies on the Philippines figure prominently among geographical research, also in the English speaking world. In Germany, apart from the extensive coverage of urban places in his regional geography of 1942, Kolb (1976, 1978) devoted a detailed study to the "individuality" of Greater Manila and the stages of its development. However, he explicitly dissociated himself from trends in modern urban geography aiming at theoretical progress and model-building, making the approach of his study now appear somewhat outdated.

Apart from Kolb the comprehensive work of Bronger (e.g. 1982, 1986, 1987, 1996), who spent more than three years as visiting professor in the Philippines (Department of Geology and Geography of the University of the Philippines 1975-1979), has to be considered the most important single contribution to geographical research on the Philippines in post-war Germany, especially with regard to urban and regional development. Bronger contributed not only to regional geography but also to questions of theory and methodology, e.g. regionalisation and the demarcation of peripheral regions, central place and development centre strategies in regional development planning and above all measurement and explanation of metropolisation. As an example for the process of metropolisation, Metro Manila, by far the largest city of the country, was addressed in several publications, most importantly a comparative study also including Bangkok and Seoul (Bronger 1995, Bronger/Strelow 1996). Metropolisation could be viewed as an extreme expression of regional disparities, a serious obstacle not only for economic development, but also for social justice and political stability in most developing countries. The

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<sup>3</sup> It is interesting to note, however, that articles on the Philippines published in "Zeitschrift für Geopolitik", the central organ of pre-war geopolitical thinking in Germany (e.g. in vol. 9/1932 and 18/1941), were more sceptical towards Japanese imperial aspirations and less critical towards US colonial rule.

problem, however, is even more serious in an archipelago state like the Philippines. The need to reduce, and in the long run maybe overcome regional disparities, justifies the focus of geographical research on questions of regional development and urbanisation. Considering the high value of applied geographical research of this kind for practical planning needs and the existing language barrier for publications in German, it is to Bronger's credit that some of his research results were also published in the English language "Philippine Geographical Journal" (1980, 1982, 1983)<sup>4</sup>. With regard to regional disparities, being one of the most important development obstacles for the Philippines, and regional policies adopted to reduce that problem, a detailed study by Krämer (1991), which was encouraged by Schätzl, must be mentioned. Strictly following a regional economic approach and applying Richardson's concept of polarisation-reversal, the study, based on official statistical records, reveals a still growing primacy of Metro Manila. Regional policy concepts of the government, being contradictory and not applied with enough emphasis, seemed to have little success stopping this trend.

Among the reasons which led to the failure of many efforts for regional development, a lack of knowledge on the level of regional urban centres must be mentioned. This lack of knowledge was especially felt with regard to the prerequisites for small and medium sized urban places intended to be regional development centres and receiving centres for rural-urban migration. To overcome these research deficits studies on migration patterns and on livelihood strategies of urban households were viewed to be essential. This formed the background for detailed studies on some small and medium sized urban places. A survey on small-scale industries and the informal sector in the provincial capital San Fernando (La Union/Northern Luzon) was conducted by Schneider (1986). The Philippines were also included in a comprehensive and intercultural comparative research project on the role of secondary cities in the urbanisation process that also covered Thailand and Kenya (for some results see Schneider/Vorlaufer 1998, Vorlaufer 1996, 1998 and Schneider 1997, 1998a, b). For the Philippines, Baguio City in the Northern Luzon highlands and Zamboanga City at the south-western tip of Mindanao were included. Comprehensive household surveys were undertaken including 1.000 household in every selected urban location. Research was undertaken in close co-operation with Philippine counterparts from the University of the Philippines/Cordillera Studies Centre in Baguio City and the Mindanao State University in Zamboanga City. The Philippine partners also contributed to a joint volume edited in English, presenting some results of the secondary-city research project (Schneider/Vorlaufer 1998, Cruz/Calugan 1998, Ducanes/Alasco 1998).

#### **4. Industrial development and informal sector**

Economic development of the Philippines before World War II was based on the export of agricultural and mining products (Manila-hemp, sugar, copra, tobacco, copper); likewise the development of industry was limited to the processing of raw materials of these sectors (e.g. tobacco). In economic terms Kolb (1938) marked the pre-war Philippines to be the type of a tropical economy destined to supplement developed industrial countries. Industrialisation during the first two post-war decades was based on a strategy of import substitution. Although some progress was made, the limits of this strategy were felt already in the 60s. But compared to the neighbouring "tiger states" and also Thailand's boom economy the switch to labour-intensive export-oriented industrialisation in the Philippines turned out to be more difficult and lengthy. In 1979 Bronger devoted a detailed survey to the history, structure and development problems of

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<sup>4</sup> An important and mainly theoretical article on the concept of metropolisation was published in English translation in the journal "Applied Geography and Development - A Biannual Collection of Recent German Contributions" (Bronger 1985).



Philippine industry. Industrialisation was seen as only one component of overall economic growth, important chiefly for its contribution to solve the problem of unemployment and to reduce existing regional disparities. Both aspects were judged by Bronger for being the two most significant development problems not only for the Philippines but for developing countries in general. But especially capital-intensive import substituting industrialisation turned out to be heavily concentrated in the Greater Manila area. To achieve a more balanced pattern it was felt necessary by national authorities as well international agencies to promote small and medium scale industries and to strengthen regional development centres.

Considering the general lack of detailed micro-level surveys in the Philippines (Voss 1971: 294) these political goals were taken as the point of departure for an in-depth study of the structure and development of small-scale industries in San Fernando, provincial capital of La Union in the Ilocos-region of Northern Luzon, undertaken by Schneider (1986, 1992). Mainly based on a questioning of entrepreneurs in the small-scale industries sector it was found that the selected regional development centre only to a limited extent was able to function as a receiving-centre for rural-urban migration. The main reason was, that employment and income opportunities for poorly trained job-seekers without own starting capital turned out to be very limited. On the other hand, entrepreneurial activities in the small-scale industries sector in many cases earned higher incomes compared to wage labour in the so-called formal sector. These findings led to a critical evaluation and in some cases the rejection of hypotheses linked to the popular informal sector concept. Recently Schneider (1999) has taken up this point again in an article on social strategies to reduce risks in the so called urban informal sector. Based on qualitative interviews in Baguio City the social institution of "suki" as a means to develop ties to regular customers was analysed. For market participants, from an action-oriented point of view, the distinction between reproduction orientation and profit maximisation turned out to be of greater relevance than the distinction between formal and informal sectors.

## **5. Rural areas and agricultural development – neglected fields of research**

Due to the dominance of the agrarian sector in the post-war economy of most Southeast Asian countries modernising agrarian structures was a major precondition for economic growth. That is why structure and development of agriculture were long among the main topics of German geographers doing research in Southeast Asia. But for the Philippines this is true at best only to a lesser extent. Issues like industrialisation, regional development, urbanisation and demography (e.g. migration, ethnicity) have been more prominent. Of course agriculture was covered in the regional geographies of Kolb (1942) and Bronger (1987) as well as in Hausherr's (1972) study of the cultural landscape in the Lanao provinces of Mindanao. The Philippines were also included in the studies on rice cultivation in Southeast Asia done by Wilhelmy (1975) and Uhlig (e.g. 1983). But no detailed geographical study on the Philippine agricultural sector or a more general one of rural area development was undertaken by German geographers. A few exceptions, nevertheless, have to be mentioned, among them the studies of Voss (1978, 1986) on agriculture in Central Luzon, Blume (1986) on the sugar cane landscape and a dissertation encouraged by Manshard on agroforestry in mountainous areas of the Philippines (Siebert 1987). The promotion of rural development also plays a key role in German development policy, mainly carried out by the public-benefit company GTZ (Gesellschaft für Technische Zusammenarbeit/German Technical Cooperation). Geographers were involved in some GTZ-projects in rural areas like e.g. the "Bondoc Development Project", the "Community Forest Project Quirino" and the "Cebu Upland Project" (Riethmüller/Schönwälder 1992). Among their tasks was the application of Geographical Information Systems (GIS).

In spite of the economic progress made during the last two decades, agrarian development and agrarian reform is still vital for the Philippines, not only in economic, but also in social and political terms. To a considerable extent the still ongoing insurgency of the communist "New Peoples Army" as well as aspirations for autonomy or even secession in Muslim Mindanao are due to an unresolved "agrarian question". Geographical research, when not narrowly restricted to the agrarian sector, but also carried out as social and cultural geography of rural areas, and further taking into consideration concepts like "Political Ecology", could make valuable contributions to solve those problems. The survey of Hausherr (1972) on socio-cultural and economic development of the Lanao provinces in Mindanao, although conducted already in the early 70s, may still serve as a good example for this field of studies.

## **6. Growing awareness for ethnicity and ethnic segregation**

Overall studies of demographic structures and trends in the Philippines are rare in German geography; as exceptions Nebenführ 1991 and Bronger/Gebhard 1991 must be mentioned. Some attention, however, is devoted to questions of ethnicity and ethnic stratification of the population. This topic was prominent already in the early geographical writings at the end of the last century (e.g. Blumentritt 1879, 1882). Special interest was given to the Chinese minority. But with reference to the Chinese population the Philippines differ markedly from other countries in the region. Under Spanish colonial rule a group of culturally assimilated and economically powerful Chinese mestizos developed (Mestizos Sangley). This group - one of their most prominent members was the Philippine's national hero José Rizal - played an important role in the struggle for independence from Spanish colonial rule. But with a share of only less than 1.5% of the total population (the share of persons having Chinese ancestry is estimated to be not more than 10%) compared to other countries in the region in terms of numbers, the Chinese in the Philippines only make up a very small minority. Nevertheless, this rather small population share is by far exceeded by their economic influence. This may explain the continued research interest in the Chinese minority. Kolb (1974) devoted a detailed study to the Chinese, Japanese and Indian minorities in the Philippines. The focus was on their economic activities, but also their settlement pattern and inner city spatial segregation were dealt with.

Recently, Buchholt (1993, 1998) has included the Philippine Chinese in his comprehensive studies on trading minorities in Southeast Asia. Differing from mainly descriptive work on this topic in the past, his social geographical approach aims towards an explanation of ongoing social tensions with ethnically defined trading minorities in the course of the development process. In contradiction to the assumptions of classic modernisation theory, ethnic identities and ethnic tensions seem not to be a temporary feature of modernising societies, rather they are there to stay. In general, this is also the result of Schneider's (1998) comparative study of the development of ethnic segregation and urban ethnic quarters in Zamboanga City and Baguio City. But due to historical and socio-cultural differences both urban areas are markedly different in terms of ethnic segregation, thus stressing the need for microlevel studies. In this regard, Hausherr's (1972) detailed study of cultural landscape development in the Lanao provinces of Mindanao is still a good and important example. Although the author adopts a more optimistic view it may be concluded from his study that ethnically defined tensions between the Muslim population and Christian settlers will not vanish in a short run. His study shows some of the economic and cultural roots of the "Moro" conflict that often, in a simplifying manner, is depicted as a religious conflict or - as done by Samuel Huntington - as part of a world-wide "clash of civilisations". In this sense, Hausherr's study may also be considered as part of a new beginning of post-war political geography on the Philippines as it explicitly tries to identify political, historical, socio-cultural and economical roots and causes of a regional conflict.

## **7. Tourism development – a new field of geographical research**

Foreign as well as domestic tourism has become an important factor of economic development in the Philippines, although in terms of numbers it is still behind other tourism destinations in the region. Still growing in importance, the tourism sector of the Philippines only recently became a subject of detailed studies in German geography (Bernklau 1991, Vorlauffer 1996a, 1998). The Philippines were also considered in Vorlauffer's comprehensive accounts of Third World tourism development (1984, 1996b). Apart from its overall contribution to economic development, tourism as an instrument for reducing regional disparities in the Philippines was given special attention by Vorlauffer with Northern Luzon, Palawan and the small "boom" island Boracay north of Panay taken as regional examples. Trying to reduce and overcome spatial disparities is a major challenge in an archipelago state like the Philippines. Tourism has, however, not yet made considerable contributions towards this goal, it is still strongly concentrated in the Greater Manila area, thereby strengthening the primacy of the capital. Further efforts are necessary to develop the potentials for tourism in peripheral regions and urban areas outside the metropolitan region (see e.g. Vorlauffer 1998).

## **8. Environmental problems and the conditions of sustainability**

In his state of the art report 10 years ago, Buchholz (1988: 35) noted "that almost all German research work in South East Asia is based on cultural and applied geographical topics. Research on physical geography is rare". This is more or less true up to this day and even more so for the Philippines. The work of Voss on the geomorphology of the Sulu archipelago (1974), his methodological contributions to volcano surveillance and a more recent study on the geology of coastal terraces in Cebu and Bohol (Hillmer/Voss 1987) are still exceptions.

For future research the interface of natural and social systems should be given more attention. In this regard, a study of Kolb (1975, in co-operation with Voss and Ehlers) on the problem of flooding in the Greater Manila urban area may be considered as a first step in this direction. Uthoff (1994) has taken up the issue of environmental stress in an article dealing with the economic use of coastal areas in the Manila Bay region and its effects on the environment. Being part of the already mentioned comprehensive research project on secondary city development in his dissertation, Krische (1997, 1998) undertook an in-depth study on environmental problems, environmental perception and the conditions of sustainable urban development in Baguio City and Zamboanga City. Applying a model of urban metabolism his action-oriented focus is on urban households and their ability to develop environmental awareness and to adapt to the necessities of sustainability. Special emphasis is given the situation of migrant households, their environmental awareness and ability to deal with urban environmental problems. This emphasis is justified considering the high share of migrants among the overall population especially in rapidly growing secondary urban centres.

Geography should take more advantage of its main strength by stressing its discipline-internal integration of cultural and physical geography in analysing society-nature interactions and by further developing international and interdisciplinary co-operation including the social and natural sciences. This would help to contribute to the much needed research on man-made environmental problems and the conditions of sustainable development.

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## **Philippinenforschung in der deutschen Geographie**

In der Überseeforschung der deutschen Geographie spielen die Philippinen nur eine untergeordnete Rolle, obwohl die Beschäftigung mit dem Archipel auf eine lange Tradition zurückblicken kann. Die über die Fachgrenzen hinaus anerkannte Länderkunde Kolbs aus dem Jahr 1942 ist bis heute im deutschen Sprachraum das einzige Standardwerk über die Philippinen mit umfassendem Anspruch geblieben. Seit den 70er Jahren hat sich in der deutschen Geographie insbesondere Bronger mit zahlreichen Arbeiten über Regionalentwicklung, Industriestruktur, Urbanisierung und Metropolisierung den Philippinen gewidmet. Forschungen über den Natur- und Agrarraum fanden demgegenüber deutlich geringere Beachtung. In jüngster Zeit sind Arbeiten über Ethnizität, Tourismus und Umweltprobleme hinzugekommen, Themenfelder, die in Zukunft noch an Bedeutung gewinnen dürften.

## **German Geographical Research on the Philippines - Focus on regional development and urbanisation**

Compared to other areas of German geographical research overseas the Philippines only play a minor role, in spite of a long tradition of preoccupation with the archipelago. To this day no other study can compare to Kolb's comprehensive "Länderkunde" of 1942, which is credited as a classic well beyond the limits of Geography. Since the 70s especially Bronger contributed to Philippine studies in German geography with numerous publications on regional development, industrial structure, urbanisation and metropolisation of the country. Compared to this focus, research on natural landscapes, natural resources and agriculture was considered only to a minor extent. Recently some studies on ethnicity, tourism and environmental problems were added, topics that will surely gain in importance in the next future.

## **La recherche géographique allemande sur les Philippines - développement régional et urbanisation**

Bien que la réflexion sur l'archipel, vue d'un point de vue rétrospectif, puisse se réjouir d'une longue tradition, les Philippines jouent un rôle plutôt secondaire dans la recherche d'outre-mer de la géographie Allemande. Dans les pays germanophones, le "Länderkunde" de Kolb de 1942 demeure l'unique oeuvre de référence et de connaissance approfondie sur les Philippines qui soit reconnue au-delà des frontières disciplinaires. Dans la géographie Allemande, Bronger s'est particulièrement consacré, depuis les années 70 avec de multiples travaux, au développement régional, à la structure industrielle, à l'urbanisation et à la métropolisation aux Philippines. Par contre des recherches effectuées sur l'urbanisation et à la métropolisation aux Philippines. Par contre des recherches effectuées sur les domaines naturel et agraire ont recontré clairement moins d'intérêt. Tout récemment, des travaux sur l'ethnicité, le tourisme et les problèmes d'ordre écologiques s'y sont ajoutés, donc des aires thématiques qui devraient gagner en importance dans l'avenir.

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