Development of Contemporary India Area Studies as Part of Geographical Studies in Japan since the 1980s

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Abstract This article examines research on modern India carried out by Japanese geographers, specifically since the 1980s. The studies were undertaken during a period corresponding with partial economic liberalization during the 1980s and full-fledged economic liberalization since 1991, when India’s transition from stagnant to dynamic became apparent. This paper investigates a variety of factors in India’s development. First it examines research relating to the changes in agriculture and the rural development that were key to India’s economic development. Second, it examines the dynamic features bringing about major regional changes as part of economic liberalization to include reorganization of spatial structures pertaining to industrialization and the formation of new industrial regions, the progression of urbanization and development of major cities, and economic growth. During this period, the research conducted by Japanese geographers yielded many important achievements and results based on fieldwork. Because the research has been conducted in an era of economic liberalization and rapid economic growth, there are a number of studies that provide insights into the socioeconomic changes in India’s cities, villages, and the mechanisms behind them. However, research studies on metropolitan cities and on the spatial structures of a nationwide scale have only just got underway, and we hope for more systematic research on them in the future.

Key words India, area study, agricultural development, industrialization, urbanization, spatial structure, economic liberalization

Introduction

India has achieved rapid economic growth as a result of economic liberalization policies adopted in 1991. The country is currently gaining global attention as an emergent economic power, along with countries such as China and Brazil. In particular, India’s urban development has been remarkable, sweeping away its previous image of stagnation. India is a vast country, blessed with extreme geographical diversity, as well natural and cultural diversity. On the other hand, following its independence, the organization of states, centered on language, brought about strong regionalist attitudes. Furthermore, economic development in recent years has served to accelerate urbanization and industrialization, and has brought about both the reorganization of spaces and regional economic disparities. Thus, while India has inherently been a land of geographical diversity, economic growth in recent years has given rise to remarkable regional changes, and in turn, new forms of diversity. India has also strengthened its international ties in a range of facets—politics, economics, and culture—with globalization having an impact on its regions.

This study seeks to organize and examine research carried out by Japanese geographers, specifically since the 1980s, concerning India’s regional diversity and the major changes since that decade. The studies were undertaken during a period corresponding with partial economic liberalization during the 1980s and full-fledged economic liberalization since 1991, when India’s transition from stagnant to dynamic became apparent. Therefore, as explained in the following chapters, research in this area has gained many insights into the nature of India’s socioeconomic changes and their causative mechanisms.

In Japan, geographical research on other countries is often conducted collaboratively, a specific university serving as a base for these endeavors. In the case of India, Hiroshima University is well known for many achievements generated and accumulated through its collaborative research. This study also relies to a large extent on these achievements. Hiroshima University’s research on the regional geography of India commenced in 1967 with the “Changes in Settlements in India” project headed by Professor Jiro Yonekura (Yonekura 1973), then affiliated with the Hiroshima University Department of Geography. Although more than 40 years have elapsed since then, such research on India still continues (Table 1). For an introduction to nearly half a century’s worth of achievements,
readers are urged to consult the following: Fujiwara et al. (1987), Fujiwara (1998, 2006), and Okahashi (2007a).

This paper is structured to investigate a variety of factors in India’s development. First, it examines research relating to the changes in agriculture and the development of villages that for many years were key to India’s economic development. Second, the paper examines the dynamic features bringing about major regional changes as part of economic liberalization to include reorganization of spatial structures pertaining to industrialization and the formation of new industrial regions, the progression of urbanization and development of major cities, and economic growth.

**Changing Agriculture and Rural Development: Casting Away the Shackles of “Stagnant India”**

**Agricultural development and regional changes: regional impacts of the Green Revolution**

At the beginning of the 1970s, Hiroshima University conducted collaborative surveys of villages in the Punjab Plain of northwestern India headed by Professor Hiroshi Ishida (Ishida 1974). These surveys made it clear that the Green Revolution was largely impacting not only agriculture but also village life. Although at the time many criticized the Green Revolution as encouraging hierarchical and regional disparities, the fact that these surveys thoroughly examined the realities of regional changes on the basis of fieldwork and conducted accurate evaluations of the Green Revolution is praiseworthy. As a result, the changes in Indian farming villages were not seen as merely the breakdown of the old order, but were reinterpreted as movements toward modernization. The surveys gave rise to new perspectives on the governmental bodies spearheading these changes, thus focusing on various policies for agricultural and village development.

Consequent to these research achievements, studies were later carried out on the progress and regional impacts of the Green Revolution in southern India, where very little prior research had taken place (Fujiwara 1980, 1982). Here, surveys were conducted in two villages in the South Midan area of Karnataka State. By the latter half of the 1960s, one village had implemented canal irrigation, begun the widespread use of chemical fertilizers, and introduced high-yield varieties of crops—all leading

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**Table 1. Geographical research projects in India conducted by Hiroshima University**

<table>
<thead>
<tr>
<th>Stages</th>
<th>Fiscal year</th>
<th>Research project title</th>
<th>Principal investigator</th>
<th>Main study area(state)</th>
<th>Major outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>1967</td>
<td>Changes in Settlements in India</td>
<td>YONEKURA Jiro</td>
<td>UP, West Bengal</td>
<td>Yonekura (1973)</td>
</tr>
<tr>
<td></td>
<td>1969</td>
<td>Changes in Settlements in India</td>
<td>YONEKURA Jiro</td>
<td>UP, West Bengal</td>
<td>Yonekura (1973)</td>
</tr>
<tr>
<td>2nd</td>
<td>1978</td>
<td>Green Revolution and Regional Changes in South India</td>
<td>FUJIWARA Kenzo</td>
<td>Karnataka</td>
<td>Fujiwara (1980)</td>
</tr>
<tr>
<td>9th</td>
<td>2011–</td>
<td>Emerging Mega-Regions and Socio-Economic Developments in Contemporary India</td>
<td>OKAHASHI Hidenori</td>
<td>Delhi, Panjab</td>
<td>Okahashi (2011)</td>
</tr>
</tbody>
</table>

Note: The above listed research projects were supported by Grants-in-Aid for Scientific Research (KAKENHI).
to dramatically increased yields of, for instance, rice and sugarcane. The other village increased its irrigated arable land because of the widespread development of wells. In addition, to rice and sugarcane, the increased cultivation of fruit and vegetables led to expanded employment opportunities for agricultural laborers and members of the artisan class. Although an improvement in agricultural productivity was clearly recognized in both villages, innovative developments in agriculture brought about a number of major changes to village landscapes, such as construction, reconstruction, and relocation of houses, and the digging of wells for drinking water. This research suggests that the evaluation of development plans, such as the Green Revolution, should not be confined to debates at the macro level, but should include specific investigations of villages and individual farmers.

These surveys of southern India also covered regions that had not undergone conspicuous development through the Green Revolution, shedding light on farming villages that exhibited different trends, depending on regional conditions (Fujiwara 1984). These regions were the semi-arid Deccan Plateau, which receives very little rainfall, and mountain villages in the Western Ghats, an area that receives heavy rainfall. In a village, a drought prone area, where irrigation was not widely practiced, commercial crops such as mixed-crop cereals, cotton, and onions were cultivated. However, the majority of arable land was not irrigated, and fluctuations in rainfall severely affected the village, with annual changes to the crop situation making its income highly unstable. By the 1970s, development policies such as the Drought Prone Areas Programme (DPAP) were beginning to bring about improvements in the socioeconomic conditions of the village. In another Deccan Plateau village, large-scale irrigation was being carried out, and this capability led to transition from traditional, extensive cultivation of cereals to cultivation of commercial crops such as cotton. Simultaneously, irrigation capabilities caused farming to become stratified due to marked disparities between landowning households.

In the high-rainfall mountain villages in the Western Ghats, one village emphasized cultivation of commercial crops such as coffee and cardamom. But because land reforms were inconsistent and limited only to paddy fields, although high-yield varieties of paddy crops were introduced, a minority of coffee growers continued to hold the agricultural business advantage. In another village, little land was irrigated, and nearly 60% of non-irrigated arable land was given over to tree crops such as cashew nuts. However, the progress of land reforms in the 1970s and the implementation of rural development policies led to rapid socioeconomic improvement.

The surveys above provided a sense of positive agricultural changes that were not apparent when looking solely at the Green Revolution. Certain factors—natural conditions such as rainfall, the status of irrigation, disparities in land ownership between households, the introduction of commercial crops, and governmental policies—impacted disparities between farming villages. It is important to note that land reforms were pushed forward, albeit gradually, and that certain improvements were achieved through policies to encourage development, such as DPAP.

**Drought prone areas: Their structure and changes**

The Green Revolution succeeded greatly in developing agricultural production but it also gave rise to a number of issues that caused disparities between regions and classes. Thus, starting with its Fourth Five-Year Plan (fiscal 1969–1973), the Indian government began to draw up policies for reducing these disparities. The Small Farmers Development Agency (SFDA) scheme and DPAP were inaugurated, and rural development policies were implemented that targeted underdeveloped regions and low-income farmers. In 1976, Integrated Rural Development Programme (IRDP) was born, which merged the two earlier programs.

Sometime around 1990, awareness of the disparities led to research seeking to understand underdeveloped regions and low-income classes in a much wider range of areas. Specifically, research focused on drought prone areas; it attempted to depict various aspects of stagnation and development in underdeveloped regions through detailed surveys carried out at the village level. This research occurred directly prior to economic liberalization.

Six villages were surveyed throughout the region, starting in the north with one village in Rajasthan State, three in Madhya Pradesh (MP) State, and two in Maharashtra State, spread across the central areas of India’s interior. All six villages were located in drought-prone areas, with less than 1000 mm of rainfall. Fujiwara (1992) provided an overview of all six villages; details on individual villages were provided as individual papers (Maida et al. 1992; Minamino et al. 1992; Nakasato et al. 1992; Tomozawa et al. 1992; Okahashi et al. 1992). The following summarizes the findings from these surveys.

Among the six villages, four have conducted organized irrigation through irrigation channels and wells since the 1970s. The villages engaged in irrigation transitioned from traditional rain fed millet cultivation to commer-
The development of commercial agriculture and agricultural markets

In the 1990s, the progress of commercial agriculture brought an increase of research focusing on it. H. Araki who joined Hiroshima University’s research team reported increases in production of commercial crops (Araki 1995, 1997). Around 2000, subsequent research has yielded extensive insight into the distribution of agricultural products as seen from agricultural markets in Delhi (Araki 1999, 2004) and Bangalore (Araki 2005). These analyses on fruits and vegetables received at urban wholesale markets made it clear that vegetable supply systems were transforming to become large scale, expanding in wide-area distribution to meet the increasing demand from big cities. In particular, these studies highlighted a number of new trends, such as an expansion in the production of expensive vegetables resulting from increased purchasing power, as well as an increase in supply from distant production areas during off-crop seasons.

In respect to livestock farming, one important development is the “White Revolution” that sought to meet increased demands for raw milk. Beginning in the 1970s, dairy farming developed in accompaniment with the construction of a distribution system for raw milk. In a series of studies, Nakasato (1998, 2001) utilized the case study of Gujarat State to show how dairy-farming cooperatives played a major role in the success of the White Revolution. Goto (2006) focused on the broiler production that sprang up as part of the increased demand for meat. This study demonstrated how the development of national chicken production and distribution systems, the distribution and expansion of broiler breeding regions, and broiler hatchery that provided chicks all played a major role. Although there has been little progress in research on fisheries, one study to note is Mori (1991), which examined shrimp farming for export in West Bengal State.

Transformations of villages accompanying economic development

When examining transformations of villages, we must look not only at agricultural developments but also at commercial and manufacturing industry. S. Nakayama who joined Hiroshima University’s research team in the second stage, examined developments to commercial functions in core settlements that had become bases for rural development policies (Nakayama 1983). In addition, Nakayama (1989) indicated an increase in the villages’ traditional craftsman classes from developments such as the increased use of farming implements accompanying the intensification of agricultural labor and new housing construction.

Periodical markets is an important aspect of traditional distribution channel in Indian villages. A series of collaborative interdisciplinary studies headed by H. Ishihara have also provided considerable research contributions. These studies have focused on the spatial distribution, functions and structure of periodical markets, merchants and buyers at periodical markets in South Asia, especially in India. Those are Ishihara (1984) surveyed in southern India, Ishihara (1987) in Bangladesh, Ishihara (1989) in West Bengal State and eastern Nepal, and Ishihara (1991) in northern India. The overall achievements resulting from these studies have been summarized in Ishihara and Mizoguchi (2006). In short, the research shows major regional disparities in the importance and characteristics of periodical markets. Furthermore, environmental factors such as population density and economic factors such as the degree of economic development or commercialization play a major role in periodical markets. Apart from those studies, Ohji (1986) tried to clarify the local market area in India based on a normative examination of peri-
Collaborative research carried out by Prof. M. Murakami, Hiroshima University investigated rural changes in three Indian states, mainly from the perspective of rural development and human resources. This research has demonstrated the situation in villages on the eve of economic liberalization. The results of this research have been collected in English in feature articles of annual report No. 3 (1993) and No. 4 (1994) issued by the Research Center for Regional Geography, Hiroshima University, as well as in Murakami (1999). Reinvestigations of villages surveyed in the late 1960s and 1970s by Hiroshima University have provided an understanding of the changes in villages. The chronological data helped to shed light on many aspects of these changes, including land ownership, migration, employment structures, agriculture, industry, and education.

Social and economic changes resulting from industrialization and urbanization after economic liberalization have been examined in villages. Examples of research achievements are Okahashi (2003) and Okahashi (2008), which focus on large industrial estates at Pithampur in MP State and at Noida in the Delhi National Capital Region. This research attempts to examine the progress of industrialization and the resulting regional changes. Investigations have been carried out on a village located near a large industrial park in MP State, including some on agricultural management (Araki 1997), the consumer lives of village residents (Araki 2001), and employment and social structures (Sawa 1997; Sawa and Araki 2008). However, the impact of industrialization was not found to be very extensive.

Although there have been no major changes with respect to land use in a suburban village in Delhi National Capital Region (Minamino 1999; Minamino et al. 2008), major changes have taken place in employment and village social structure. To gain a more comprehensive understanding of changes in Indian villages, Sawa and Minamino (2006) examined a suburban village in a Bangalore metropolitan region, located near a large industrial estate. They examined the impacts of industrialization on villages from the unique perspective of de-territorialization and re-territorialization resulting from globalization.

A body of research has also examined changes to villages in underdeveloped mountainous regions, following economic liberalization. Uttarakhand State, located in the Indian Himalayas, faced many problems related to underdevelopment and had a marked economic dependency represented by the large number of emigrant workers (Okahashi 2011). However, in one mountain village adjacent to a provincial city, a number of notable improvements were observed in educational levels, employment opportunities and household income (Okahashi et al. 2011b). The impact of tourism has also been seen in this area. Hino (2010) highlighted the development of tourism and tourist accommodations in a hill station.

Changes in villages like those described above have also brought changes to rural politics. In India, where importance is given to the division of interests through caste communities, one would suppose that particular emphasis would be placed on political perspectives in addition to economic perspectives. To focus on political participation among farmers, Mori (1997, 1998, 2006, 2011) examined farming villages in West Bengal State under the Left Front regime. Minamino (1997) considered changing rural societies in southern India by linking water usage with caste and gender.

**Progression of Industrialization and Formation of New Industrial Regions**

**Industry prior to economic liberalization**

The research by Nakayama (1982) focuses on northern India in an attempt to comprehensively examine India’s industry and industrialization during the period of the planned economy following independence. In addition, regarding India’s traditional industries, Miyamachi (1989) made clear the local conditions of the cotton weaving industry in West Bengal villages. Murakami (1993) considered the sari textile industry in villages in Uttar Pradesh (UP) State.

In the 1980s, economic liberalization was pushed through on a partial basis. During this period, a limited amount of foreign capital was introduced into India, and this gradually stimulated industrialization. Tomozawa (1991) examined the development of the automobile industry and spatial arrangements of factories through case studies focusing on Japanese companies. Furthermore, during this time industrial estates were developed in underdeveloped regions through the government’s regional policies. Focusing on the representative large scale industrial estate in MP State, Okahashi (1997) conducted a collaborative survey and made clear the general conditions of the estate distant from metropolitan regions. As a member of the research team, Tomozawa (1997) studied industrial locations and production systems with respect to the estate, using the results to shed light on the characteristics of areas situated at a distance from major cities. Additional investigations of large factories in the same industrial estate, with respect to industrial labor mar-
kets, include their hierarchical nature, the inflow of rural surplus-populations as temporary workers, and the pre-emminence of upper castes among staff and regular workers (Okahashi and Tomozawa 2000). Okahashi et al. (2011a) examined mountainous regions in the north to highlight the process of how government-headed industrial development to solve underdevelopment resulted in failure during the course of subsequent economic liberalization.

**Industrial development and industrial agglomerations under post-economic liberalization**

India began carrying out economic liberalization in 1991, and concrete results in the form of industrial development became apparent during the mid-1990s. Manufacturing and Information and Communication Technology (ICT) industries exhibited marked growth as a result of increased direct investment from overseas. In respect to the manufacturing industry, India differs from the export-oriented industrialization of Southeast Asia and China, in that a major characteristic of its growth is strong orientation toward domestic markets (Tomozawa 2005). In contrast to this, the ICT industry has an extremely strong orientation toward exports to such markets as the United States.

Tomozawa (1999) examined the agglomeration of the automobile industry in industrial estates in the Delhi National Capital Region immediately after economic liberalization. Since the 2000s, suburbs in India's metropolitan regions have experienced phenomenal growth as new industrial spaces for the agglomeration of foreign capital; however, the paper is a cross-section of the invaluable information about the structure of market competition through the large-scale penetration of foreign capital, and that these areas of agglomeration also experience periods of prosperity and decline. Examples of Tomozawa's case study-based research target specific agglomeration areas. This investigation includes research on the construction of production systems through Japanese automobile manufacturers that have made forays into the suburbs of Bangalore (Tomozawa 2004), as well as the structure of industrial agglomerations of Japanese motorcycle manufacturers constructed in Delhi National Capital Region (NCR) (Tomozawa 2007). Furthermore, Tomozawa has also gained an understanding of the situation at the national level, which changed during the 2000s. For example, Tomozawa (2011) discovered the existence of two trends in relation to locations for the automobile industry: the orientation of existing automobile agglomerations and the creation of new locations for special category states, with the latter seen as unique to India. Furthermore, Tomozawa (2012) clarified the existence of three automobile parts industry agglomerations that deal with the arrangement of assembly plants for the major automobile manufacturers. In addition, at the corporate level, there is an increasing move towards the creation of multiple factories and locations.

Many researchers have focused on the ICT industry as a symbol of India's economic growth. In Japan, too, economists and geographers have generated results in this area. As a geographer, Kitagawa (2000) employed the Indian Software Directory to give a prompt account of the realities of the software industry and its regional distribution. Kitagawa (2004) gave a detailed description of the course of development of this industry and trends in the agglomerations, and in Kitagawa (2008, 2011), he followed up on new trends.

Meanwhile, research has also been carried out on the realities of specific agglomerations. Aoyama (2003) and Kuwatsuka (2006) have both focused on Bangalore, a representative example of an agglomeration, with Kuwatsuka indicating its multilayered structure and underdevelopment of its division of labor through detailed analysis of corporate data. Kuwatsuka (2004) also focused on call centers as examples of business outsourcing services that employ information and communication technologies. In addition to confirming the situation at agglomerations in metropolitan cities, Kuwatsuka provided an understanding of the characteristics of locations in the Delhi National Capital Region and examined regional impact on existing urban structures by focusing on employment patterns of operators. Kuwatsuka (2012) has also been engaged in research on locations in provincial cities as examples of new trends. Adding to his achievements, Kuwatsuka (2010) has carried out ambitious research on Indian ICT industrial agglomerations, focusing on the independent abilities of local businesses in Asia's industrial agglomerations geared towards exports. This study was aimed to examine the processes and conditions by which local businesses in developing nations lacking a sufficient domestic market or accumulation of skills and knowledge acquire international competitiveness through learning. In India's ICT industry, it is not the case that multinational corporations are taking the initiative in relation-
ships outside the region, but rather that local businesses are also encouraging the construction and upgrading of relationships outside the region.

For India, which has a large population of young people, human resource development aimed at the manufacturing industry has huge significance. Okahashi (2007b) used I.T.I. (Industrial Training Institutes), which aims to develop skilled workers, to highlight a mismatch with demand, given the large number of unemployed people among graduates of these institutes; however, at the same time he discovered cases among the businesses he surveyed in Bangalore of those who excelled in dealing with needs. In the manufacturing sector, the labor market has experienced rapid denormalization from intense global competition following economic liberalization; this has led to increasing instability within the labor market. Okahashi (2004) shed light on the causes for increasing numbers of temporary workers through surveys carried out among factory workers and companies in the suburbs of Delhi. Okahashi (2006) examined in detail the cases of Japanese companies, on the premise that a major disparity in wages and employment conditions between permanent and temporary workers is generating labor disputes.

Although many foreign capital manufacturers are oriented towards metropolitan areas, once certain conditions are in place, industrialization also begins to occur in underdeveloped regions located further away from major large cities. Similarly, Tomozawa (2008) examined the State of Uttarakhands industrial development policies implemented under the central government's regional policy and the status of its industrial locations.

**Urbanization, Development of Metropolitan Cities, and Reorganization of Spatial Structures**

**Urbanization and migration prior to economic liberalization**

India's urbanization has been progressing steadily since before the economic liberalization of 1991. Population growth in major cities has also worsened urban problems. In addition to an expansion in slums, Bangalore's urbanization has led to an increase in the number of dairy cattle in the city center, a phenomenon not witnessed in the past models of developed nations (Nakayama 1985). Importantly, Nakayama (1986) brought together the achievements of Indian researchers in urban studies. Finally, Kitagawa (1985) conducted research regarding India's urban systems, as a part of a global body of research.

Sato (1984), using data from the 1971 census to conduct analysis, has provided valuable results on nationwide migration in India. Of particular interest is that 70% of males relocating from villages to cities moved within the state. The fact that many of these men did not remain single but went on to form households provides a further point of interest, as this serves to modify the traditional theory about migration of single men. Conducting interviews in three cities in northern India, Koga (1980) approached the mechanisms of population movements from villages. Their results showed that, as with other developing nations, not only economic factors come into play but also chain migration and disparities in social capital.

**Development of metropolitan cities and urban systems following economic liberalization**

By the 1990s, metropolitan cities were beginning to show remarkable development concentrated around suburban areas. In line with this, a large body of research has focused on India's urban development systems, its processes, and the housing supply. Research as the projects of Hiroshima University has also progressed on areas of northern India, specifically Noida and Gurgaon, both of which are suburban areas in the Delhi metropolitan region. Yui (1999) examined urban development and the supply of housing in Noida, and Yui (2005b) looked at urban development in Gurgaon. With regard to southern India, research has been conducted in the Bangalore metropolitan area, a mecca for the IT industry. Yui (2005a) examined urban development in Bangalore while Minamino (2005) focused on urban water supplies. In 2010, Yui provided an overview of the complexities of the urban landscape and issues concerning urban development in major Indian cities undergoing rapid transformation (Yui 2010).

A handful of studies have been conducted on provincial cities. For example, Yui (2012) focused on the state capital Shimla as a political city based on its geographical condition as a mountainous region and its history as a hill station. Yui (2011) gave an account of recent urban development in newly emerging industrial development areas in provincial India.

When examining urban development in India at the national level, the idea of urban systems is of particular importance. For instance, it is presumed that globalization, the expansion of domestic markets, and the development of distribution systems changes urban systems. In relation to this, Abe (1999) examined central management functions, using data from 1995. This study obtained a number of interesting insights: the capital does
not contain the largest number of company headquarters; major discrepancies exist between the top seven cities and all other cities in numbers of company headquarters and branches; and Mumbai occupies the central position in India's urban systems. Hino (2004) approaches urban systems from the perspective of corporate sales networks and branch allocations, highlighting the significance of the arrangement of the country being organized into four major regions on the basis of the four points of the compass and states, as well as the importance of its four major cities (Delhi, Mumbai, Chennai, and Calcutta) as bases of business operations. In terms of foreign capital, companies that have made inroads into India are concentrated in the top eight major cities; Mumbai and Delhi are held in almost equal esteem among companies (Hino 2005). Possibly, Delhi will develop into a top-tier global city.

**National spatial structures and their reorganization**

In India, recent economic development has led to rapid reorganization of spatial structures. We can easily gain a sense of this from the research relating to industrialization, urban development, and changes in villages already reviewed in this paper. However, India is a country characterized by a high degree of regional diversity. Therefore, it is not enough to merely examine these regional changes individually—we need to comprehensively perceive these elements in the context of extensive spatial structures at the national level.

As Koga (1982) points out, in post-independence India, policies during the 1960s finally became geared toward reducing regional inequalities; between the 1970s and 1980s, regional development through industrialization was actively carried out to redress regional disparities. These types of regional policies sought to indicate the underdeveloped regions considered a priority for development, implement preferential measures and aid, and entice businesses to locate there through the licensing system. Thus, these regional policies have had the distinct trait of addressing nationwide spatial structures. However, following economic liberalization, deregulation meant that these regional policies could no longer function effectively.

So far, very little research has focused on nationwide spatial structures. A representative example is Sato (1994) on economic phenomena from the perspective of area studies. He sets out to illustrate the various spatial and geographical relationships between sectors, while the economic analysis focuses on the national economy mainly as a totality of various relationships between sectors. Particularly important is the three-dimensional depiction of spatial structures through the following three comparisons: 1. Inland India and coastal India; 2. Eastern India and western India; 3. Southern India and northern India.

Based on Sato (1994) and also drawing on area studies of China, Okahashi (2012) presented a framework for understanding spatial structures in contemporary India, asserting the need to survey future regional development on the basis of the formation of new, extensive agglomerations termed mega regions. In addition, Okahashi (2009) mentions regional disparities deemed to have increased as a result of economic growth.

Sawa (2010) also examined the issue of extensive spaces, focusing on the regional scale to explain the reorganization of spaces in India under the global economy. He used the concepts of de-territorialization and re-territorialization, but does not mention the spatial structures themselves.

Comparisons with China also forms an effective approach in current research on India. While this research is still in its early days, one such attempt is carried out by Okahashi et al. (2005).

**Concluding Remarks**

This paper examined research on modern India conducted by Japanese geographers since the 1980s. During this period, geographical research yielded many important achievements and results based on fieldwork. Because the research has been conducted in an era of economic liberalization and rapid economic growth, there are a number of studies that provide insights into the socioeconomic changes in India’s cities, farming villages, and the mechanisms behind them. However, research studies on metropolitan cities achieving rapid growth and on the spatial structures of a nationwide scale have only just gotten underway, and we hope for more systematic research on cities in the future. Furthermore, the publication of the regional geography of modern India based on this wealth of research data is also an important task for geographers. Although beyond the scope of this study, another immediate challenge is to consider the situation in India together with trends in other South Asian countries and to investigate the relationship of these trends with India’s economic development.

A further challenge is the promotion of interdisciplinary exchanges with experts in other disciplines. Today’s overseas area studies come under the umbrella not only of geography but also a range of other disciplines. In other words, interdisciplinary exchanges and investigations are vital. With respect to research on contemporary
India, we need to ask ourselves a number of serious ques-
tions: In what ways can geographers make a contribution?
What is insufficient in geographical research? With ques-
tions like these in mind, geographers have been involved in
the Contemporary India Area Studies project run by
the National Institute for the Humanities since 2010. Al-
though a number of issues in this project still need to be
addressed, it is hoped that the project will generate new
achievements in research.

Finally, as recently highlighted by Okahashi et al.
(2012) with respect to geographical studies in India, al-
though economic geographical research is a valid method
for comprehending changes after economic liberalization,
such studies are still rare in India itself. To change this
situation, research results must be actively fed back into
the target country, and bilateral exchanges must be facili-
tated between geographers from both countries. Overseas
area studies can also be expected to contribute to the de-
velopment of the geographical knowledge of India in this
regard.

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Notes

1. Ohji (1981), a part of the collaborative research, shed light on the
continuity of farming methods for rice crops and cereal crops in
relationship with the natural environment. This has developed
into comparative research with western Africa, which has identical
ecosystems.

References

Abe, K. 1999. The urban system of India from the stand point of
economic management function. Geographical Reports (Aichi
University of Education) 89: 1–10. (JE)
Aoyama, Y. 2003. Globalization of knowledge-intensive industries:
The case of software production in Bangalore, India. Annual
Report of Research Center for Regional Geography (Hiroshima
University) 12: 33–50.
in Tentleberia. Annual Report of Research Center for Regional
Geography (Hiroshima University) 4: 87–100.
Araki, H. 1997. Agricultural structure of rural settlement adja-
cent to newly developing industrial estate: A case study of
Chirakhan village, M. P., India. In Newly developed industrial
estate and regional change in India: A case study of Pithampur
Industrial Growth Center in Madhya Pradesh, ed. H. Okahashi,
139–169. Hiroshima: Research Center for Regional Geogra-
phy, Hiroshima University. (JE)
Araki, H. 1999. Long distance transportation of fruit and vegetable
in India: A case study of the Azaadpur market in Delhi. Annals
of the Japan Association of Economic Geographers 45: 59–72.
(JE)
Araki, H. 2001. The distribution of durables and changes in the
rural community of two Indian villages under economic de-
Araki, H. 2004. Vegetable production in India and their supply sys-
tem to Delhi: The latest trends. Geographical Sciences (Chiri-
Kagaku) 59: 280–291. (JE)
Araki, H. 2005. Agro-food supply systems of Bangalore: An intro-
duction of the commodity chain approach into India. Hok-
kaido Chiri 80: 1–24. (JE)
Fujiwara, K. ed. 1980. Geographical field research in South India,
1978: A progress monograph. Hiroshima: The Research and
Source Unit for Regional Geography, University of Hiroshima.
Fujiwara, K. ed. 1982. Geographical field research in South India,
1980. Hiroshima: The Research and Source Unit for Regional
Geography, University of Hiroshima.
Fujiwara, K. ed. 1984. Geographical field research in South India,
1982. Hiroshima: The Research and Source Unit for Regional
Geography, University of Hiroshima.
Fujiwara, K. 1992. Dynamic changes of Indian villages under rural
development programmes. Annual Report of Research Center
for Regional Geography (Hiroshima University) 2: 1–30. (JE)
Fujiwara, K. 1998. Hiroshima university's geographical field re-
searches in India: What do, how do? Annual Report of Re-
search Center for Regional Geography (Hiroshima University)
7: 55–71. (J)
Fujiwara, K. 2006. A reminiscence: My quarter century fieldwork
in rural India. Annual Report of Research Center for Regional
Geography (Hiroshima University) 15: 1–39. (J)
Theory and techniques for overseas area studies: A geographical
study of Indian villages. Hiroshima: Research Center for
Regional Geography, Hiroshima University. (J)
Goto, T. 2006. Development mechanisms of the broiler meat pro-
duction areas in India: Analysis based on the agribusiness
behaviors. Annual Report of Research Center for Regional Ge-
ography (Hiroshima University) 15: 171–187. (JE)
Hino, M. 2004. Location pattern of sales branches of large compa-
nies in India and its relationship to the hierarchical differen-
tiation of cities. Annual Report of Research Center for Regional
Geography (Hiroshima University) 13: 1–25. (JE)
Hino, M. 2005. Increase of foreign direct investment under the
economic liberalization in India and its implications for the
national spatial structure. Annual Report of Research Center for
Regional Geography (Hiroshima University) 14: 1–20. (JE)
Hino, M. 2010. Recent changes in hill resorts in Indian Himalaya:
A case study of Nainital, Uttarakhand in India. Science Reports
of Tohoku University, 7th Series (Geography) 57(1): 25–42.
Ishida, H. ed. 1974. Geographical field research in Northwestern
India: A progress monograph. Hiroshima: Departmnt of Ge-
ography, University of Hiroshima.
Ishihara, H. ed. 1984. Markets and marketing in South India (Mar-
kits and traders in South Asia, Series No. 1). Nagoya: Department of Geography, Faculty of Letters, Nagoya University.


Ishihara, H. ed. 1991. Markets and marketing in North India (Markets and traders in South Asia, Series No. 4). Nagoya: Department of Geography, Faculty of Letters, Nagoya University.


Kitagawa, H. 2008. The structural changes of information technology industries in India. Journal of the Faculty of Letters, Okayama University 49: 57–68. (JE)


Mori, H. 2006. Participation in village-level development politics in India: A case study of West Bengal’s Panchayat politics. The Annual Bulletin of the Faculty of the Humanities, Matsuyama Shinnome College 14: 21–43. (JE)

Mori, H. 2011. Transformation of rural politics in West Bengal, India: One Gram Panchayat where the Left has lost power. The Annual Bulletin of the Faculty of the Humanities, Matsuyama Shinnome College 19: 55–86. (JE)


Nakayama, S. 1983. The development of commercial activities at the key settlements in the Western Ghats of South India. Geographical Sciences (Chiri-Kagaku) 38: 70–90. (JE)


Okahashi, H. 2007a. Hiroshima daigaku no indo chishi kenkyu (Regional geography researches on India conducted by Hiroshima University). Chiri 52(2): 46–52. (J)


Okahashi, H. 2009. Light and shadow in India's rapid progress after the economic liberalization. Ritsumeikan Chirigaku 21: 43–57. (JE)


Tomozawa, K. 2003. Evolution of the automobile industry in Asian countries: Principally focusing on Southeast Asia and India. *Annual report of Research Center for Regional Geography* (Hiroshima University) 12: 9–32. (JE)


Tomozawa, K. 2012. Spatial dynamism of Indian automobile components industry during rapid growth of First Decade of 2000s. *Journal of Contemporary India Studies: Space and Society, Hiroshima University* 2: 17–33. (JE)


Yui, Y. 1999. Housing supply and the characteristics of residents: A case study of NOIDA in U. P., India. *Annual report of Research Center for Regional Geography* (Hiroshima University) 8: 33–57. (JE)


(J) written in Japanese

(JE) written in Japanese with English abstract