Networks of Distribution of Goods and Services in Rural India: Some Spatial Considerations

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Summary

Networks of distribution of goods and services are categorized as those provided by the government and the private sector. And there are also periodic markets in the private sector, which facilitate the movement of urban consumer goods and rural products. These networks tend to overlap in their area of operation and cannot be adequately understood unless studied in an integrated manner. Spatial and temporal characteristics of the three networks are noted from empirical evidence of Singhbhum district of Bihar, India, and it is suggested that the complementarities in the networks be used as a basis for planning a comprehensive system of distribution of goods and services in rural India.

Résumé

Réseaux de distribution des biens et des services en milieu rural en Inde—quelques considérations spatiales : *Les réseaux de distribution des biens et des services sont classés suivant qu'ils sont assurés par le gouvernement ou par le secteur privé. Il y a, par ailleurs, dans le secteur privé, des marchés périodiques qui facilitent la circulation des biens de consommation et des produits ruraux. Ces réseaux ont une tendance à se chevaucher dans leur zone d'opération et ne peuvent être bien compris qu'à travers une étude intégrée. L'article étudie les caractéristiques spatiales et temporelles des trois réseaux à partir des données empiriques obtenues de la région de Singhbhum dans l'Etat de Bihar en Inde. Il est suggéré que les complémentarités des réseaux peuvent servir de base pour la mise au point d'un système globale de distribution des biens et des services au niveau rural en Inde.*

Introduction

Goods and services in rural India are provided in a typical district by two major agencies: the government and the private sector. The government provides them through a network of institutions and within the framework of its development program; the private sector provides them through shops and establishments. Another method of distribution of goods in the private, but traditional, sector is through periodic markets. Sometimes it happens that in area of coverage (in terms of population served and/or locations of outlets) these three networks overlap.

It must be emphasized, however, that this is not a watertight compartmentalization of the networks under study. It is recognized, for example, that there are a number of people who are in the business of providing many services in an informal manner at the village level. This provision is different from that of private sector noted above in that it does not form an organized entity at least over extensive territories involving a large number of villages. But this does not mean that it is completely independent of the two major networks. Indeed, in some instances the village-level informal expertise in banking, credit, transport, and storage can make these facilities available to managers of both the government and private sector networks. These are indeed the "wheels within wheels" of service provision in rural India.

Farmers' access to effective marketing and ser-

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vice facilities is crucial if increases in agricultural productivity are to translate into successful rural development. Although the importance of farmers' access to farm inputs, agricultural marketing, and processing facilities is well established, much less is known about the significance of their location and about farmers' access to consumer goods and services.

Previous research has shown that government investment in local infrastructure is an important determinant of both the type and location of complementary services provided by the private sector (Wanmali 1981, 1983a, 1983b). Unfortunately, government planning for rural development is often biased in favor of establishing industrial units in urban areas, with inadequate consideration of the kinds of marketing and service infrastructure required for a dynamic agriculture. This can, and does, lead to obvious differences in farmers' access to publicly controlled market and service facilities (Wanmali 1981, 1983a, 1983b). It can also lead to important distortions in the type and location of services offered by the private sector. This paper attempts to describe and critically examine the functioning of government, private sector, and periodic market networks with empirical evidence from Singhbhum district, Bihar, India, obtained during the period 1972 to 1978 (Wanmali 1973, 1981; Wanmali and Ghosh 1975). The paper also suggests a spatial model that will incorporate the strengths of these networks for future provision of services in rural India.

Institutional Development (Government Network)

In India, the district administration is responsible for revenue, as well as for development functions. The development wing of the district administration provides, among other things, various socioeconomic services to the villages through the channels of the development programs. Such services consist of education, health, communication, transport, credit, banking, animal husbandry, agricultural input distribution, and marketing facilities. These are made available at specific locations within the district.

Services are made available in some settlements, and are availed of by almost all other settlements; hence, in terms of spread and access, their total impact over a region can be differential. This impact is influenced by a number of factors, such as the total area that such settlements serve; the number of other settlements having similar, and other, services in that area; and the socioeconomic status of people using them.

In Singhbhum district, the seats of administration have tended to be the centers around which the network of institutional development appears to revolve (Wanmali 1981; Johnson and Wanmali 1981). Thus, Chaibasa, the district headquarters, and Jamshedpur, the steel-manufacturing town, exhibit better standards of service provision than other centers. There is also some sort of a distance decay in service provision standards, which become progressively lower as one goes away from Jamshedpur or Chaibasa. The spatial pattern of service provision is hierarchical and reflects the administrative arrangement within the district (Wanmali 1973).

In the hierarchy of institutional development, the most important center (where importance is a function of type, level, and number of services performed) is Jamshedpur, followed by other centers that are administrative headquarters of revenue and development administration. Below these are settlements which in the past were seats of tribal administration, though they have no function today. Thus, lower down the hierarchy, it is the level of administrative authority which tends to govern the level of institutional development. It is noted that centers with higher levels of institutional development have larger populations, larger service populations, bigger service areas, and more services (Wanmali 1973) (see Table 1).

Urban Consumer Goods (Private Sector Network)

Retail goods are distributed by the organized industrial part of the private sector. The goods are manufactured by units in big cities, and each of these units has an exclusive, or jointly owned, marketing network based on towns and other settlements in the districts of the country.

The major center of supply of all consumer goods in Singhbhum district is Jamshedpur. This is because the location of the steel works and the continued expansion of its production capacity had attracted a large number of commercial, trading, transport, warehousing and financial firms to the city in the past. This process is still continuing.

Table 1. Spatial characteristics of rural delivery system in India.

Service category	Number of settlements	Settlement	Average value of institutional development index[1]	Average turnover of consumer goods ('00 000 Rs)[2]	Average auction value of periodic markets ('000 Rs)[3]
Regional center of institutional development/ urban consumer goods distribution/periodic marketing network	1	Jamshedpur	33.0	200.0	45.0
Subregional centers of institutional development/ urban consumer goods distribution/periodic marketing network	4	Chaibasa Chakradharpur Ghatsila Seraikela	14.7	51.0	21.0
Local centers of institutional development/urban consumer goods distribution/ periodic marketing network	9	Barajanda Charulia Gua Jadugoda Jhinkpani Kharswan Manoharpur Musabani Noamundi	7.6	13.0	7.0
Periodic markets	185	For names see Wanmali (1981)	4.4	3.5	5.5
Dependent settlements	4200	For names see Das (1972)	1.5	0.5	-

1. For details, see Wanmali (1973).
2. For details, see Wanmali and Ghosh (1975).
3. For details, see Wanmali (1981).

Besides, the city's population of nearly 1 million people constitutes a major center of demand for various kinds of urban consumer goods.

It is noted elsewhere that urban consumer goods such as tea, coffee, cigarettes, matchboxes, toiletries, textiles, ready-made garments, utensils, plastic and leather goods, jewelry, hardware, home remedies, transistors, radios, watches, electrical goods, photographic equipment, transport accessories, automobiles, refrigerators, aircoolers, air conditioners, agricultural inputs, farm machinery, and many other products of the organized urban industrial sector are sold throughout the district from Jamshedpur (Wanmali and Ghosh 1975).

The spatial pattern of distribution of urban consumer goods also operates in a hierarchical fashion. The most important center in the district (where importance is a function of turnover of goods per year) is Jamshedpur, followed by four others, Chaibasa, Chakradharpur, Ghatsila, and Seraikela (Wanmali and Ghosh 1975). These together act as break of bulk points in the regional retail distribution system. Below these, there is yet another group of nine centers which are major retail outlets in the district. In retail distribution too, higher order centers have a wider range of services, more shops, larger numbers of brands of goods, larger population, larger service population, and larger turnover of business than the smaller centers (Wanmali and Ghosh 1975) (see Table 1). Further, there are thresholds of turnover, crossing of which facilitates the entry of a particular type of good (or a brand of product) in the regional retail distribution network.

Within a district, the spatial pattern of marketing of these consumer goods may be a combination of

the following: (1) salesmen of the companies go around the district from Jamshedpur to sell the products to owners of locationally fixed shops; (2) the manufacturing company appoints for the district a dealer, usually located at Jamshedpur, who is responsible for selling the company's goods in that district through shops and mobile vans; and (3) the owners of the locationally fixed shops from all over the district come to Jamshedpur to purchase their own stocks of goods (Wanmali 1981). The first two are the more common; however, all three involve contact between dealers in Jamshedpur on the one hand and owners of locationally fixed shops in the district on the other. Thus, although the economic life in Singhbhum is influenced by the existing administrative structure in the sense that it uses the services made available by the government sector in distributing the goods, it does not necessarily reflect a similar arrangement (Wanmali 1981).

Periodic Markets (Traditional Network)

Periodic market meetings are held once a week in about 199 settlements of the district; of these, 14 are towns and the rest are villages. These markets are significant from social, economic, and ethnic points of view, and the rural life in the district tends to revolve around them. Almost all rural produce of all types, and many of the urban-based consumer goods, get exchanged at these markets. Since the government or the organized private sector is unable to compete with them in their regularity, frequency, and informality, the periodic markets form a unique operational service system in rural India.

The Singhbhum district *Gazetteer* describes periodic markets (*haats*) as "the primary markets held daily or weekly" in which "the sale of agricultural products and consumer goods takes place" (Roy Choudhury 1958). It further notes that "there are a number of weekly markets in the district where local communities make their purchases and sales while merchants from outside come in to ply their own trade" (Roy Choudhury 1958).

In a recent study of periodic markets in Singhbhum district, it was noted that these markets, considered individually, have emerged as a result of the prevailing ethno-economic and politico-administrative factors. The marketing system as a whole, however, has emerged as a consequence of an urban demand for rural products, as well as rural demand for urban products (Wanmali 1981).

Systems of markets are defined as those where consumers and traders meet during the market week; where the full-time traders predominantly come from one base; and where the system has at least one point of contact with another system. Wanmali (1981) mentions 15 systems of periodic markets in the district, which serve almost all rural areas.

There are two subtypes of periodic market networks, one relating to the consumers and the other to the traders. It was noted that both consumers and traders are aware of the "shifts" in the location of markets during the week, and that they also take cognizance of the varying importance of periodic markets. Thus, consumer and trader decisions on the use of markets are influenced not only by the access to the markets (nearest market to be held on that day) but also by their hierarchical arrangement (Wanmali 1981). However, it was also noted that the space-time arrangement of periodic markets, although facilitating interaction in space, tends to create conditions of "local" monopoly and monopsony in which the transactions take place (Wanmali 1981). It is worth noting that centers around which networks of periodic markets revolve are also important centers of retail trade and institutional development (see Table 1).

Policy Implications

As the above discussion shows, the settlement system of a district provides the spatial framework within which the various networks of distribution of goods and services are located. There exist hierarchies of institutional development, retail trade, and periodic marketing, even "nested" hierarchies, in the area under study. What needs to be emphasized is that such hierarchies are extremely local in nature, reflect a spatial form of functional specialization, and operate in a given socioeconomic context. Thus, locationally fixed services and shops and spatio-temporally integrated periodic markets are the components of a hierarchically organized settlement system.

The now-familiar flow diagram of movement of agricultural or rural products with producers at one end and consumers at the other, with various types of traders ranged between the two, can become more meaningful if it also incorporates the spatial dimension noted above. Thus, locations of produc-

ers, traders, and consumers and the distances between them are no less important in determining the access to and from a network. Some aspects of the networks that can be used to strengthen their effectiveness (coverage) and efficiency (access) are noted below.

Services such as banks, post offices, health facilities, veterinary facilities, agricultural input distribution, credit, and marketing can be provided to rural areas through the networks of rural markets also (Wanmali 1981). Since these services are used less than 12 times a year, the intervals at which these are to be made available can be increased or decreased to match the pattern of their maximum use (or that of periodic market meetings, or both). This will make the current urban-based network a little more accessible to rural areas than before.

The marketing of urban consumer goods in rural India is hampered by a lack of knowledge of the spatial organization of the rural market as a sector. Further, only a few companies have their own rural marketing networks. Some of the early views in the organized urban industrial sector recommended that the "gaps" in rural marketing be filled by locating more shops in areas which are inadequately served (Mathias 1968; Patwardhan 1969).

Various combinations of filling of "gaps" are used by the wholesalers and retailers through locationally fixed shops. Some of the consumer goods companies have a policy of selling their products to the owners of locationally fixed shops with the help of a mobile salesman. This pattern can be extended to include the sales to consumers who gather once a week at the weekly markets. These weekly markets provide facilities for the location of services of part-time and full-time traders, who open their "stalls" for a day and come back to the same location after a gap of a week to provide the same set of services to their consumers. Such a temporal staggering of transactions does not require a locationally fixed shop and, therefore, rural marketing of urban consumer goods can be conducted from the back of a van or minibus in the periodic markets.

The complementarity and usefulness of dovetailing the procurement of food grains and other agricultural produce, through a rural system of periodic markets and an urban system of regulated markets, have been noted elsewhere (Wanmali 1980). Suffice it to say here that such a dovetailing is likely to reduce the physical distance, and associated problems, of selling food grains and other agricultural produce in the rural areas.

Conclusions

Studies on systems of distribution of goods and services in rural India have tended to consider only the patterns that are based on the analysis of "single" services or of "single" systems. The present analysis has demonstrated that there are at least three different systems of a distribution of goods and services in rural Singhbhum, and that there are large areas of spatial overlap and divergence amongst them. The spatial features of the distribution systems do have several points in common. Viewed from the angle of the village, the periodic markets appear to be the base of a system of provision of goods and services in rural India upon which other systems are built. For example, the other top levels of service (government sector) and goods (private sector) distribution in the district are obtained in the same settlements though admittedly not at the same level. Further, some of the centers at the lowest levels, providing goods and services from fixed locations, are also focal points of the systems of periodic markets, which are 'fixed' in space and 'unfixed' in time. This spatiotemporal dovetailing of the networks could be used for making the mobile services available in the rural areas.

Marketing channels for individual commodities do not operate in isolation from the networks described. Food grains, firewood, cattle, and urban consumer goods all tend to use not only one or more networks but also one or more of the same centers through which other goods and services are made available. Further, all three networks jointly increase the "accessibility" of the region, where it then becomes easier to market a commodity. The producers and consumers are located at both ends of such spatial networks, and so are the traders who help move the commodities.

The existence or lack of such networks influences the ease or difficulty of moving goods from one end to another, and has serious repercussions on the question of access to the networks of distribution of goods and services in rural areas. An analysis of the geographical characteristics of such networks is likely to fill an important gap in the current literature on delivery systems in the rural areas of the Third World.

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