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Diversity of Commodity Flow in a
South Indian Weekly Market System :
Spatio-Temporal Patterns and
Functional Implications

H. G. BOHLE

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**DIVERSITY OF COMMODITY FLOWS IN A
SOUTH INDIAN WEEKLY MARKET SYSTEM :
SPATIO-TEMPORAL PATTERNS AND FUNCTIONAL IMPLICATIONS**

H. G. BOHLE
GOETTINGEN

Abstract

The article examines the flow of people, commodities, and capital in a South Indian weekly market system, by focussing on trade in dry fish, old clothes, and livestock. Supporting the "individualistic" conception in marketing geography, the article points out the highly diversified and "atomistic" nature of the various flow systems and their subsystems. It is concluded from this that a separate examination of single commodity flow systems is needed to fully recognize the overall spatio-temporal functioning of a regional market system. To this end, the article demonstrates how the individual commodity flow systems reveal characteristic and

unique changes in direction, volume, agency and velocity of movement, as a result of hierarchical bulking and distribution processes. Implications of these findings for the functional and hierarchical classification of the weekly markets in the system are discussed, and a highly disaggregate level of investigation in weekly market research is called for.

An overview of the substantial amount of work done in India in the field of marketing geography¹ reveals that there are three aspects which have so far been rather ignored: Synchronization of markets and market cycles, consumer / trader behaviour, and the role of markets. The present paper deals with all of

them, by focussing on the perhaps most basic components of any market system, on the flow of people, commodities, and capital.

In the light of the recent controversy between "aggregate" and "individualistic" conceptions in marketing geography², the paper tries to support the "Individualistic" approach³, which is based on ample evidence⁴ that trader mobility and commodity flow patterns in a market system are frequently of a highly diversified and "atomistic"⁵ nature. For the study area chosen, the paper rejects the view of a market system as one single functional unit which is linked into "market cycles" by group mobility of traders of all kinds and en masse movements of goods of all sorts. Instead, the basic objective of the paper is to point out the specificity of commodities traded in a market system, each of which may govern a characteristic and unique spatio-temporal exchange system. To this end, it is hypothesised that only through a separate examination of single commodity flow systems, the overall functioning of a regional market system can be fully recognized.

As a step in this direction, the paper concentrates on the analysis of three commodities in a South Indian

periodic market system : on trade in dry fish, old clothes, and livestock. Firstly, the particular regional importance of these commodities, as well as their possible impact on the future development of the market system, is indicated. Secondly, the streams of people and goods are represented and analysed, both commoditywise and traderwise. It is demonstrated how these flows change direction, volume, agency and velocity of movement, as a result of hierarchical bulking and distribution processes. Finally, the relative role of trade in the three selected commodities in shaping the market system in time and space is assessed, and implications of the findings for the functional and hierarchical classification of the weekly markets in the system are pointed out.

Study area and market centres

The study area is situated in the Coromandel coastal plain of South India and comprises of Tindivanam and Gingee Taluks (South Arcot District) and of Pondicherry.

In this predominantly agricultural region, where paddy and groundnut are the leading crops, Pondicherry, Tindivanam and Gingee are the urban centres. They constitute the focal points for the regional supply of

urban-based goods, and their regulated markets function as major market outlets for the agricultural production of the region. Permanent bazars have also evolved in small rural towns like Marakkanam or large villages such as Mailam or Rettanai. These centres are linked by a fairly well developed network of roads. Most important is the National Highway from Madras to Tiruchirappalli which crosses through the study area from the North to the South; from this backbone, district roads branch off at Tindivanam and Kooteripattu.

A set of twelve weekly markets ("sandais") constitutes the lowest order market centres in the regional exchange system. Two sandais are situated at the periphery of the two urban centres of Tindivanam and Gingee, but the majority of them is located in or near rather remote villages that do not have a permanent bazar of their own. As DUPUIS⁶ remarks, the sandais of Northern Coromandel appear to be a very ancient adaptation of commerce in the rural economy of the region, most probably established during an epoch when permanent bazars were rarely found.

Only twenty years back, a well-recognized market cycle existed in the eastern part of the region,

consisting of the following sandais: Kooteripattu (Sunday), Tindivanam (Monday), Ongar (Tuesday), Brammadesam (Wednesday), Thellur (Thursday), and Nadukuppam (Friday), with Saturday as a rest day for the travelling traders. However, Ongur sandai died out five years back and the sandais at Thellur and Nadukuppam are rapidly decreasing, so that the cycle has become nearly extinct.

Of the 12 sandais still existent, nine were studied extensively during December / January 1980 / 817. 250 detailed interviews were taken, both from traders and consumers⁸, and around 430 routes of sandai traders were recorded, and mapped. The present paper represents part of the findings derived from this research material.

Commodities in the Sandais

The number of stalls for various commodities and services offered at the sandai-places reflects, besides the relative size of the market, the supply and demand characteristics of the service areas as well as, to some extent, the functional role of the particular market (Table 1). It is noteworthy that the four largest sandais (more than 100 stalls each) offer relatively much more perishables (average: 37%) than do the five

smaller ones (average: 22%), whereas urbanbased goods are relatively much more important in the smaller markets (average: 34%) than in the larger ones (average: 15%). This fact may permit the conclusion that, in the less centrally located and less accessible minor markets, the sandai's role is more that of a periodic urban bazar, supplying higher order goods to an agricultural population which, regarding vegetables and greens, is rather self-sufficient. Compared to this, for the population served by the larger and well-accessible sandais, which are located in settlements with permanent markets also, the weekly market has more the function of a periodic vegetable supply centre than of a supply centre for urban goods. In both small and large sandais, the function as a market outlet for producers is rather limited, and mainly confined to the marketing of cattle and handicraft products. Even in the vegetable and grain sector of the sandais, the majority of the sellers consists of small retailers rather than genuine producer-sellers.

Commodity Specialization in the Sandais

The three commodities, the flow characteristics of which will be analysed in this study, were chosen

deliberately, because they constitute, for various economic and socio-cultural reasons, a very particular element in the sandai-economy of the region, not present in the bazar-trade of the study area. Dry fish has a penetrating smell which is an offence to every vegetarian Hindu, and is therefore largely banned from permanent bazars. In the sandai-place, too, dry fish trade is generally confined to the very periphery of the market-place, or even located outside the gathering, which is the case in Chettipalayam sandai. Besides the smell, the handling of dry fish, as is a rule for trade in animal products in the Hindu society, is socially discriminating. It is, therefore, exclusively in the hands of a low ranking fisherman caste, the Nattars.

Of a high socio-cultural sensitivity is also the trade in used garments. Old clothes, in the Hindu society, are considered to be impure and polluted. Accordingly, offer as well as demand was found to be invariably confined to scheduled castes or Christians only. It is the poorest of the poor who, in the study area, actually purchase this commodity. As the sandais of the region are the favoured economic centres of the weaker and weakest sections of the society⁹, with only 2% of the respondents belonging to forward

Table 1 : SPECTRUM OF OFFERS IN THE SANDAIS

Type of Comm. or Service offered	Number of Stalls in the sandai :									
	CP	KT	MT	AV	MD	BM	NK	TP	TV	
Forest Prod.	3	8	4	13	5	2	4	2	-	
Dry Fish	40	26	10	13	9	6	4	5	1	
Agric. Prod.	152	155	110	50	27	29	25	30	9	
Handicr. Prod.	28	13	9	11	7	6	5	4	2	
Services	43	22	16	14	13	12	7	5	10	
Urban Goods (old clothes)	58 (20)	25 (13)	32 (5)	15 (3)	38 (26)	33 (13)	27 (4)	15 (5)	2 (-)	
Livestock										
Appr. no. Cattle	600	250	300	300	400	100	20	-	450	
Appr. no. Goats	600	-	-	-	-	-	-	-	-	
Total number of stalls	324	216	191	116	99	87	72	61	24	
% Perishables	33 Average : 37%	34	46	41	21 Average : 22%	18	28	26	29	
% Urban Goods	18 Average : 15%	12	18	13	36 Average : 34%	37	38	25	8	

CP=Chettipalayam;

KT=Kooteripattu;

MT=Muttathur;

AV=Avalurpet;

MD=Madakadipattu;

BM=Brammadesam;

NK=Nadukuppam;

TP=Tiruvampattu;

TV=Tindivanam;

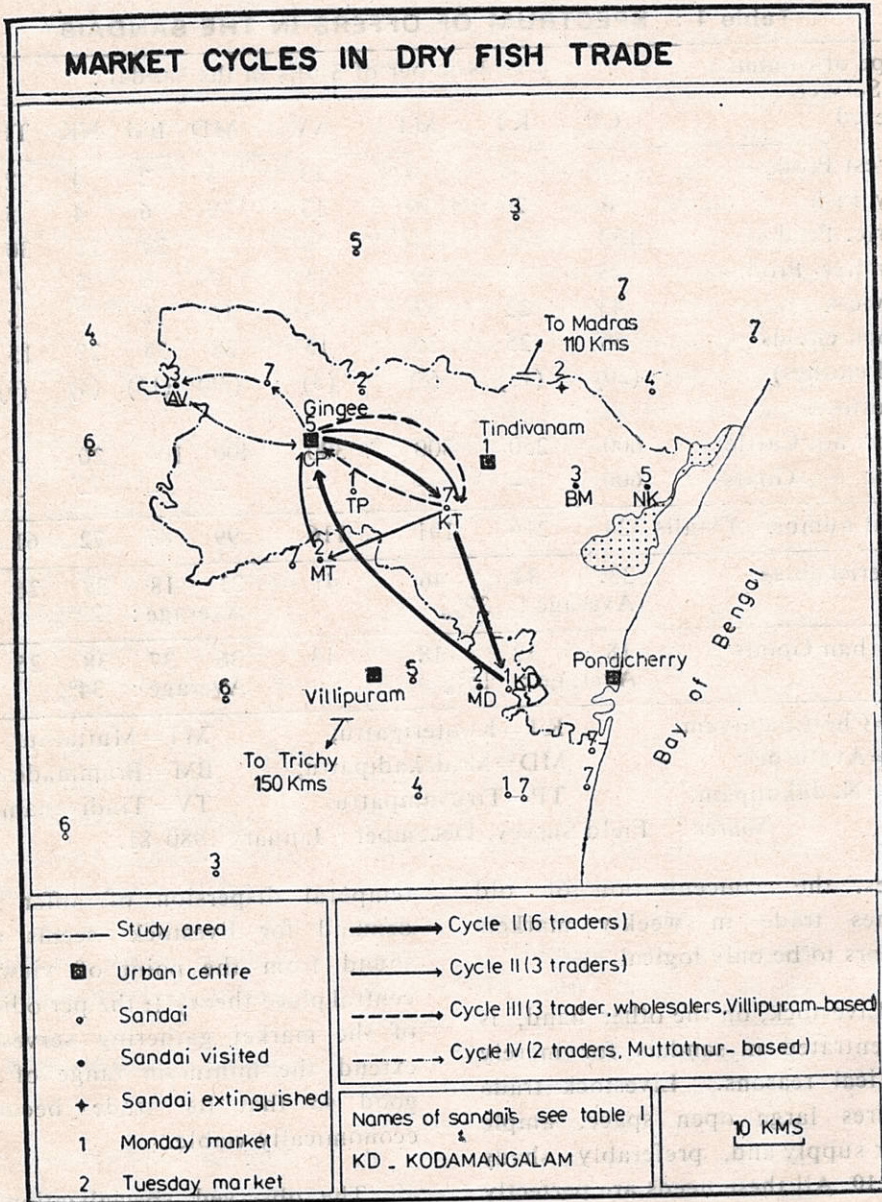
Source : Field Survey, December / January 1980-81.

castes, the concentration of old clothes trade in weekly markets appears to be only logical.

Livestock, on the other hand, is concentrated in sandais for merely practical reasons. Livestock trade requires large open space, ample water supply and, preferably shady trees.¹⁰ All these needs are perfectly served by the sandais of the study area. Moreover, the spatial and

temporal dispersion of offer and demand for livestock seems also sound from the point of view of central place theory¹¹; the periodicity of the market gathering serves to extend the minimum range of the good so that its trade becomes economically viable.

The observed specialization of sandais in some particular types of commodities, which are, for a



MAP 1

number of reasons, absent or sparse in permanent bazars, has, of course, implications for the discussion on the persistence of weekly markets. It has widely been observed that, even in those regions with a fair degree of urbanization, communication development, surplus production and a higher level of purchasing-power, where the persistence of weekly markets seems illogical from a purely economic point of view, this type of market nevertheless flourishes. Social specificity has been presented as one possible explanation¹². Commodity specialization could be another reason.

Commodity flow systems

A. Dry Fish

The flow of dry fish revealed through the interviews shows a very distinct pattern (Map. 1). 80-90% of the dry fish traded in the weekly markets is supplied by six wholesalers. They all live in Villupuram, where they own permanent shops for dry fish. They procure the commodity through agents who operate at a national level.

The source region of dry fish varies seasonally. During November to February, the dry fish is procured from West coast producers in Gujarat, Maharashtra, and Kerala. In the summer season (March to July),

which is the peak season for dry fish trade in the region, Andhra Pradesh and Tamilnadu (Rameshwaram, Thanjavur) are the dominant source regions for dry fish.

On two or three days in a week, the wholesalers use to visit weekly markets. The sandais visited by them are Kooteripattu (Sunday) and Chettipalaiyam (Friday) in the study area and Mayavaram (Monday) in Thanjavur District. The dry fish is transported by lorry from Villipuram, at a rate of Rs. 15/- per ton. On a commission basis, the dry fish, totalling about 40-60 tons a week, is distributed to retailers. Their number is about 50 persons. Two sandais thus become the main supply centres for the weekly stock of the dry fish retailers of the study region. About one half of them visit one or two more sandais during the week, thus supplying the remaining weekly markets of the study area. During the rest of the week, they usually tour villages around their own place, following, in most cases, a fixed route. Preferably by walk, carrying a basket of dry fish as a headload, they sell the commodity as mobile vendors of the villagers.

This general pattern is slightly modified by those traders who either purchase fresh fish from coastal fishermen, mostly also on a credit

base, to dry it themselves and sell it in sandais or villages, or who are themselves fishermen, marketing their own produce. However, the number of such cases is very limited.

Seasonally, there is considerable fluctuation in the volume of dry fish trade, the peak season being March to July, the low season November to February, when the trade is nearly wholly dependent on extra-regional sources of supply. In the spatio-temporal organization of the flow, however, there seems to be little variance. All but one respondent reported having a fixed working regime and mobility pattern throughout the year.

Small-scale of business is characteristic of the majority of dry fish retailers. Nine out of 11 had a stock worth less than 100 rupees, and an average net margin per market day of about 5 rupees. On the contrary, the stock of the four wholesalers interviewed averaged more than 10,000 rupees.

The analysis of dry fish flow patterns is based on 16 detailed trader interviews on seven sandais. 40 itineraries were recorded. Their examination revealed the existence of three minor market cycles in dry fish trade. These cycles, however, do not imply group travels of the

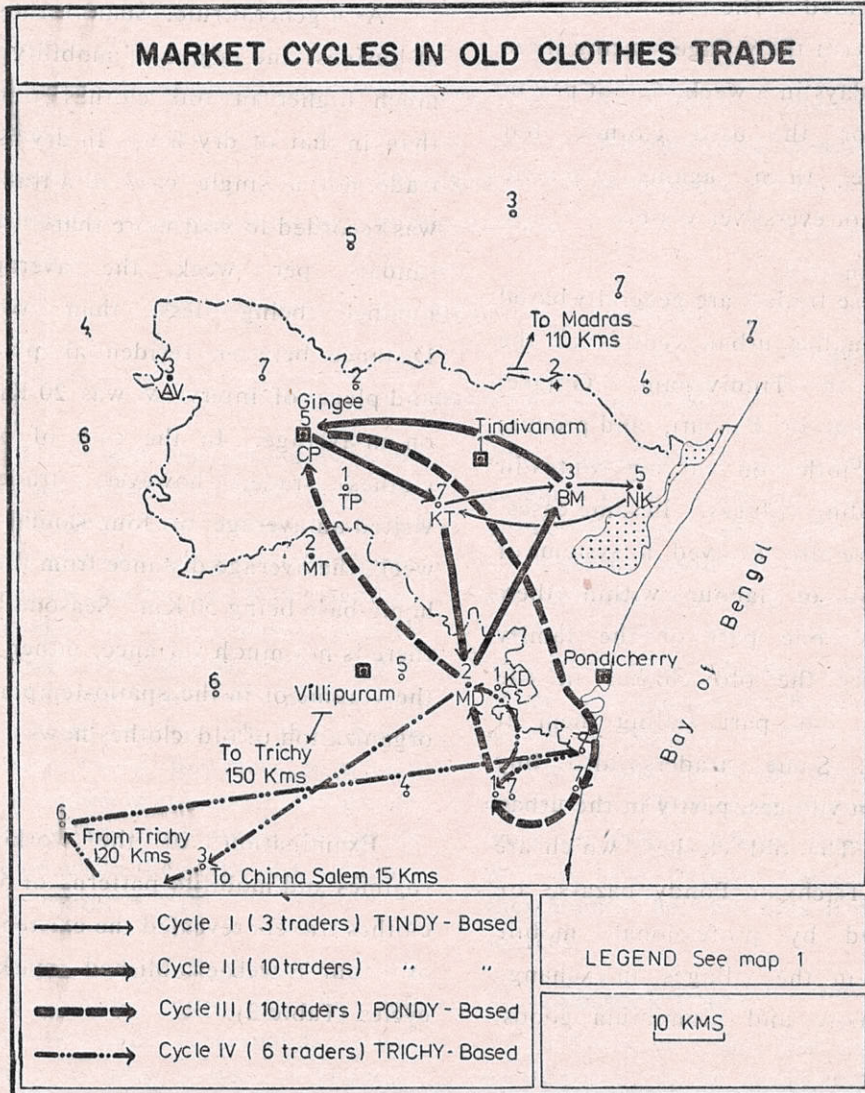
traders concerned. It is rather mere attendance of the same set of sandais per week by the same traders, who travel alone and take different routes to reach the market-place from their home-base, where they spend the nights. Taking this into account, the most important market cycle (Cycle I) is Kooteripattu (Sunday), Kodamangalam (Monday), and Chettipalaiyam (Friday) (Map 1). Six traders follow this weekly route. Another group of three traders, based at Villipuram, avoid Kodamangalam, but visit Kooteripattu and Chettipalaiyam (Cycle III). Yet another group of three, based at Muttathur, attends its local sandai instead of Kodamangalam (Cycle II).

B. Old Clothes

The pattern in the flow of old clothes is completely different from that of dry fish. Three distinct subsystems can be distinguished. One part of the old clothes traders procures the commodity, once in a week, at the metropolitan centre of Madras (Moore Market). Another part of the traders purchases the old clothes every week in the urban bazars of Pondy-cherry or Tiruchirappalli. Pondy-based traders, numbering about 10, visit sandais in the northern part of the region, whereas Trichy-based traders, a group of six persons, concentrate their trading

activities on the southern part. Both spatial subdivisions of the same sub-system are seen to overlap at Madakadipattu (Map 2), which,

accordingly, shows the largest number of old clothes stalls of all the sandais in the region, totalling 26. Yet another sub-system in the



MAP 2

flow of old clothes is constituted by those traders who procure the commodity in the villages themselves. In this case, a two tier trading system is revealed. The traders, who usually visit the villages during three to four days in a week, do not pay in cash for the used clothes, but exchange them against plastic buckets or eversilver vessels.

These traders are generally based in the smaller urban centres of the region, in Tindivanam, Gingee, Villipuram or Panruti, and procure the old clothes on varying routes in surrounding villages. In some cases, they have also evolved a system of division of labour within their families, one part of the family procuring the old clothes in the villages, one part selling them at sandais. Some traders also buy partly in villages, partly in the urban bazar. The old clothes, which are sold in Trichy or Pondy bazars, are collected by professional mobile buyers in the villages, in exchange for plastic and aluminium goods.

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They are engaged by the wholesaler. Their number is about ten persons in each town.

As a general rule, spatial range of business and degree of mobility is much higher in old clothes trade than in that of dry fish. In dry fish trade, not a single case of a trader was recorded to visit more than three sandais per week, the average number being less than two. Distance between residential place and place of interview was 20 Km. on an average. In the case of old clothes trade, however, traders visited an average of four sandais a week, the average distance from their home-base being 50 Km. Seasonally, there is not much variance, either in the volume or in the spatio-temporal organization of old clothes flows.

Examination of the working regimes and mobility patterns of old clothes traders revealed the existence of four well-established market cycles (Table-2).

Table 2 : MARKET CYCLES IN OLD CLOTHES TRADE

Cycle No.	I	II	III	IV
Base	Tindivanam	Tindivanam	Pondicherry	Trichy
Size of group	3 traders	10 traders	10 traders	6 traders
Sandais				
visited on :				
Sunday	Kooteripattu	Kooteripattu	Kanniakoil	Madapathu
Monday	—	—	Karamanikup	Karamanik
Tuesday	—	Madakadip	Madakadip	Madakadip
Wednesday	Brammadesam	Brammadesam	—	Ullundurpet
Thursday	—	—	—	Chinna Salem
Friday	Nadukuppam	Chettipal	Chettipal	—
Saturday	—	—	—	Tiaga Durgam

Source : Field survey, December/January 1980/81.

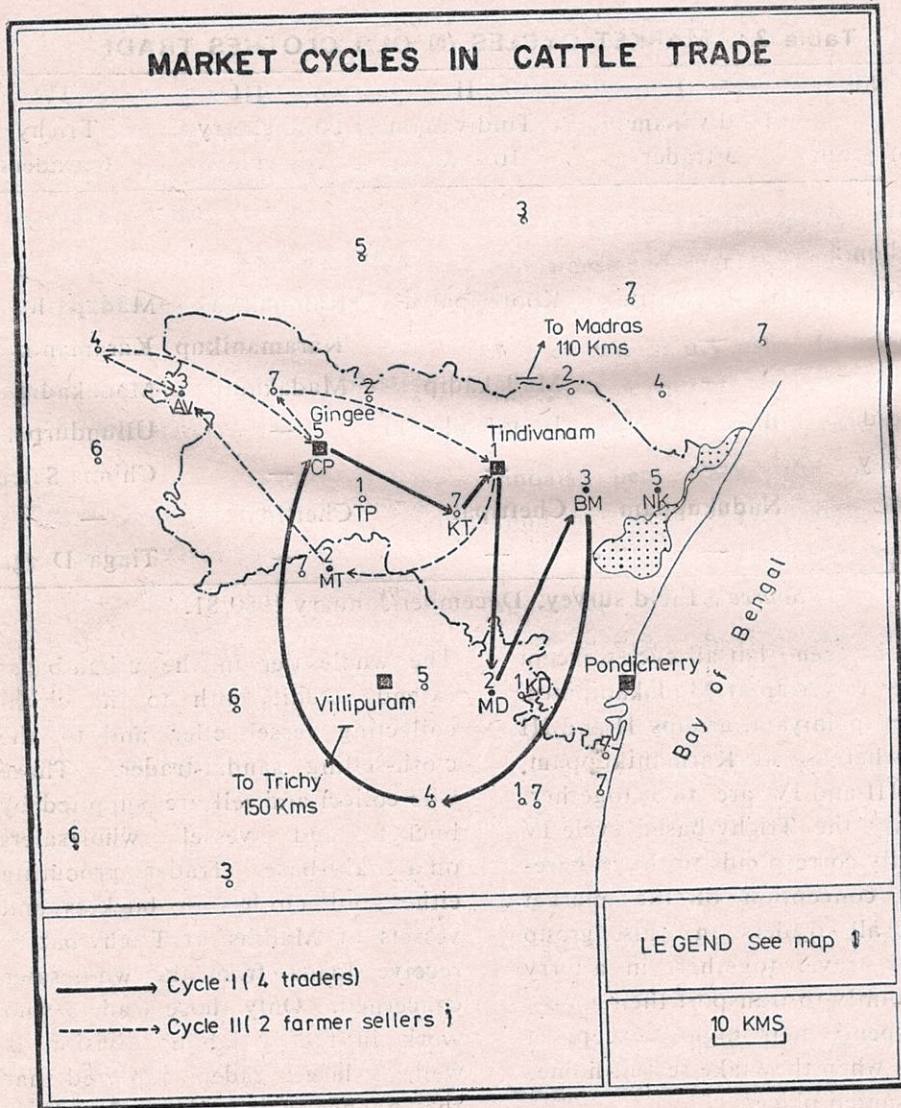
It is seen that all cycles except Number I overlap at Madakadipattu. At Chettipalaiyam, groups II and III meet, whereas, at Karmanikuppam, cycles III and IV are tied together. It is only the Trichy-based cycle IV that fully corresponds to the "aggregate" conception of the market cycle: all traders in this group actually travel together, in a lorry hired jointly to transport their goods. They spend their nights, except on Fridays when they take rest at home, at the sandai places.

The complex pattern of old clothes trade, both spatially and organizationally, corresponds with an equally complex pattern of financial commitment, comprising of a hierarchical order of credit ties.

The wholesaler in the urban bazar extends credit both to the cloth-collecting vessel-seller and to the cloth-selling sandai-trader. Those who collect and sell are supplied by bucket and vessel wholesalers on a credit-base. Traders procuring either old clothes or buckets and vessels at Madras or Trichy bazars receive loans from the wholesaler concerned. Only those traders who work in family labour division as well as large traders reported that they finance their business from own sources.

C. Livestock Trade

In livestock trade, five types of participants can be distinguished in the sandai: farmer sellers or buyers, producer-sellers, middlemen¹³,



traders, and bulking wholesalers. All these types of participants in livestock trade were covered by a total of 49 interviews, and 84 itineraries were recorded. The following pattern evolved.

The spatio-temporal mobility pattern of farmer-sellers and farmer-buyers is rather identical. The majority of them attends only one sandai per week, near their village, at an average distance of 12-14 Km.

They visit it only seasonally, after the main ploughing season, according to the agricultural working regime required by their individual cropping pattern. At the time of the interviews, many farmer-sellers recorded distress sales, out of urgent need of cash due to monsoon failure. In this case, some come along with their cattle even from distant places (upto 65 Km) and visit six sandais a week (Map 3), until they succeed in selling their cattle at an acceptable price. This situation, in turn, induced potential buyers to visit the market, to take advantage of the momentary low price-level.

Traders and middlemen reported that they cover 21 Km. to the market place on an average. When selling or buying an animal, they usually walk, five or six hours a day. When travelling without cattle, they use bus services. About one third of them are fully mobile, visiting five to seven sandais a week regularly. Another third of them is partly mobile, and the rest is stationary and only visits one sandai per week.

An even higher degree of mobility was recorded by goat traders or producer sellers. The first category visits Chettipalayam sandai, which is the only major goat market of the region, every week; the second category only occasionally. The majority of them comes by foot,

spending six to twelve hours a day on the trip only. Some of them even walk two to three days to reach the market-place. Unlike in cattle trade, the majority of goat sellers does not belong to the region, but gathers from outside South Arcot District, mainly from the adjacent hilly tracts of Southeastern North Arcot District, which constitutes a major goat breeding region.

The spatial pattern of cattle movements shows three hierarchical subsystems, which are again totally different from dry fish or old clothes flows. On a local scale, cattle trade is carried out by farmers who either sell or buy an animal at the sandai nearest to their residential village. The basic link between the two categories is the middleman, who mediates between seller and potential buyer. The usual practice is price negotiation under the cover of a piece of cloth. Pressing fingers or part of the fingers indicate price offers, and a system of code words has also evolved. For a settled transaction, the middleman gets commission both from the seller and the buyer, varying from 2-5% of the sale proceeds. Yet another function of the middleman is the extension of credit to cattle buyers. Three-quarters of the responding middlemen reported that they give credit to their customers, ranging from one week to three months' duration.

The middlemen, together with the professional cattle traders (frequently, one person combines both activities), spatially link the regional sandais into a second, higher-level subsystem, the regional market system of cattle trade (Map.3) Highly diversified, yet not totally individualistic itineraries were recorded, so that at least traces of market cycles could be identified. There are, on the one hand, individual cattle traders who visit six sandais a week and extend their itineraries far beyond the boundaries of the study region. Within a week, they attend markets in North Arcot, South Arcot, and Chingleput districts, covering more than 750 Km. by bus. But, there is also a number of fully mobile cattle traders who visit either exactly the same sandais during the week or record only one or two divergent markets in their itineraries. The most important market cycle (Cycle I) revealed by the interviews is Kooteripattu (Sunday), Tindivanam (Monday), Madakadipatti (Tuesday), Brammadesam (Wednesday), Penruti (Thursday) and Chettipalaiyam (Friday) (Map 3). The majority of the cattle traders and middlemen meets at Tindivanam and Chettipalaiyam, the two major centres for cattle trade in the region.

On a still higher level, it is exactly these two sandais which are bulking centres for cattle and goats

at a supraregional scale. Cattle traders from Kerala visit these markets regularly, to purchase cattle for slaughter in Kerala. The same applies to goat trade at Chettipalaiyam. About a dozen lorries were observed at this sandai place, to carry the goats purchased by urban agents to the major metropolitan centres of Bangalore, Madras, and also of Kerala.

Summary of Commodity Flow Analysis

A model of the individual commodity flow systems has been outlined to demonstrate how commodity flows, by changing direction, agency, volume, and velocity of movement, at various stages in the marketing channel, combine into characteristic regional commodity flow systems (Fig. 1.) It becomes evident that the regional pattern of dry fish trade is dominantly centripetal, whereas that of cattle trade is of a centrifugal type. In old clothes trade, both forces are seen to be combined.

General Diversity of Commodity Flows

Empirical evidence has shown that each of the three commodities analysed in the study requires a unique circulation system. The same is true of the majority of goods and services offered in the weekly markets of the region. Textile trade is based

MODEL OF COMMODITY FLOW SYSTEMS				
SPATIAL LEVEL	DRY FISH	DIRECTION	MODE OF TRANSPORT	AGENCY
National		Vertical (down)		
State		Seasonally	Train	National firm
Regional Urban Markets		Vertical (down)	Lorry	Wholesaler
Regional Periodic Markets		Horizontal	Bus, Cart, Cycle	Sandai retailer
Local Villages		Vertical (down) Horizontal	Walk Walk
OLD CLOTHES				
State		Vertical (down)	Bus	Wholesaler
Regional Urban Markets		Vertical (down)	Walk	Sandai retailer
Regional Periodic Markets		Horizontal Vertical (up)	Bus, Cart, Lorry Walk Mobile Wholesalers agent
Local Villages		Vertical (down) Horizontal	Bus, Cart, Lorry Walk	Sandai retailer ..
CATTLE				
National		Vertical (up)	Lorry	National firm
State		Vertical (up)	Lorry	Wholesaler
Regional Periodic Markets		Horizontal	Bus, Walk	Cattle trader middlemen
Local Villages		Vertical	Walk	Farm seller Farm buyer

FIG. 1

at Villipuram and Gingee. It has a wide spatial range in its flow pattern, and comprises of highly individualistic itineraries of all sorts of traders, evolving into a complex system of market cycles as well as financial interrelations. Marketing of handicraft produce, such as baskets, mats, ropes, mudpots, or agricultural implements, is likewise an integral part of the regional exchange system. The flow of commodities in this sector frequently emanates from villages with a community of artisans that has specialized in a particular craft. Contrary to this, trade in forest produce is of a very restricted importance. It is carried out by marginal farmers or agricultural coolies who visit only one sandai in a week to dispose of small quantities of forest produce, at subsistence margins at the best. Trade in fresh fish is of a similarly local nature and confined to sandais near the coastline.

Conclusions and Implications

To fully recognize the spatio-temporal organization of a regional market system, it seems necessary to examine, as a first step, the characteristic patterns in the flow of people, commodities, and capital, for each major commodity separately. Only then, the temporal, spatial, and functional combination of the various subsystems, in a second step,

may lead to the identification of an over all "system of periodic and daily markets"¹⁴. Such a system, in the light of the present findings, may be defined as a group of market centres, both periodic and daily in nature, that is (a) linked together by hierarchical bulking and distribution processes of a variety of commodities, that (b) consists of a number of divergent subsystems, and that (c) forms part of one or more supra-regional exchange system.

Similarly, when trying to elaborate the functional characteristics of an individual market centre within such a system, the particular role of the individual market relating to single commodity flow systems has first to be identified. Taking the weekly markets of the present study, it is clear that, for the three commodities under investigation, some of the sandais perform higher-level bulking or distribution functions than the rest of the markets. Accordingly for a particular good, they take different positions in the functional organization and hierarchical order of the overall system.

Concluding from this, the viability of such hypotheses that have been derived from aggregate locational and temporal patterns (like consumer versus trader hypothesis, or degree of integration in market systems), as well as the application

of the corresponding quantitative techniques of spatial analysis (like nearest neighbour analysis), seem rather questionable.

The analysis of spatial and temporal patterns of such a complex nature as in market place trade requires, first of all, the identifi-

cation of the processes behind the patterns. This seems to be the perhaps most stringent conclusion from the findings of the present study. Moreover, this has to be done at a highly disaggregated level of investigation, taking into account the working regimes and mobility patterns of individual traders as well as single commodity flow systems.

ANNOTATIONS :

1. a very usefully elaborated bibliography is presented by DIKSHIT R.S. and NATH. D.: "Marketing Geography: A Bibliographic Note", in: Uttar Bharat Bhoogal Patrika, Journal of the Assoc. of North Indian Geographers, Gorakhpur. Vol. XVI, No. 1, 1980, p. 70-78.
2. for a recent account of this discussion see BROMLEY, R.J.: "Trader Mobility in Systems of Periodic and Daily Markets", in HERBERT, D.I., and JOHNSON, R.J. (ed.), Geography and the Urban Environment, Progress in Research and Applications, Vol. III, Chichester and New York 1980, p. 133-174.
3. the term "individualistic" is somewhat misleading to the extent that it is by no means a purely "individual" or "voluntary" decision that a trader takes on his spatio-temporal working regime; it is rather a set of strong economic, social and political factors that influences his decision making. a set so complex that, in practice, a very great number of alternatives may be possible. See: HARRISS, B: "Social Specificity in Rural Weekly Markets: the Case of "Social Specificity in Rural Weekly Markets: the Case of Northern Tamil Nadu, India in: Mainzer Geogr. Studien, Vol. 11, 1976, p. 61-89.
4. ample evidence is, for example, provided by BOHLE, H.G.: "Beobachtungen zum landlichen indischen Wochenmarkt" in: Erdkunde, Vol. 35, 1981 (forthcoming); BROMLEY, R.J.: "Periodic and Daily Markets in Highland Ecuador" Ph.D. Thesis, Cambridge University, 1975; BROMLEY, R.J.: "The Organization of Quito's Urban Markets: Towards a Reinterpretation of Periodic Central places" in: Transactions, Inst. of British Geographers, Vol. 62, 1974, p. 45-70; FILANI, M.O., and RICHARDS, P.: "Periodic Market Systems and Rural Development: the Ibrapa Case

- Study, Nigeria" in: *Savanna*, Vol.5, 1976, p. 149-162; HARRISS, B., op. cit.; OETTINGER, B.: "Die Wochenmarkte und ihre Rotationen im Westlichen Mittelanatolien", in: *Erdkunde*, Vol.30, 1976, p. 19-24; PYLE, J.: "The Public Markets of Mexico City" Ph.D. Dissertation, University of Oregon, 1268; TROIN, J.F.: *Les Souks Marocains: Marches Ruraux et Organisation de "Espace dans la Moitie Nord du Maroc"*, Aix-en-Provence 1975; WATERBURY, R. and TURKENIK, C.: "The Marketplace Traders of San Antonino: a Quantitative Analysis", in: COOK, H.S. and DISKIN, M. (eds.), *Markets in Oaxaca*, Austin 1976, p.209-229.
5. BROMLEY, R.J., Op. cit., p. 178.
 6. DUPUIS, J.: "Madras et le Nord du Coromandel", Paris 1960, P.35/36.
 - 7 I am greatly indebted to Mr. S. Ramamurthy, Economics Department, University of Madras, for his indefatigable assistance in taking the interviews; to my brother, Godehard Bohle, for his participation in the field survey, and to prof. B.M. Thirunaranan, for valuable comments.
 8. The schedules covered questions on the scale and financial organization of trade, on the spatio-temporal trading and shopping patterns, on trading and shopping practices and transportation' and also on the social and occupational background of the respondents.
 9. See: HARRISS, B., op cit.; and BOHLE, H.G.: "Socio-Economic Characteristics and Mobility Patterns of Weekly Market Participants in Coastal Tamilnadu", under preparation.
 10. MAIDAMWAR, G.T.: "Morphological Features of Livestock Market-Places", in: *The Deccan Geographer*, XVII, 2, 1979, p.605-614.
 11. CHRISTALLER, W.: "Die zentralen Orte in Sueddeutschland" Jena 1933; applied for periodic market systems by STINE, J.H.: *Temporal Aspects of Tertiary production Elements in Korea* in: PITTS, F.R. (ed.), *Urban Systems and Economic Development*, Eugene 1962.
 12. MARRISS, B., op. cit., 1976
 13. "Middlemen" may be subdivided into (a) brokers, who merely help in fixing an acceptable price, and take a commission or brokerage on the sale effected; (b) Commission agents, who help in arranging sales, and also give credit (i.e., financial assistance). The latter have to obtain licenses and register themselves.
 14. BROMLEY, R.J., op.cit., 1980, p.138.

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