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Developing and restructuring regulated markets in Mysore State, India: an alternative for improving the efficiency of marketing food grains

A. N. K. Murthy

To the Graduate Council:

I am submitting herewith a dissertation written by A. N. K. Murthy entitled "Developing and restructuring regulated markets in Mysore State, India: an alternative for improving the efficiency of marketing food grains." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Agricultural Economics.

Merton B. Badenhop, Major Professor

We have read this dissertation and recommend its acceptance:

David W. Brown, Irving Dubov, Keith E. Phillips

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April 21, 1971

To the Graduate Council:

I am submitting herewith a dissertation written by A. N. K. Murthy entitled "Developing and Restructuring Regulated Markets in Mysore State, India: An Alternative for Improving the Efficiency of Marketing Food Grains." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Agricultural Economics.

M. B. Badenhop
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We have read this dissertation
and recommend its acceptance:

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DEVELOPING AND RESTRUCTURING REGULATED MARKETS IN MYSORE STATE, INDIA: AN ALTERNATIVE FOR IMPROVING THE EFFICIENCY OF MARKETING FOOD GRAINS

A Dissertation

Presented to

the Graduate Council of

The University of Tennessee

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

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by

A. N. K. Murthy

June 1971

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ABSTRACT

The purpose of the study was to analyze how the regulated markets in Mysore State might be developed and restructured as one alternative to improve the efficiency of marketing food grains. Only secondary data was used for the study. Most of the data were derived from the publications of the State Marketing Department, Department of Agriculture, Bureau of Economics and Statistics and the University of Agricultural Sciences in Mysore State.

The study consisted of five objectives all interrelated with one another. The first objective was to identify the major defects in the existing regulated markets relating to their structure, methods of price determination, weighing and grading, storage, and methods of operation, to develop a model design of physical facilities needed and to outline the operational procedures for their efficient functioning. The second objective was to identify the causes of low arrivals in some regulated markets and suggest an optimum pattern for location of regulated markets. The third objective was to suggest a uniform staffing pattern for all regulated markets essential for their efficient functioning. The fourth objective was to propose a model State Agricultural Marketing Board to supervise the activities of regulated markets in the state. The fifth objective was to set up a Market Development, Research and Survey unit to carry out research in the field of agricultural marketing.

With these objectives in view, first, an estimate of food grains to be moved into urban areas in the next 15 years was made to indicate the magnitude of agricultural marketing problems. Next, a model design of physical facilities needed and the operating personnel required for a regulated market, along with operational procedures for efficient functioning, were outlined. Based on the area under cultivation, area under irrigation, and marketable surplus available in each of the 19 districts, a pattern for the relocation of regulated markets along with their areas of coverage assuming a 15 mile radius for each market was illustrated by figures. It was considered that 107 regulated markets were sufficient for the state as against the existing 155 regulated markets for the whole state.

In view of the huge sums of public money involved in the operations of regulated markets, a State Agriculture Marketing Board was found necessary to supervise their activities. Hence, a model for establishing a board along with its functions and powers was outlined.

Considering the importance of research in improving the efficiency of marketing food grains, a model framework for a Market Development, Research and Survey unit at the state level, along with a list of important research projects to be undertaken by this organization, was indicated.

Finally, an attempt was made to outline how the Farmers Cooperatives, the Food Corporation of India, and private trade could coordinate with a network of well organized regulated markets with the sole objective of improving the efficiency of the marketing system for food grains in Mysore State.

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CHAPTER I

INTRODUCTION

The new State of Mysore came into being on November 1, 1956. The soil and climatic conditions of the State are suitable for cultivating all kinds of crops. The major food crops grown are rice, ragi, jowar, and wheat.[1] The population of the State, which was 23.58 million in 1961, is expected to be about 36.84 million by 1981.[2] Between 1953 to 1965, the increase in production was 2.42 percent, and the increase in the area under cultivation was 0.87 percent.[3] The production of cereals increased from 2.931 million metric tons in 1966 to 3.910 million metric tons in 1969.[4] The State agency estimates that production of cereals is expected to be about 4.86 million metric tons by 1971.[5]

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[1] Ragi (Eleusine coracana) or finger millet is an important grain crop in Mysore, well adapted to dryland farming. Jowar (sorghum vulgare) is a sorghum crop. It is a staple food of the poorer people in the dry areas of the State.

[2] Nagaraju et al., Food Projections, University of Agricultural Sciences, Miscellaneous Series, No. 8, University of Agricultural Sciences, Bangalore, Mysore State, 1968, p. 3.

[3] Ibid., p. 17.

[4] University of Agricultural Sciences, Note on Agricultural Production in Mysore State, Unpublished Note, Department of Agronomy, Bangalore, Mysore State, 1969.

[5] Nagaraju et al., op. cit., p. 17.

I. PROBLEM

The sustained efforts of the State and central governments and the farmers for the last 15 years, with technical and financial assistance from the United States Agency for International Development (USAID), the Rockefeller Foundation and the Ford Foundation, has provided a stimulus to agricultural production in the State. This tempo of increased agricultural production is expected to continue due to the introduction of high yielding varieties of rice, ragi, jowar, and wheat, increased levels of application of organic fertilizers, improved farming practices, and increases in the area under irrigation. In the years to come, the State of Mysore will not only be called upon to continue this increased rate of agricultural production, but will also have to assume the responsibility of moving the additional quantities of food grains from rural to urban areas in order to feed the increasing urban population. The urban population increased 18.3 percent as compared to 13.8 percent for the rural population between 1961 and June 1968.[6]

The increased agricultural production focuses attention on another problem, the problem of marketing, which will have to receive increased attention. The problem evolves from the inability of the present marketing system to cope adequately with the increasing marketable surplus of food grains essentially in the areas of buying, selling, storage, and transportation. It would be inappropriate to increase

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[6]Government of Mysore, Mysore at a Glance, 1968, Bureau of Economics and Statistics, Bangalore, Mysore State, 1969.

agricultural production and to set up optimum standards of nutrition, unless means can be formulated to move food grains from the producer to the consumer at a price that gives a fair renumeration to producers and that is within the ability of the consumer to pay. As subsistence agriculture progresses more toward a market oriented agriculture, the scope and pattern of marketing as it relates to the various functions have to be transformed. The marketing system has two critical elements relative to solving the food problem: first, if the additional produce does not move to the market to bring additional revenue to farmers, there may be a disincentive to higher production; and second, if the system does not supply food grains to consumers at prices they can afford and at the place and time required, the increased production has relatively little meaning as a means of solving the problem of malnutrition. Marketing has a dynamic role in stimulating production and consumption--the essentials of economic development. Marketing guides farmers to new production techniques and encourages improvement in response to prices and demand. An effective marketing system has been described as "the most important multiplier of economic development."[7] Finally, it can be said that an improved system of agricultural marketing, which will secure for the cultivators a price related to consumer price by form, time and space only, is essential to agricultural development.

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[7]Drucker, P. F., "Marketing and Economic Development," Journal of Marketing, 1958, Chicago, Illinois, p. 252.

II. OBJECTIVES OF THE STUDY

To develop an efficient marketing system which could help in maintaining a balance between incentive price to producers and reasonable price to consumers, reduce intraseasonal fluctuations in prices, and reduce variations in prices at various markets at the same point of time, various improvements are needed in the structure and operational procedures among the various channels of the present marketing system. This would include the operations of regulated markets, farmer's cooperatives, Food Corporation of India, and the multitude of private traders. To achieve the goals of a welfare state to which India is dedicated, the marketing system must be technically and economically efficient. To be technically efficient, the market structure should utilize the best available method for every job it has to perform and use these methods with maximum effectiveness. To be economically efficient, the system should devise means to eliminate wastage resulting from obsolete storage facilities, reduce high costs of transportation, and eliminate exploitative profits. In addition, what is needed is not laws and regulations, but honesty and integrity among the participants in the marketing operations. Thus it is reasonable to assume that the marketing system has to be restructured in order to make it more effective in fulfilling the major goal of the government, which is improving the social welfare of its people.

Keeping these points in mind, an attempt is made in this study to analyze how the regulated markets in Mysore State might be developed and restructured as one alternative to improve the efficiency of

marketing food grains. This involves: first, identifying the major defects in the existing regulated markets relating to their structure, methods of price determination, storage and transportation facilities, the suitability of present locations, the areas of operation, and market intelligence services, and to suggest a model framework of physical facilities, staffing pattern, and operational procedures for its efficient operation; second, to identify the causes of low arrivals of food grains in some regulated markets and to suggest relocation to increase the volume of trading, taking into consideration the area under cultivation in each district; third, to suggest a staffing pattern needed to run a regulated market; fourth, to propose a model government controlled State Agricultural Marketing Board to supervise the activities of the regulated markets and regulate the activities of other market channels in the State; and fifth, to indicate how a market development, research and survey unit at the state level to conduct research in the field of agricultural marketing might be organized.

III. PROCEDURE OF STUDY

Objective I

To identify the major defects in the system which are responsible for the low level of trading, wide fluctuations in intraseasonal prices, and price disparities at various regulated markets at one point of time, a thorough analysis of the existing rules, regulations, staffing pattern, physical facilities, and operating procedures of the regulated markets will be made. By reviewing the existing literature on country and

terminal elevators in the United States of America (USA) and other developed countries and by various observations on the working of the grain exchanges in these countries, a model for a regulated market with facilities for storage and grading, transportation, commission firms, exchange banks, and farmers' rest houses will be developed. By reviewing the literature related to market structure, conduct, and performance, an operational procedure for operating the regulated market as close to perfect market conditions as possible will be outlined. Based on the methods of grading and standardization practiced in developed countries, suggestions will be made relating to improving different grades for rice, jowar, ragi, and wheat, determined solely on the characteristics of moisture content, percentage of foreign material, protein content, and the keeping quality of grains.

Objective II

By an analysis of the area under crop production, the area under irrigation, the rural and urban population changes for the next 15 years, and the requirement and per capita demand for food grains in each of the 19 districts of the State, a model plan for locating the regulated markets will be made.

Objective III

By examining the staffing pattern at some of the regulated markets in the State, two sets of staffing patterns depending on the volume of trading at the market will be suggested.

Objective IV

By studying the available literature on organization and working of commodity boards, a model constitution and functions for setting up a State Agriculture Marketing Board is indicated.

Objective V

Considering the importance of research in the field of agricultural marketing, which has to change along with the associated changes in agricultural production, changes in consumer habits, and changes in per capita income and urbanization, some important research projects to be carried on by a market development, research and survey unit will be proposed.

CHAPTER II

THE SETTING

I. PRESENT STATE OF MARKETING AND FOOD GRAINS

Mysore State which was predominantly subsistence agriculture until recently is progressing towards commercializing its agriculture. In the earlier years marketing was considered a simple affair requiring little capital and organization. Even now a large percentage of the marketable surplus of food grains is delivered in the villages itself to the agents of rice millers, wholesale merchants, itinerant merchants and brokers. Some of the farmers dispose of their produce in the primary markets held once a week at many of the taluk headquarters.[1] Only a small percentage of food grains passes through regulated markets. According to the All India Rural Credit Survey Report of 1954, it was found that of the nearly 66 percent of the sale transactions entered into with the traders, the commodity is delivered in the village.[2] At present, farmers' cooperatives are located in most of the taluk headquarters. These societies purchase and store food grains in addition to giving credit to farmers and in supplying farm inputs.

In addition to a multitude of wholesale merchants dealing in food grains directly with the farmers, there are 89 main and 66

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[1] Taluk is approximately the equivalent of a county in the USA.

[2] C. B. Mamoria and Joshi, Principles and Practices of Marketing in India, Kitab Mahal, Allahabad, India, 1969, p. 423.

subregulated markets located throughout the State. These regulated markets, which are administered under the Mysore Agriculture Produce Marketing (Regulation) Act, 1966, trade in all food grains, cotton, and other agricultural commodities. A close examination of the reports of the marketing department revealed that only 76 regulated markets deal in cereals, millets, pulses, oilseeds, red pepper and gur.[3] The location of the markets is not related directly to the production areas. There is wide variation in their location, ranging from one market for 40 villages in the Dharwar district to one market for 1,333 villages in the Mandya district and no market in the Coorg district. There has been no trading in food grains in South and North Kanara districts. Taking into consideration the area under cultivation, the variation in the density of the regulated markets is still significant. It ranges from one market for 17,616 hectares in the North Kanara district to one for 243,362 hectares in the Mandya district.[4] Detailed information showing the number of regulated markets in each district, the number of regulated markets dealing in food grains, area under cultivation, area under irrigation, and number of villages based on 1968 statistics is furnished in Table I. There is wide variation in the ratio of market arrivals to the quantities produced in each of the 19 districts. The percentage of market arrivals to the quantities produced range from as low as 0.76 percent to a maximum of 89.80 percent. Information regarding the arrivals of rice, ragi, jowar,

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[3]Gur is a crude form of sugar prepared out of sugarcane in the rural areas.

[4]One hectare = 2.471 acres.

TABLE I

LOCATION OF REGULATED MARKETS IN RELATION TO TOTAL AREA, AREA UNDER CULTIVATION, AREA UNDER IRRIGATION, AND NUMBER OF VILLAGES, BY DISTRICTS, MYSORE STATE, 1968

Name of District	Area in Sq. Kilo-meters	Area Under Cultivation (1965-66) in Hectares	Area Under Irrigation (1965-66) in Hectares	Number of Regu-lated Markets	Regu-lated Markets Dealing in Food Grains	Number of Villages	Number of Villages Per Market	Number of Hectares Cultivated Per Market	Number of Hectares Irrigated Per Market
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Bangalore	8,007	319,635	35,330	3	2	2,296	765	106,545	11,777
Belgaum	13,382	920,021	72,087	24	9	1,180	49	38,340	3,003
Bellary	9,897	599,881	41,392	10	8	585	58	59,988	4,139
Bidar	5,446	353,947	10,677	5	5	590	118	70,989	2,135
Bijapur	17,072	1,376,875	40,234	15	4	1,245	83	91,791	2,682
Chickamagalur	7,189	213,300	46,822	2	2	961	480	106,650	23,411
Chitradurga	10,864	410,985	35,014	6	6	1,239	206	68,497	5,835
Coorg	4,110	106,371	8,072	--	--	277	--	--	--
Dharwar	13,730	1,108,372	65,427	34	14	1,358	40	32,599	1,924
Gulbarga	16,228	1,265,719	16,260	11	7	1,298	118	115,065	1,478
Hassan	6,828	292,000	54,662	5	2	2,291	458	58,400	10,932
Kolar	8,224	249,944	38,823	4	1	2,743	686	62,486	9,706
Mandya	4,960	243,362	74,349	1	1	1,333	1,333	243,362	74,349
Mysore	11,948	439,646	57,062	5	5	1,505	301	87,929	11,412

TABLE I (continued)

Name of District	Area in Sq. Kilometers	Area Under Cultivation (1965-66) in Hectares	Area Under Irrigation (1965-66) in Hectares	Number of Regulated Markets	Regulated Markets Dealing in Food Grains	Number of Villages	Number of Villages Per Market	Number of Hectares Cultivated Per Market	Number of Hectares Irrigated Per Market
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
N. Kanara	10,280	123,313	19,422	4	--	1,272	181	17,616	2,774
Raichur	14,013	1,090,375	108,413	9	3	1,364	151	121,153	12,046
Shimoga	10,548	278,840	146,506	4	2	1,728	432	69,710	36,626
S. Kanara	8,436	208,714	61,029	1	--	668	668	208,714	61,029
Tumkur	10,597	440,684	43,742	9	5	2,444	272	48,965	4,860
State	191,757	10,041,987	975,323	155	76	26,377	--	--	--
Average	--	--	--	--	--	--	170	64,787	6,292

Source: Mysore at a Glance, 1968, Bureau of Economics and Statistics, Government of Mysore, Bangalore, July 1969. Data regarding columns 1-6 were obtained from this source. Food grains includes cereals, millets, pulses, oilseeds, and gur.

and wheat at the regulated markets in each of the 19 districts based on the monthly reports of the marketing department and the quantities of these grains produced during the years 1966-67 and 1967-68 are furnished in Tables II, III, IV, and V. A close examination of the market arrivals, prices, and quantities of these grains reveals that the percentage of food grains traded is very low in most districts, that wide variation exists in quantities arrived during the year, and that there is not only intraseasonal variation in prices in a single market but also considerable price differences among different markets at a given point of time. The variation is in no way related to transfer costs.

The reports of the marketing department reveal that none of the food grains are graded in terms of the moisture content, percentage of foreign material, and nutritive value, but that prices are determined primarily according to classifications based on varieties. Rice is classified into three classes as fine, medium, and coarse based solely on the varieties. Wheat is again classified on the basis of varieties as red, white, bansi, and khapli.[5] Jowar is classified as white, yellow, argadi, hybrid, rabi, and kharif. The graders working in the regulated markets merely follow the above guidelines and prices are determined entirely on the above classifications.

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[5]Red variety is hard or semihard red grains. Bansi is white or amber grain. Khapli is hard, long, slender and reddish grain. Kharif and Rabi are the two seasons of cropping, summer and winter, respectively.

TABLE II

PRODUCTION AND ARRIVALS OF RICE AT REGULATED MARKETS, BY DISTRICTS, MYSORE STATE, 1966-67 AND 1967-68

District	1966-1967			1967-1968		
	Production in Metric Tons[a]	Marketed in Metric Tons[b]	Percent	Production in Metric Tons[a]	Marketed in Metric Tons[b]	Percent
Bangalore	40,505	5,685	14.00	48,175	4,808	9.98
Belgaum	75,786	4,633	6.10	65,188	11,586	17.77
Bellary	26,476	N.A.	--	31,547	17,035	54.00
Bidar	18,646	--	--	23,734	4,470	18.50
Bijapur	6,108	--	--	6,762	--	--
Chickamagalur	72,554	5,106	7.04	84,182	6,628	7.87
Chitradurga	23,356	20,975	89.80	29,806	27,400	91.90
Coorg	78,551	no market	--	74,112	--	--
Dharwar	256,985	1,954	0.76	351,102	4,361	1.24
Gulbarga	8,933	2,713	30.00	33,230	6,112	18.00
Hassan	64,494	12,319	19.10	64,571	7,781	12.01
Kolar	29,851	6,020	20.00	44,109	11,826	26.50
Mandya	75,061	12,635	16.83	90,114	15,271	16.90
Mysore	186,739	35,961	19.26	135,437	76,046	56.15
N. Kanara	123,492	--	--	134,683	--	--
Raichur	34,028	6,954	--	46,390	11,769	25.00
Shimoga	202,226	10,255	5.07	235,368	24,489	10.40
S. Kanara	273,122	--	--	264,296	--	--
Tumkur	40,294	20,143	50.00	34,162	19,295	56.00

[a]Production figures based on an unpublished note by the Department of Agronomy, University of Agricultural Sciences, Bangalore, 1969.

[b]Arrivals in the markets are based on reports published by the Chief Marketing Officer in Mysore, Bangalore, Mysore State.

TABLE III

PRODUCTION AND ARRIVALS OF JOWAR AT REGULATED MARKETS IN MYSORE STATE, 1966-67 AND 1967-68

District	1966-1967			1967-1968		
	Production in Metric Tons[a]	Marketed in Metric Tons[b]	Percent	Production in Metric Tons[a]	Marketed in Metric Tons[b]	Percent
Bangalore	--	--	--	--	--	--
Belgaum	143,734	3,474	2.40	140,411	1,857	1.30
Bellary	84,281	--	--	100,121	54,955	--
Bidar	97,459	2,924	3.00	72,510	2,913	4.00
Bijapur	252,452	19,660	7.79	332,829	9,554	2.87
Chickamagalur	8,250	39	--	10,828	163	--
Chitradurga	87,986	20,140	22.90	125,591	13,638	10.86
Coorg	--	--	--	--	--	--
Dharwar	115,524	15,143	13.10	161,269	23,834	14.78
Gulbarga	267,950	7,959	2.97	247,593	9,817	3.90
Hassan	1,175	--	--	1,513	--	--
Kolar	--	--	--	--	--	--
Mandya	3,511	--	--	3,747	--	--
Mysore	40,739	12,466	30.60	45,017	24,648	54.75
N. Kanara	--	--	--	--	--	--
Raichur	102,290	5,610	5.48	151,739	7,394	4.87
Shimoga	18,057	1,042	5.77	31,439	2,332	7.40
S. Kanara	--	--	--	--	--	--
Tumkur	11,729	1,011	8.60	10,164	326	3.20

[a]Production figures based on an unpublished note by the Department of Agronomy, University of Agricultural Sciences, Bangalore, 1969.

[b]Arrivals in the markets are based on reports published by the Chief Marketing Officer in Mysore, Bangalore, Mysore State.

TABLE IV

PRODUCTION AND ARRIVALS OF RAGI AT REGULATED MARKETS IN MYSORE STATE, 1966-67 AND 1967-68

District	1966-1967			1967-1968		
	Production in Metric Tons[a]	Marketed in Metric Tons[b]	Percent	Production in Metric Tons[a]	Marketed in Metric Tons[b]	Percent
Bangalore	101,710	6,844	6.70	197,697	13,651	6.90
Belgaum	9,188	--	--	9,788	--	--
Bellary	8,090	--	--	6,957	--	--
Bidar	108	--	--	112	--	--
Bijapur	--	--	--	--	--	--
Chickamagalur	14,105	--	--	17,060	14	--
Chitradurga	62,826	12,712	20.00	36,359	8,965	24.60
Coorg	664	--	--	690	--	--
Dharwar	7,266	255	3.50	7,590	383	5.00
Gulbarga	3,081	--	--	3,140	--	--
Hassan	68,379	2,002	2.90	44,433	1,680	3.78
Kolar	57,201	--	--	40,230	--	--
Mandya	40,974	562	1.37	19,333	707	3.60
Mysore	46,115	2,030	4.40	49,439	3,845	7.78
N. Kanara	72	--	--	86	--	--
Raichur	69	--	--	71	--	--
Shimoga	13,793	215	1.50	22,188	164	0.70
S. Kanara	601	--	--	577	--	--
Tumkur	92,774	4,734	5.10	112,298	7,748	6.90

[a]Production figures based on an unpublished note by the Department of Agronomy, University of Agricultural Sciences, Bangalore, 1969.

[b]Arrivals in the markets are based on reports published by the Chief Marketing Officer in Mysore, Bangalore, Mysore State.

TABLE V

PRODUCTION AND ARRIVALS OF WHEAT AT REGULATED MARKETS IN MYSORE STATE, 1966-67 AND 1967-68

District	1966-1967			1967-1968		
	Production in Metric Tons[a]	Marketed in Metric Tons[b]	Percent	Production in Metric Tons[a]	Marketed in Metric Tons[b]	Percent
Bangalore	--	--	--	--	--	--
Belgaum	5,896	330	5.60	11,253	410	3.60
Bellary	70	--	--	119	--	--
Bidar	7,800	160	2.05	1,734	--	--
Bijapur	12,997	2,032	15.60	31,995	3,199	10.00
Chickamagalur	33	--	--	50	--	--
Chitradurga	88	--	--	148	--	--
Coorg	--	--	--	--	--	--
Dharwar	12,258	3,033	24.70	20,631	8,797	42.60
Gulbarga	4,586	583	12.70	4,771	--	--
Hassan	--	--	--	--	--	--
Kolar	--	--	--	--	--	--
Mandya	--	--	--	--	--	--
Mysore	7	--	--	12	--	--
N. Kanara	--	--	--	--	--	--
Raichur	3,206	746	23.20	8,377	188	--
Shimoga	24	--	--	42	--	--
S. Kanara	--	--	--	--	--	--
Tumkur	13	--	--	22	--	--

[a]Production figures based on an unpublished note by the Department of Agronomy, University of Agricultural Sciences, Bangalore, 1969.

[b]Arrivals in the markets are based on reports published by the Chief Marketing Officer in Mysore, Bangalore, Mysore State.

II. EMERGING PROBLEM

The second generation problems posed as a consequence of increased agricultural production are many. A problem of major significance is the moving of the additional quantities of food grains produced in the rural areas to the urban areas in a systematic way. To do this systematically would require adequate number of storage facilities both at the village and at the regulated market level, an improvement in farm to market roads, better market to market transportation, and an improvement in buying and selling operations in order to insure an incentive price to producers and a reasonable price to urban consumers. The magnitude of the marketing problem could be visualized easily because of the rapid pace in the increase of urban population in Mysore State from 5.27 million in 1961 to 6.59 million in 1971, projected to 7.41 million in 1976 and 8.25 million in 1981.

The population projections for rural and urban areas for each of the 19 districts were estimated separately under the assumption that the rate of increase in both the rural and urban areas will follow the same pattern as occurred during the years 1961 to June 1968. The population projections differ slightly from those made for Mysore State by the Central Statistical Organization based on few assumptions on fertility, mortality and migratory factors. The calculated rates of growth between 1961 and June 1968 are furnished in Table VI, and population projections for the rural and urban areas in each of the 19 districts are shown in

TABLE VI

RATE OF POPULATION GROWTH BETWEEN 1961 AND JUNE 1968, BY DISTRICTS, MYSORE STATE

District		Population in 1961[a]	Population on June 1968[b]	Annual Rate of Population Growth 1961-June 1968
	R	1,147,018	1,149,174	0.02
Bangalore	U	1,357,444	1,682,545	2.9
	T	2,504,462	2,831,719	---
	R	1,626,342	1,917,930	2.2
Belgaum	U	357,469	479,136	3.8
	T	1,983,811	2,397,066	---
	R	708,724	785,093	1.4
Bellary	U	206,537	233,971	2.3
	T	915,261	1,019,064	---
	R	581,951	670,640	1.9
Bidar	U	81,221	86,486	0.8
	T	663,172	757,126	---
	R	1,346,772	1,546,268	1.8
Bijapur	U	313,406	353,468	1.6
	T	1,660,178	1,899,736	---
	R	507,833	622,878	2.7
Chickamagalur	U	89,472	106,258	2.3
	T	597,305	789,136	---
	R	904,125	1,030,046	1.8
Chitradurga	U	190,159	229,905	2.6
	T	1,094,284	1,259,951	---
	R	280,140	329,266	2.2
Coorg	U	42,689	62,071	5.1
	T	322,829	391,337	---
	R	1,425,738	1,677,389	2.2
Dharwar	U	524,624	599,343	1.8
	T	1,950,362	2,276,732	---
	R	1,173,036	1,304,061	1.4
Gulbarga	U	226,421	232,837	0.4
	T	1,399,457	1,536,898	---
	R	788,311	906,062	1.9
Hassan	U	107,536	122,305	1.7
	T	895,847	1,028,367	---

TABLE VI (continued)

District		Population in 1961[a]	Population on June 1968[b]	Annual Rate of Population Growth 1961-June 1968
Kolar	R	996,872	1,104,034	1.4
	U	293,272	327,907	1.5
	T	1,290,144	1,432,041	---
Mandya	R	799,138	916,009	1.8
	U	100,072	116,425	1.9
	T	899,210	1,032,434	---
Mysore	R	1,256,430	1,415,879	1.5
	U	414,969	437,182	0.7
	T	1,671,399	1,853,061	---
N. Kanara	R	568,685	696,630	2.7
	U	120,864	145,716	2.6
	T	689,549	842,346	---
Raichur	R	940,273	1,083,530	1.9
	U	160,622	168,715	0.7
	T	1,100,895	1,252,245	---
Shimoga	R	757,000	932,985	2.8
	U	260,368	344,020	3.8
	T	1,017,368	1,277,005	---
S. Kanara	R	1,283,478	1,395,480	1.1
	U	280,359	339,165	2.6
	T	1,563,837	1,734,645	---
Tumkur	R	1,228,413	1,362,474	1.4
	U	138,989	163,358	2.2
	T	1,367,402	1,525,832	---
State	R	18,320,279	20,845,828	1.8
	U	5,266,493	6,230,273	2.4
	T	23,586,772	27,076,101	2.1

R = Rural, U = Urban, T = Total

[a]Population of 1961, Statistical Outline of Mysore, 1967, Bureau of Economics and Statistics, Government of Mysore, 1968.

[b]Population estimates as on June 1968, Mysore at a Glance, 1968, Bureau of Economics and Statistics, Government of Mysore, July 1969.

Table VII. The quantities of cereals[6] to be moved from rural to urban areas based on the per capita consumption of 1.549 quintals per annum,[7] as estimated by National Sample Survey, Government of India in 1964, amounts to 878,012 tons for 1971, 987,337 tons for 1976, and 1,112,211 tons for 1981. The quantities of food grains[8] demanded in urban areas, calculated on the basis of 1.2878 quintals per person per annum for 1971 and 1.3151 quintals per person per annum in 1976 as estimated by National Council of Applied Economic Research, amounts to 730,137 tons in 1971 and 838,060 tons in 1976.[9] Projected estimates of requirement of cereals and demand for food grains for both rural and urban areas for 1971 and 1976 are furnished in Tables VIII and IX. This clearly indicates that to achieve the goals of a social welfare state, the people in the urban areas must be provided with adequate quantities of food grains at a reasonable price to overcome malnutrition.

In order to accomplish this, farmers should be assured of incentive prices to continue the tempo of increased agricultural production. Hence, an improved system of agricultural marketing that would secure for the cultivator a price which is related to the price paid by

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[6]Cereals include rice, wheat, jowar, bajra, and ragi. Bajra (Pennisetum typhoideum) is an important millet crop in Mysore State.

[7]Nagaraju et al., Food Projections, University of Agricultural Sciences, Miscellaneous Series, No. 8, University of Agricultural Sciences, Bangalore, Mysore State, 1968, p. 6.

[8]Food grains include cereals, millets and pulses.

[9]National Council of Applied Economic Research, Long-Term Projections of Demand and Supply of Agricultural Commodities, New Delhi, 1962, p. 222.

TABLE VII

POPULATION PROJECTIONS BY DISTRICTS, MYSORE STATE, 1971, 1976, 1981[a]

District		Year (June) 1961	1968	1971	1976	1981
		Number of Persons				
Bangalore	R	1,147,018	1,149,174	1,149,900	1,151,050	1,152,200
	U	1,357,444	1,682,545	1,807,350	2,085,520	2,406,500
	T	2,504,462	2,831,719	2,957,250	3,236,570	3,558,700
Belgaum	R	1,626,342	1,917,930	2,026,600	2,261,770	2,524,230
	U	357,469	479,136	526,250	634,740	765,600
	T	1,983,811	2,397,066	2,552,850	2,896,510	3,289,830
Bellary	R	708,724	785,093	812,255	869,400	930,608
	U	206,537	233,971	247,780	277,884	310,928
	T	915,261	1,019,064	1,060,035	1,147,284	1,241,536
Bidar	R	581,951	670,640	703,125	772,890	849,580
	U	81,221	86,486	88,315	92,087	96,020
	T	663,172	757,126	791,440	864,977	945,600
Bijapur	R	1,346,772	1,546,268	1,618,800	1,774,180	1,944,500
	U	313,406	353,468	367,980	398,770	432,130
	T	1,660,178	1,899,736	1,986,780	2,172,950	2,376,630
Chickamagalur	R	507,833	622,878	665,455	759,130	866,910
	U	89,472	106,258	112,585	126,310	141,727
	T	597,305	789,136	778,040	885,440	1,008,637
Chitradurga	R	904,125	1,030,046	1,075,650	1,173,100	1,279,400
	U	190,159	229,905	244,900	277,893	315,328
	T	1,094,284	1,259,951	1,320,550	1,450,993	1,594,728
Coorg	R	289,140	329,266	347,415	386,775	430,600
	U	42,689	62,071	70,356	90,308	115,919
	T	322,829	391,337	417,771	477,083	546,519
Dharwar	R	1,425,738	1,677,389	1,770,750	1,973,300	2,199,050
	U	524,624	599,343	626,542	684,730	748,270
	T	1,950,362	2,276,732	2,397,292	2,658,030	2,947,320
Gulbarga	R	1,173,036	1,304,061	1,350,890	1,449,570	1,555,450
	U	226,421	232,837	235,000	239,380	243,840
	T	1,399,457	1,536,898	1,585,890	1,688,950	1,799,290

TABLE VII (continued)

District		Year 1961	(June) 1968	1971	1976	1981
		Number of Persons				
Hassan	R	788,311	906,062	927,410	1,017,430	1,116,170
	U	107,536	122,305	127,680	139,133	151,566
	T	895,847	1,028,367	1,055,090	1,156,543	1,267,736
Kolar	R	996,872	1,104,034	1,142,100	1,222,500	1,308,570
	U	293,272	327,907	332,598	358,294	385,971
	T	1,290,144	1,432,041	1,474,698	1,580,794	1,694,541
Mandya	R	799,138	916,009	958,730	1,050,240	1,150,490
	U	100,072	116,425	122,120	134,369	147,844
	T	899,210	1,032,434	1,080,850	1,184,609	1,298,334
Mysore	R	1,256,430	1,415,879	1,471,660	1,590,010	1,717,910
	U	414,969	437,182	444,880	460,670	477,020
	T	1,671,399	1,853,061	1,916,540	2,050,680	2,194,930
N. Kanara	R	568,685	696,630	745,340	853,203	976,663
	U	120,864	145,716	155,329	176,514	200,583
	T	689,549	842,346	900,669	1,029,717	1,177,246
Raichur	R	940,273	1,083,530	1,134,700	1,259,250	1,394,260
	U	160,622	168,715	171,510	177,245	183,170
	T	1,100,895	1,252,245	1,306,210	1,436,495	1,577,430
Shimoga	R	757,000	932,985	1,000,300	1,149,870	1,221,800
	U	260,368	344,020	377,497	454,435	547,080
	T	1,017,368	1,277,005	1,377,797	1,604,305	1,768,880
S. Kanara	R	1,283,478	1,395,480	1,434,900	1,517,080	1,603,900
	U	280,359	339,165	361,373	410,260	465,759
	T	1,563,837	1,734,645	1,796,273	1,927,340	2,069,659
Tumkur	R	1,228,413	1,362,474	1,410,340	1,511,120	1,619,080
	U	138,989	163,358	172,410	192,040	213,905
	T	1,367,402	1,525,832	1,582,750	1,703,160	1,832,985
State	R	18,320,279	20,845,828	21,746,320	23,742,268	25,941,371
	U	5,266,493	6,230,273	6,592,365	7,410,562	8,349,160
	T	23,586,772	27,076,101	28,338,685	31,152,830	34,290,531

R = Rural, U = Urban, T = Total

[a]Projections are made based on the rate of growth of population, as noticed between 1961 and June 1968, indicated in Table VI, page 18.

TABLE VIII

ESTIMATED REQUIREMENT OF CEREALS IN URBAN AREAS, BY DISTRICTS, MYSORE STATE,[a] 1971, 1976, AND 1981

District	Requirement of Cereals (in Tons) in Urban Areas		
	1971	1976	1981
Bangalore	240,764	277,802	320,580
Belgaum	70,104	84,556	101,988
Bellary	33,007	37,018	41,420
Bidar	11,754	12,267	12,791
Bijapur	49,020	53,321	57,565
Chickamagalur	14,913	16,826	18,880
Chitradurga	32,624	37,019	42,006
Coorg	9,372	12,030	15,435
Dharwar	83,464	91,215	99,680
Gulbarga	31,305	31,888	32,482
Hassan	17,008	18,531	20,191
Kolar	44,306	47,730	51,416
Mandya	16,268	17,900	19,694
Mysore	59,264	61,367	63,545
N. Kanara	20,692	23,514	26,720
Raichur	22,842	23,582	24,400
Shimoga	50,288	60,537	72,878
S. Kanara	48,140	54,652	62,045
Tumkur	22,967	25,582	28,495
State	878,102	987,337	1,112,211

One quintal = 220.46 pounds
One ton = 10 quintals

[a]Cereals include rice, ragi, jowar, wheat and bajra. The above projections are made based on the requirement of 1.549 quintals per person per annum as estimated by National Sample Survey, Government of India.

TABLE IX

ESTIMATED DEMAND FOR FOOD GRAINS, BY DISTRICTS, MYSORE STATE, 1971 AND 1976[a]

District		1971 (in Tonnes)[b]	1976 (in Tonnes)[c]
Bangalore	R	184,781	196,249
	U	200,172	235,861
	T	384,953	432,110
Belgaum	R	325,668	385,622
	U	58,284	71,786
	T	383,952	457,408
Bellary	R	130,527	148,229
	U	27,442	31,427
	T	157,969	179,656
Bidar	R	112,990	131,774
	U	9,781	10,414
	T	122,771	142,188
Bijapur	R	260,136	302,490
	U	40,755	45,098
	T	300,891	347,588
Chickamagalur	R	106,936	129,496
	U	12,469	14,285
	T	119,405	143,781
Chitradurga	R	172,854	200,008
	U	27,124	31,428
	T	199,978	231,436
Coorg	R	55,828	65,943
	U	7,792	10,213
	T	63,620	76,156
Dharwar	R	284,554	336,439
	U	69,392	77,439
	T	353,946	413,878
Gulbarga	R	216,387	247,145
	U	26,027	27,072
	T	242,414	274,217
Hassan	R	149,023	173,467
	U	14,141	15,733
	T	163,164	189,200

TABLE IX (continued)

District		1971 (in Tonnes)[b]	1976 (in Tonnes)[c]
Kolar	R	183,532	208,431
	U	36,836	40,521
	T	220,368	248,952
Mandya	R	154,065	179,061
	U	13,525	15,196
	T	167,590	194,257
Mysore	R	236,491	271,090
	U	49,272	52,099
	T	285,763	323,189
N. Kanara	R	119,774	145,467
	U	17,203	19,963
	T	136,977	165,430
Raichur	R	182,343	214,697
	U	18,995	20,045
	T	201,338	234,742
Shimoga	R	160,745	196,048
	U	41,809	51,394
	T	202,554	247,442
S. Kanara	R	230,584	258,655
	U	40,023	46,398
	T	270,607	305,053
Tumkur	R	226,637	257,639
	U	19,095	21,778
	T	245,732	279,417
State	R	3,493,605	4,047,950
	U	730,137	838,060
	T	4,223,742	4,886,010

R = Rural, U = Urban, T = Total

1 quintal = 220.46 pounds
10 quintals = 1 ton

[a]Food grains include cereals, millets and pulses. Demand projections based on estimates made by National Council of Applied Economic Research, Long-Term Projections of Demand and Supply of Agricultural Commodities, New Delhi, 1962.

[b]1971 - Rural = 1.86257 quintals per head per year
Urban = 1.28784 quintals per head per year

[c]1976 - Rural = 1.98241 quintals per head per year
Urban = 1.31506 quintals per head per year

the ultimate consumer by form, space and time is needed. Some elements in the marketing system that are essential to its improvement include: (1) a network of warehouses of varying capacities in the villages and regulated markets located both in production and at urban consumption points; (2) a price information mechanism essential to disseminating reliable and accurate price data prevailing in urban areas must be translated swiftly to markets located in rural parts to make changes in production, consumer oriented; (3) a market research organization needed to determine the optimum quantities of food grains that should be moved to urban points at the least transportation cost; and (4) a more rationalized plan for the location of the regulated markets based solely on the criteria of the quantities of food grains produced in the surrounding areas, nearness to producers, and availability of transport facilities must be developed as against the present setup which is determined largely by administrative convenience. The elements mentioned show clearly that the whole process of marketing--that is, buying and selling, standardization and grading, and storage and transportation--needs improvement, because economic progress depends not only on increasing output but also on the commercialization of rural areas. When marketing facilities are lacking, a part of the marketable surplus is not brought to the market and sold, thereby the producers are not motivated sufficiently to produce the largest possible output their production factors permit. In the section that follows an attempt is made to develop and restructure the existing regulated market systems in Mysore State as one possible alternative for improving the efficiency of marketing food grains.

CHAPTER III

PHYSICAL FACILITIES NEEDED AND OPERATIONAL PROCEDURES FOR A MODEL REGULATED MARKET

The primary object of a regulated market is to protect the producers-sellers from exploitation and to introduce an element of price consistency at local markets, the primary markets for exchange of goods into cash. Any model regulated market for agricultural commodities should be designed to perform a majority of the necessary market functions. Agricultural marketing may be defined as:

> . . . a process which starts with the decision to produce a saleable farm commodity; and it involves all aspects of marketing structure or system, both functional and institutional, with technical and economic considerations, including product assembly, processing and distribution and use by the final consumer.[1]

The regulated market being a primary market should provide facilities for the performance of at least these market functions: (1) buying and selling, (2) grading and standardization, (3) storage and transportation, and (4) market information service. In addition, to enable a regulated market to function as perfectly as possible, the essential conditions of a perfect market should be satisfied, namely: (1) free entry and exit for buyers and sellers, (2) perfect knowledge for all participants, and (3) the assumption that each buyer and seller

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[1] J. M. Curtis, "Survey of Agricultural Marketing Advisory Work in OECD Countries," Documentation in Food and Agriculture, OECD, Vol. 78, Paris, 1966, p. 27.

acts in an "economically" rational way, disregarding any influence of his action on price. To ensure that the regulated market is both technically and economically efficient, the commodities must move from producers to ultimate consumers at the lowest possible cost, consistent with the provision of the services that producers and consumers demand. The need for a regulated market financed by the State arises due to a multitude of factors, the important ones being: (1) seasonality in production of agricultural commodities as against a continuous demand, (2) small quantities of grains offered for sale by producers, (3) low bargaining power of farmers as aginst organized traders at the local markets, (4) indebtedness of farmers, and (5) inadequate market facilities provided by the private traders at the farm-assembly markets. Regulation of trading in food grains has been existing even in the most advanced countries like the USA and the United Kingdom for a long time. So, in a developing country like India, regulation of markets becomes a necessity.

The main object of a regulated market should be to regulate the trading practices to the extent that producers and ultimate consumers are protected and that prices are determined competitively. This emphasizes that a model regulated market should be designed to perform the primary and secondary market functions with the objective of improving the efficiency of the entire marketing system. To be more specific, the market should be designed to provide the necessary machinery for buying and selling to take place in an orderly manner, market facilities to carry out various facilitating functions such as grading and

standardization, storage and transportation, and finally, to provide accurate and timely market information vital to price determination. It is only when the producers-sellers are convinced that a regulated market provides the necessary facilities for obtaining a fair price for their produce, the farmers may be disinclined to dispose of their marketable surplus in the village itself. This focuses on the point that it is not mere rules and regulations that are important, but it is the sincerity with which these rules and regulations are implemented.

I. FUNCTIONS

Exchange Function

The exchange function is the most important market function. The degree of seller and buyer concentration, the quantity of food grains arriving in the market, and timely and accurate information on prices--the market arrivals at different markets, influence this activity. To make buying and selling operations as competitive as possible, there should be free entry and exit for both sellers and buyers. Any restriction on the number of traders operating in a market will make the structure an oligopsonistic one.

Facilitating Functions

Assembly. This is another marketing function that requires greater attention in designing a market. In view of the fact that the majority of the producers bring their produce in hessian bags weighing approximately one quintal and also that the quality of the grains are

different, it may be more economical to have flat type storage houses in markets where the volume of trading is low. Secondly, as the grains are usually transported by trucks either to an urban market or to a railway yard, grains have to be packed in hessian bags. Hence, bulk type silos, though more economical to operate, may not be feasible in smaller markets for the present. But bulk silo type storages could be constructed at regulated markets located in Bangalore, Davanagere, Hubli, and Mysore where the volume of trading is very large. A Ford Foundation study by Wimberly[2] has indicated that the operational costs of bulk silo type is cheaper than flat type storages. Wimberly indicates that the operational cost of a silo of 7,200 tons capacity would be Rs. 3.86 per ton per month, whereas in the case of flat type storage of the same capacity the cost would be Rs. 6.46 per ton per month.[3]

Transport. The problem of transporting food grains from the villages to their respective market, and from one market to another market requires detailed study. At present, most of the farmers bring their produce to a market in bullock carts. Since most local markets are within a distance of 15 miles from surrounding villages, the farmers take about six hours by bullock carts to reach the nearest market. In view of the poor communication facilities and nonaccessibility of many

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[2]James E. Wimberly, Rice Processing Consultant, Ford Foundation, New Delhi, cited by Uma J. Lele, "An Analysis of the Modernization of Rice Milling Industry in India," Cornell University/USAID Project, Cornell University, New York, 1970, p. 40.

[3]One dollar equals approximately seven and one-half rupees. Rupees may be abbreviated as Rs.

villages to roads capable of handling heavy trucks, these bullock carts form the main source of transporting grains from the villages to the market. If the finances of the market permit, the market authorities could own small pick-up trucks and for a minimum fee bring the produce from the villages. It is advisable to encourage commission firms to provide trucks for picking up the grains from villages at standard rates fixed by the market authorities. It is not advisable to increase the number of markets just to solve this transportation problem.[4]

II. OPERATING PROCEDURES

To perform the stated exchange and facilitating functions, various physical facilities, operating staff, and operating rules are needed.

Physical Facilities

To carry out the market functions smoothly and efficiently, certain physical facilities should be provided in a regulated market. The location of the market yard should be in close proximity to a railway station or a highway and not in the middle of a downtown area. The magnitude of the physical facilities depends upon the volume of grains traded and is closely linked to the geographical region. The financial outlay needed to construct the physical facilities in a regulated market should be closely linked with the income of the market and its capacity to repay the loan to the state government. The whole market yard should

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[4] A detailed study of the location of regulated markets is reported in Chapter IV.

be protected by a barbed wire fence or a compound wall. The administration block should have provision for accommodating the office of the chairman of the market committee, the secretary, the market supervisor, the market intelligence inspector, commission firms, farmers' lounge and restaurant, the exchange bank to receive money from buyers and make payment to producers-sellers, telegraph and telephone exchange, and a trading floor with ample space for all commission firms to display the samples and an auction pit. Warehouses should be constructed all around the administrative block, allowing ample space for movement of vehicles. The grading and weighing facilities could be located at the entrance of the market yard. Facilities should be also provided for parking trucks and bullock carts. Facilities for drying grains should be made available to farmers at a reasonable cost. Telephone facilities should be provided to market intelligence inspectors, commission firms and traders. A suggested floor design for a regulated market is shown in Figures 1 and 2.

Staffing Pattern

To carry out the operations of the market irrespective of the volume of trading, a minimal number of qualified personnel are needed. The market can work efficiently only if the right person is entrusted to carry out the specific job. The four persons who are vital to a smooth working of a regulated market are the secretary, market supervisor, market intelligence inspector and grader. These four officials are employees of the State marketing department, posted to work at a regulated market. The secretary is the chief executive officer of the market whose function is to guide the members of the market committee

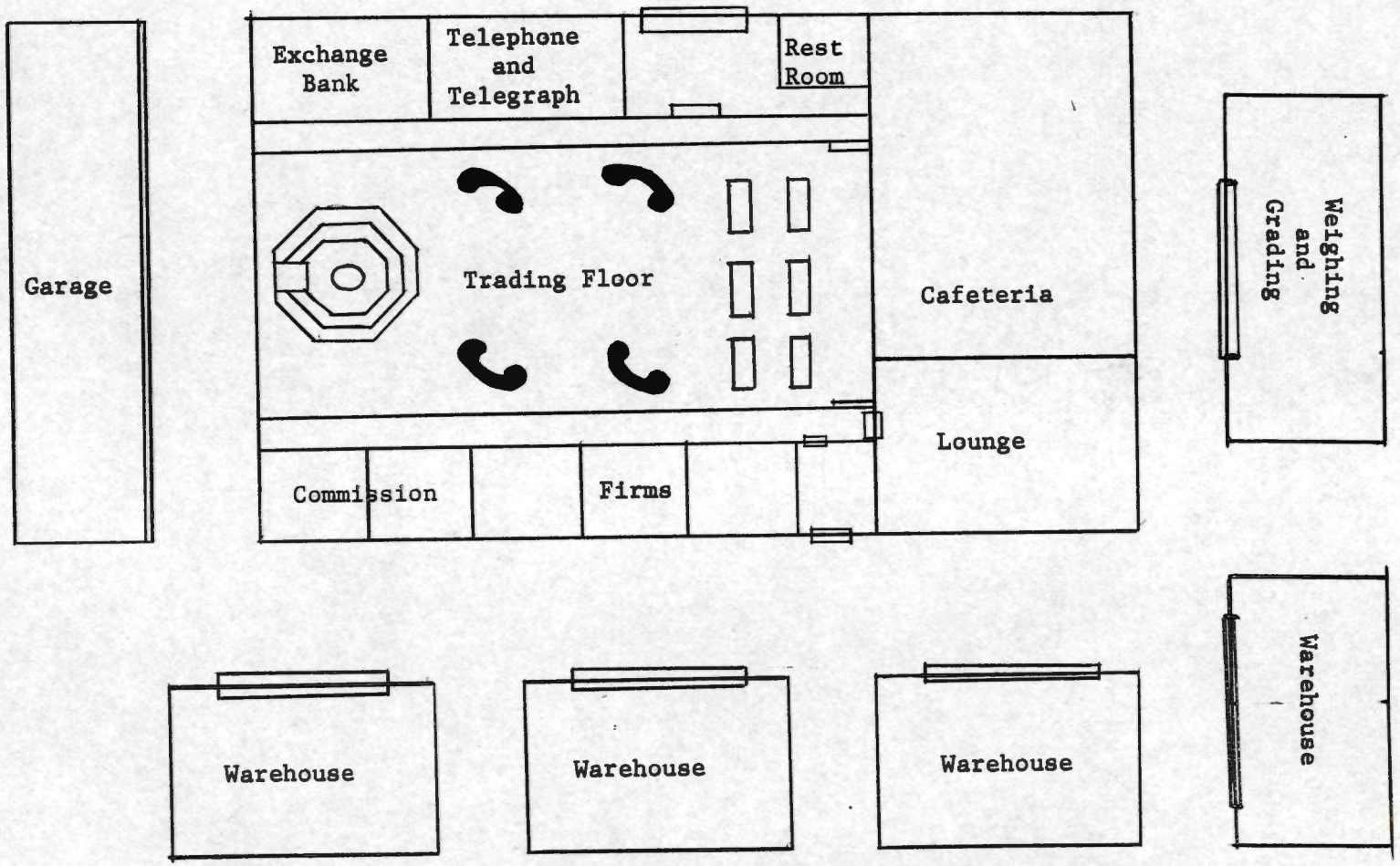
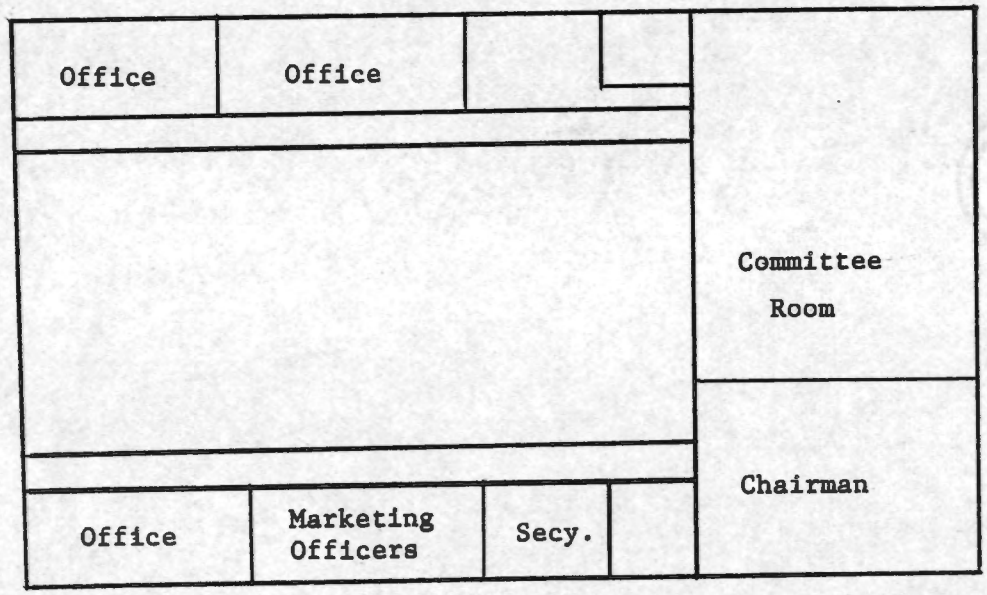


Figure 1. Ground floor plan for a model regulated market.



Scale: 1" = 20'

Figure 2. Second floor plan for a model regulated market.

in interpreting the rules and regulations of the Marketing Act and also to carry out day-to-day administration of the market.

The market supervisor's role is to supervise the trading practices to see whether there is any collusion among the buyers, to prevent malpractices by commission firms, to supervise grading and weighing operations, and to see whether there is any exploitation of producers-sellers. In fact, the role of the market supervisor is to ensure that "orderly marketing" takes place in the market. He should act as a principal agent of the State marketing department in enlightening the members of the market committee whenever complaints are brought to their notice by the various market functionaries.

Each market should have a market intelligence inspector who should collect information on current prices, market arrivals, and market sales. He is the chief of the market information service at a regulated market and should work in close collaboration with his counterparts at other regulated markets and the head of the market information service at State headquarters. There are two categories of market information--market news and market intelligence. Market news is concerned with current happenings and is of little value unless it is accurate, timely, and reliable, whereas market intelligence consists of facts and their interpretation, facts that are likely to help producers, traders and consumers in making decisions. The market intelligence inspector stationed at each regulated market should collect information on opening and closing prices, quantity of arrivals of different grades of each commodity, and the quantity sold at each market. These facts should be

posted on the bulletin board. In addition, he should collect information pertaining to markets located at other centers quickly and make such information available to traders and producers during the course of trading operations. The market intelligence inspector should be responsible for collecting all data needed for the publication of monthly demand and price situations, agricultural situations, and other pertinent reports that are to be published by the State Marketing Authority. Hence, the role of the market intelligence inspector is of vital importance to carry out the exchange function, which depends upon an efficient market information service, because an efficient market should establish prices that are interrelated through space by transfer costs, through form by costs of processing, and through time as a consequence of storage costs.

The fourth important official at the regulated market is the grader. To develop an efficient marketing system, purchases and sales must be made by descriptions of grains rather than by physical inspection. Grading of grains has three purposes. It protects the consumer and the producer through the establishment of standards of quality. It serves as a means of describing the quality of grains to be purchased or sold for buyers and sellers all over the State. It provides a basis for the payment of premiums on grain quality. Grain grading should be a function of official graders appointed by the State Marketing Authority. The grader should serve as a disinterested third person between buyers and sellers in determining the proper grade. To make the grading operations technically efficient, a grader should have passed at least the tenth standard and should be given special training for at least a period of

six months at Central Food Technological Research Institute (CFTRI) and the Agricultural Marketing Training Institute run by the Directorate of Marketing and Inspection. The grader should be guided on all technical matters by the Chief Grading Officer at the Directorate.

In addition to the above four personnel, various subordinate staff are needed to operate a market. A proforma indicating two staffing patterns designed for major and minor markets is furnished in Table X.

Rules and Regulations for Operating a Regulated Market

As food grains and other agricultural commodities are brought to the market yard by farmers, they should be weighed and graded at a facility located at the entrance of the market yard. Each bag containing the grains should be affixed with a tag indicating the following:

1. Name of the commodity
2. Quantity in each bag
3. Grade
4. Name of the seller and his address
5. Name of the commission firm
6. Date and time of arrival
7. Signature of the official grader

Immediately after grading, the grader should take a sample from each bag and put it in a sample bag, and it should accompany the hessian bag containing grains to the warehouse. Once the grains are graded and weighed, the producer could deliver it to the commission firm for

TABLE X

PROPOSED STAFFING PATTERN FOR A REGULATED MARKET

Staff	Range in Grade Pay (Rs.)[a]	No. of Posts	Cost Per Annum (Rs.)
Major Market			
Secretary	700-1100	1	12,600
Manager	250-400	1	5,400
Accounts officer	300-600	1	6,900
Market supervisor	150-300	1	3,900
Market intelligence inspector	150-300	1	3,900
Grader	120-300	3	10,260
Auctioneer	80-120	2	4,320
Junior assistants	130-250	4	13,920
Typist	130-250	2	6,840
Watchman Peon	60-90	12	19,440
		28	87,480
Minor Market			
Secretary	300-600	1	6,900
Accountant	150-300	1	3,900
Junior assistants	130-250	2	6,480
Typist	130-250	1	3,480
Market supervisor	150-300	1	3,900
Grader	120-250	1	3,420
Auctioneer	80-120	1	2,160
Watchman Peon	60-90	6	9,720
		14	39,960

[a]One U. S. dollar equals Rupees 7 = 50.

storage and obtain a warehouse receipt. The present system of classifying grains based on physical inspection of varieties and regions of cultivation has to be dispensed with. Instead, a grading system based on keeping quality, moisture content, percentage of broken grains, percentage of damaged grains, and percentage of foreign material has to be worked out. On examination of present monthly reports of the marketing department, it is noticed that food grains are classified accordingly: (1) for rice--fine, medium and coarse; (2) for wheat--red, white, bansi and khapli; (3) for jowar--red, white, argadi, kharif and rabi; and (4) for ragi--dryland, irrigated and hybrid. To make the job of grader simplified and to avoid all disputes, all food grains should be sorted into four or five grades only after taking into consideration the various characteristics mentioned above. It is suggested that the advice of CFTRI located at Mysore be taken into account to sort the food grains into standard grades. The following procedure indicated by the United States Department of Agriculture is furnished in Appendix A for guidance.

The choice of which commission firm to use should be left to the discretion of producer-seller. In view of the small quantity generally offered for sale by each producer-seller, it may be advantageous for the individual producer to bargain through a commission firm. The method of sale could be either by the tender system or the open auction system. Under the tender system, each commission firm should display a sample of all food grains offered for sale in a bag along with a record of the quantities offered for sale. The traders could then offer their price and the quantity needed. The commission firm would sell the quantities

needed to the highest bidder. On specific days in the week the open auction system could be held under the jurisdiction of the auctioneer appointed by the market committee. The auction could be held in the "pit" of the trading floor. The commission firm's agent could "buy in" if they feel that the interests of their clientele are not protected in the auction. The buyers could be present in person or represented by an authorized agent. Each buyer should furnish cash security with the marketing authority if he intends to participate in the auction.

To ensure that there are no malpractices in the levy of commission charges and that payments are made properly to the producers-sellers, all financial transactions relating to receipts and payments should be entrusted to the exchange bank located at the market. Buyers, on purchase of commodities, should remit the money in the exchange bank after obtaining a sales slip issued from the commission firm representing the seller. The sales slip should furnish the details regarding the quantity and name of commodity sold, grade, price per quintal and total value. Only after furnishing the receipt for having remitted the money to exchange bank should the commission firm deliver the produce to the buyer. The sellers should receive payment at the exchange bank only after obtaining an authorized slip from the commission firm indicating the name and address of the seller, the quantity of grains sold, the grade, person to whom sold, price per quintal, total value, market fees, commission charges, storage charges, and the grading and weighing charges.

Hours of Trade

The hours of trade at each market could be restricted to four hours each day. The trading operations could commence at 10 a.m. and close at 2 p.m. in the markets located at smaller towns, whereas markets located at Bangalore, Davanagere, Mysore, Hubli and Raichur could commence their trading operations at 9 a.m. and close at 1 p.m. The late opening of trading markets at smaller towns would provide the farmers more time to bring their produce to the market, at the same time help both producers-sellers and buyers at these markets know the demand and supply position prevailing at markets located in the cities. By restricting the actual hours of trading to four hours each day, it would be possible for the staff at the market to make payments to farmers who have sold their produce on the same day. Secondly, it would provide ample time for the market intelligence inspector to prepare reports on arrivals, prices, quantities sold, and quantities on hand at the end of the trading hour, and to make the information available to the evening newspaper and for use on radio broadcasts.

III. CONSTITUTION AND FUNCTIONS OF MARKET COMMITTEE

A regulated market to function in an orderly and democratic manner should be governed by a board designated as a market committee. The market committee should be entrusted with the task of carrying out day-to-day transactions in the market to ensure that rules and regulations formulated by the State Marketing Authority as spelled out in the Agricultural Produce Marketing (Regulation) Act are adhered to in

discharging the various market activities. The constitution of market committees has been one of the major issues confronting the policy makers in underdeveloped and developing countries. Many policy makers feel that the committee should be dominated by growers insofar as the interests of the farming community should be protected. Though this argument may appear sound, it is reasonable to argue that in a market oriented agriculture all the market participants need representation. The traders and middlemen who perform many market functions and the final consumers who furnish the ultimate demand for food grains also need some voice in the affairs of the market. In a competitive world, producers and middlemen alike should become part of a channel of distribution which satisfies various customer groups most effectively. In this context, Mcarthy[5] states that "some Indian development schemes, for instance, have been less than successful because they ignored the important role played by middlemen providing the financing function." Hence, the role of middleman who provides the basic functions needed before an agricultural commodity is made available for consumption should not be deemphasized. In a developing economy, the demand side should not be ignored. Merely emphasizing the production side will not adequately benefit the farmers. Considering these facts, the following is the suggested constitution of the market committee:

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[5]E. J. Mcarthy, "Effective Marketing Institutions for Economic Development," Proceedings of American Marketing Association, 1963; Chicago, Illinois, p. 403.

1. Eight members representing the growers in the market area.[6]
2. Three members representing the traders. These could be selected by the District Food Grain Traders Association in which district the market is located.
3. Two members representing the commission firms.
4. The taluk block development officer.
5. One member representing the local Civil Servants Association.

The chairman is selected by the committee members, and he should belong to the grower's constituency only. This would fulfill the basic requirement of a democratic institution in which local people have a voice in the affairs of a regulated market. The secretary of the market committee should be an officer of the State marketing department and he should play the vital role of keeping the committee members informed. The market committee could normally meet twice a month. The members are paid only traveling allowance and sitting fees. The committee should be empowered to ensure: (1) that grading and weighing are done properly; and (2) that collection of market fees, commission charges, payment to sellers and receipt from buyers are done systematically without unnecessary delays. The committee is empowered to license commission firms and traders. The market committee should report specific cases of irregularity in the discharge of duties by the secretary of the market committee, market supervisor, market intelligence inspector, and grader to the State marketing authorities for taking necessary action. The charges

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[6]Eight agriculturists constituencies should be created in each market area and one representative should be elected from each constituency.

for grading and weighing, license fees for traders and commission firms, labor charges, and warehouse rent should be uniform throughout the State and these could be fixed by the State Agricultural Marketing Board.

Finances of the Market

The State government should provide the finances necessary to establish a market. A large percentage of this amount should be treated as a loan, repayable in 15 annual installments. The market should be as far as possible self-supporting. Provision, however, should be made for emergency situations when operating expenses have to be met. The State Agricultural Marketing Board is empowered to help weak markets financially in times of financial crisis. The main source of income of a market are market fees, license fees from traders, and rental charges.

CHAPTER IV

MODEL PLAN FOR THE LOCATION OF REGULATED MARKETS

I. INTRODUCTION

Mysore State occupying an area of 197,757 square kilometers[1] is divided into 19 districts for administrative convenience. There are 231 towns and 26,377 villages in the State. Mysore is predominantly an agricultural state. Nearly 70 percent of its workers (according to 1961 census) are engaged in agriculture. Income from the agricultural sector (Rs. 671 crores) constituted 60 percent of the total State income of Rs. 671 crores.[2] The soil and climate are suited to the cultivation of cereals, millets, pulses, oilseeds, cotton, sugarcane, and coffee.

II. PRESENT STATUS OF REGULATED MARKETS

At present there are 89 main and 66 subregulated markets located in the State. Submarkets are located only in the areas formerly belonging to Bombay and Hyderabad states. At present, markets are not located uniformly in all 19 districts. The number of markets located in each district has little relation to the area under cultivation, area under irrigation, population and the number of villages. There is a wide

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[1] One kilometer is equal to 3,280.8 feet, or nearly five-eights of a mile.

[2] B. D. Kale and R. B. Jorapur, Demographic Report of Mysore State, 1901-1961, Demographic Research Center, Dharwar, Mysore State, 1969, p. 252.

variation in the number of markets in each district. The number of villages per market ranges from 49 in one district to 1,333 in another district. Similarly, the number of hectares cultivated per market ranges from 12,912 hectares in one district to 224,036 hectares in another district. A detailed statement indicating the number of villages, area under cultivation, and the number of markets in each of the 19 districts is shown in Table XI.

On examining the monthly reports of market arrivals and prices at the regulated markets, published by the chief marketing officer, Bangalore, during the years 1966-69, it was found that only 76 regulated markets traded in food grains (cereals, millets, pulses, and oilseeds). There was no appreciable trading in most of the submarkets. The volume of trading ranged from 330 quintals per year in one market to 1,134,037 quintals in another market. This wide variation was accompanied by wide seasonal variations in arrivals and prices. The behavior of food grain prices at some of the regulated markets is indicated in Table XII. The prices paid to producers at the several markets at a given point in time did not show a regular pattern. Limited market integration was noticed at some of the markets located in some of the districts. Differences in prices at some of the markets in some districts did not reflect the transfer costs. A graphical analysis of the prices of ragi, jowar, and wheat at the important regulated markets is shown in Figures 3 through 10. No reliable conclusions can be drawn from the data available on the effectiveness of the price information mechanism, due to the wide variation in the quality and quantity of these commodities.

TABLE XI

LOCATION OF REGULATED MARKETS IN RELATION TO NUMBER OF VILLAGES AND AREA UNDER CULTIVATION, BY DISTRICTS, MYSORE STATE

District	Number of Villages (1)	Area Under Cultivation in Hectares (2)	Number of Regulated Markets (3)
Bangalore	2,296	319,635	3
Belgaum	1,180	920,021	24
Bellary	585	599,881	10
Bidar	590	353,947	5
Bijapur	1,245	1,376,875	15
Chickamagalur	961	213,300	2
Chitradurga	1,239	410,985	6
Coorg	277	106,371	--
Dharwar	1,358	1,108,372	34
Gulbarga	1,298	1,265,719	11
Hassan	2,291	292,000	5
Kolar	2,743	249,944	4
Mandya	1,333	243,362	1
Mysore	1,505	439,646	5
N. Kanara	1,272	123,313	7
Raichur	1,364	1,090,375	9
Shimoga	1,728	278,840	4
S. Kanara	668	208,714	1
Tumkur	2,444	440,684	9
State	26,377	10,041,987	155

Source: Mysore at a Glance, 1968, Bureau of Economics and Statistics, Government of Mysore, Bangalore, Mysore State, 1969.

TABLE XII

BEHAVIOR OF RAGI PRICES AT REGULATED MARKETS IN MYSORE STATE, 1966-67, 1967-68, AND 1968-69

	Price per Quintal in Rupees							
	Bangalore			Mysore			Davanagere	
	1966-1967	1967-1968	1968-1969	1966-1967	1967-1968	1968-1969	1966-1967	1967-1968
July	100	102	--	97=50	96	84	92=50	90
August	102	104	--	102=50	96	87=50	90=00	92
September	100	102	104	90=50	99	90=50	85=50	88
October	85	108	95	75	85=50	85=50	85=00	81
November	80	100	93	88	93=50	83	64=00	83
December	--	104	96	--	95=50	87	72=00	81
January	80	100	90	82=50	94	78=50	69=00	77
February	80	85	--	77	79	--	71=50	77
March	80	86	78	76	78=50	69=50	69=00	77
April	80	85	76	79	81=50	77	70=00	74
May	80	--	79	79	--	75=50	80	81
June	95	--	84	100	--	81=50	86	84
Average	85=60	97=60	88=40	86=00	89=85	81=95	77=87	82=00
C.V.	10.8	8.6	10.3	11.3	8.2	6.2	12.5	6.7

Source: Chief Marketing Officer in Mysore, Vyavasayothpannagala Vanijya Varthe, Bangalore, Mysore State, September 1966 to August 1969.

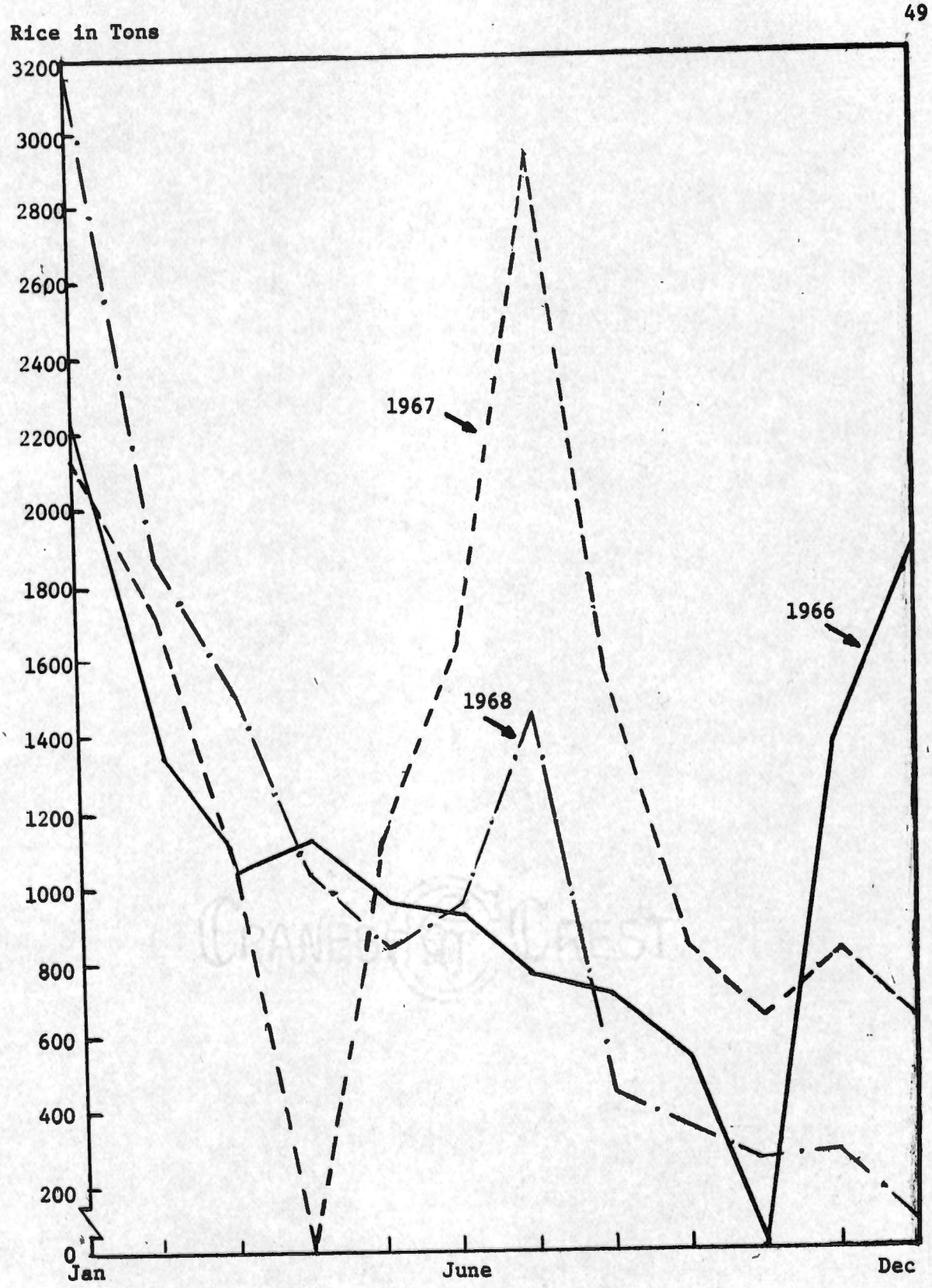


Figure 3. Monthly arrivals of rice at regulated markets, Mandya, Mysore State, 1966-1968.

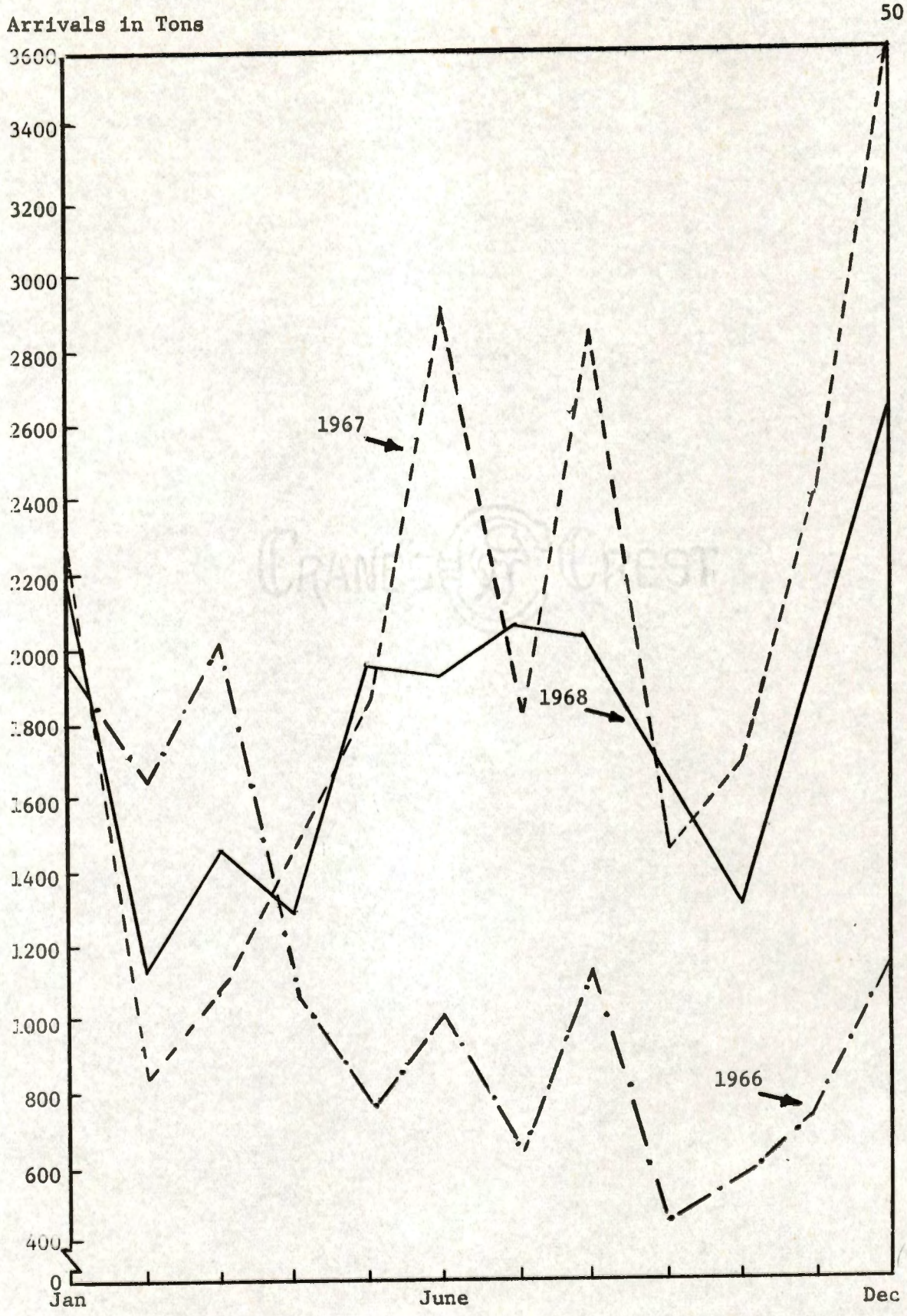


Figure 4. Monthly arrivals of jowar at regulated markets in Dharwar district, Mysore State, 1966-1968.

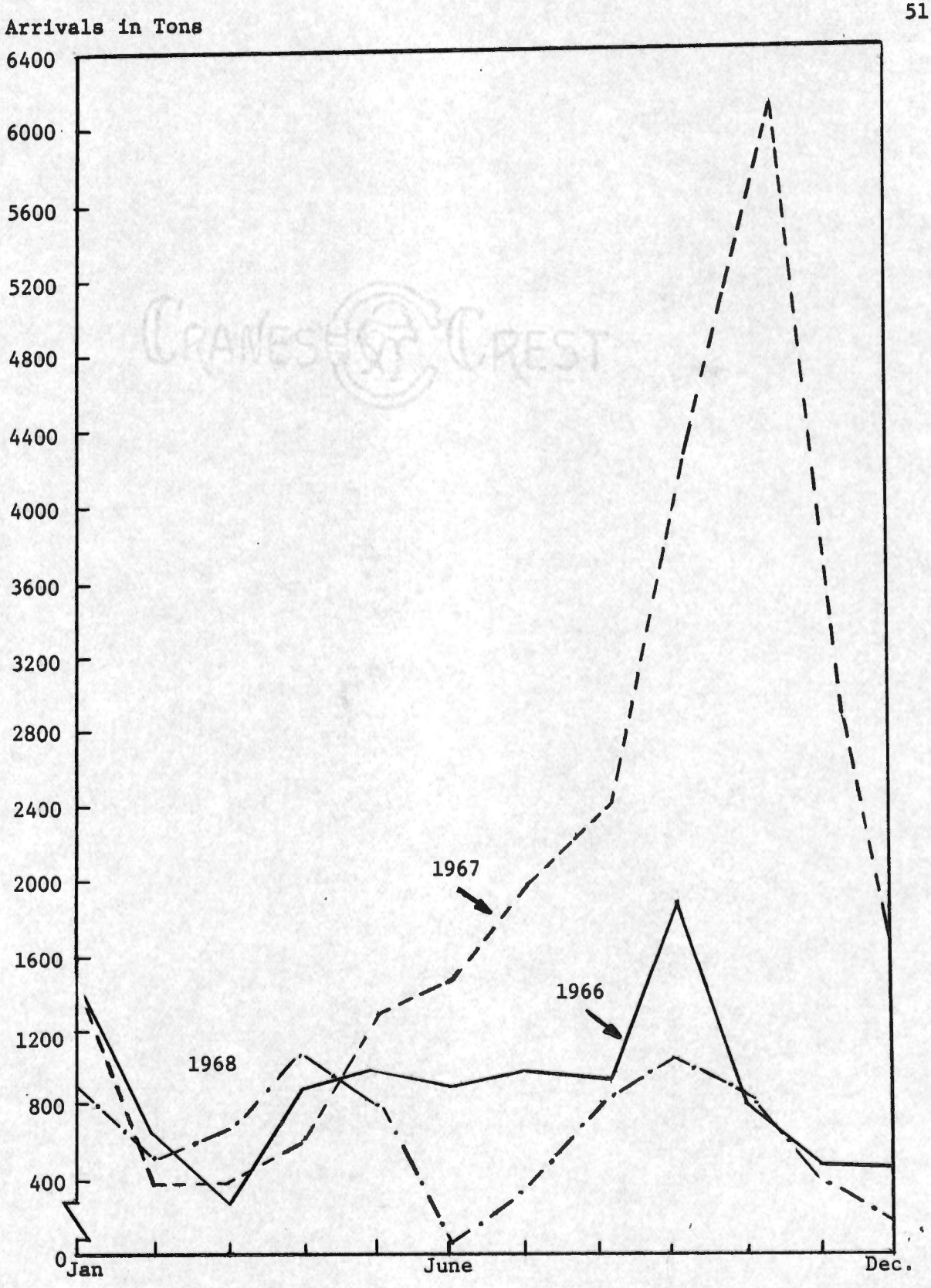
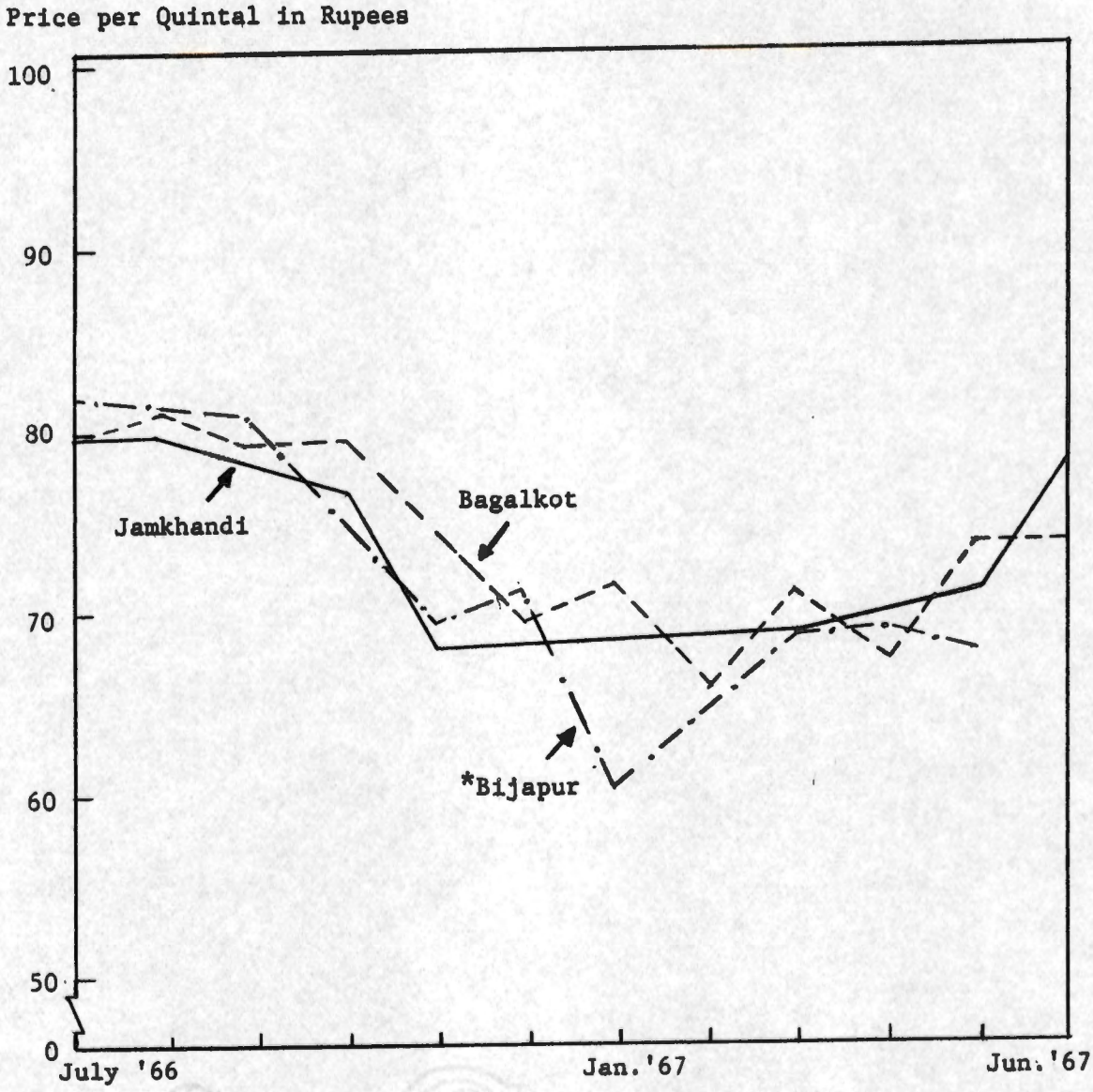
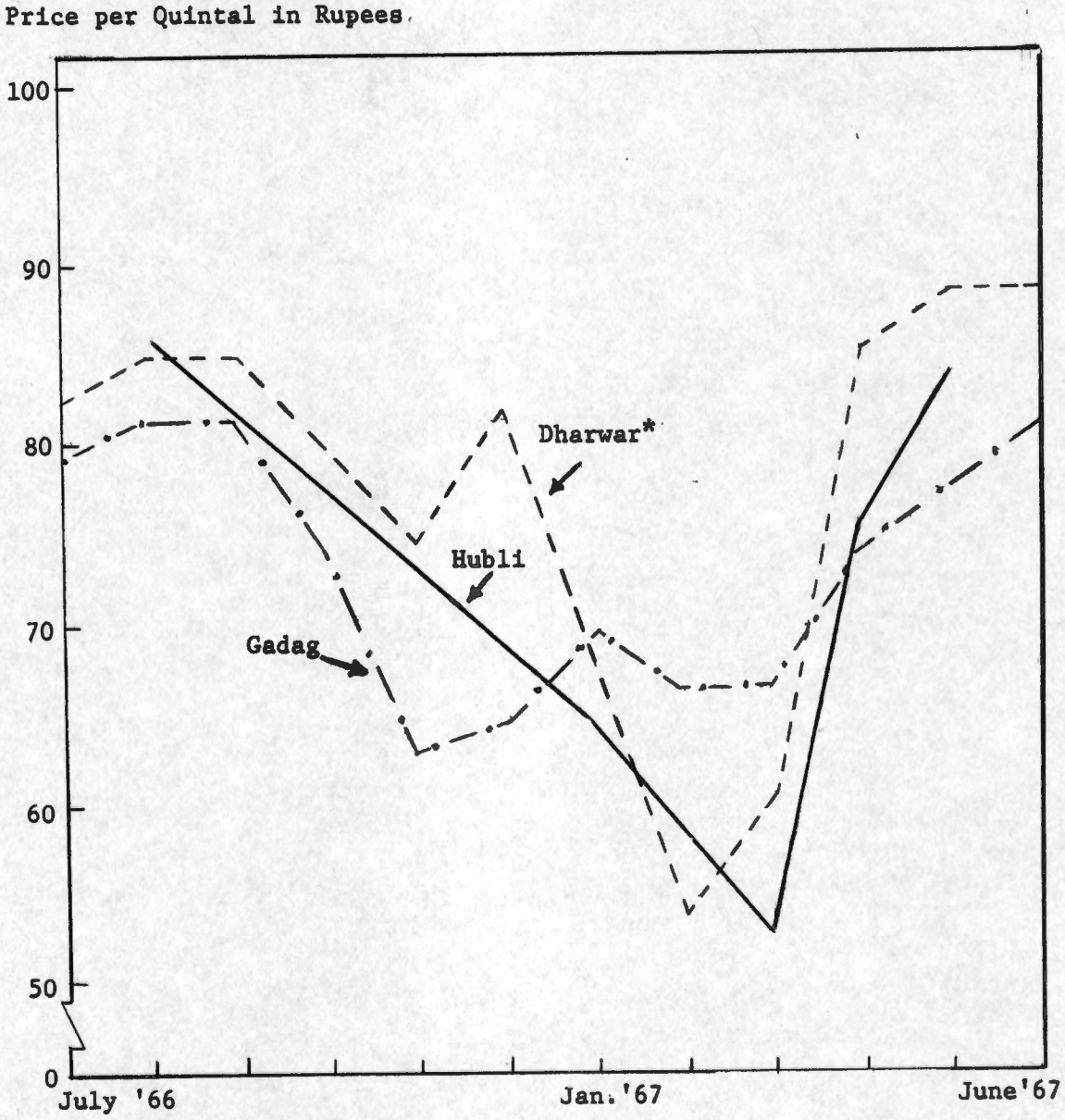


Figure 5. Monthly arrivals of jowar at regulated markets in Mysore district, Mysore State, 1966-1968.



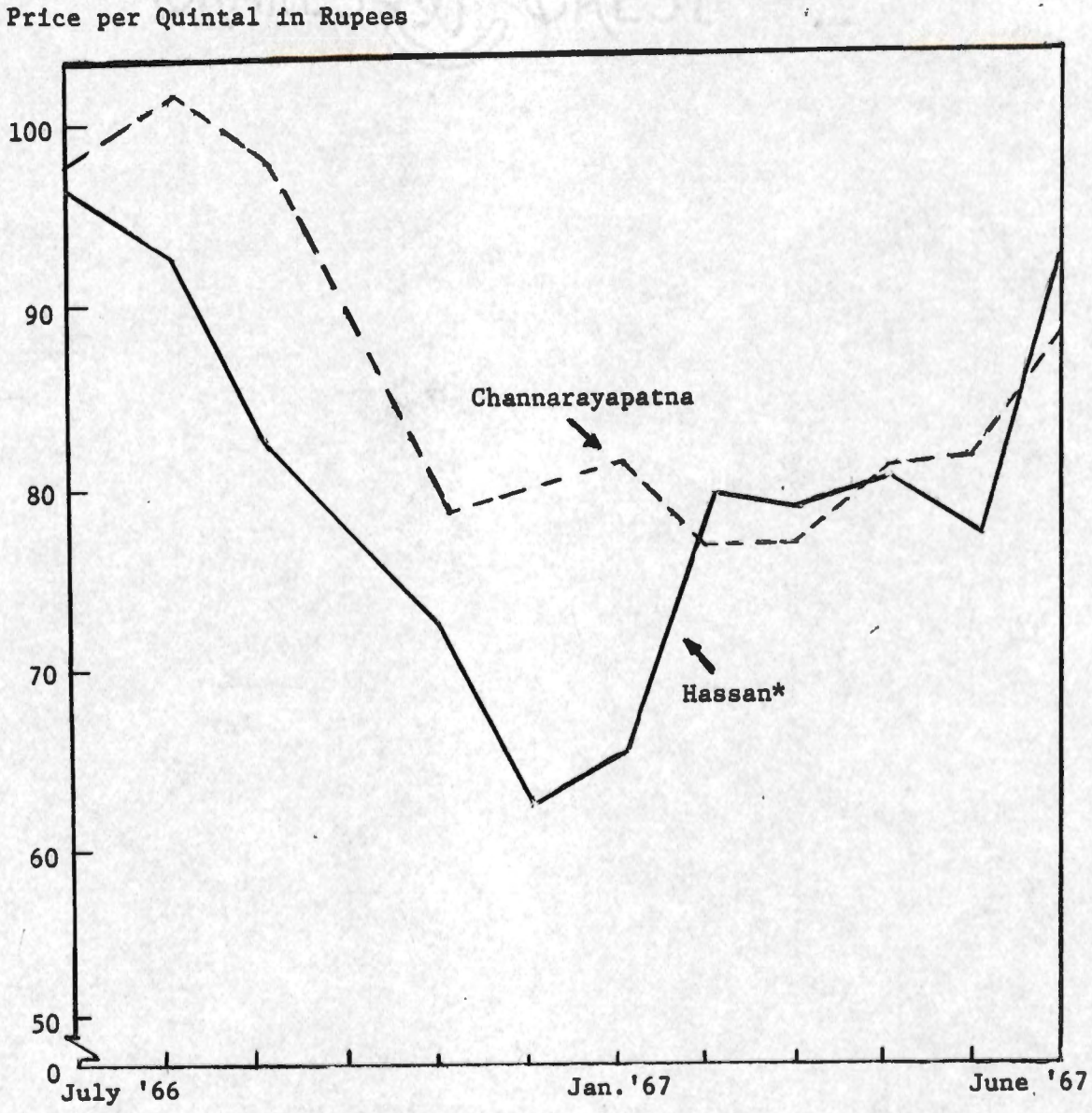
*Approximate transfer cost per quintal between Bijapur and Bagalkot equals Rs. 2 = 47 and between Bijapur and Jamkhandi equals Rs. 2 = 00.

Figure 6. Price of jowar at regulated markets in Bijapur, Bagalkot and Jamkhandi, Mysore State, 1966-1967.



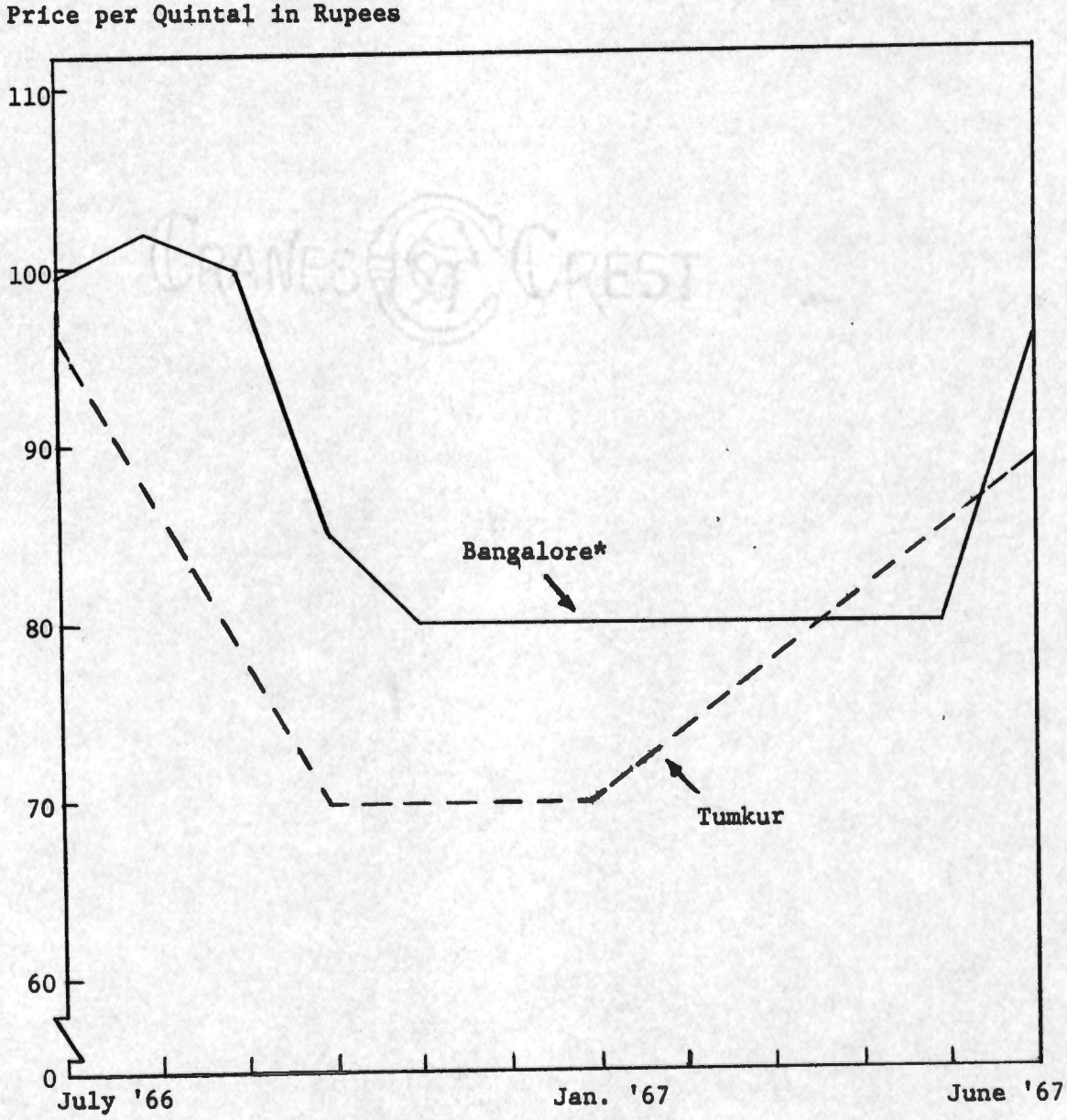
*Approximate transfer cost per quintal between Hubli and Gadag equals Rs. 1 = 85 and between Hubli and Dharwar equals Rs. 0 = 70.

Figure 7. Price of jowar at regulated markets in Dharwar, Gadag, and Hubli, Mysore State, 1966-1967.



*Approximate transfer cost per quintal between Hassan and Channaryapatna equals Rs. 1 = 63.

Figure 8. Price of ragi at regulated markets in Hassan and Channarayapatna, Mysore State, 1966-1967.



*Approximate transfer cost per quintal between Bangalore and Tumkur equals Rs. 2 = 07.

Figure 9. Price of ragi at Bangalore and Tumkur regulated markets, 1966-1967.

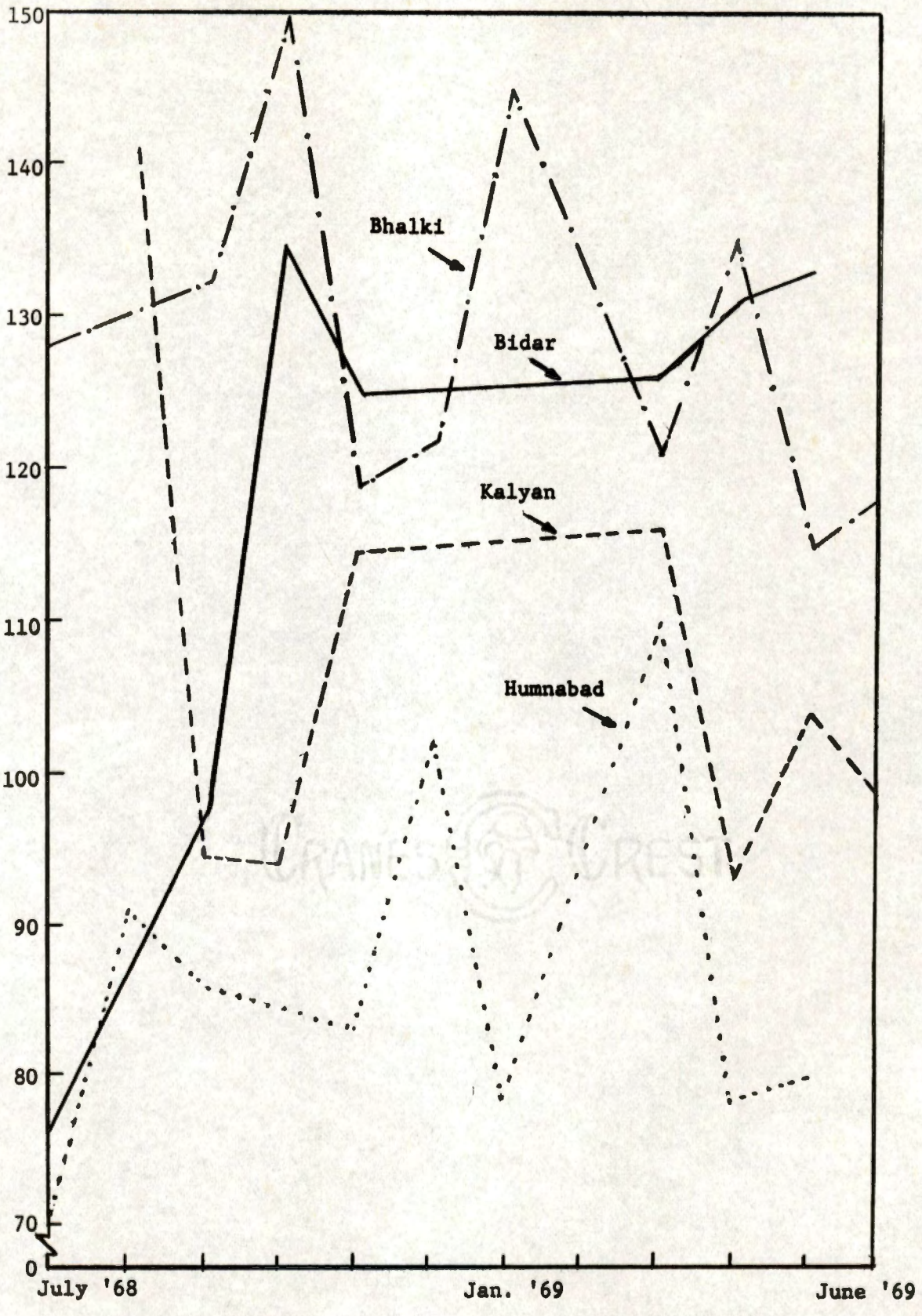


Figure 10. Price of wheat at regulated markets in Bidar district, Mysore State, 1968-1969.

III. LOCATION OF A REGULATED MARKET

To determine the best location of a market in any region is a complex problem. It involves a detailed study of factors, such as the area under cultivation, area under irrigation, rural population, marketable surplus available, quantity of each commodity sold in previous years, and an estimate of the future quantity to be sold. The practical availability of a site in any area should be equated to road and rail traffic arteries which move the commodities into and out of each town from the surrounding areas and the distribution center. Market areas should not be the result of any kind of natural or political inequalities but should arise through the interplay of economic forces, some working toward concentration and others toward dispersion. At present, most of the markets are located in district and taluka headquarters since these political subdivisions have some minimum transportation facilities to move the commodities.

In recent years there has been a tendency to increase the number of regulated markets in each district merely to fulfill the objective of locating a market in an area with a ten-mile radius. The basis for this is that the individual producer for the most part has to transport the commodities to market by bullock carts and that the individual producer likes to dispose of his goods as quickly as possible because of a lack of storage facilities and his indebtedness. This argument appears sound, but a mere increase in the number of markets with exclusive territories, without any clear evidence of substantial increase in the quantities of marketable surplus of grains available in the area, means that the

number of sellers and buyers could be limited and the local market structure may depart from perfect market conditions. In addition, a limited number of buyers at every location results in duplication of many marketing functions and high operational costs for traders.

Since the objective of the policy makers is to ensure that prices paid to producers at a local market are related to prices paid by ultimate consumers through space, form and time, a regulated market should operate as close to perfect market conditions as possible. When public funds are utilized to set up a regulated market, it should be as self-supporting as possible. If public funds are used to meet even the operational costs of markets year after year, it would be a drain on the State's economy. Secondly, the funds spent for this purpose would not benefit the producers in terms of getting a higher price for his product. The major source of income for a market is market fees, followed closely by license fees and ground rents. Consequently, the volume of trading in any region in previous years should be one of the criterion for locating a new market.

On a detailed examination of the volume of trading in 19 agricultural commodities during the years 1966-69 as published in the monthly reports of the marketing department, it was noticed that the volume of trading exceeded 100,000 quintals per year only in markets located at Bangalore, Belgaum, Gokak, Bellary, Bidar, Bhalki, Bijapur, Bagalkot, Challakere, Davanagere, Dharwar, Hubli, Ron, Ranebennur, Gulbarga, Hassan, Chintamani, Nanjangud, Mysore, Mandya, Raichur, Gangavathi, Shimoga and Tumkur. The volume of trading was between

50,000 and 100,000 quintals per year in markets located at Nandgad, Bailhongal, Ramdurg, Hospet, Sirguppa, Tarikere, Hiriyur, Laxmeshwar, Byadagi, Chamarajanagar, Koppal and Madhugiri. This shows that the 25 markets, where volume of trading exceeds 100,000 quintals, are making profit, whereas the remaining 12 markets may be either self-supporting or incurring some loss. No definite conclusions could be drawn since information on the operating expenses of these markets was not available. On examining the staffing pattern of some markets, it was noticed that there is no uniformity. The present typical staffing pattern in some of the markets is furnished in Table XIII.

Financial Implication of Establishing a Market

A regulated market should have the basic physical facilities and operating personnel to run the market efficiently. The minimum physical facilities required and operating personnel needed to run a market has been outlined in Chapter III. According to the two sets of staffing patterns suggested in Table X, page 38, the minimum cost of maintaining a staff is at least Rs. 40,000 per annum. Assuming that at least Rs. 100,000 is needed to put up the minimum physical facilities, which has to be borrowed from the State fund on an understanding to repay in 15 annual installments, the market authorities have to contribute Rs. 7,000 annually to the State fund. The total expenditure per annum amounts to approximately Rs. 47,000. This implies that a market should have an annual income of at least Rs. 47,000 to be self-supporting. The main source of income of a market is market fees. Market fees at the Davanagere market were 59 percent of the total income in 1968-69 and

TABLE XIII

EXISTING STAFFING PATTERN AT SELECTED REGULATED MARKETS IN MYSORE STATE

Mysore[a] Designation	Range in Grade Pay	Davanagere[b] Designation	Challakere[b] Designation	Chitradurga[b] Designation
Secretary	600-1000	Secretary	Secretary	Secretary
Asst. Secretary	220-440	Asst. Secretary	Accountant	Market Superintendent
Market Superintendent	120-240	Market Superintendent (2)	Market Supervisor	
Accountant	110-220	Auditor		Accountant
Auditor	110-220	Accountant	Clerks (2)	Market Supervisor
Market Supervisors (2)	80-150	Clerks (3)	Typist	
Graders (2)	80-150	Market Supervisors (4)	Menial Staff (7)	Clerks (2)
License Inspectors (4)	80-150	Typist	Driver	Typist
Typist	80-150	Graders (2)		Graders (2)
Clerks	80-150	Auctioneers (15)		Peons (3)
Auctioneers (6)	60-80	Cess Collector		Driver
Peons (12)	50-60	Menial Staff (10)		
		Driver		

[a]Secretary, Agricultural Produce Committee, Mysore, Brief Note on the Working of the Agricultural Produce Market Committee, Mysore, Mysore State, 1970.

[b]District Marketing Officer, Chitradurga, Information in Brief on the Working of Agricultural Produce Market Committee in Chitradurga District, Chitradurga, Mysore State, 1970.

70 percent in 1969-70.[3] The percentage of market fees to total income at the Mysore market was 61 percent in 1967-68 and 50 percent in 1968-69.[4] Based on these relationships, assuming that 60 percent of income is derived from market fees, the volume of trading should be large enough to derive total market fees of approximately Rs. 28,200 per annum. If a market fee of 30 paisa[5] per quintal of produce is collected along with 10 paisa per quintal as grading and weighing charges, then the minimum volume traded should be approximately 70,500 quintals. If the market fees collected are fixed at 50 paisa per Rs. 100 worth of produce traded, along with 10 paisa per quintal as grading and weighing charges, then the minimum volume necessary to be traded depends on the price of the commodities. Since the prices of rice, ragi and jowar are comparatively lower than the prices of pulses, oilseeds, and red pepper, the markets dealing mostly in cereals and millets should trade in larger quantities than those markets dealing in pulses and oilseeds. Considering the average prices prevailing in the markets during the last three years, an approximate minimum estimate would be 56,250 quintals of cereals and millets or about 33,000 quintals of pulses and oilseeds. The present rate of 30 paisa per Rs. 100 worth of produce collected at the markets

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[3]District Marketing Officer, Information in Brief on the Working of Agricultural Produce Committee in Chitradurga District, Chitradurga, Mysore State, 1970.

[4]Secretary, Agricultural Produce Committee, Brief Note on the Working of the Agricultural Produce Committee, Mysore, Mysore State, 1970.

[5]One rupee equals 100 paisa.

is too low to meet current operating costs. It is reasonable to collect a market fee of 50 paisa per Rs. 100 worth of produce for the services rendered at a market. Though it is reasonable to state that every regulated market should be as far as possible self-supporting, the State Agricultural Marketing Board could subsidize financially weak markets with the object of providing marketing facilities to farmers in such market areas.

IV. SUGGESTED PATTERN FOR THE LOCATION OF REGULATED MARKETS

Farming by its very nature is carried on a multitude of points in space. In a fertile plain of considerable extent containing a single population cluster at some distant point, cultivation of diverse crops takes place in concentric circles. But in real situations where differences exist in soil, climate, topography and with a finite number of transport routes, there is likely to be serious distortion of these concentric patterns. Most markets for a particular commodity are served by thousands of individual producers distributed through vast areas of space. The final consumers are dispersed and clustered at many points. As the price at the farm is represented by the market price less the appropriate transfer cost, the location of a market at any particular site in any region is likely to be advantageous to some producers. But as the market town develops, this initial advantage is bound to be offset by a higher land rent and higher labor costs in areas close to the market.

To develop a pattern for the location of regulated markets in the State, a comprehensive survey of the area under cultivation, area under

irrigation, rural population, marketable surplus available, size of holdings, and availability of rail and road transportation facilities has to be conducted. As per (1968 year) figures, Bijapur district leads the State with 1,215,776 hectares under cultivation followed closely by Dharwar (1,150,208 hectares), Raichur (1,031,808 hectares), and Gulbarga (1,009,796 hectares). If we consider the quantities of rice, ragi, jowar, and wheat produced in 1968, Dharwar district leads the State (540,502 tons) followed by Bijapur (371,626 tons), Shimoga (289,037 tons), Mysore (229,905 tons), Belgaum (226,630 tons), and Raichur (206,577 tons). If we consider the population density per square mile (1961 figures), North Kanara has the lowest with 173 persons per square mile, followed by Raichur (203), Coorg (203), Gulbarga (223), and Bijapur (253). The areas and the total quantity of commodities produced determine the number of markets in each district. This implies that the districts of Dharwar, Bijapur, Raichur, Belgaum, Mysore, and Shimoga should have more regulated markets.

The areas covered by a market may be visualized as circular, hexagonal, triangular or square in shape. But many economists favor a regular hexagonal type. Losch states:

> . . . that a regular hexagonal shape of a market area is considered superior to a circle, a triangle, and a square, because circles leave empty corners, and the demand per unit of the entire area in the case of regular hexagon exceeds not only that of a square and a triangle, but even that of a circle.[6]

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[6]August Losch, Economics of Location, Yale University Press, New Haven, 1956, p. 112.

When several producers are grouped about a buyer or several buyers about one producer, it is usually spoken of as regions of supply or of demand. Both of these are included under one term--market area. It is in this context Losch states :

> . . . that for every commodity the proposition holds good, that a market area with the form of a regular hexagon and an inner circle of radius, , that is specific for this commodity is necessary and sufficient to make its production possible. The value of depends on one hand on the cost curve and on the other hand upon the demand.[7]

The problem of deciding the value of is a complex one. Some policy makers argue that it should not exceed ten miles in most of the underdeveloped and developing countries due to the lack of all-weather roads and poor modes of transportation. If a distance of 15 miles is considered enough to cover a market area on the basis that it takes about six hours to move the commodities by bullock carts--the common mode of transport in rural parts--as many as 112 regulated markets have to be located in Mysore State. Maps indicating the district-wise break-up of existing markets and areas covered by each market assuming a 15 mile radius, are illustrated in Figures 11 through 28. The 112 markets that could be theoretically located are illustrated in Figures 29 through 47. The location of 112 markets as depicted in Figures 29 through 47 is only a theoretical one since at many central points of the regular hexagon, there are no towns at present and many locations have no connecting roads. In the existing situation, it may not be possible to construct new roads in the rural parts. As a matter-of-fact, a lot

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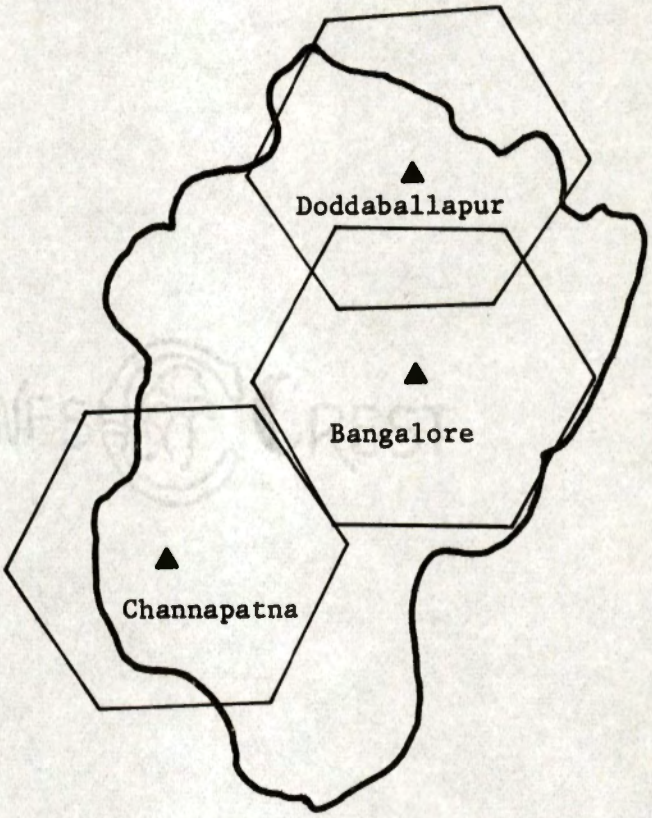
[7] Ibid., p. 119.

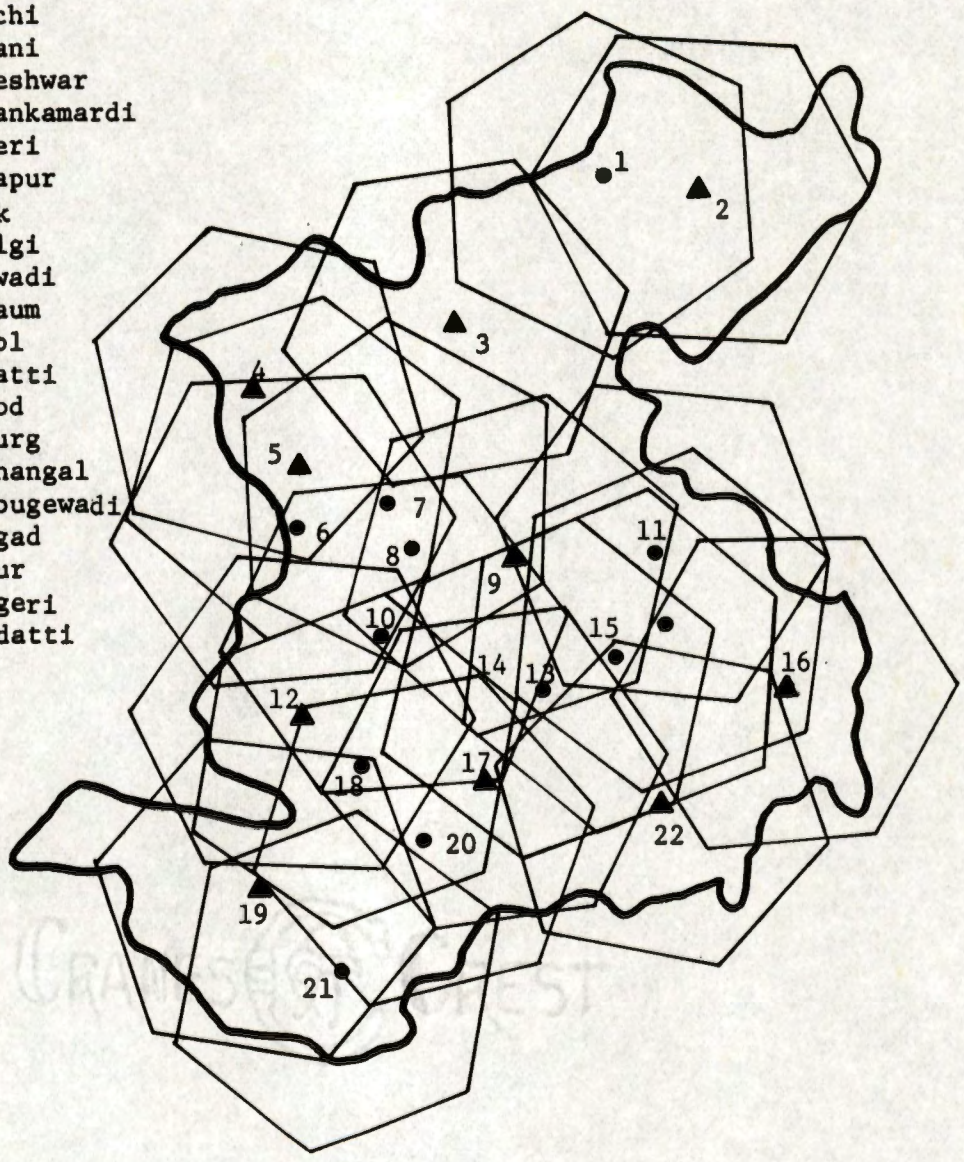


Scale: 1 inch = 20 miles

Figure 11. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Bangalore district, Mysore State, 1971.

LEGEND

1. Kagwad
2. Athani
3. Kudachi
4. Nippani
5. Sankeshwar
6. Yammankamardi
7. Hukkeri
8. Pachapur
9. Yokak
10. Ankalgi
11. Bagewadi
12. Belgaum
13. Katrol
14. Yargatti
15. Murgod
16. Ramdurg
17. Bailhangal
18. Hirebugewadi
19. Nandgad
20. Kittur
21. Harogeri
22. Saundatti

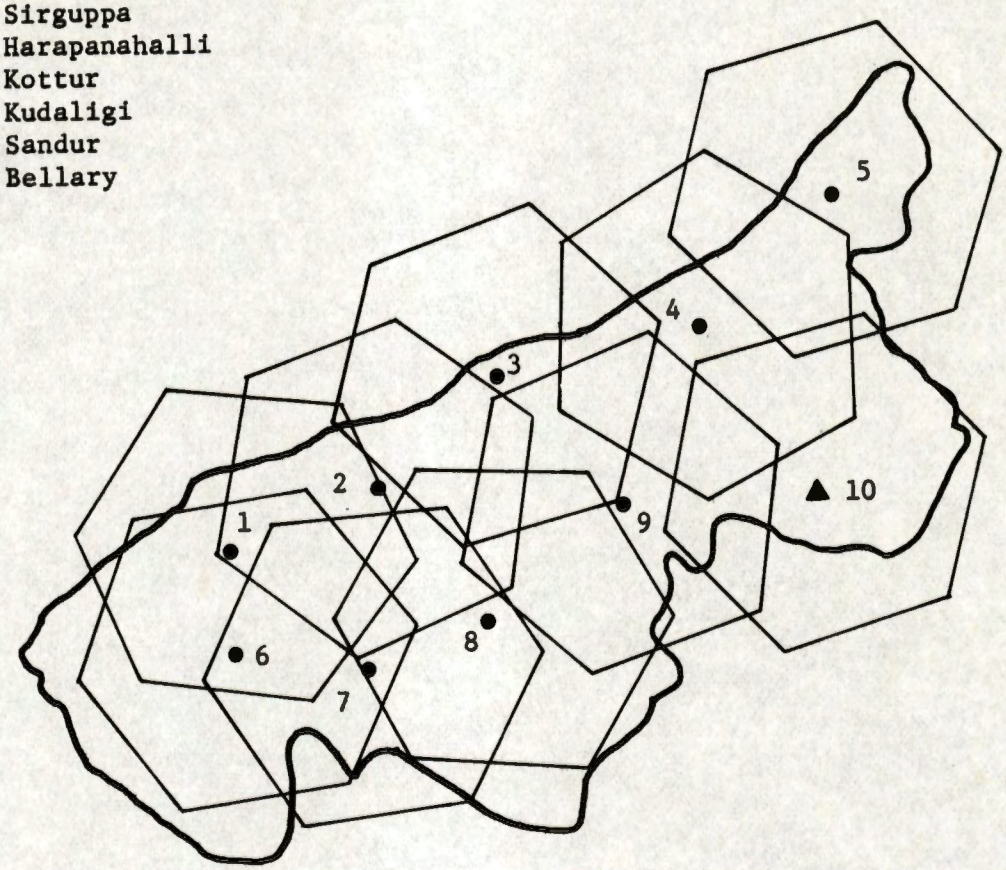


Scale: 1 inch = 20 miles

Figure 12. Location of existing regulated markets and area served by each market, assuming a 15 mile radius, Belgaum district, Mysore State, 1971.

LEGEND

1. Hadagali
2. H. Bommanahalli
3. Hospet
4. Kampli
5. Sirguppa
6. Harapanahalli
7. Kottur
8. Kudaligi
9. Sandur
10. Bellary

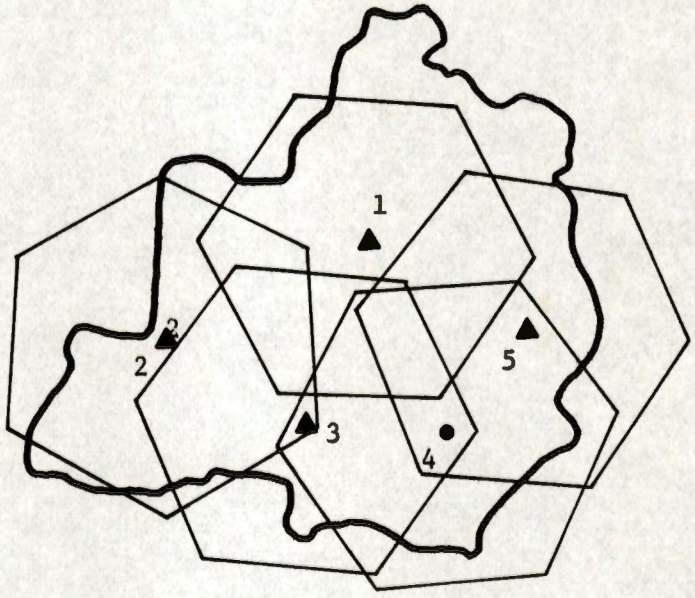


Scale: 1 inch = 20 miles

Figure 13. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Bellary district, Mysore State, 1971.

LEGEND

1. Bhalki
2. Kalyan
3. Humnabad
4. Chitaguppa
5. Bidar

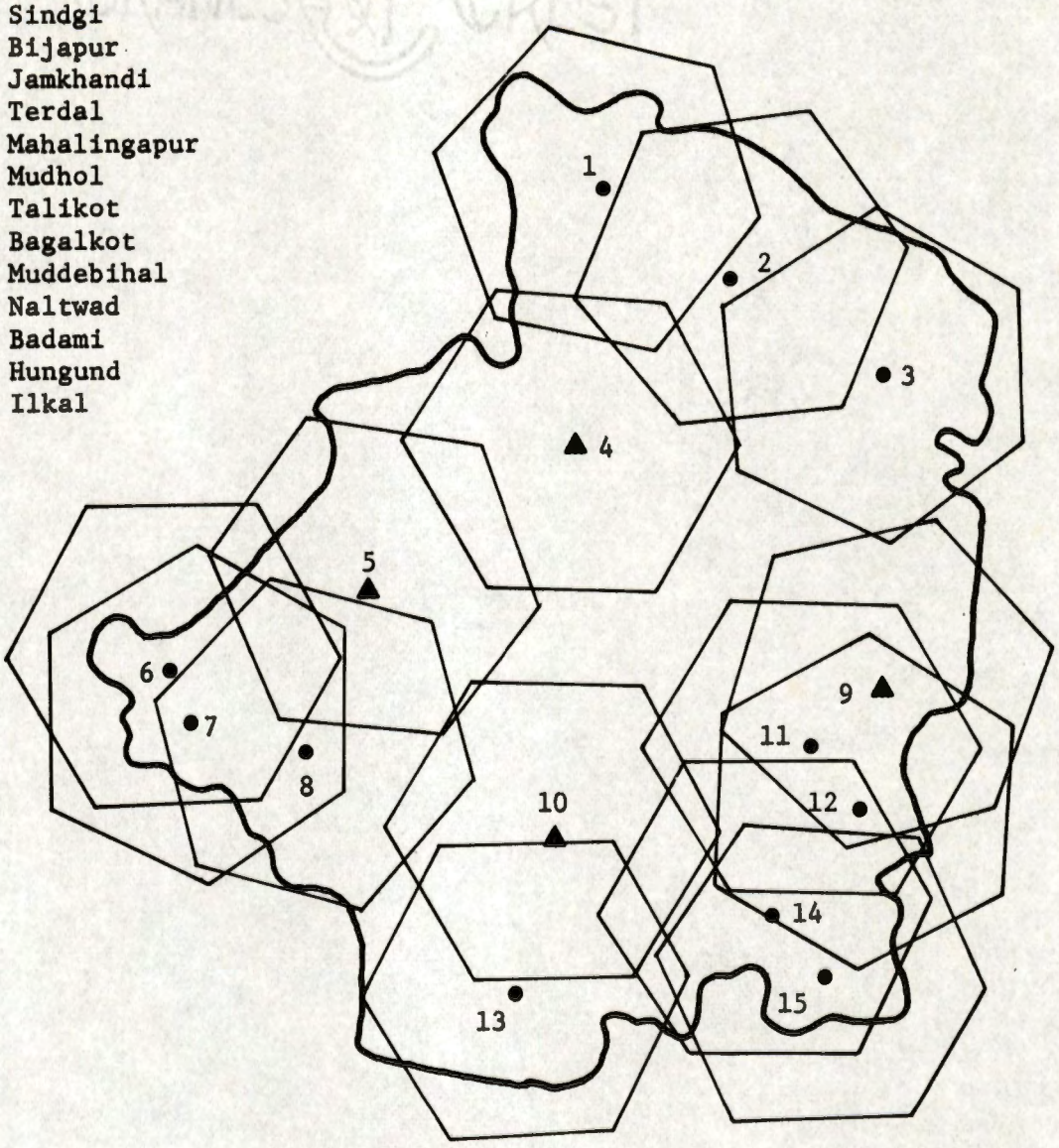


Scale: 1 inch = 20 miles

Figure 14. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Bidar district, Mysore State, 1971.

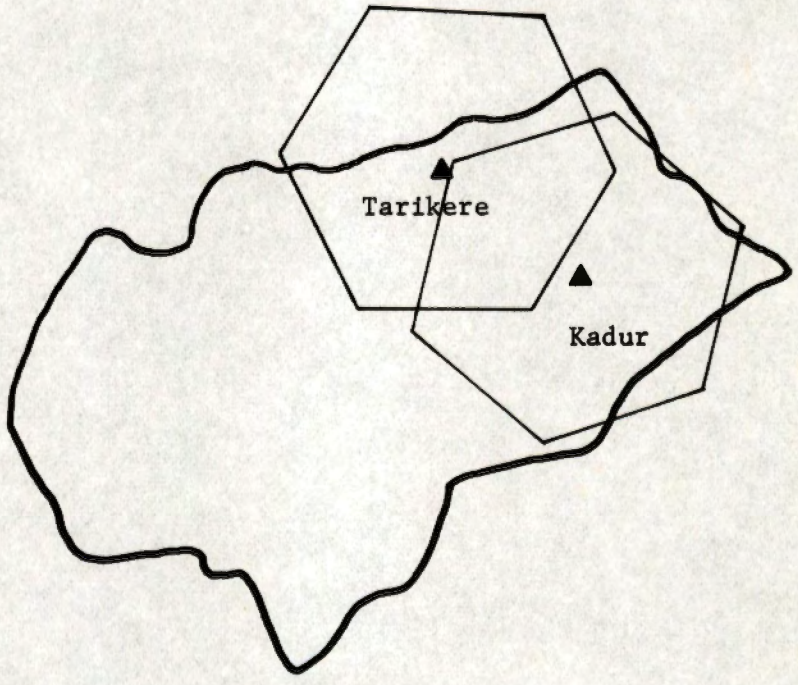
LEGEND

1. Chadachan
2. Indi
3. Sindgi
4. Bijapur
5. Jamkhandi
6. Terdal
7. Mahalingapur
8. Mudhol
9. Talikot
10. Bagalkot
11. Muddebihal
12. Naltwad
13. Badami
14. Hungund
15. Ilkal



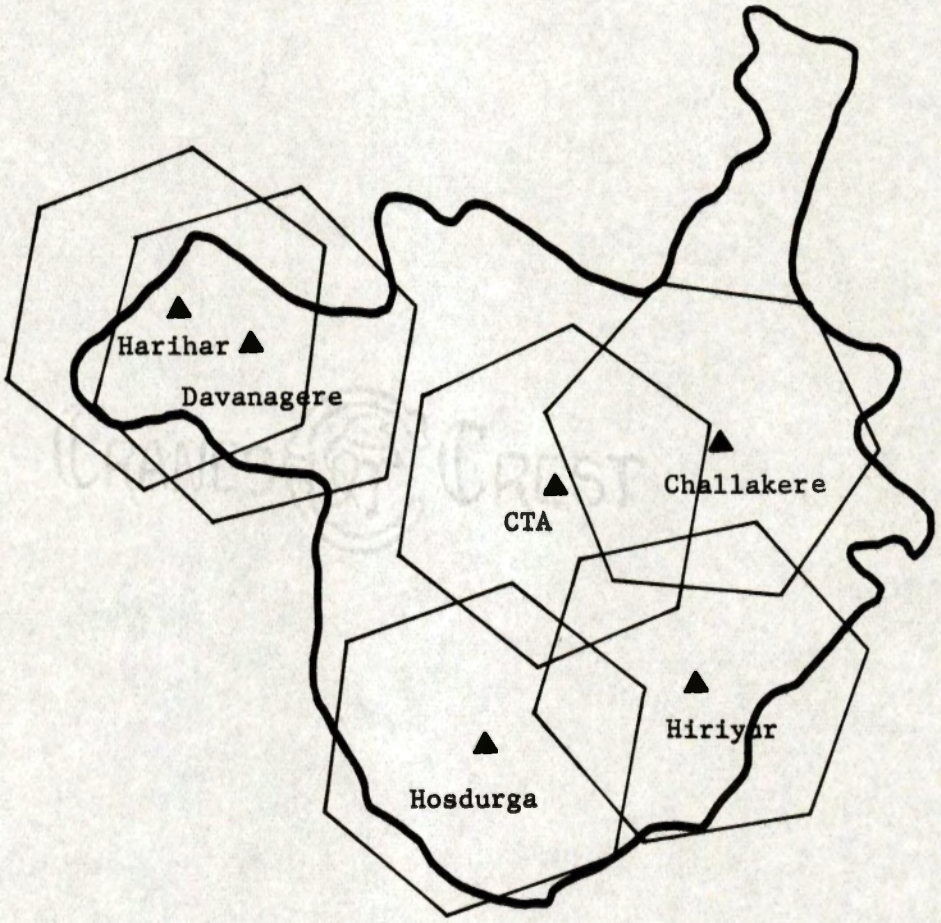
Scale: 1 inch = 20 miles

Figure 15. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Bijapur district, Mysore State, 1971.



Scale: 1 inch = 20 miles

Figure 16. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Chickamagalur district, Mysore State, 1971.



Scale: 1 inch = 20 miles

Figure 17. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Chitradurga district, Mysore State, 1971.

LEGEND

1. Alnavar
2. Dharwar
3. Hubli
4. Sud
5. Ron
6. Nargund
7. Annigere
8. Kalghatgi
9. Naregal
10. Kundgol
11. Gadag
12. Dambal
13. Yalwagi
14. Shigali
15. Savanur
16. Laxmeshwar
17. Sirhatti
18. Shiggali
19. Bellatti
20. Hangal
21. Akkialur
22. Haveri
23. Byadgi
24. Guttal
25. Hansbhavi
26. Ranebennur
27. Hirrekerur
28. Rattihalli
29. Halgeri
30. Mundargi
31. Holealur
32. Gudgeri
33. Hulkoti
34. Mulgund

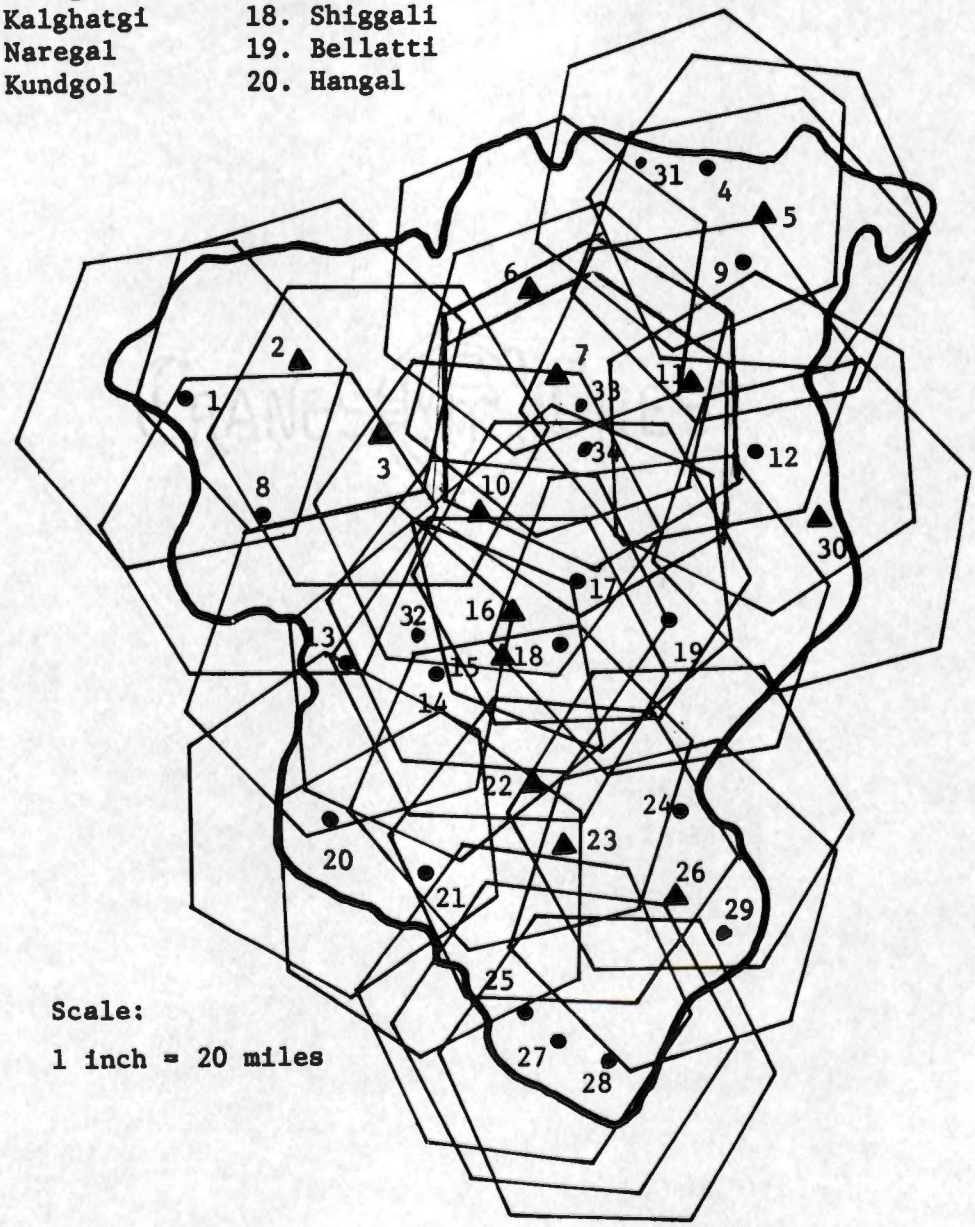
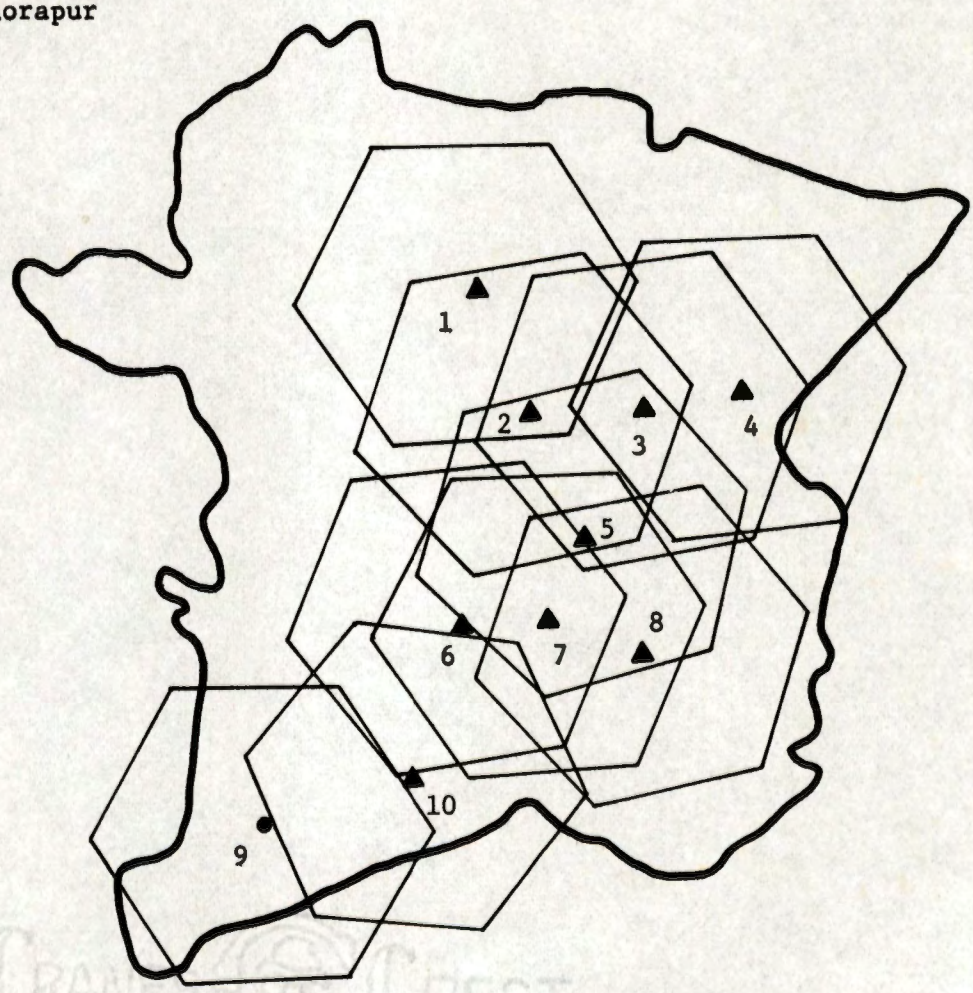


Figure 18. Location of existing regulated markets and area served by each market, assuming a 15 mile radius, Dharwar district, Mysore State, 1971.

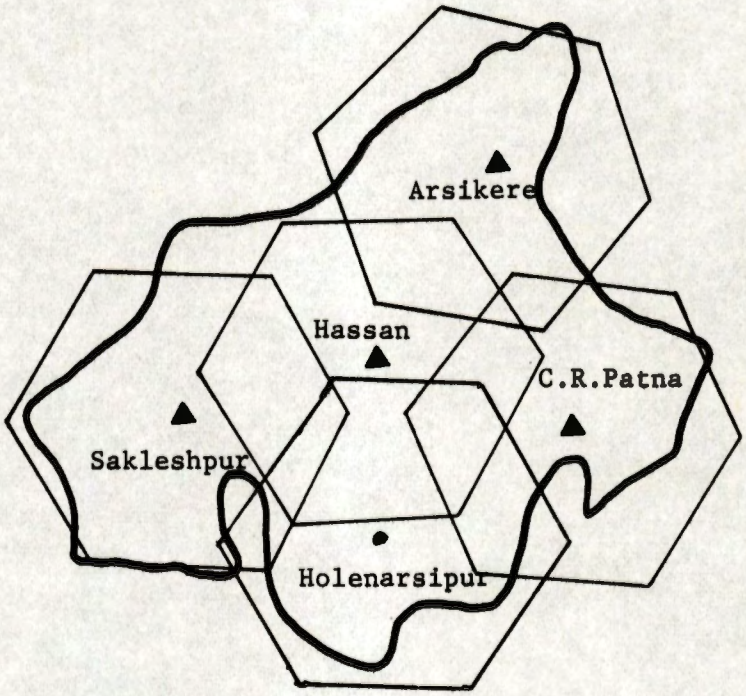
LEGEND

1. Gulbarga
2. Shahabad
3. Chitapur
4. Seram
5. Nalwar
6. Gogi
7. Shahapur
8. Yadgir
9. Rangampet
10. Shorapur



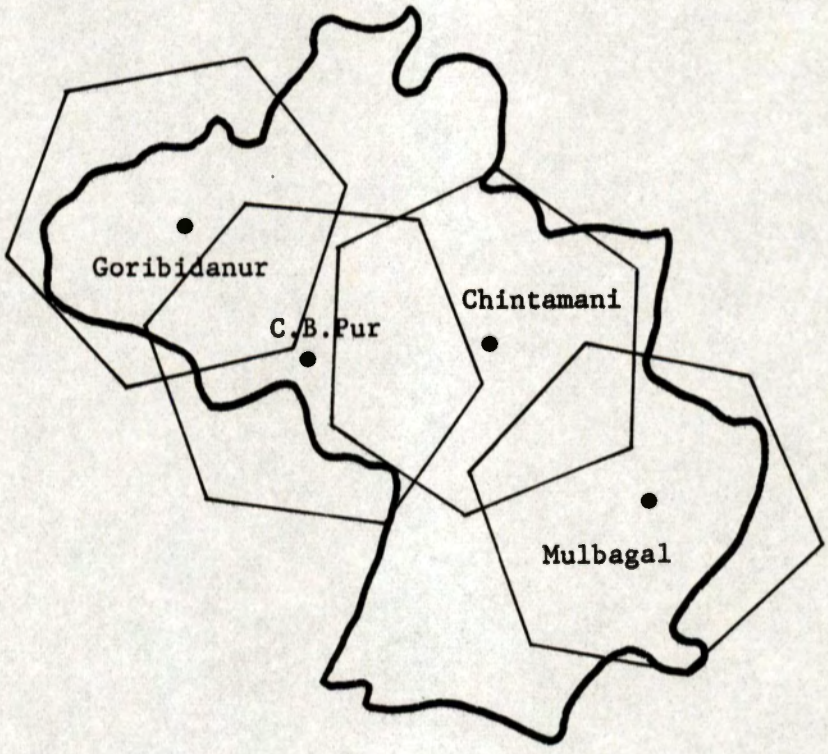
Scale: 1 inch = 20 miles

Figure 19. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Gulbarga district, Mysore State, 1971.



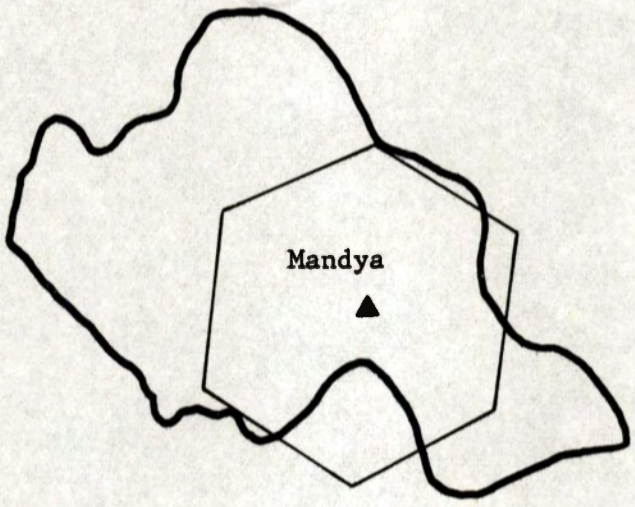
Scale; 1 inch = 20 miles

Figure 20. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Hassan district, Mysore State, 1971.



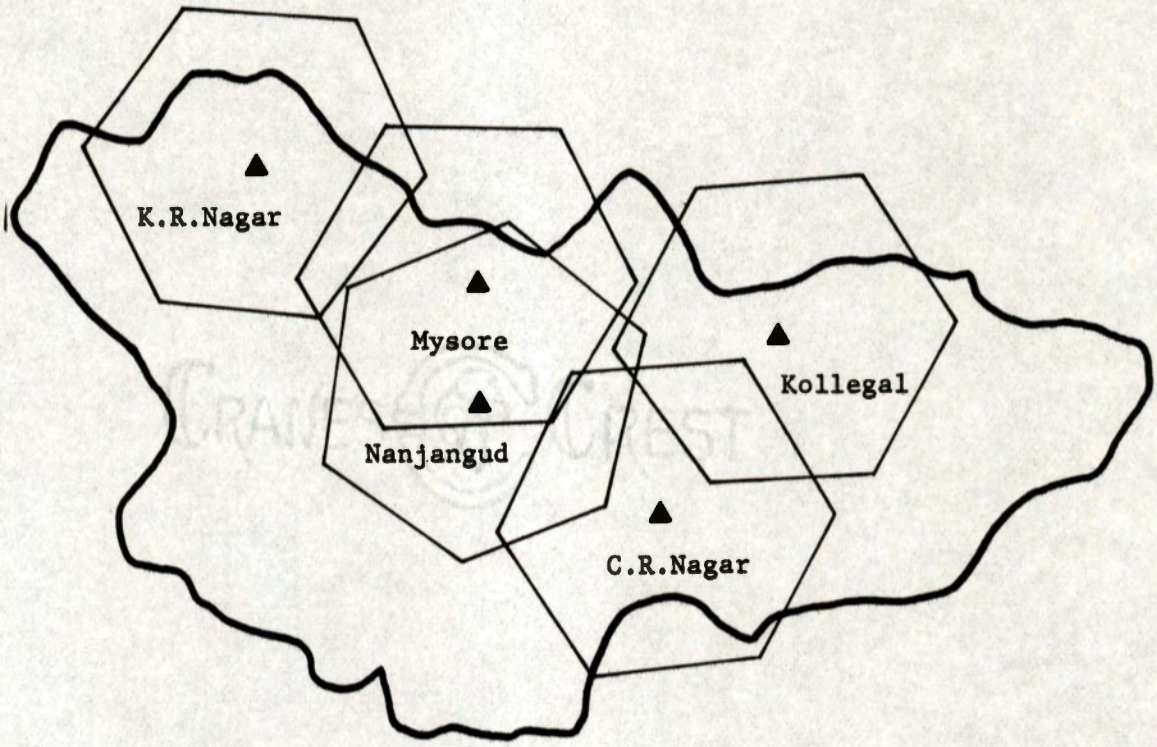
Scale: 1 inch = 20 miles

Figure 21. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Kolar district, Mysore State, 1971.



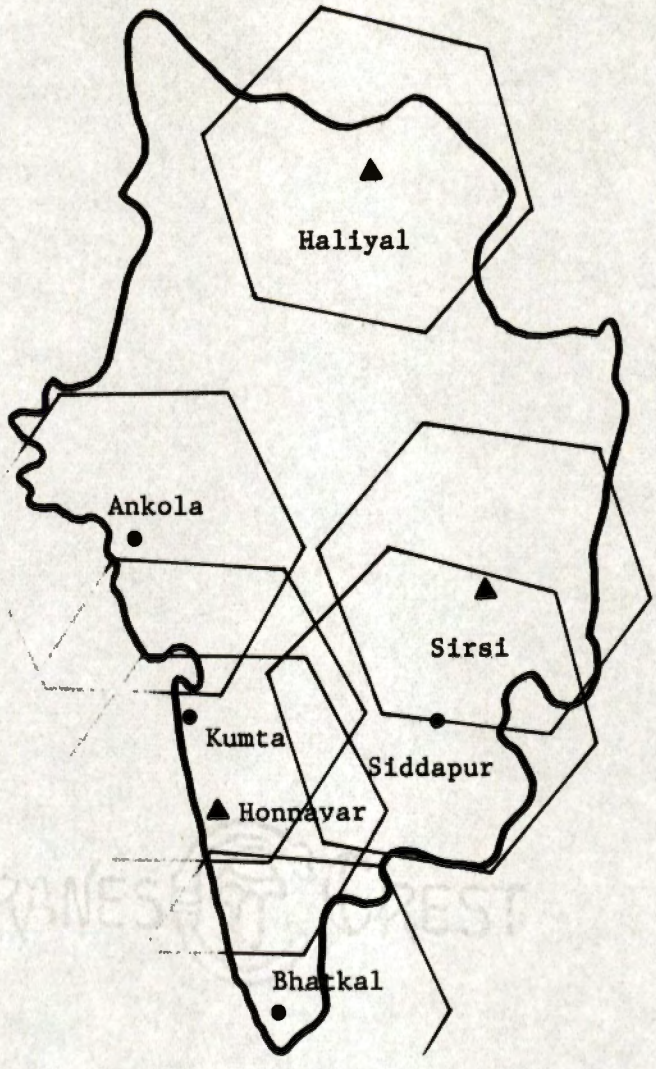
Scale: 1 inch = 20 miles

Figure 22. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Mandya district, Mysore State, 1971.



Scale: 1 inch = 20 miles

Figure 23. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Mysore district, Mysore State, 1971.

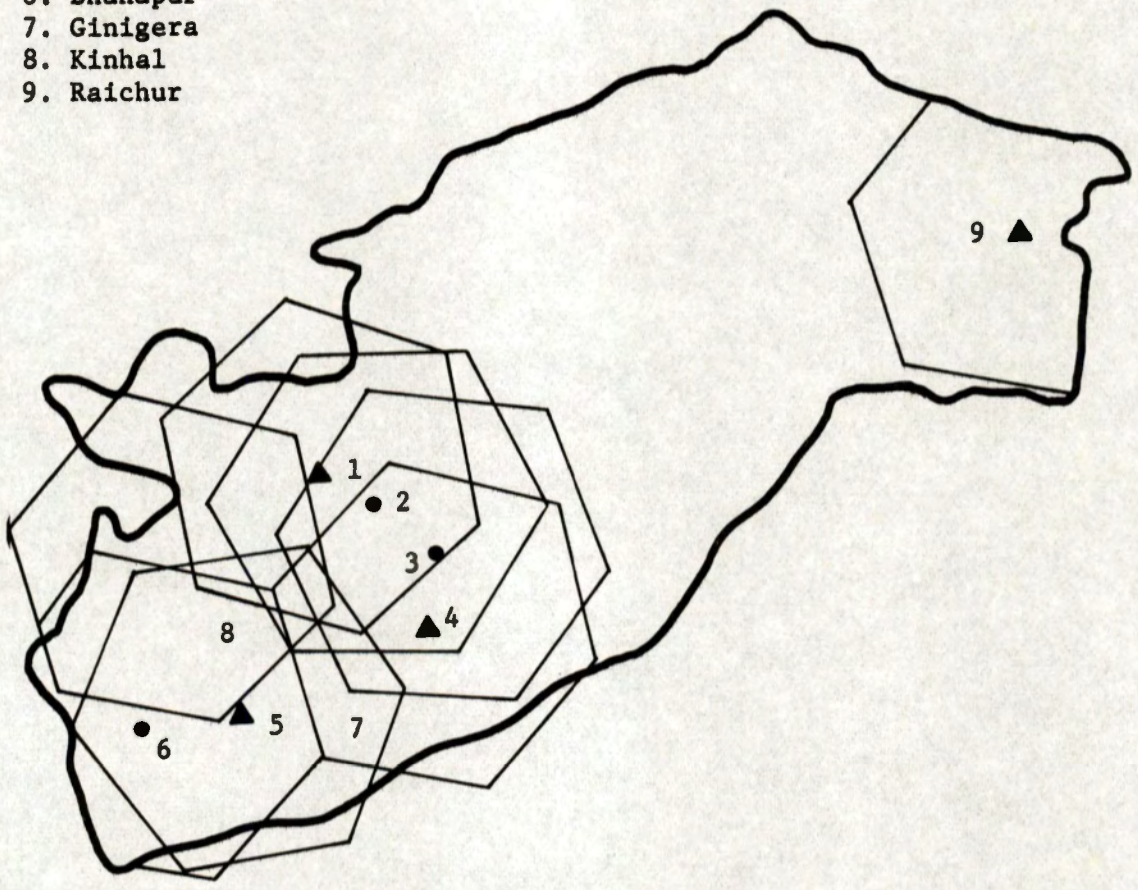


Scale: 1 inch = 20 miles

Figure 24. Location of existing regulated markets and area served by each market assuming a 15 mile radius, North Kanara district, Mysore State, 1971.

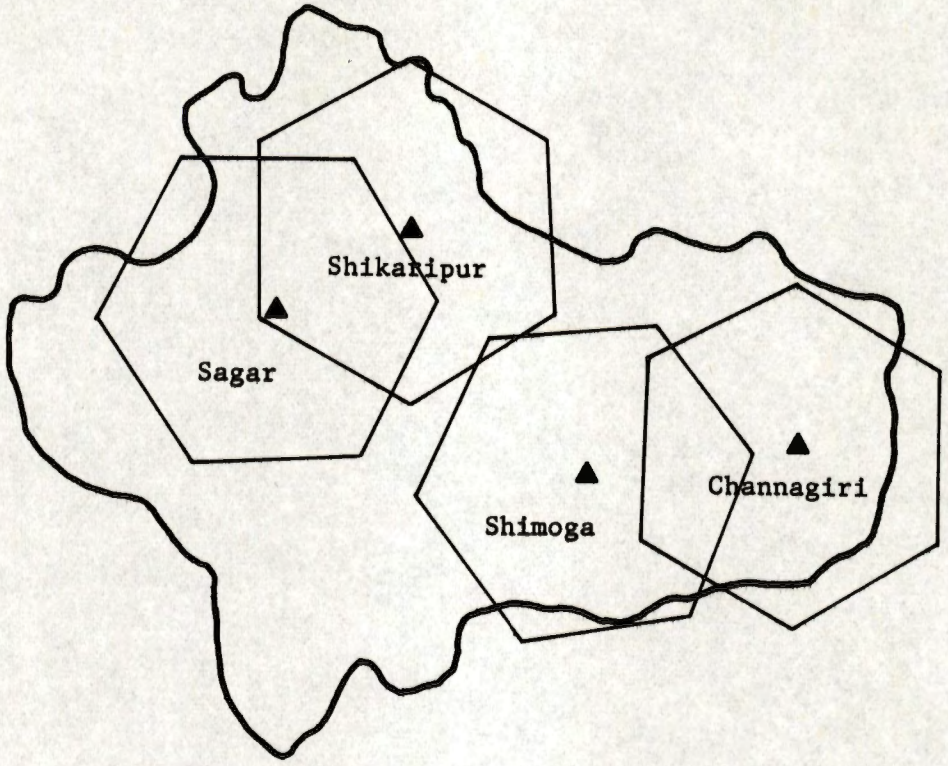
LEGEND

1. Kustagi
2. Bewoor
3. Kankgiri
4. Gangavathi
5. Koppal
6. Bhanapur
7. Ginigera
8. Kinhal
9. Raichur



Scale: 1 inch = 20 miles

Figure 25. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Raichur district, Mysore State, 1971.

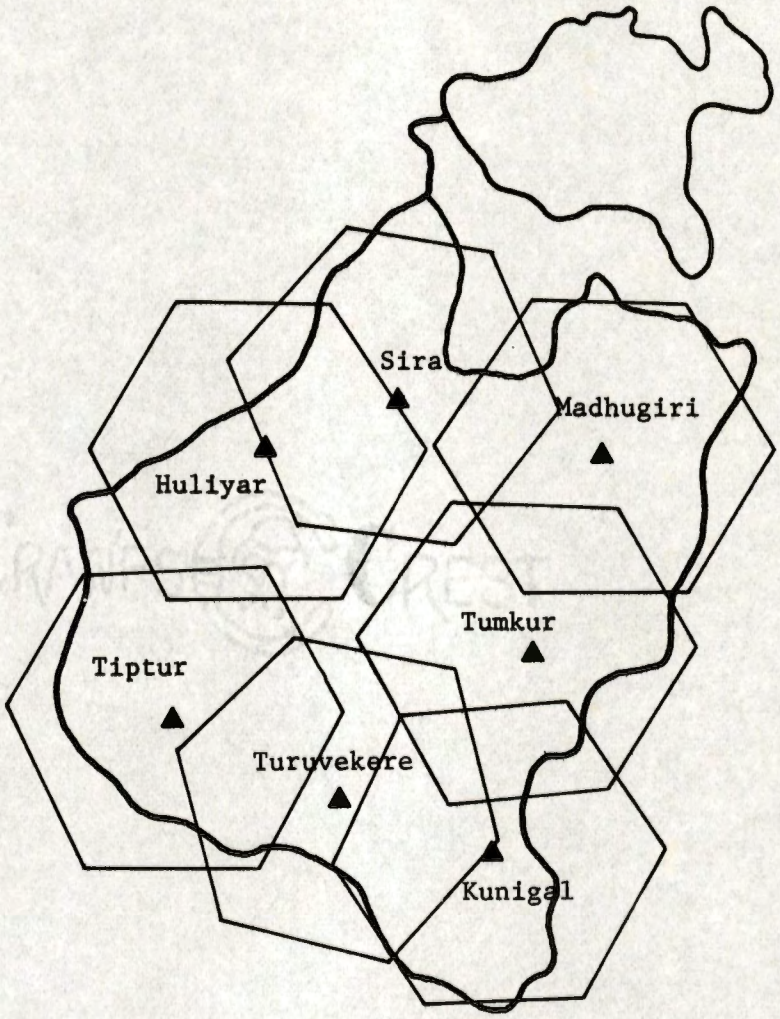


Scale: 1 inch = 20 miles

Figure 26. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Shimoga district, Mysore State, 1971.

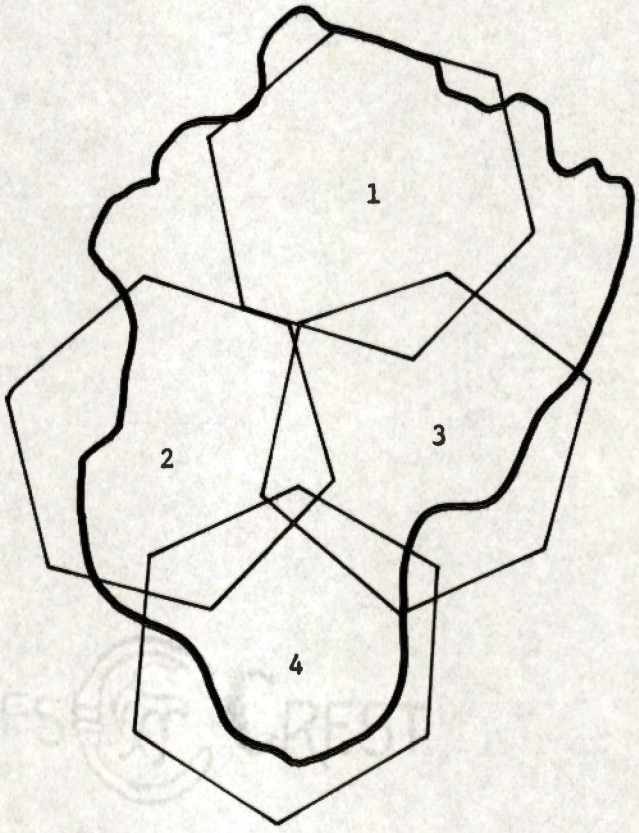
Scale: 1 inch = 20 miles

Figure 27. Location of existing regulated markets and area served by each market assuming a 15 mile radius, South Kanara district, Mysore State, 1971.



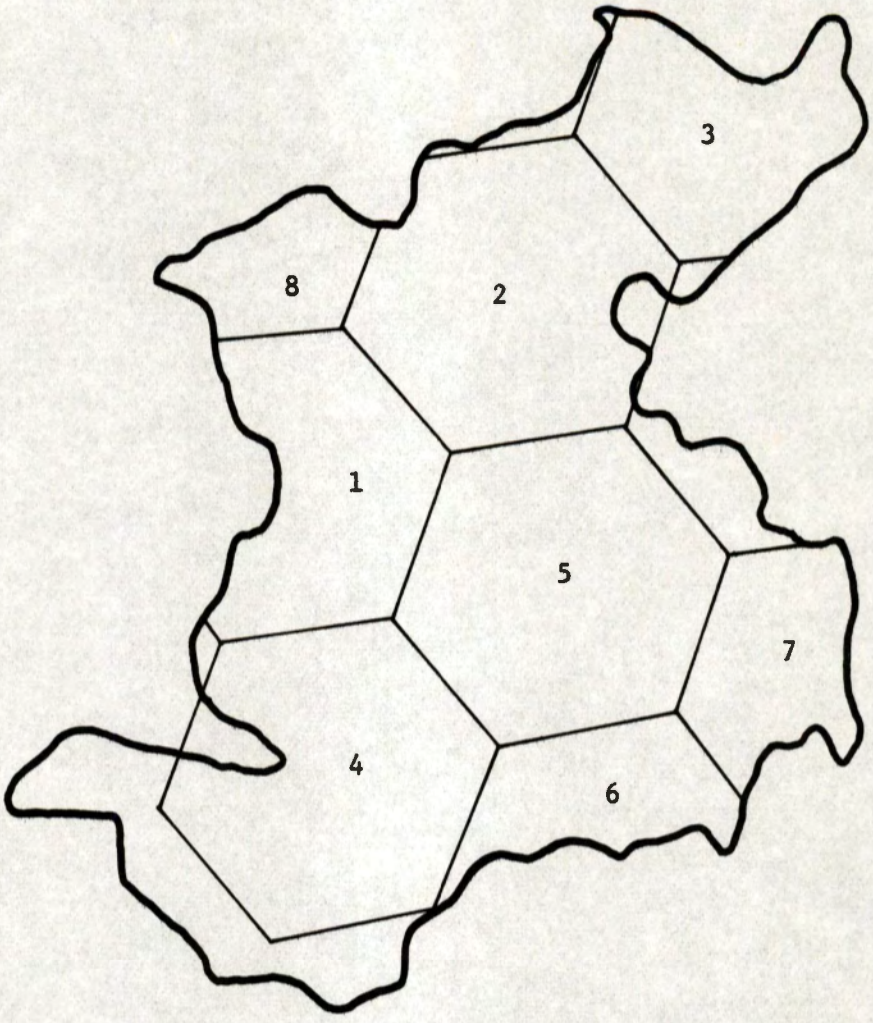
Scale: 1 inch = 20 miles

Figure 28. Location of existing regulated markets and area served by each market assuming a 15 mile radius, Tumkur district, Mysore State, 1971.



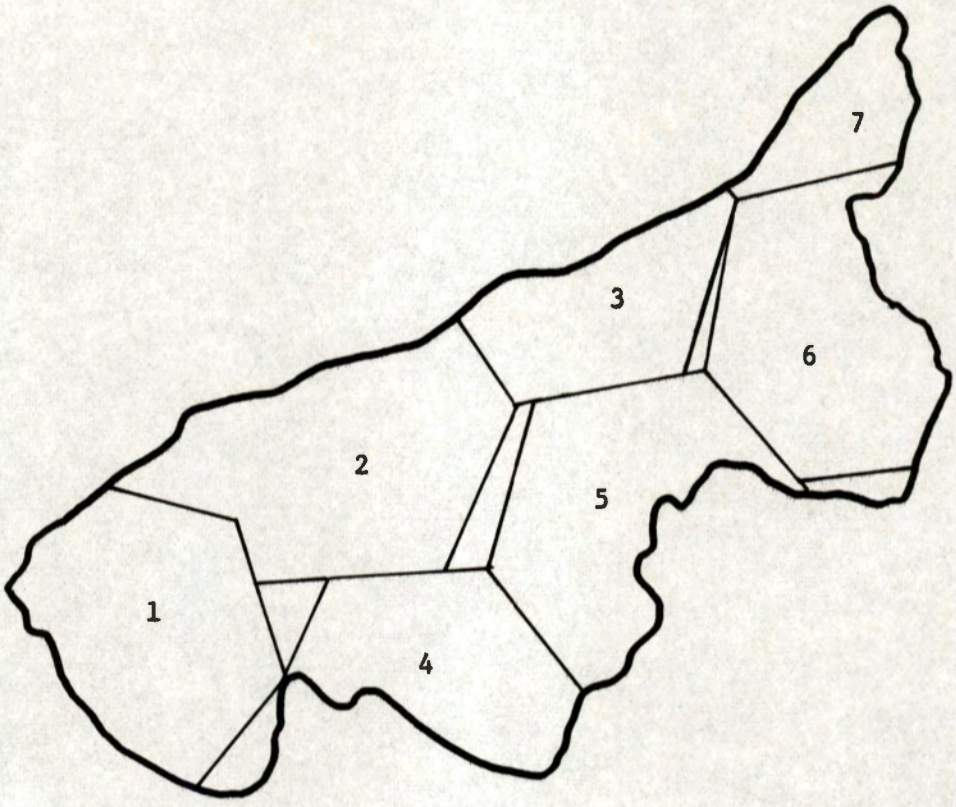
Scale: 1 inch = 20 miles

Figure 29. Theoretical delineation of market areas to serve Bangalore district, Mysore State.



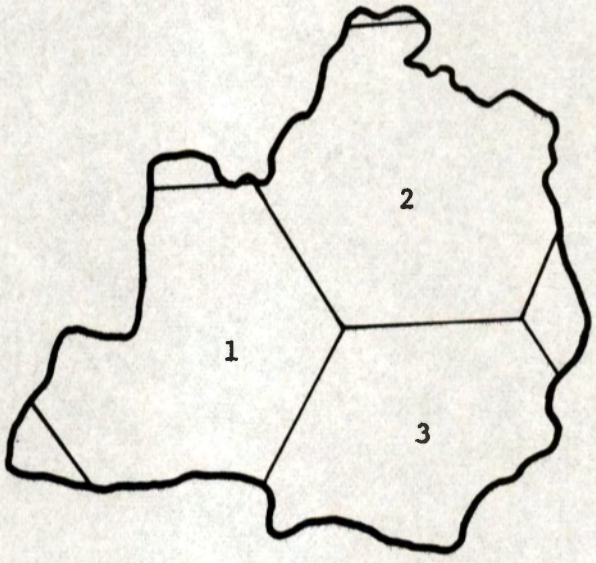
Scale; 1 inch = 20 miles

Figure 30. Theoretical delineation of market areas to serve Belgaum district, Mysore State.



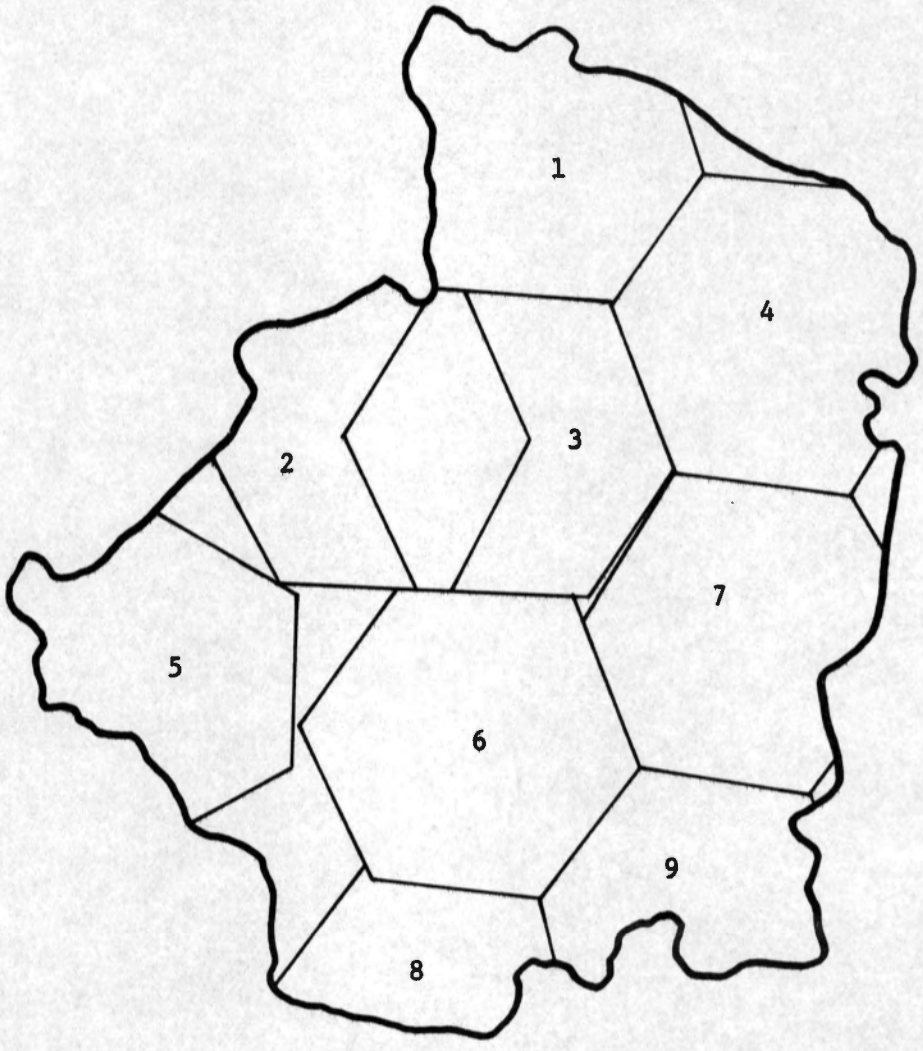
Scale: 1 inch = 20 miles

Figure 31. Theoretical delineation of market areas to serve Bellary district, Mysore State.



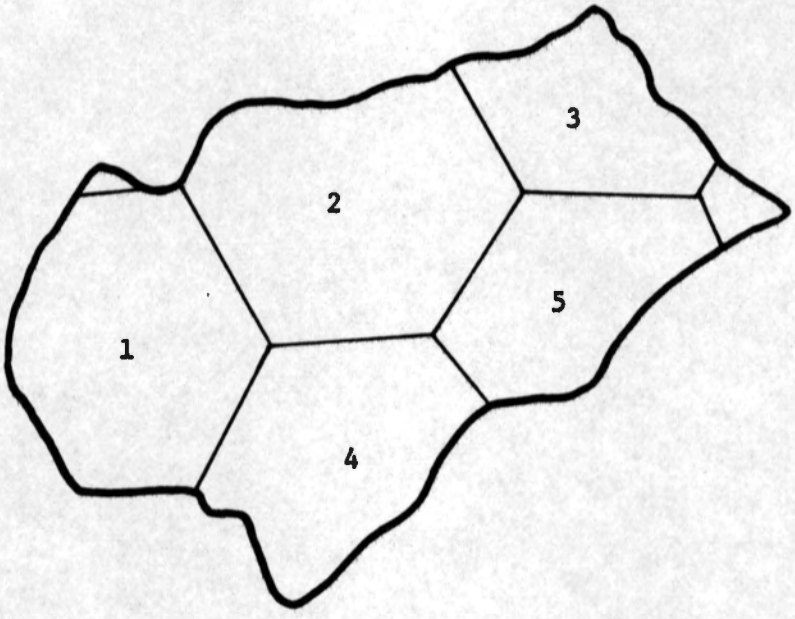
Scale: 1 inch = 20 miles

Figure 32. Theoretical delineation of market areas to serve Bidar district, Mysore State.



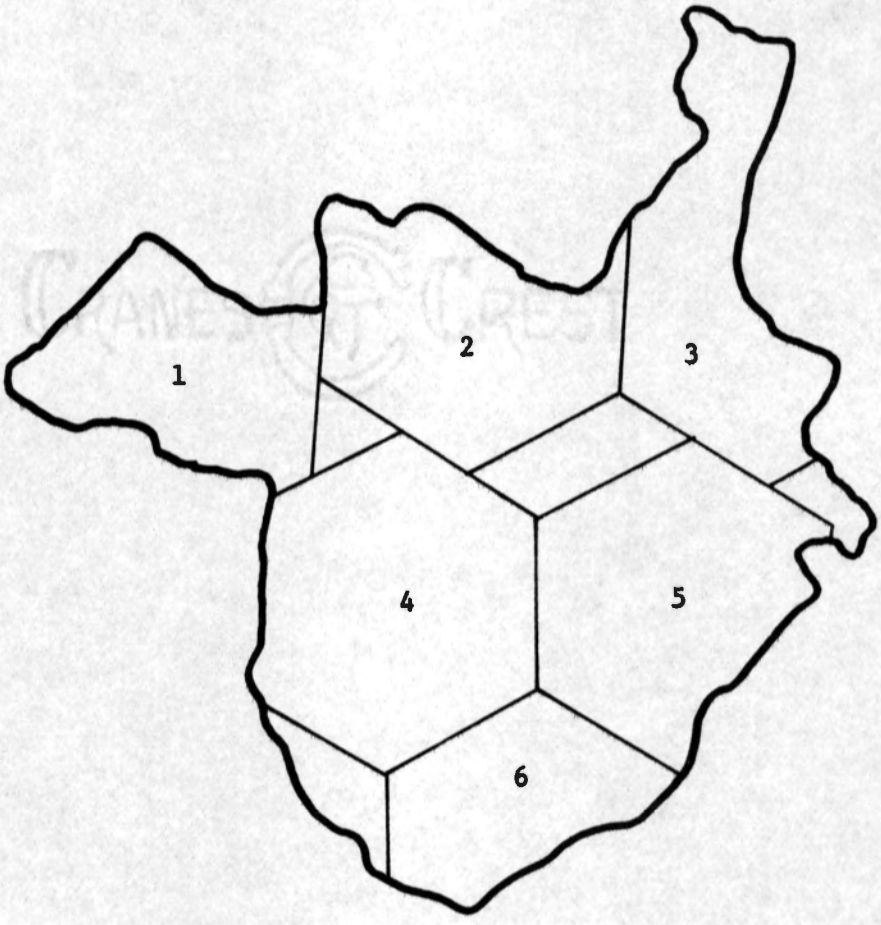
Scale: 1 inch = 20 miles

Figure 33. Theoretical delineation of market areas to serve Bijapur district, Mysore State.



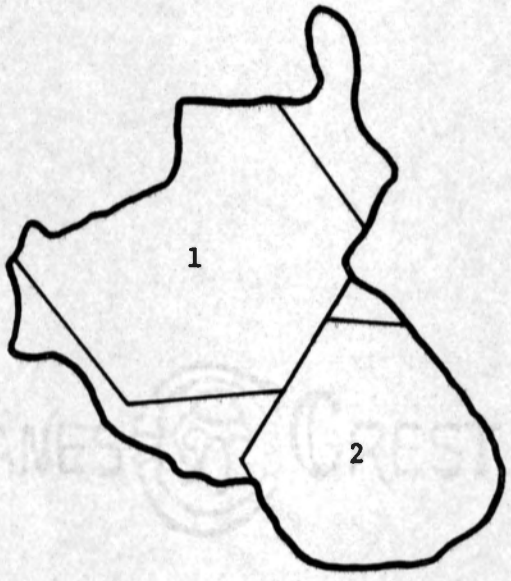
Scale: 1 inch = 20 miles

Figure 34. Theoretical delineation of market areas to serve Chickamagalur district, Mysore State.



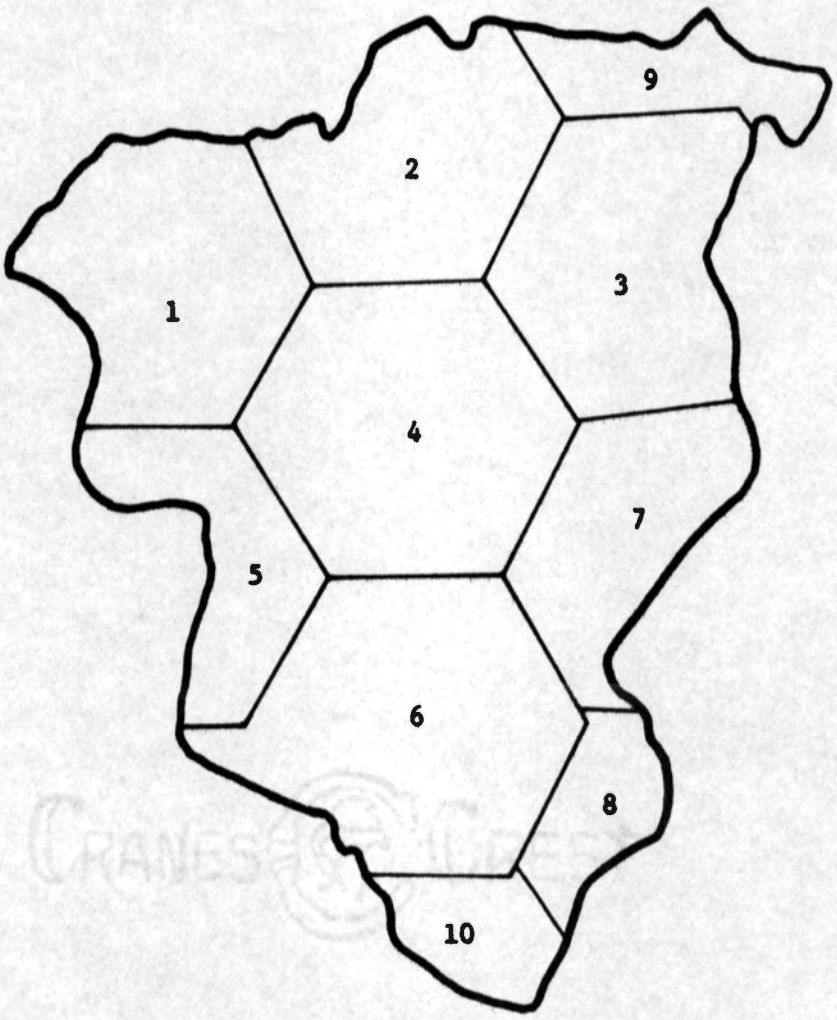
Scale: 1 inch = 20 miles

Figure 35. Theoretical delineation of market areas to serve Chitradurga district, Mysore State.



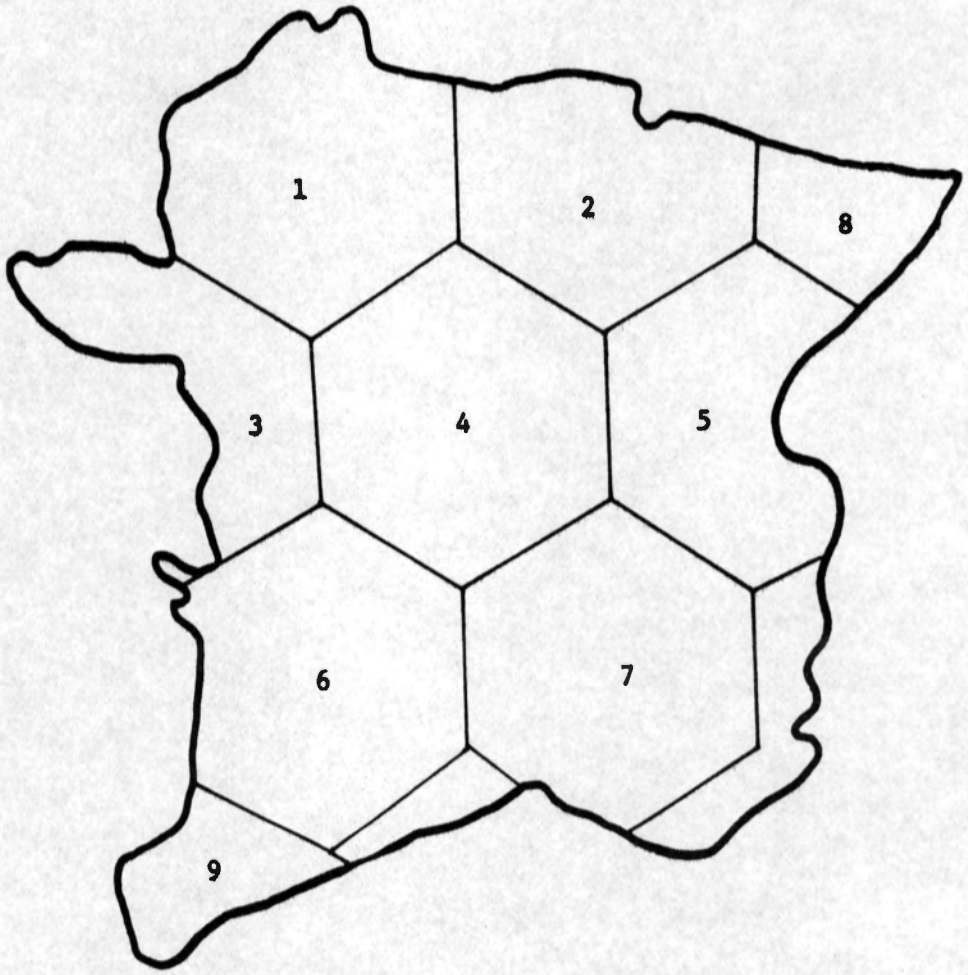
Scale: 1 inch = 20 miles

Figure 36. Theoretical delineation of market areas to serve Coorg district, Mysore State.



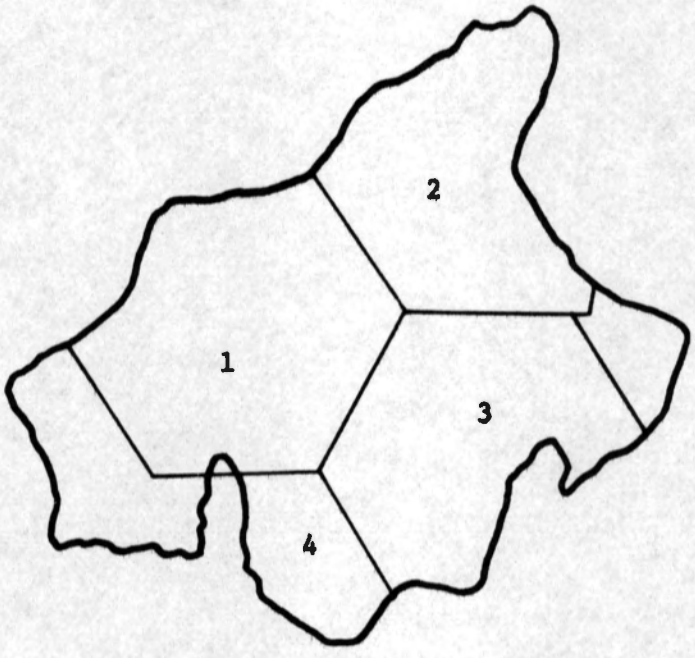
Scale: 1 inch = 20 miles

Figure 37. Theoretical delineation of market areas to serve Dharwar district, Mysore State.



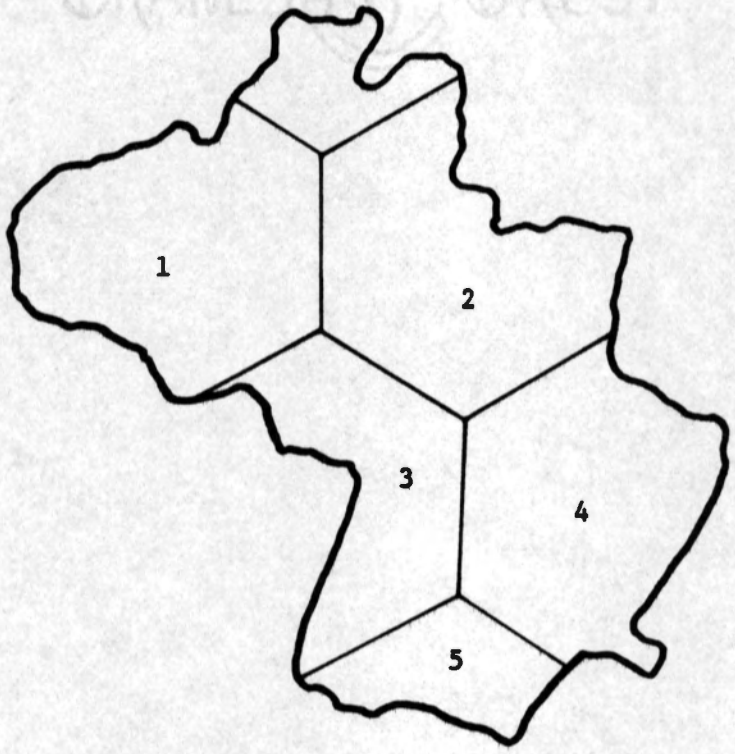
Scale: 1 inch = 20 miles

Figure 38. Theoretical delineation of market areas to serve Gulbarga district, Mysore State.



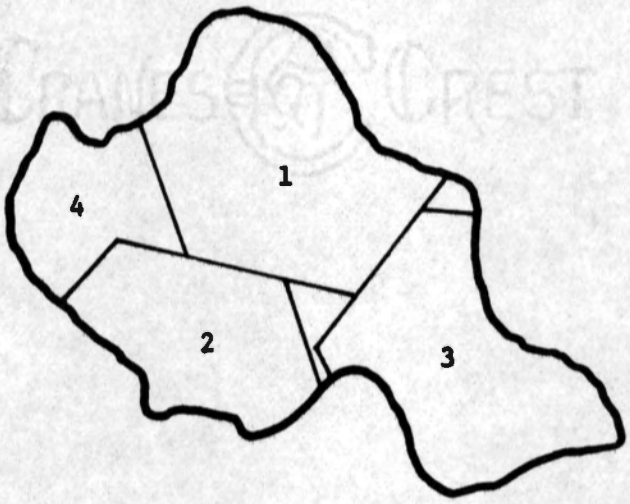
Scale: 1 inch = 20 miles

Figure 39. Theoretical delineation of market areas to serve Hassan district, Mysore State.



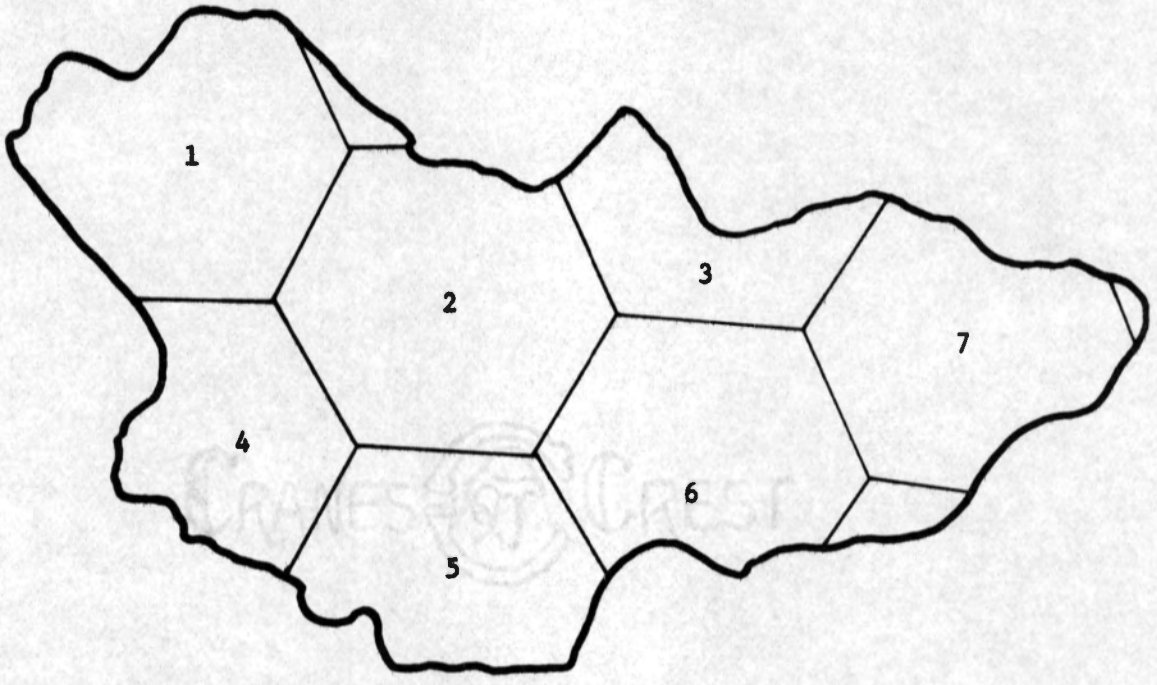
Scale: 1 inch = 20 miles

Figure 40. Theoretical delineation of market areas to serve Kolar district, Mysore State.



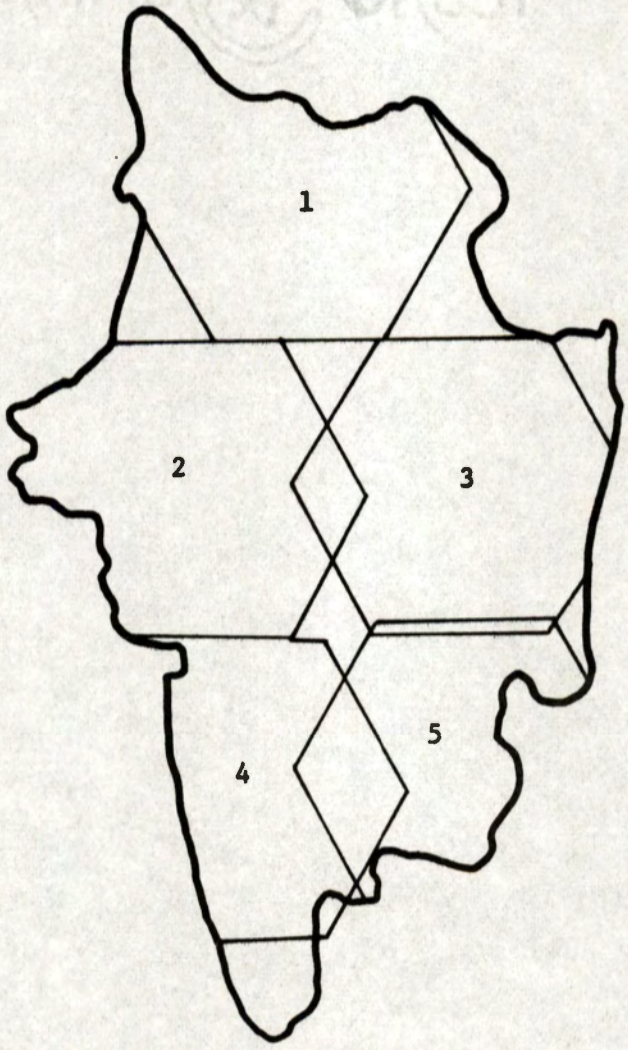
Scale: 1 inch = 20 miles

Figure 41. Theoretical delineation of market areas to serve Mandya district, Mysore State.



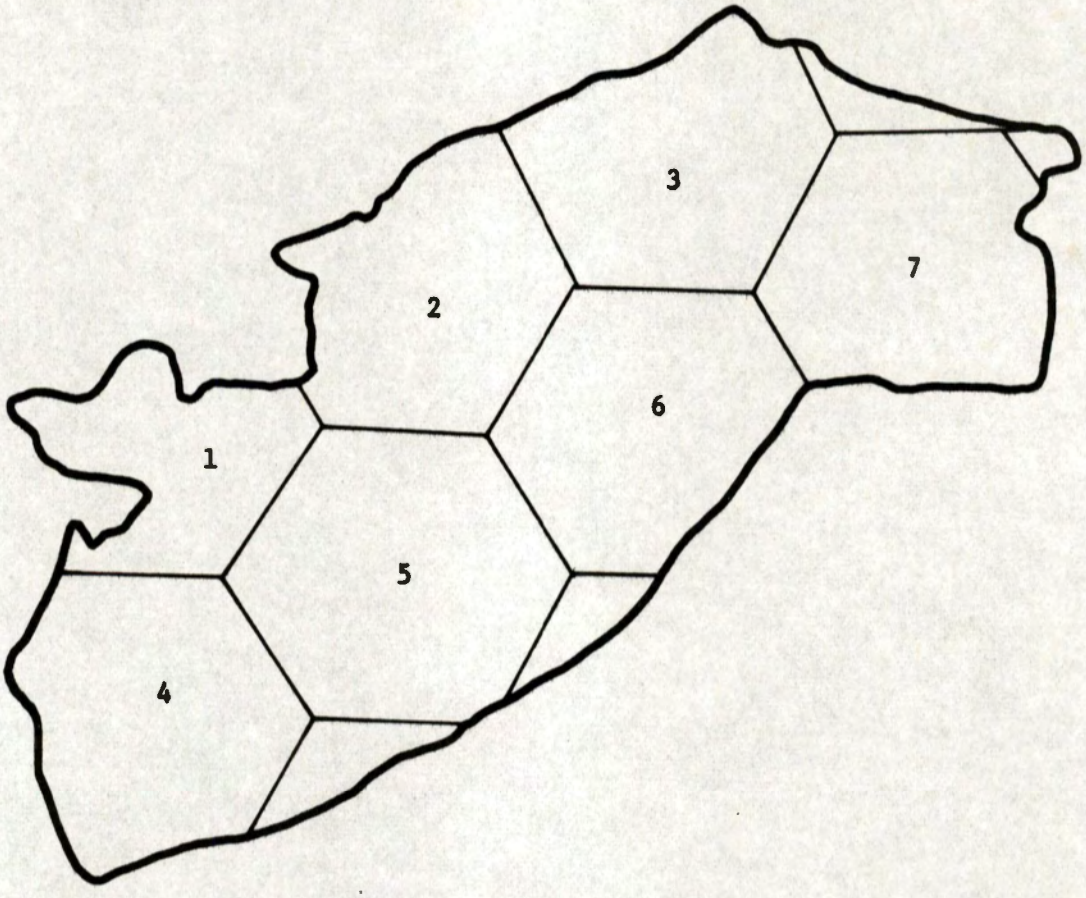
Scale: 1 inch = 20 miles

Figure 42. Theoretical delineation of market areas to serve Mysore district, Mysore State.



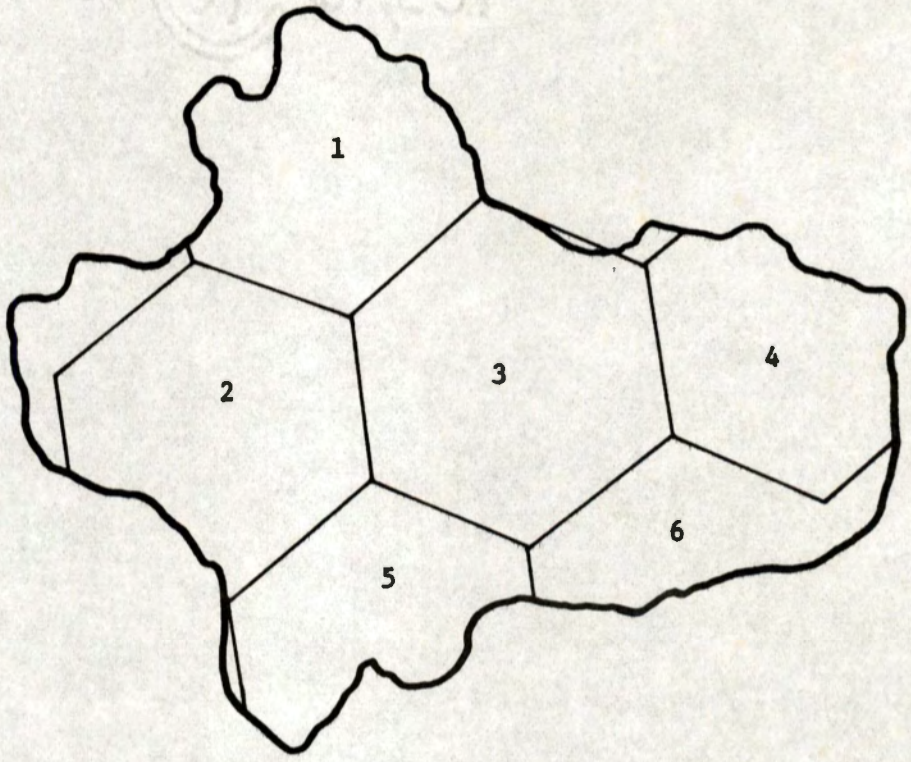
Scale: 1 inch = 20 miles

Figure 43. Theoretical delineation of market areas to serve North Kanara district, Mysore State.



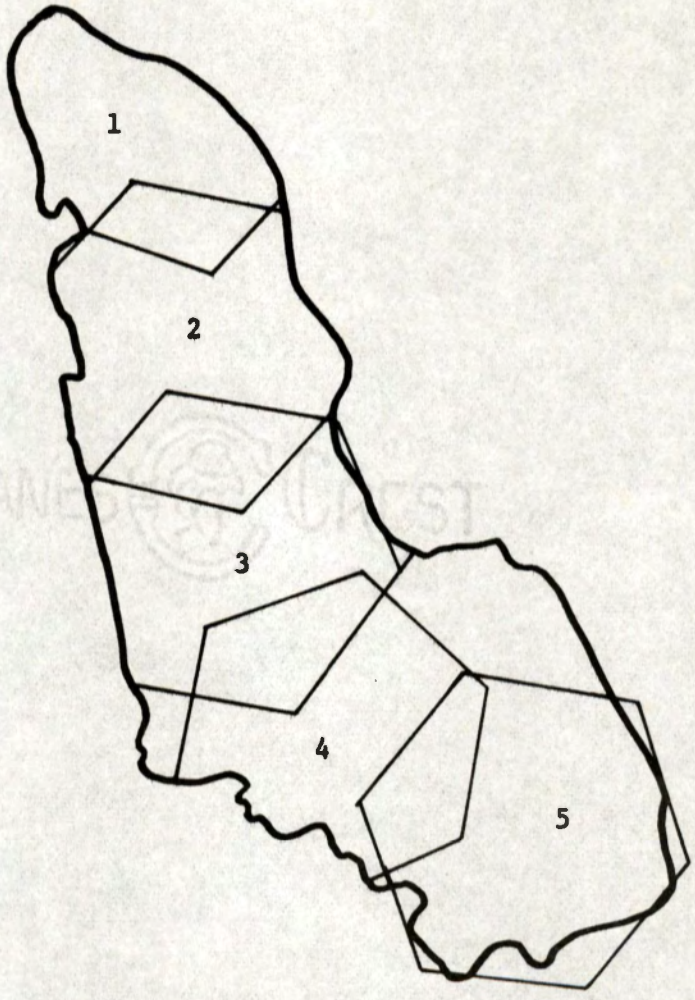
Scale: 1 inch = 20 miles

Figure 44. Theoretical delineation of market areas to serve Raichur district, Mysore State.



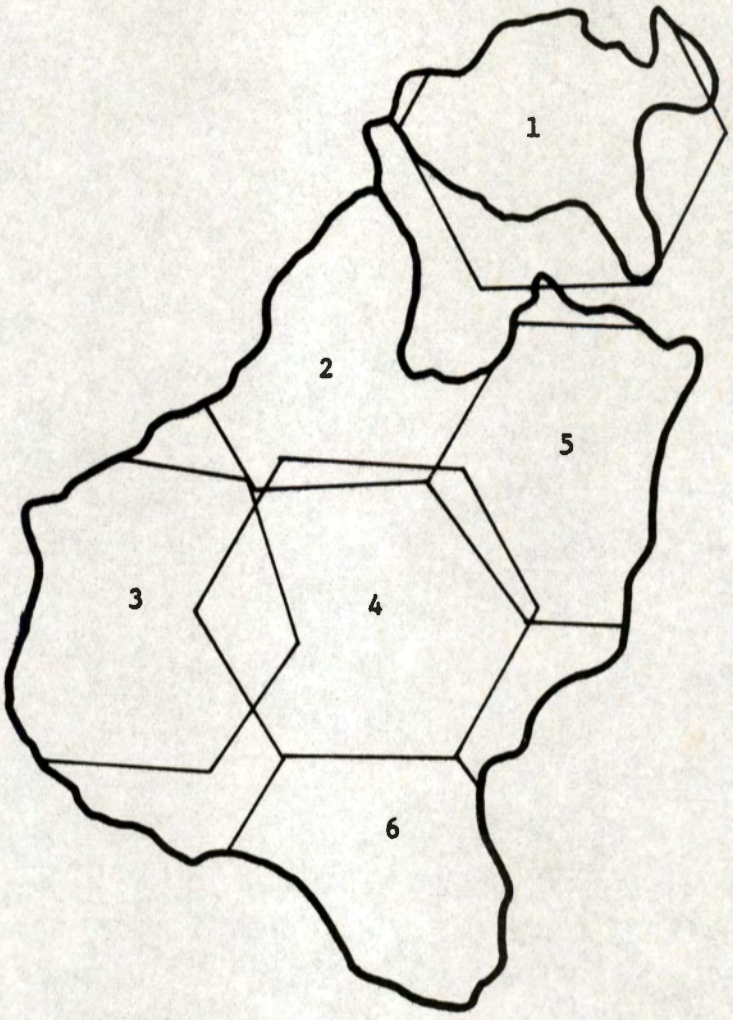
Scale: 1 inch = 20 miles

Figure 45. Theoretical delineation of market areas to serve Shimoga district, Mysore State.



Scale: 1 inch = 20 miles

Figure 46. Theoretical delineation of market areas to serve South Kamara district, Mysore State.



Scale: 1 inch = 20 miles

Figure 47. Theoretical delineation of market areas to serve Tumkur district, Mysore State.

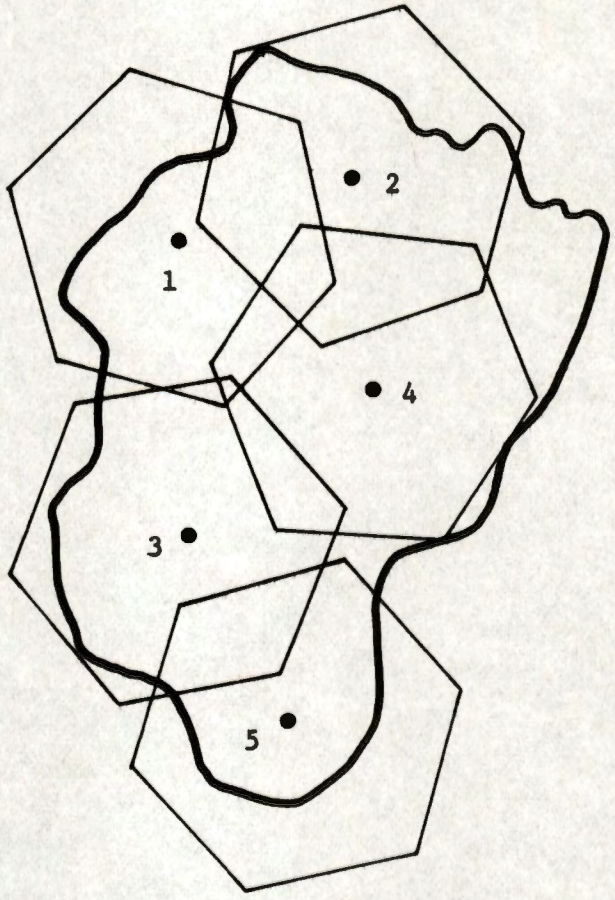
of public funds are needed to improve the existing farm to market roads and to widen the roads connecting market towns.

Keeping these points in mind, a new pattern for the location of regulated markets in all the 19 districts is proposed, as shown in Figures 48 through 66. Under this setup there would be 107 regulated markets as against the present 155 markets. There are no submarkets under the new setup. The physical facilities and the number of operating personnel could be determined on the basis of volume of trading in the area in the previous years. To start with, minimum physical facilities should be provided with provisions for future expansion. The number of operating personnel could be altered depending on the quantum of work at the market. The number of markets proposed (107) could be considered as an improvement over the present arrangement, as there are only 89 main regulated markets in the State.

One regulated market in a radius of 15 miles is considered sufficient provided each market is properly organized and operated as close as possible to perfect market conditions. A regulated market could have the effect of commercialization of rural areas only when it offers sellers enough buyers to prevent monopsony and authorities at the market have enough supervision to obviate the dangers of deception, collusion and other unfair practices. In addition, to ensure equilibrium in markets located in each district, the prices in those markets should be interdependent and interrelated in such a way that transfer costs are minimized and returns are maximized. Such a situation would depend largely on the conditions prevailing in alternate markets. These

LEGEND

1. Dobspet
2. Doddaballapur
3. Ramanagaram
4. Bangalore
5. Kodihalli

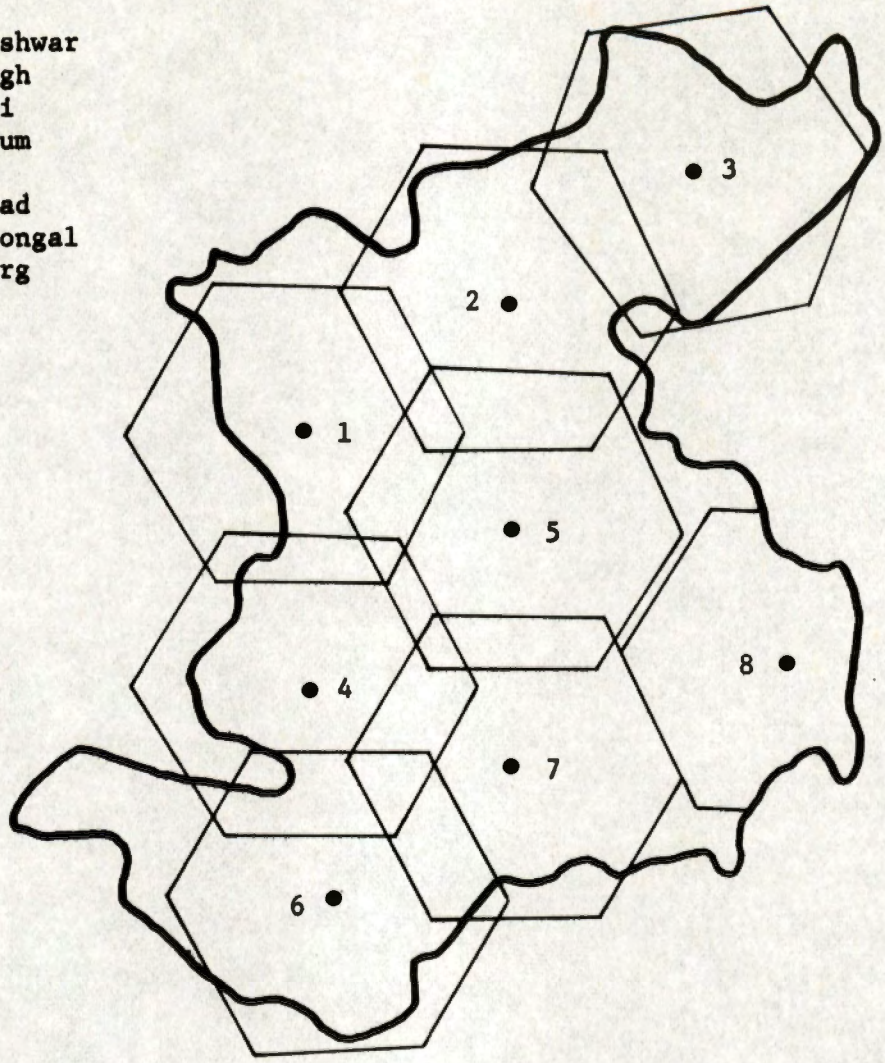


Scale: 1 inch = 20 miles

Figure 48. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Bangalore district, Mysore State, 1971.

LEGEND

1. Sankeshwar
2. Raibagh
3. Athani
4. Belgaum
5. Gokak
6. Nandgad
7. Bailhongal
8. Ramdurg

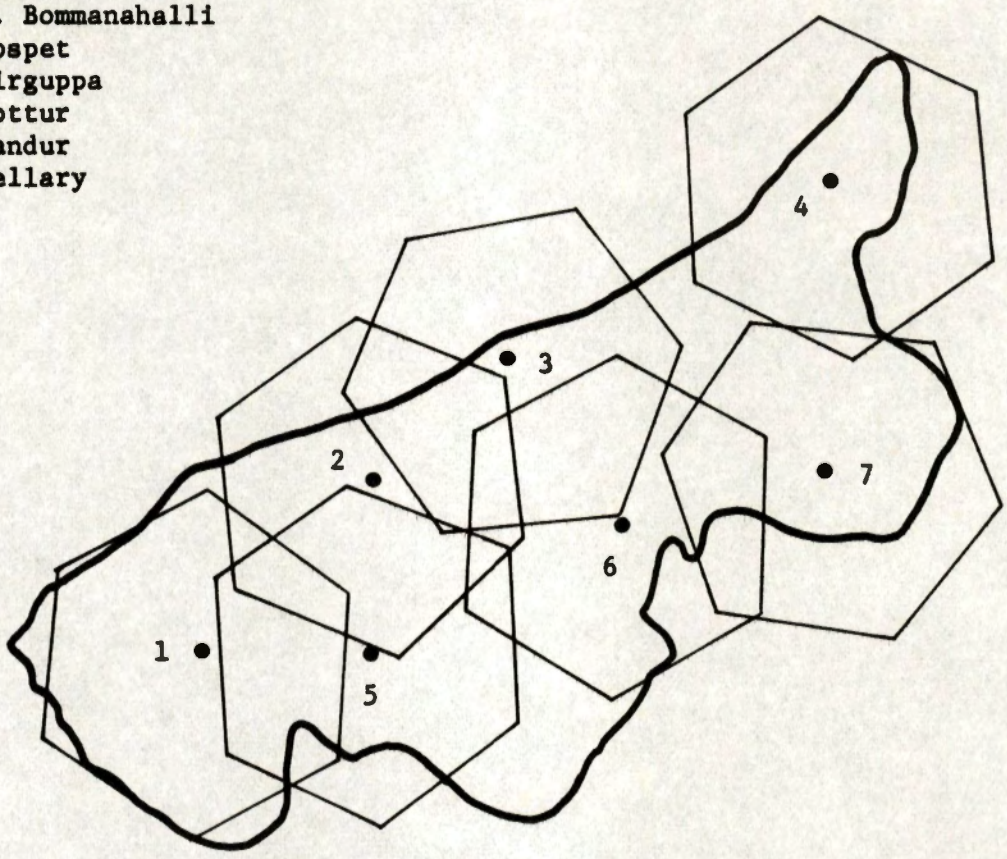


Scale: 1 inch = 20 miles

Figure 49. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Belgaum district, Mysore State, 1971.

LEGEND

1. Harapanahalli
2. H. Bommanahalli
3. Hospet
4. Sirguppa
5. Kottur
6. Sandur
7. Bellary

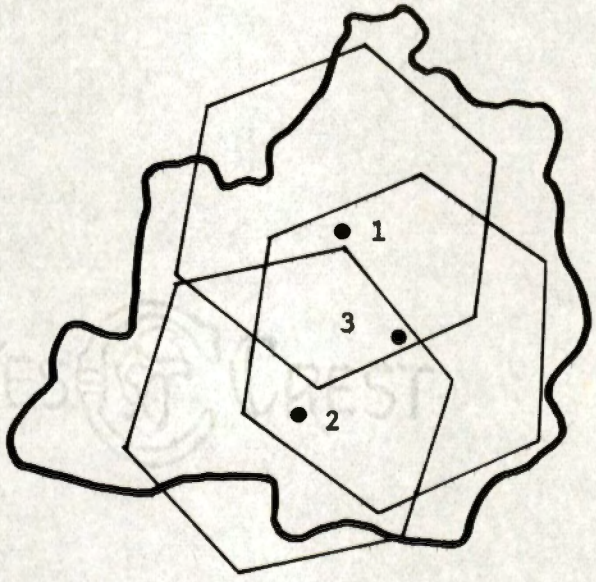


Scale: 1 inch = 20 miles

Figure 50. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Bellary district, Mysore State, 1971.

LEGEND

1. Bhalki
2. Humnabad
3. Bidar

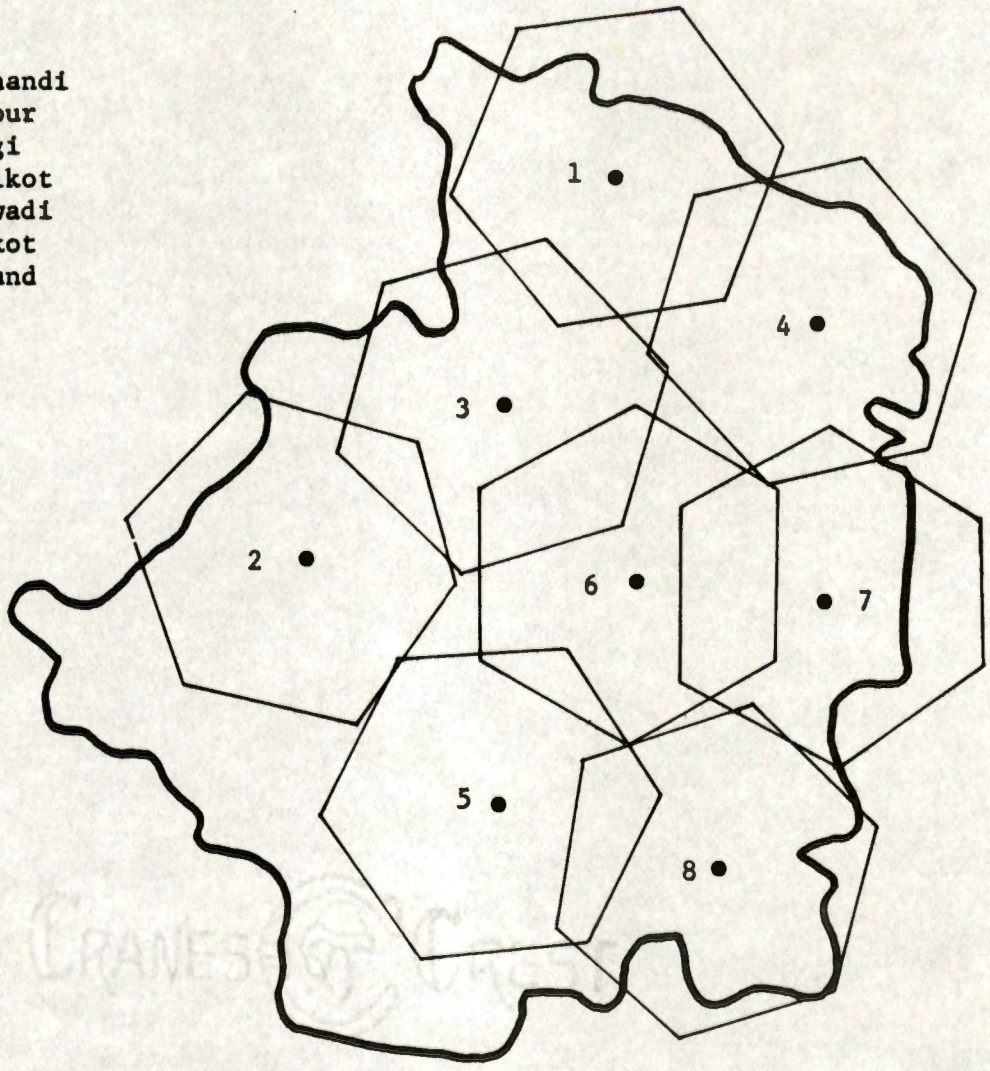


Scale: 1 inch = 20 miles

Figure 51. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Bidar district, Mysore State, 1971.

LEGEND

1. Indi
2. Jamkhandi
3. Bijapur
4. Sindgi
5. Bagalkot
6. Bagewadi
7. Talikot
8. Hungund

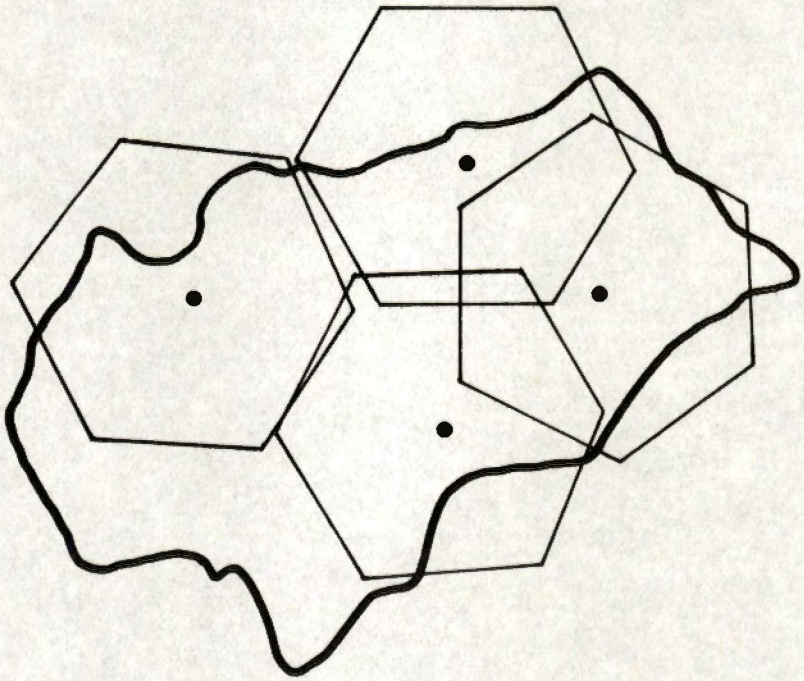


Scale: 1 inch = 20 miles

Figure 52. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Bijapur district, Mysore State, 1971.

LEGEND

1. Koppa
2. Tarikere
3. Chickamagalur
4. Kadur

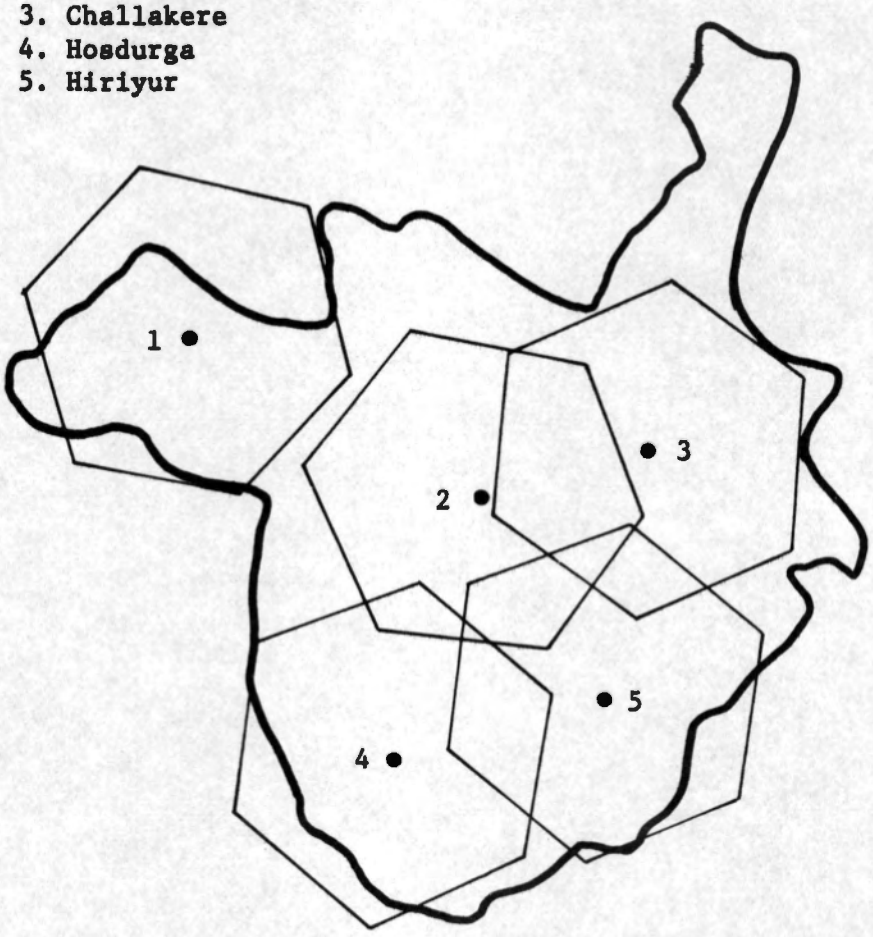


Scale: 1 inch = 20 miles

Figure 53. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Chickamagalur district, Mysore State, 1971.

LEGEND

1. Davanagere
2. Chitradurga
3. Challakere
4. Hosdurga
5. Hiriyur

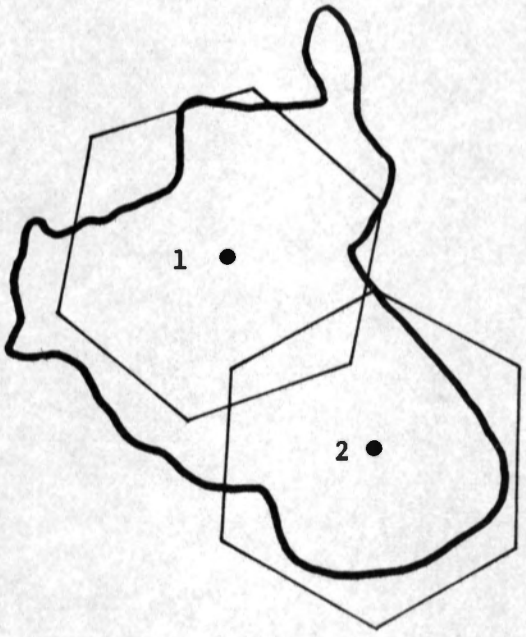


Scale: 1 inch = 20 miles

Figure 54. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Chitradurga district, Mysore State, 1971.

LEGEND

1. Mercara
2. Virajpet

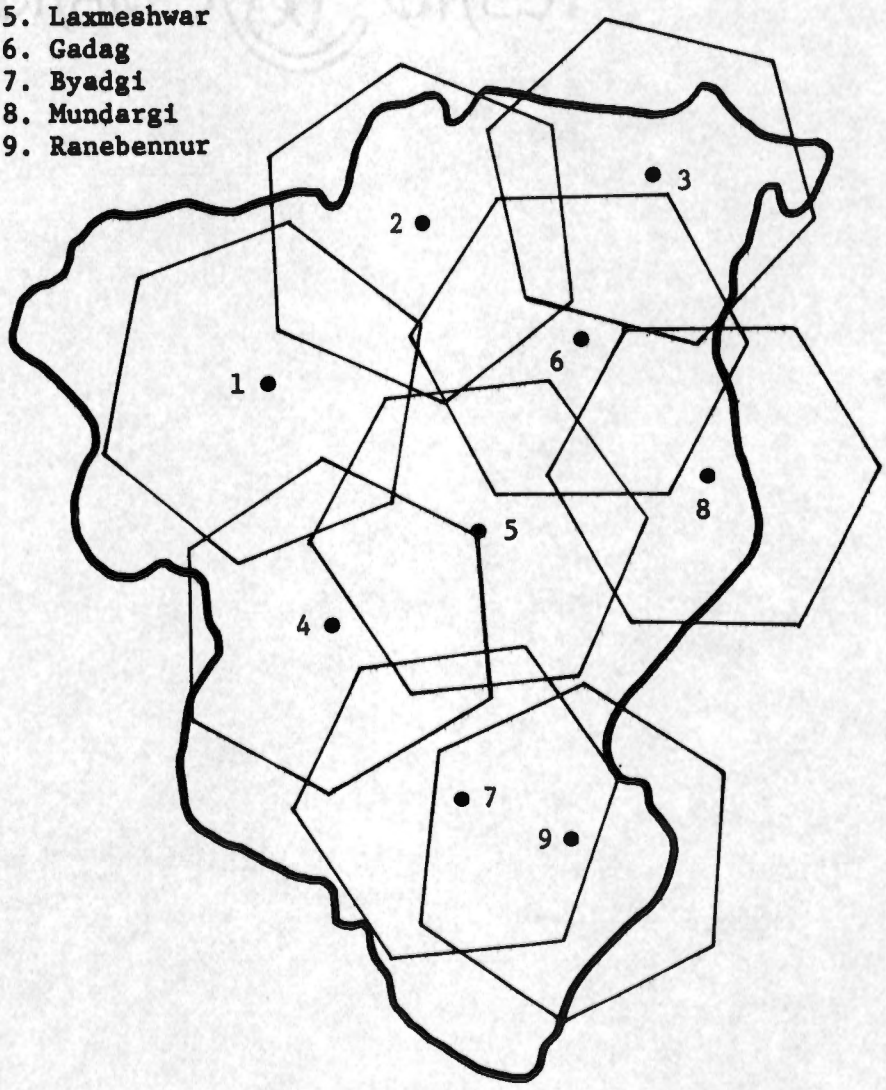


Scale: 1 inch = 20 miles

Figure 55. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Coorg district, Mysore State, 1971.

LEGEND

1. Hubli
2. Nargund
3. Ron
4. Savanur
5. Laxmeshwar
6. Gadag
7. Byadgi
8. Mundargi
9. Ranebennur

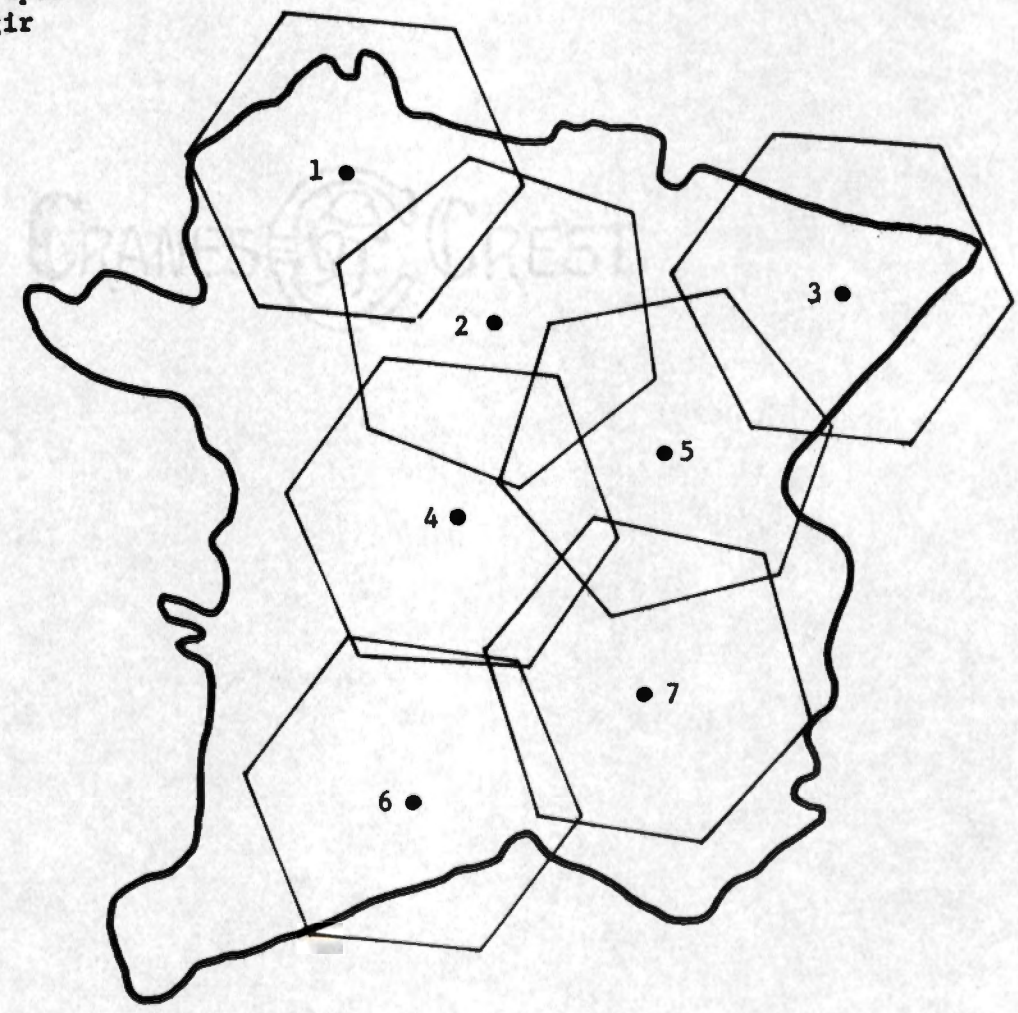


Scale; 1 inch = 20 miles

Figure 56. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Dharwar district, Mysore State, 1971.

LEGEND

1. Aland
2. Gulbarga
3. Chincholi
4. Jevargi
5. Chitapur
6. Shorapur
7. Yadgir



Scale; 1 inch = 20 miles

Figure 57. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Gulbarga district, Mysore State, 1971.

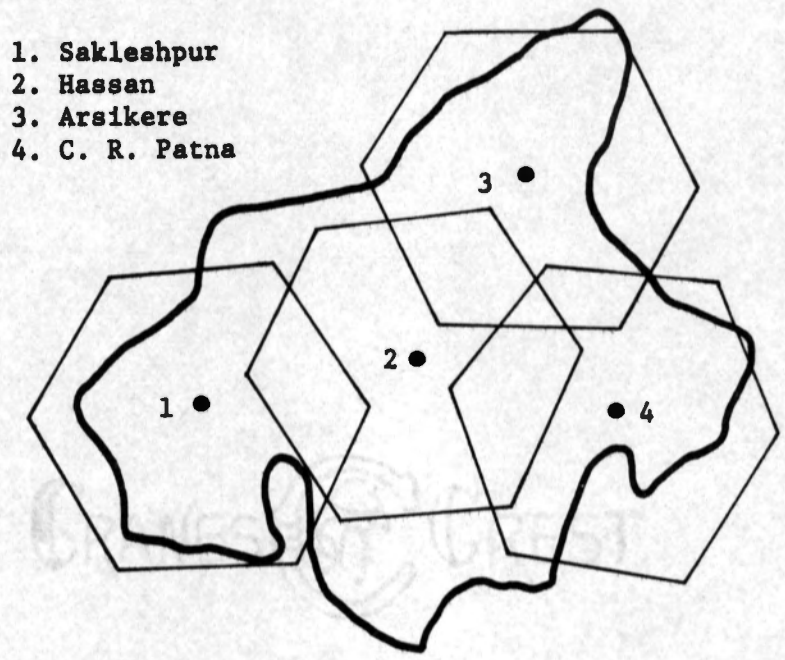


Figure 58. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Hassan district, Mysore State, 1971.

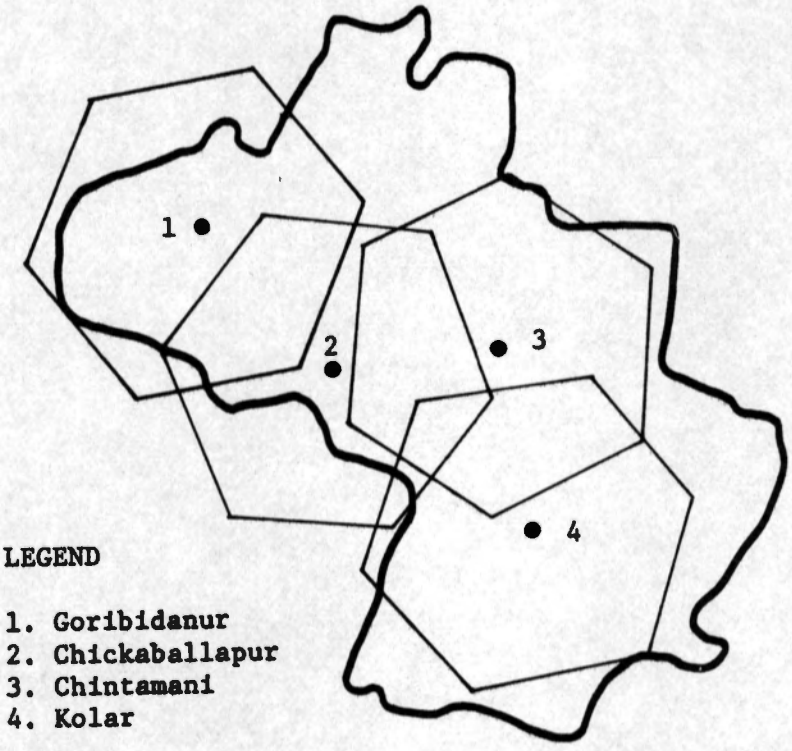
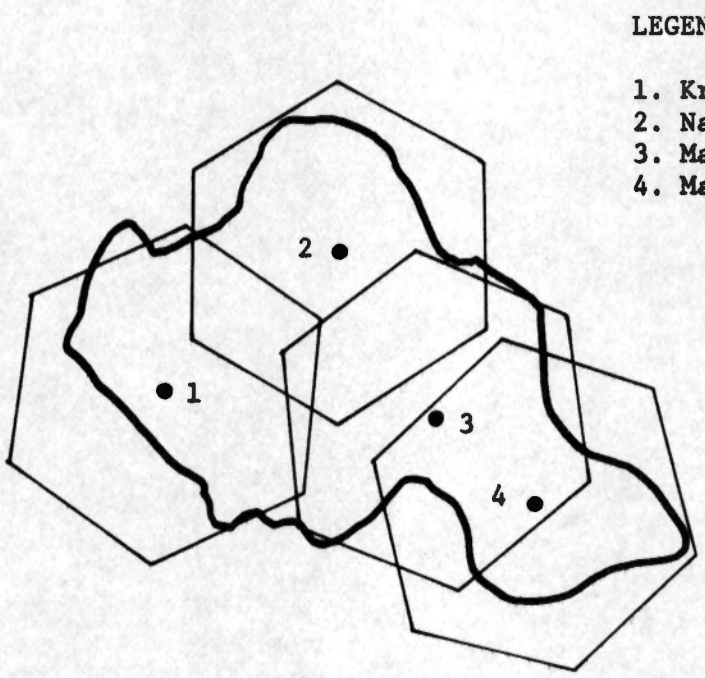
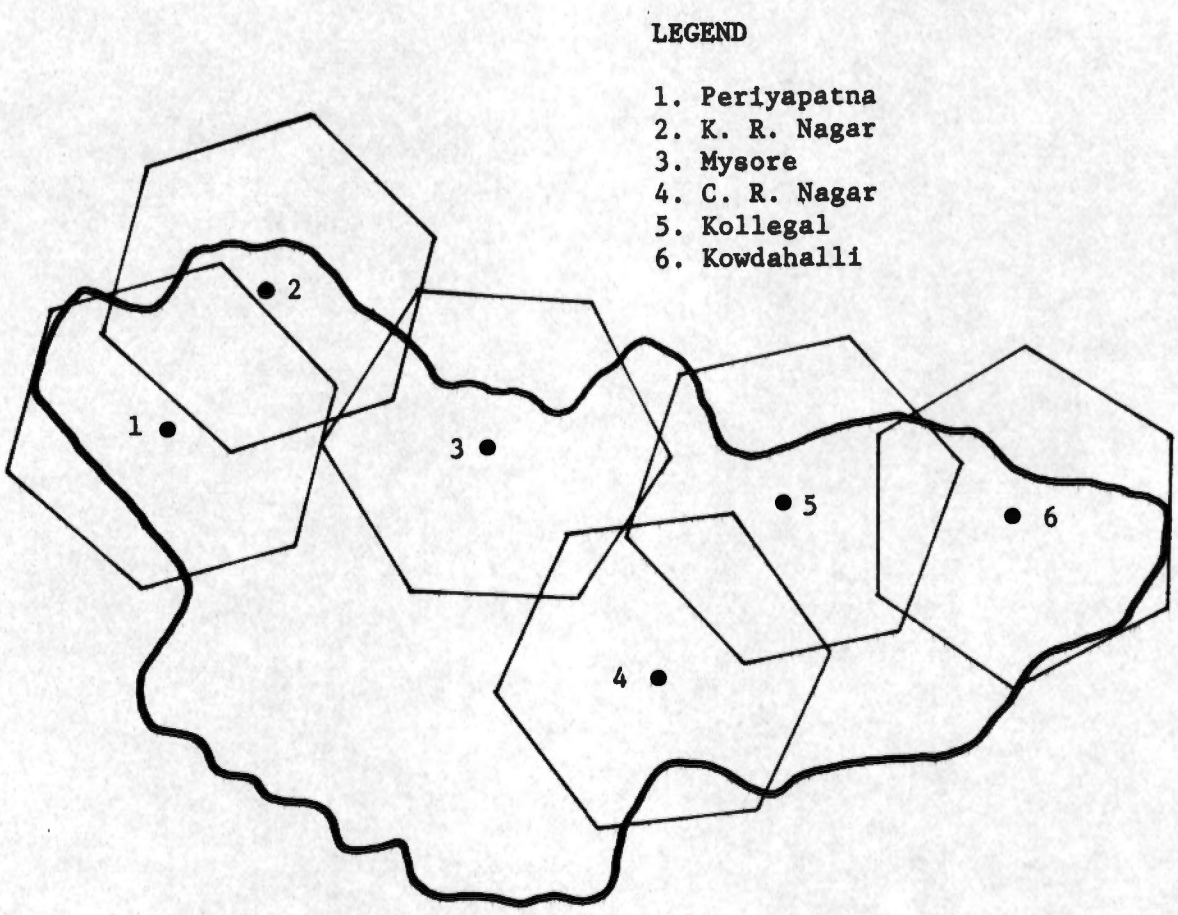


Figure 59. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Kolar district, Mysore State, 1971.



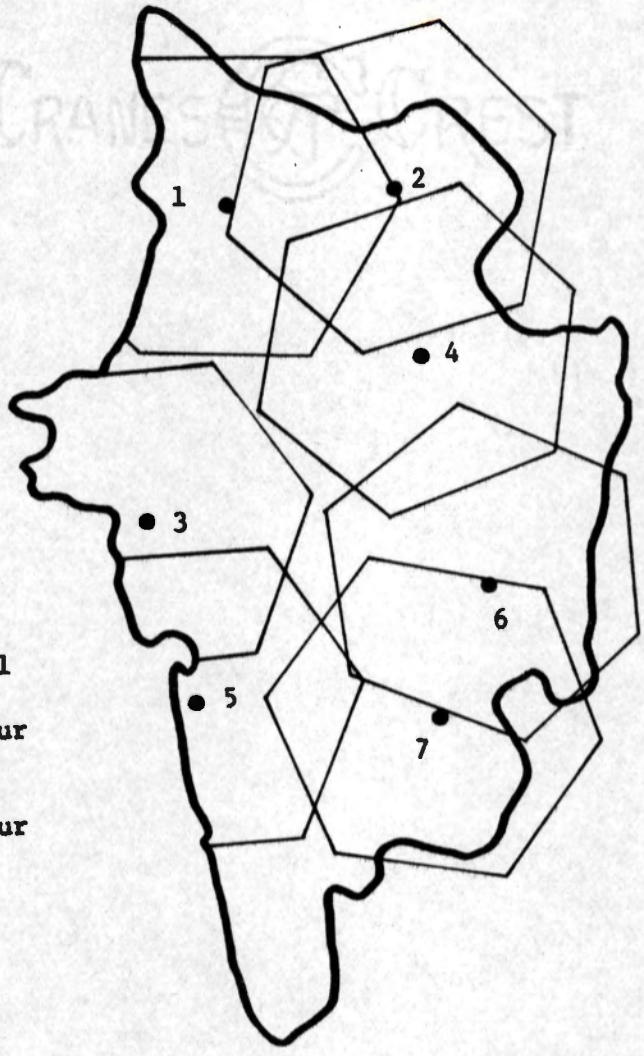
Scale: 1 inch = 20 miles

Figure 60. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Mandya district, Mysore State, 1971.



Scale: 1 inch = 20 miles

Figure 61. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Mysore district, Mysore State, 1971.

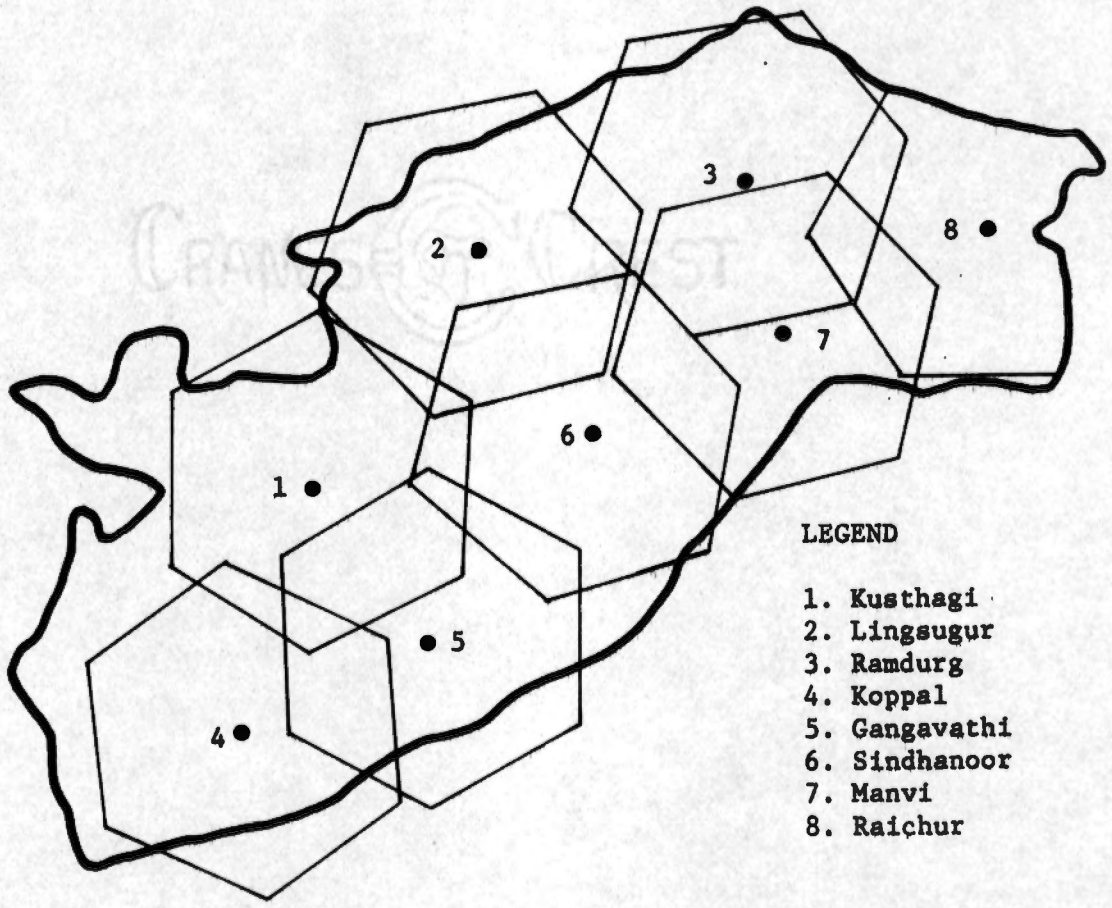


LEGEND

1. Supa
2. Haliyal
3. Ankola
4. Yellapur
5. Kumta
6. Sirsi
7. Siddapur

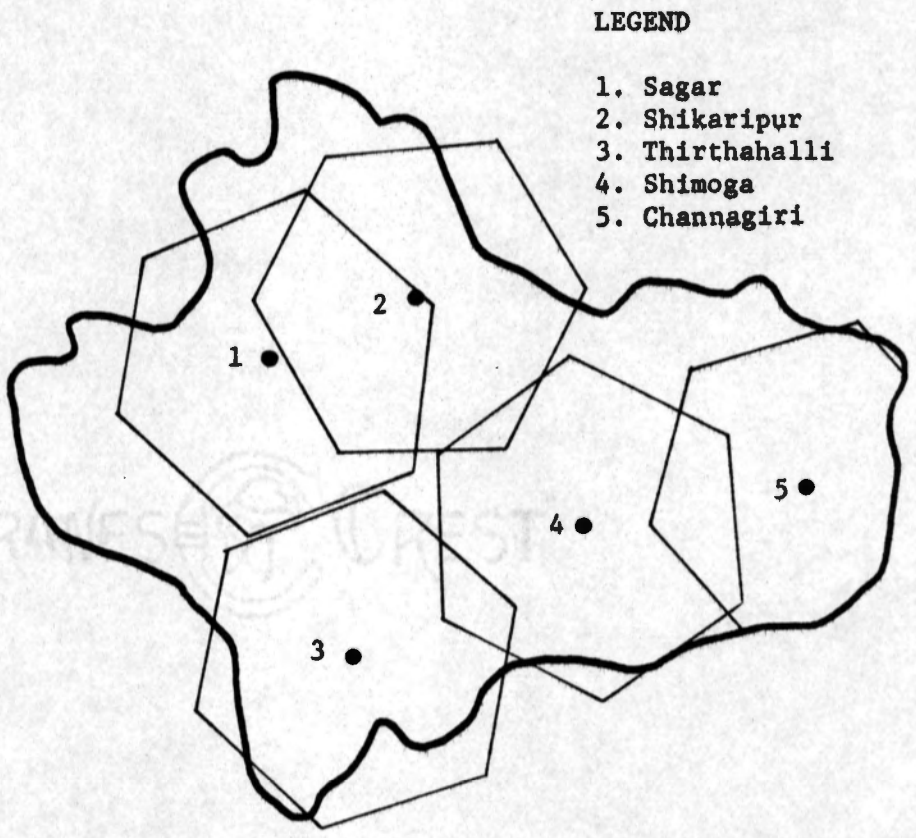
Scale: 1 inch = 20 miles

Figure 62. Proposed locations for regulated markets and areas served by each market assuming a 15 miles radius, North Kanara district, Mysore State, 1971.



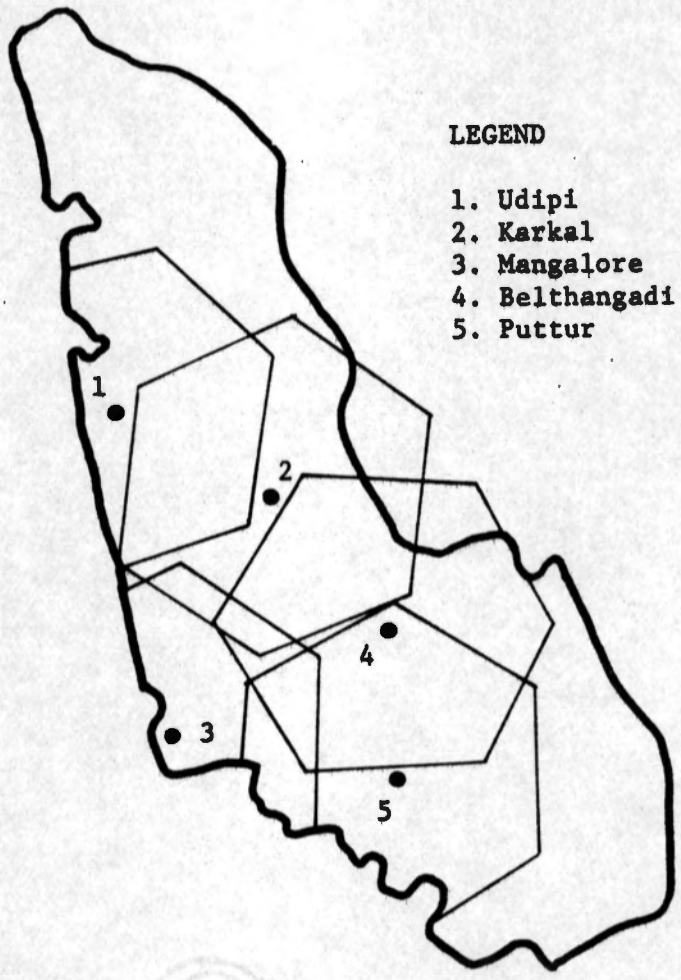
Scale: 1 inch = 20 miles

Figure 63. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Raichur district, Mysore State, 1971.



Scale: 1 inch = 20 miles

Figure 64. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, Shimoga district, Mysore State, 1971.



Scale: 1 inch = 20 miles

Figure 65. Proposed locations for regulated markets and areas served by each market assuming a 15 mile radius, South Kanara district, Mysore State, 1971.

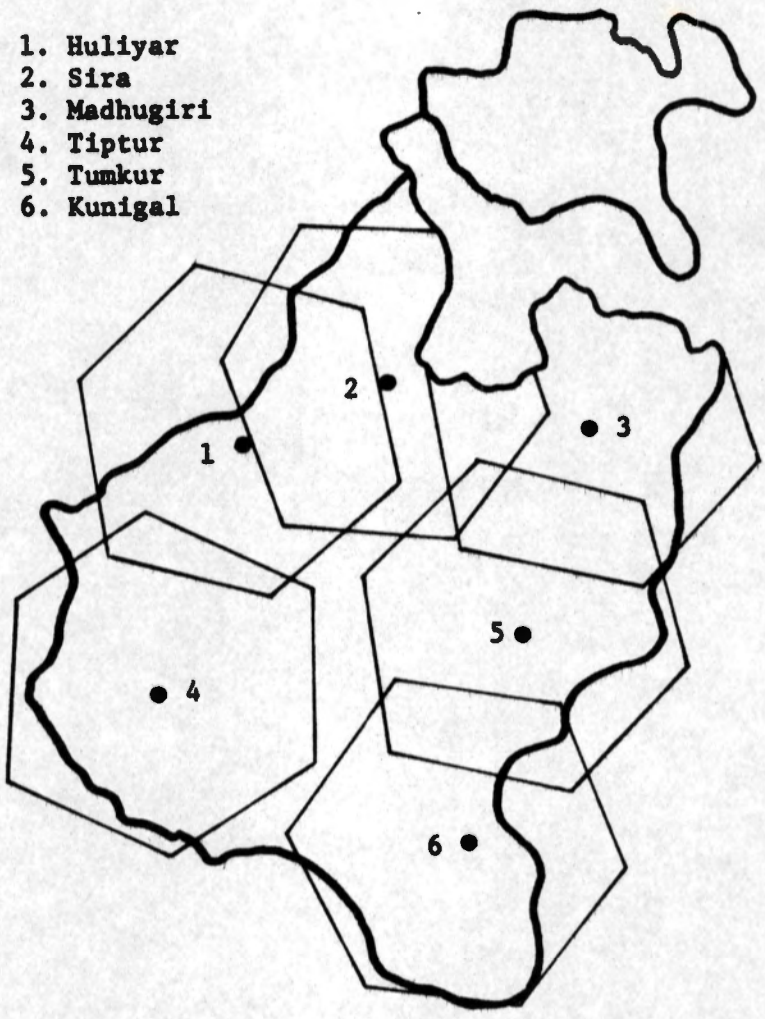


Figure 66. Proposed location for regulated markets and areas served by each market assuming a 15 mile radius, Tumkur district, Mysore State, 1971.

conditions include absence of monopoly elements, availability of perfect knowledge about supply, demand and price conditions in alternate markets, and proper grading devices for all commodities.

Justification for the Suggested Pattern

Under this pattern there is more uniformity in the distribution of markets in each of the 19 districts. Out of the 107 markets proposed, 18 are located in the district headquarters, 78 in taluk headquarters and 11 in smaller towns. There is not much overlapping of market areas, and the markets cover a larger part of the rural area than do the existing ones. Location of markets has been done taking into consideration the area under cultivation and availability of transport facilities.

Description of the Suggested Pattern

In referring to Figures 48 through 66, it is noted that five markets instead of the present three are proposed for Bangalore district. A market is proposed for Ramanagaram instead of at Channapatna since Ramanagaram is situated between Bangalore and Channapatna, and secondly, there has been very little trading at Channapatna during the last four years. A market at Kodihalli in Kanakapura taluk and Dobspet in Nelamangala taluk are proposed since these areas are not served presently by markets.

Only eight markets instead of 24 are proposed for Belgaum district. The markets at Nippani and Saundatti are omitted since there was very little trading at these locations. A market at Raibagh instead of the present one at Kudachi is proposed due to locational advantage.

In Bellary district, seven markets as against the present ten are proposed. At present, there was a main market at Bellary only and the other nine were submarkets. The seven markets are considered necessary because vast areas in the district would be irrigated by Tungabadhra project in the near future.

Only three markets are proposed for Bidar as against the present five markets. Markets at Chitaguppa and Kalyan are eliminated since the volume traded at both these markets was very little. In addition, the market at Humnabad could serve the areas presently served by Chitaguppa and Kalyan.

In the Bijapur district, there was appreciable trading in Bijapur, Jamkhandi, and Bagalkot markets only. A new market is proposed at Bagewadi since it is located midway between Bijapur and Talikot and also connected by a network of roads. The submarkets located at Badami, Mudhol, Mahalingapur, Terdal, Chadchan, Naltwad, Ilkal, and Muddebihal are omitted for the following reasons. First, there was no trading reported in these markets during the last three years. Second, the market at Hungund could serve the areas presently served by Ilkal and Naltwad. Third, Jamkhandi market could serve the areas covered by Terdal, Mahalingapur and Mudhol markets.

In Chitradurga district, the Harihar market is omitted since it is close to Davanagere. No market is proposed for Molakalmuru taluk since it is a very dry area.

For the Chickamagalur district, one additional market is proposed at Koppa. Four markets are considered enough for this district since

28.6 percent of the total area is under forests and only 45,784 hectares is irrigated.

At present, there are no markets in the Coorg district. Nearly 41.3 percent of the area is under forests and only 8,203 hectares is under irrigation. Hence, only two markets at Mercara and Virarajpet are proposed.

Dharwar districts lead the State with the largest number of regulated markets (34). But the reports of the operation of these markets show that there was trading only in 14 markets. There is much overlapping of the market areas. Only nine markets are proposed in the new setup. The market at Dharwar is omitted since Hubli-Dharwar is one corporation and a market at Hubli would suffice. Gadag, which is connected by rail, could easily handle the area currently served by markets at Annigere, Hulkoti, Naregal, Dambal and Mulgurd. The market at Ron could serve the areas covered by Holealur and Sud. The market at Byadgi is retained omitting those at Haveri and Guttal since the volume of trading at Byadgi during the last three years was greater than that of Haveri and both are very closely situated. Hence, Byadgi is preferred for the location of a market. The market at Ranebennur would serve the areas covered by Halgeri and Rattihalli. The markets at Sirhatti, Kundgol, Gudgeri, and Bellatti are omitted since they are all very close to Laxmeshwar. Hence, one market at Laxmeshwar is considered sufficient. The Savanur market could serve the areas served by Yalwagi and Shiggali markets.

Instead of the present 11 markets in the Gulbarga district, only seven are proposed. The markets at Shahabad, Shahapur, Seram, Nalwar, Gogi and Rangampet are omitted. One market at Chitapur is sufficient to serve the areas covered by Seram and Shahabad. The Shorapur market could serve the areas presently served by Gogi and Rangampet. Three new markets are proposed at Aland, Chincholi and Jevargi since there are no markets in these areas.

The present four markets are sufficient for both Kolar and Hassan districts.

For Mandya three additional markets are proposed at Malavalli, Nagamangala and Krishnayajpet. This district is a very well irrigated area and is covered by the Intensive Agricultural Development Programme.[8] Though Nagamangala and Krishnarajpet taluks are dry areas, a large quantity of ragi is cultivated in these areas and hence markets are proposed at the two places. The present market at Mandya could serve a large number of villages in Maddur taluk since the villages are connected by roads constructed with the finances of Sugarcane Cess Fund.

Six markets are proposed for Mysore district as against the present five. Two new markets are proposed at Periyapatna and Kowdahalli. The market at Nanjangud is eliminated because it is very close to Mysore. No markets are proposed for Heggadadevankote and Gundlupet taluks since a lot of the area is under forests.

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[8]Under the Intensive Agricultural Development Programme, the government will provide technical and financial assistance to farmers on an intensive scale with the object of increasing agricultural production.

Seven markets are retained in North Kanara district since much of the area is under rice cultivation in addition to large areas under cultivation of commercial crops.

Eight markets are proposed for the Raichur district. This district has a large area under irrigation (108,413 hectares) and is likely to have more area brought under canal irrigation. New markets are proposed at Manvi, Sindhanoor, Lingsugur, and Ramdurg. The market at Koppal could serve the area presently covered by Bhanapur and Kinhal.

One additional market is proposed at Thirthahalli in the Shimoga district. Five markets are proposed for South Kanara as aginst the present one at Mangalore. Four new markets are located at Puttur, Belthangadi, Karkal and Udipi since rice is cultivated on an extensive scale in this district.

Only six markets are suggested for Tumkur district, and markets at Gubbi and Turuvekere are omitted. A table indicating the number of markets located in each of the 19 districts, along with the existing setup, is shown in Table XIV, and a map of Mysore State showing the proposed locations for regulated markets is indicated in Figure 67.

The suggested pattern of location of markets is made under certain limitations, such as nonavailability of data on area under cultivation, area under irrigation, and rural population for each taluk separately.

TABLE XIV

COMPARATIVE STATEMENT OF LOCATION OF REGULATED MARKETS, BY DISTRICTS, MYSORE STATE

District	Number of Regulated Markets	
	Existing	Proposed
Bangalore	3	5
Belgaum	24	8
Bellary	10	7
Bidar	5	3
Bijapur	15	8
Chickamagalur	2	4
Chitradurga	6	5
Coorg	--	2
Dharwar	34	9
Gulbarga	11	7
Hassan	5	4
Kolar	4	4
Mandya	1	4
Mysore	5	6
North Kanara	7	7
Raichur	9	8
Shimoga	4	5
South Kanara	1	5
Tumkur	9	6
State	155	107

Source: Mysore Government, Mysore State in Maps, 1966, Department of Statistics, Bangalore, Mysore State, 1968.

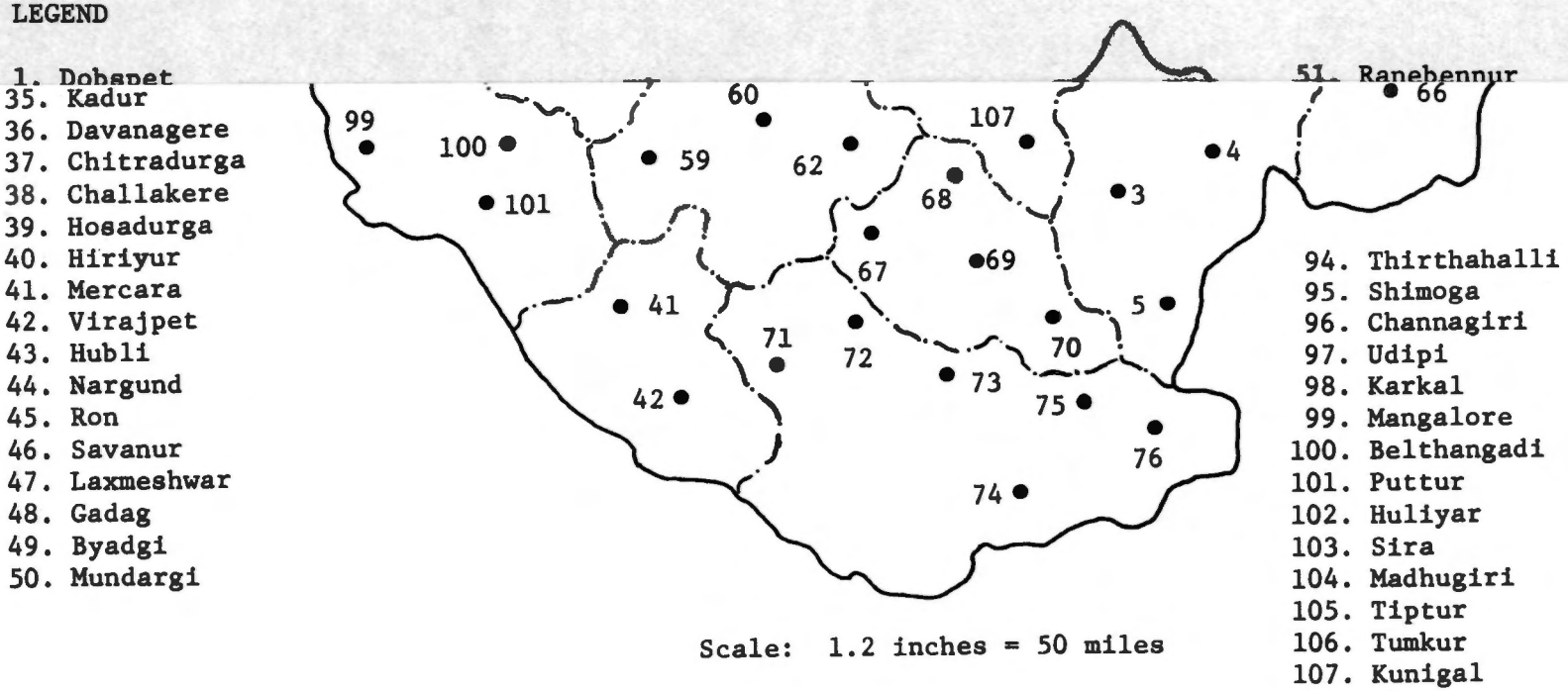

Figure 67. Proposed locations for regulated markets in Mysore State, India.

CHAPTER V

STATE AGRICULTURAL MARKETING BOARD

In developing countries where increasing agricultural production, improving the market power of farmers, protection of consumers against high food grain prices, and expansion of export earnings have high priority in the plans of the government, a State level organization to supervise the marketing of agricultural commodities is a necessity. The Government of Mysore therefore enacted legislation to establish a State Agricultural Marketing Board in 1969.[1] A strong marketing board at the State level is desirable because of the large number of regulated markets operating in the State involving large amounts of public funds. There are different types of marketing boards performing different kinds of functions. These include advisory, export promotion, regulatory, policy-making, and price stabilization. The board envisaged for Mysore is, however, designed to accomplish regulatory and policy-making functions.

I. CONSTITUTION OF THE BOARD

Since the proposed board has both regulatory and policy-making powers, it should be a body composed of State level officers and research workers engaged in agricultural development and marketing, representatives

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[1]Government of Mysore, Mysore Agricultural Produce Marketing (Regulation) Act, 1966, and the Mysore Agricultural Produce Marketing (Regulation) Rules, 1968, Department of Law and Parliamentary Affairs, Bangalore, Mysore State, 1968.

of producers and traders, and representatives of regulated market committees and farmers' cooperatives.[2] The number of members could range from 11 to 15. The board suggested in this study, however, consists of 15 members. The composition of the board should be as follows:

1. Minister for Agriculture (Chairman)
2. Three persons elected from among the chairmen of the regulated market committees
3. One person elected from among the chairmen of the Taluk Agricultural Marketing Cooperative Societies
4. Two persons elected by the traders operating in the regulated markets
5. One person representing the Mysore State Chamber of Commerce
6. Two persons elected from the agriculturist's constituency
7. Director of Agriculture, Government of Mysore.
8. Director of Research, University of Agricultural Sciences, Bangalore
9. Head of the Division of Agricultural Economics and Rural Sociology, University of Agricultural Sciences
10. One representative of the Food Corporation of India
11. Chief, Agricultural Marketing Services

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[2]According to the Act, the board consists of only representatives of market committee chairman. No information is available whether the board has started functioning.

The board as constituted would have six members representing the producers, three representing the traders, two representing the State government, two representing research workers and one representing the central government. The six members representing the producers are two directly elected to the board from the agriculturist's constituency and four persons elected from among the chairmen of the regulated market committees and Taluk Agricultural Multipurpose Cooperative Societies, who were originally elected to these committees from the agriculturist's constituencies of the respective market areas. Effort should be made to ensure that the two representatives elected to the board from the agriculturist's constituency are actual cultivators and not absentee landlords. The inclusion of Director of Agriculture and Director of Research, UAS, on the board is necessary since both are directly connected with agricultural development in the State. The head of the Division of Agricultural Economics would be useful in view of his division actively engaged in research in the field of farm management, agricultural marketing, and agricultural credit in the State. His suggestions based on research findings should be useful to the board. A representative of the State Chamber of Commerce is included since he represent the industrialists who utilize agricultural commodities as raw materials in the industries. The representative of the Food Corporation of India is included since this is an organization which is directly connected with marketing of food grains. The Minister for Agriculture has been designated as chairman of the board since he is in overall charge of agricultural development in the State and as an elected representative would

command the confidence of the farmers in the State. As the activities of the board expand, the suitability of having a full-time chairman could be considered.

II. FUNCTIONS

The proposed board should have both regulatory and policy-making powers. The important regulatory functions would be:

1. To supervise the activities of all regulated markets in the State.
2. To refer cases of financial irregularities in the regulated markets to the State Accounts Department for audit and inspection.
3. To negotiate conditions of transport, handling, and storage of agricultural commodities with trade associations and individual companies to safeguard producers and the national economic interest.
4. To advise the government on minimum quality grading and packaging standards for export commodities.
5. To grant statewide licenses to traders and commission firms for operating at regulated markets.

The major policy-making functions are:

1. To consider cases of granting loans to regulated markets for expansion of existing physical facilities.
2. To consider cases of granting financial assistance to weak regulated markets.

3. To consider proposals for the location of new regulated markets or relocation of existing ones.
4. To fix uniform rates for market fees, license fees for traders and commission firms and ground rents at the various regulated markets.
5. To suggest changes in the method of sale practices and grading standards in keeping with the changing conditions.
6. To negotiate with representatives of rail and road transport authorities regarding freight charges and with municipal authorities regarding levies on agricultural commodities.
7. To consider the role of marketing cooperatives in coordinating with the activities of the regulated markets, especially in the areas of storage, transportation and credit on agricultural produce.
8. To negotiate with the Food Corporation of India on matters pertaining to purchase of food grains in times of emergency and with the State Warehousing Corporation regarding storage facilities at important regulated markets.

The expenses of the State Agricultural Marketing Board will be met out of the Market Development Fund.[3]

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[3]Under the Agricultural Produce Marketing (Regulation) Act, 1966, Sec. 92 and 109, every market committee contributes 5 percent of its gross receipts every month to this fund and the State government will contribute an amount equal to the aggregate amount paid by all market committees.

Since the routine supervision of regulated markets is done by the State marketing department and since the supply of information needed to make policy decisions is to be carried on by the Market Development, Research and Survey Unit, only a limited number of administrative personnel are needed. The office staff proposed is:

1. One manager
2. One stenographer
3. Two typists
4. Two junior assistants

CHAPTER VI

MARKET DEVELOPMENT, RESEARCH, AND SURVEY UNIT

Since agricultural development is closely linked to marketing, research studies, regarding the availability of a marketable surplus, the structure, conduct and performance of markets, the structure and behavior of food grain prices, the regulation and supervision of trading practices, and to the development of new uses for agricultural commodities, are vital to the development of a sound marketing system for agricultural commodities in the State. In addition, for effective functioning of the State Agricultural Marketing Board, more reliable, accurate and timely information on the marketing of commodities is needed.

To provide such information, it is recommended that a market development, research and survey unit be established. The basic requirements for the market development, research and survey unit should be that:[1]

1. It should be established and operated as a research and not an "execution or action" unit.
2. It should be directed and staffed by qualified personnel.
3. It must have a full and effective liaison with all government departments, farmer organizations and institutions

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[1] M. B. Badenhop, Strategies for Improving the Market Structure for Food Grains in Mysore State, Agricultural Production Program, UT/USAID, Bangalore, 1970, p. 19.

whose activities importantly affect the well-being of agricultural people.

4. Its activities should be focused on matters of practical economic importance.

The activities of this unit could be classified under three broad categories based on their usefulness. The first activity deals with market news, the second with market intelligence reports, such as crop outlook reports, monthly price reports, and commodity situation reports, and the third primarily with research projects with long-range objectives, such as studies on cost analysis of market operations, studies on structure, conduct, and performance of markets and feasibility studies on the location of markets.

I. MARKET NEWS SERVICE

The price reporting mechanism as is done at present needs much improvement. Market news to be useful must be reliable, accurate and timely. Accuracy may be defined as the inverse of the total error, including bias as well as variance.[2] Market news plays a significant role in making short-run decisions.

The market information officer should therefore get accurate and quick information on opening prices, closing prices, and quantities of different grades of commodities received and sold at the various regulated markets from the marketing inspectors stationed at all markets.

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[2]Charles S. Meyer, "Assessing the Accuracy of Marketing Research," Journal of Marketing Research, August 1970, Chicago, Illinois, p. 285.

This information should be pooled and disseminated through All India Radio at least twice a day. A consolidated report in the format indicated below should be published in the morning newspapers and also posted at all the markets and Taluk Agricultural Multipurpose Cooperatives next day.

Proforma for Daily Reports on Market Arrivals and Prices for Each Commodity

1 District	2 Market	3 Commodity	4 Grade	5 Opening Price	6 Closing Price

7 Highest Price	8 Lowest Price	9 Quantity Received	10 Quantity Sold

The weekly report should be published and posted on every Monday morning at all regulated markets, offices of the Taluk Development Board, and offices of the Taluk Agricultural Multipurpose Cooperative Societies. The proforma for a weekly report might follow the following format:

1 District	2 Market	3 Commodity	4 Grade	5 Average Price of the Week

6 Average Price of the Previous Week	7 Total Quantity Offered for Sale	8 Total Quantity Sold During the Week

In addition to the above two reports, a monthly report on market arrivals and prices should be published. At present, the State marketing department publishes monthly reports on market arrivals and prices. This is usually published after a lapse of one month. Arrangements should be made to publish the same at least by the fifteenth of the following month. In examining these reports, a lot of discrepancies were noticed, such as lack of uniformity in the order of reporting commodities, arrangement of markets located in one district, and many printers' mistakes. This shows that the report lacks editing. A more systematic arrangement would be to start listing the commodities in the order of cereals, millets, pulses, oilseeds, and others. The districts under each commodity should proceed in alphabetical order commencing with Bangalore and ending with Tumkur. In addition, all markets located in one district should be grouped together and every month the order of arrangement should be followed strictly. A suggested format would be:

Name of the Commodity

1 District	2 Grade	3 Average Price of the Month	4 Average Price in Previous Month	5 Quantity Received	6 Quantity Sold	7 Quantity Sold in Previous Month

The monthly report should contain a brief summary of trading activities at the various regulated markets in addition to activities of the Food Corporation of India, the State Warehousing Corporation, Marketing Cooperatives, and some of the developmental programs of the marketing and agricultural departments.

II. MARKET INTELLIGENCE SERVICE

Market intelligence deals mostly with reports on areas planted under each commodity, condition of crops, and the current market position in terms of prices, supplies, demand, consumption, stocks on hand, and export-import possibilities. Market intelligence is a type of information which, when available and understood by buyers, sellers, consumers, and producers, is supposed to make the transfer of ownership more efficient and hence improve the adjustment of agricultural production to market requirements. To prepare most of these reports, basic data are needed which should be obtained from village level workers, agricultural extension officers, and district agricultural officers. It is advisable to prepare crop estimates and marketable surplus estimates for each market area separately. Crop reports should cover all the agricultural commodities traded in the regulated markets. These reports should include estimates of acreages farmers intend to plant, acreages planted, acres harvested, production, and stocks. Forecasts of production should be made each month during the growing season based on the probable yield per acre and crop conditions. The crop outlook reports should be published immediately after planting season and before harvesting.

Information on prices received by farmers at the markets should be obtained from the market information service section in the unit. To supplement this information, questionnaires should be mailed to farmers selected on random sampling to fill out information on quantities sold, prices received, and place of disposition such as village, shandy, wholesale merchant, or farmer cooperatives. This section should obtain

regular periodic reports on stocks of agricultural commodities held by farmers, taluk agricultural multipurpose cooperative societies, warehouses, and traders. Based on the above information, this section should be able to publish reports on the availability of food grains in the coming months and forecast probable price trend. Such reports should be a guide to the government on some policy matters regarding export-import possibilities.

This section should collect monthly information on quantities of each commodity purchased by buyers at regulated markets and to whom they subsequently transfer and quantities held in stock by traders. In the same manner, the volume traded through each commission firm at the regulated markets should be compiled. This information would be useful in identifying the volume handled by large traders and their influence on the prices at the various markets.

III. RESEARCH DIVISION

Research is vital to improve both agricultural production and agricultural marketing. The two broad areas in which research is needed are: (1) physical marketing functions, and (2) intangible functions. The physical marketing functions include mainly processing, storage, transportation, and grading of farm products. Intangible functions, stemming from the transfer of ownership, include: (1) pricing, plus financing and risking, and (2) guiding products to consumers in place,

form, and time.[3] Though some research has been conducted on the physical marketing functions with the technical and financial assistance of the USAID, very little attention has been paid to research in the field of market structure, conduct, and performance. It is in this context that research projects to be initiated by this unit, along with a few guidelines for conducting research, are proposed.

1. Studies of the physical aspects of marketing through a series of studies relating costs to (a) preparation of products for marketing, (b) process of handling and transportation, (c) type and location of storage, (d) methods of processing, (e) the nature of packaging, and (f) methods of distribution.[4]
2. Studies pertaining to present location, design of layout and storage capacity of existing regulated markets.
3. Studies to identify the various causes influencing intra-seasonal and seasonal variation in market arrivals and prices.
4. Studies to determine the various factors causing price variations in alternate markets and their relation to transfer costs in a particular region.

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[3] H. S. Irwin, "The Intangible Side of Agricultural Marketing--A Neglected Area of Research," Marketing and Economic Development (edited by Clarence J. Miller), University of Nebraska, Lincoln, 1967.

[4] M. B. Badenhop, Strategies for Improving the Market Structure for Food Grains in Mysore State, Agricultural Production Program, UT/USAID, Bangalore, 1970, p. 22.

5. Survey to analyze the importance of level of market knowledge as a structural element since changes in the degree of market knowledge between sellers and buyers, among sellers, and among buyers would affect the market structure.
6. Studies pertaining to market structure, conduct, and performance.
7. Studies of the comparative efficiencies of different marketing institutions such as private traders, farmers' cooperatives, regulated markets, and the Food Corporation of India with emphasis on storage, transportation, grading, financing and processing.[5]
8. Research studies in market news information, its use and dissemination.
9. Research into the mechanics of pricing and nature of competition at all levels of marketing.

Guidelines for Conducting the Above Research Projects

Project 1. For this study information on (1) costs of utilizing alternate types of packing material, (2) cost of rail and road transport, (3) costs of constructing flat type and bulk type storages of different capacities, (4) costs of their operation, (5) labor costs involved in physical handling of grains, and (6) cost of building different types of trucks along with their operational costs should be collected and analyzed.

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[5] Ibid., p. 23.

Project 2. Estimate the cost of constructing a model design for a regulated market along with costs of constructing varying capacities of storage. Conduct survey to determine the optimum place for locating a regulated market in each market area, taking into consideration factors such as roads connecting villages, availability of electricity, and nearness to as large a number of producers as possible.

Project 3. Since changes in the cropping pattern, improved village level storage and changes in the system of advancing loans to farmers are considered as some factors that could reduce intraseasonal variations in arrivals and prices, studies should be directed towards improving the operational procedures of farmers' cooperatives in assisting farmers to overcome storage inadequacies and procedural delays in granting credit to farmers.

Project 4. Some of the causative factors are: (1) absence of perfect knowledge among sellers, (2) existence of monopolistic conditions in markets, (3) degree of seller and buyer concentration, (4) variations in quantities of commodities traded, (5) transportation bottlenecks, and (6) existence of unfair trade practices. Studies on the volume of trading by buyers, especially those who are licensed to operate at several markets, contractual arrangements of some buyers with commission firms, and collusive practices adopted by buyers have to be undertaken. This information should be collected by holding personal interviews with participants at the market.

Project 5. To collect information for this study, a questionnaire has to be designed to elicit information from sellers, buyers, and commission firms on the source, type, quality, and amount of information used by them for making transactions at the markets.

Project 6. Various steps are involved in studies pertaining to structure, conduct, and performance of markets. Some of the steps to conduct research are: (1) identifying the existence of monopolistic conditions, (2) measuring the level at which the monopoly powers so created are exercised, (3) measuring the effect of this monopolistic action on the prices under consideration, and (4) measuring the impact of factors external to the market on the organization and behavior of firms.

Project 7. This study deals with the activities of the various marketing channels, namely: regulated markets, farmers' cooperatives, the Food Corporation of India, and the private trade. Information must be obtained, first, on the volume of agricultural commodities handled, the existing facilities of storage and transport, costs of operation, and financial turnovers of each of these four sectors. Second, based on this information, efficiency of operation of these four marketing channels has to be determined. This study should be a guide in deciding the major policy decisions of the government as regards the role of farmers' cooperatives, the Food Corporation of India, and regulated markets in marketing grains. This study could also indicate the impact

of well organized regulated markets as the most important primary markets for grains in the State.

Project 8. Studies on alternate methods of collecting information on prices, demand and supply, sources of obtaining such information, and methods of pooling and dissemination should be made with the objective of determining the accuracy of information and the effects of reliable and timely information on the price making mechanism.

Project 9. Studies to determine the effectiveness of the present methods of sale and existing licensing procedures for traders and commission firms are needed in order to make necessary changes to the constantly changing farming practices and to consumer demand. Efforts should be made to determine the minimum number of buyers and sellers and the quantity traded to ensure perfect market conditions at the regulated markets.

The activities of the unit as described clearly emphasize that effective liaison with the departments of agriculture, cooperative societies, community development, and the University of Agricultural Sciences is essential for the smooth functioning of this unit. The location of this unit within the present marketing department, which is already a part of the cooperative societies department, may not be a worthy proposition. The unit may be headed by an officer of the rank of Joint Director and work in the Department of Agriculture.[6] It is not the intention of this study to discuss the administrative aspects

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[6] Ibid., p. 20.

of the marketing department. In view of the changing situation in the country and the important role agricultural marketing has to play in economic development, it is more reasonable to reorganize the present department and create a Division of Agricultural Marketing Services as a unit in the State Department of Agriculture.

In order to carry out the three broad categories of functions, the following staffing pattern is proposed as indicated in Figure 68.[7] The staff in the research unit could be expanded depending on the type of research project being undertaken.

The operating expenses of this unit should be met out of the State funds.

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[7]Based partly on the plan suggested by M. B. Badenhop, op. cit., p. 21.

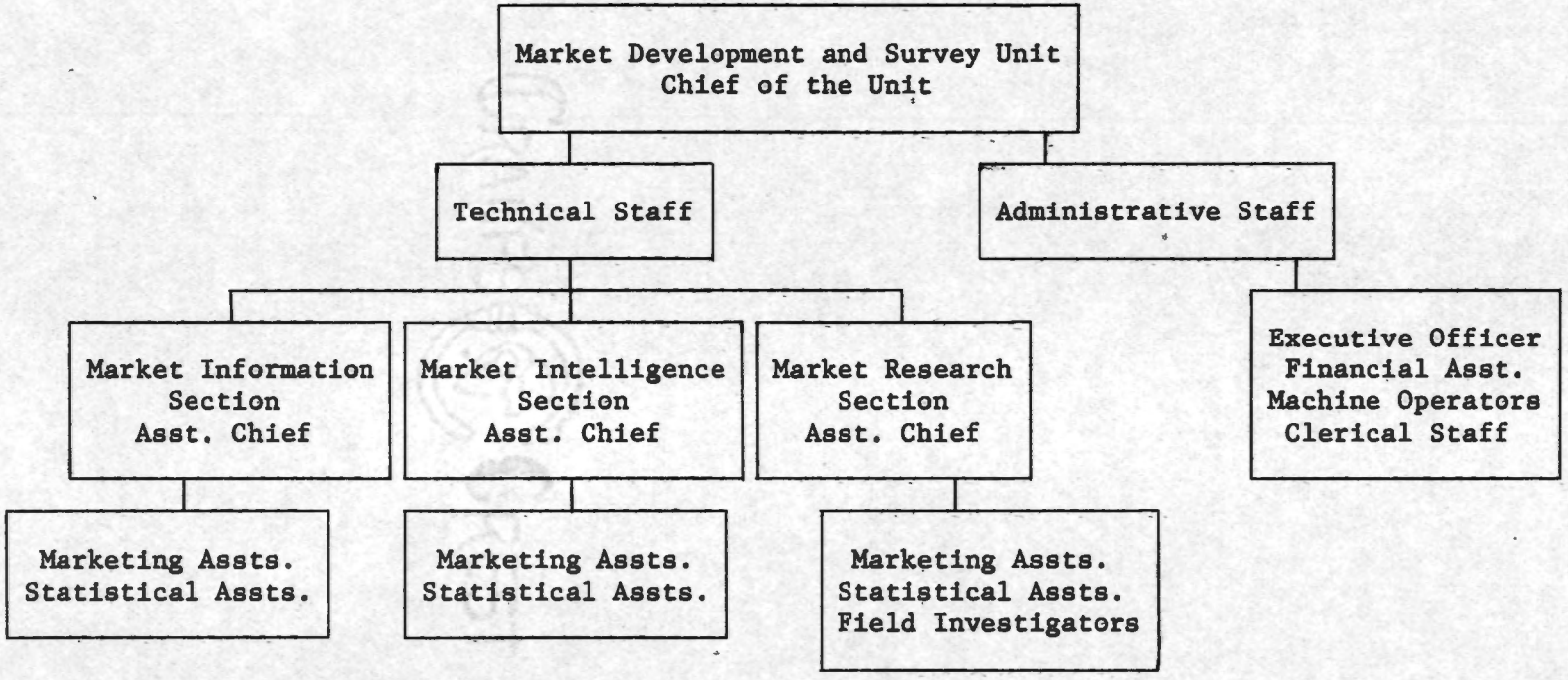

Figure 68. Proposed staffing pattern for the Market Development, Research and Survey Unit, Mysore State.

CHAPTER VII

STRATEGY FOR IMPROVING THE EFFICIENCY OF THE MARKETING SYSTEM FOR FOOD GRAINS IN MYSORE STATE

There are a number of organizations performing marketing functions in the State, such as the regulated markets, the farmers' cooperatives, the Food Corporation of India, and a multitude of private traders. In order to improve the efficiency of the marketing system, improvements are needed in the operation of all these channels. Even modest improvements in marketing channels leading to more effective competition, less deterioration in quality, and more economical handling and transport could significantly increase the producer's prices and stimulate production. In any marketing improvement program the final criterion should be economic efficiency. The efficiency of the marketing system depends on how well a particular job is performed by the various marketing organizations. There are two attributes of an efficient marketing system. They are: (1) to provide efficient and economical services and ownership transfers in the movement of commodities from seller to buyer, and (2) to provide an effective price making mechanism.[1] In addition, an increase in marketing efficiency need not necessarily involve a reduction in overall costs. It usually means better services

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[1] R. G. Bressler and R. A. King, Markets, Prices and Interregional Trade, John Wiley and Sons, Inc., New York, 1970, p. 410.

at less than proportionate increase in costs and improvements in the quality of final product.

With the object of improving the efficiency of the whole marketing system, an attempt was made in this study to develop and restructure the existing regulated markets as one of the possible ways of improving the efficiency of the system since regulated markets are the primary markets where farmers exchange commodities into cash. A network of well organized efficiently operated regulated markets is considered to be the first step in improving the system of marketing agricultural commodities. In the pages that follow an attempt is made to describe how the various other marketing organizations could coordinate with the activities of the regulated market system to improve the efficiency of the marketing system as a whole.

I. FARMERS' COOPERATIVES

Farmers' cooperatives could take over the functions of assembly and also increase the market power of producers. The cooperatives could play an important role in providing facilities for grain conditioning and for temporary storage, along with advancing a certain percentage of the value of the produce kept in their godowns as loan to farmers. As most of the cooperatives own trucks, they could transport the farmer's produce from the village to the storage facilities and also subsequently move the produce to a regulated market. This would alleviate the present transportation problem of the farmers to a great extent. In addition, the farmers' cooperatives could serve the role of commission firms at

the regulated markets. To perform these jobs, the cooperatives should be independent and efficient. It is only when "a set of independent, efficient farmers' marketing cooperatives are in business to provide a realistic alternative to the private trade, the private trade will become honest and efficient."[2]

II. THE FOOD CORPORATION OF INDIA

The Food Corporation of India was set up in 1965 as a statutory body. At present, the Food Corporation of India with its huge staff of 20,000 officials is procuring specific food grains from farmers at some predetermined price.[3] This organization operates in states only at the invitation of the State government and in accordance with the conditions laid out by the State. The Food Corporation of India presently operates at 6,000 purchase points and maintains 500 storage depots all over India.[4]

The operations of the Food Corporation of India have not been of much benefit to the producers because the farmers feel that the prices received by them from the Food Corporation are lower than that they would have received in a free market system. The Food Corporation has not been able to operate as a giant balancing wheel in the Indian

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[2]W. W. Cochrane, Food and Agricultural Policy for India, Ford Foundation, New Delhi, 1969, p. 31.

[3]Roland F. Ballou, Food Corporation of India, USAID Report, New Delhi, February 1969, p. 2.

[4]Ibid., p. 3.

economy pouring food grain stocks in the market wherever and whenever required and withdrawing stocks from production areas whenever and wherever this has occurred.[5] If the objective of the government is to ensure an incentive price to producers and also to help the urban consumers to purchase food grains at a reasonable price in times of food shortage, then it would be more advantageous for the Food Corporation to purchase food grains at regulated markets, side by side with the private trade. A reputable civil servant operating at the State headquarters of the Food Corporation of India could receive price quotations for specific commodities from several regulated markets in the State and could direct his subordinate staff to purchase the required quantities at a place where prices are lowest.[6] The Corporation could procure grain cheaply and compete with the private trade, because the Food Corporation is armed with better information, a larger number of trucks for transporting food grains, and greater capital for operating purposes than is the private trade. Instead of the present policy of procuring the grains from the farmers and rice millers, it would be more economical for this organization to purchase food grains at well organized regulated markets at the market price.

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[5]Cochrane, op. cit., p. 24.

[6]Ali M. Khusro, "Pricing of Food in India," Price Theory in Action (edited by Donald S. Watson), Houghton Mifflin Company, Boston, USA, 1969, p. 161.

III. PRIVATE TRADE

At present, a large percentage of food grains is being marketed by the private trade. It will be extremely difficult for the farmers' cooperatives and the Food Corporation of India to bear the burden of various marketing functions currently performed by the private trade. The only way to police the activities of the private trade is by competition. The government should ensure that fair trading takes place in regulated markets. No useful purpose would be served by unnecessary interference by government agencies in the normal marketing procedures.

IV. ROLE OF THE GOVERNMENT

No useful purpose will be served by the government spending money for constructing warehouses without proper planning, granting loans to inefficient cooperatives and increasing the operational cost of the Food Corporation of India. Instead, the government should provide technical and financial assistance to the private trade and to cooperatives for improving their storage and transport facilities. The government should provide funds to improve the physical facilities at the various regulated markets and it should provide better qualified personnel to these institutions to work on improving operating efficiency. Finally, the government should provide more funds to carry on problem oriented research in the areas of market structure, engineering of storage and transport, and in processing of agricultural commodities. The farm marketing system

of India cannot be modernized without a base of organized, scientific knowledge.[7]

V. SUMMARY

Much of what is written in this study is not new. An attempt has been made to indicate the magnitude of the marketing problem in the State of Mysore in the future. The study stresses the importance of establishing regulated markets that perform efficiently and effectively. It is not merely the numerical increase in the number of regulated markets that will solve the problem of millions of small farmers in the State, but the efficiency with which these regulated markets function. Based on the limited information available, a new pattern for the location of regulated markets has been suggested. The State Agricultural Marketing Board as proposed should be able to supervise the activities of these regulated markets and ensure that the public money spent on them will bring benefit to both producers and consumers of the State. Since research is vital to improve both agricultural production and marketing, greater efforts should be made in conducting problem oriented research. Finally, the role of the government in providing the proper environment for all the marketing channels to function smoothly is indicated briefly.

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[7] Cochrane, op. cit., p. 35.

BIBLIOGRAPHY

BIBLIOGRAPHY

Abbott, J. C., "The Development of Marketing Institution," Agricultural Development and Economic Growth (edited by Herman M. Southworth and Bruce F. Johnston). New York: Cornell University Press, 1968.

Badenhop, M. B., Strategies for Improving the Market Structure for Food Grains in Mysore State. Agricultural Production Program, University of Tennessee/USAID, Bangalore, 1970.

_____, Modernizing the Market Structure for Food Grains in Tamilnadu. Agricultural Production Program, University of Tennessee/USAID, Tamilnadu, 1969.

Bressler, R. G., Jr., and R. A. King, Markets, Prices and Interregional Trade. New York: John Wiley and Sons, Inc., 1970.

Bureau of Economics and Statistics, Mysore at a Glance, 1968. Government of Mysore, Bangalore, 1969.

_____, Statistical Outline of Mysore, 1967. Government of Mysore, Bangalore, 1968.

Cochrane, Willard G., Food and Agricultural Policy for India. Ford Foundation, New Delhi, 1969.

Curtis, J. M., "Survey of Agricultural Marketing Work in OECD Countries," Documentation in Food and Agriculture. OECD, Vol. 78, Paris, 1966.

District Marketing Officer, Statement Showing the Annual Arrivals and Values of Agricultural Commodities. Unpublished note, Agricultural Produce Committee, Bellary, Mysore State, 1970.

District Marketing Officer, Statement Showing the Annual Arrivals and Values of Agricultural Commodities. Unpublished note, Agricultural Produce Committee, Chitradurga, Mysore State, 1970.

Drucker, P. F., "Marketing and Economic Development," Journal of Marketing. Vol. 22, Chicago, 1958.

Food and Agricultural Organization of the United Nations, Agricultural Marketing Boards, Their Establishment and Operations. (FAO Marketing Guide No. 5) Rome, 1966.

Government of Mysore, The Mysore Agricultural Produce Marketing (Regulation) Act, 1966, and Mysore Agricultural Produce Marketing (Regulation) Rules, 1969. Government Press, Bangalore, Mysore State, 1968.

Henry, W. R., "How Can Marketing Efficiency Be Improved," Marketing Policy. Raleigh: Agricultural Policy Institute, North Carolina State College, 1961.

Isard, Walter, Location and Space Economy. Massachusetts: M.I.T. Press, 1956.

Kale, B. D., and P. B. Jorapur, Demographic Report of Mysore State, 1901-1961. Demographic Research Center, Dharwar, Mysore State, 1969.

Khusro, A. M., "The Pricing of Food in India," Price Theory in Action (edited by Donald S. Watson). Boston: Houghton Mifflin Company, 1969.

Krishna, Raj, "Agricultural Price Policy and Economic Development," Agricultural Development and Economic Growth (edited by Herman M. Southworth and Bruce F. Johnston). New York: Cornell University Press, 1968.

Lele, Uma J., "An Analysis of Modernization of Rice Milling Industry in India," Cornell University/USAID, Paper No. 33. New York: Cornell University.

Lewis, Richard, and Leo G. Erksen, "Marketing Functions and Marketing Systems: A Synthesis," Journal of Marketing. Vol. 23, Chicago, Illinois, July 1960.

Losch, August, Economics of Location. New Haven: Yale University Press, 1954.

Mamoria, C. B., Agricultural Problems in India. Kitab Mahal, Allahabad, India, 1961.

Mamoria, C. B., and Joshi, Principles and Practices of Marketing in India. Kitab Mahal, Allahabad, India, 1968.

Mcarthy, Jerome E., "Effective Marketing Institutions for Economic Development," American Marketing Association Proceedings. Chicago, Illinois, 1963.

Mellor, John W., "Growth of the Market and the Pace of Agricultural Development in Low-Income Nations," American Marketing Association Proceedings. Chicago, Illinois, June 1967.

Mysore Government, Mysore State in Maps, 1966. Department of Statistics, Bangalore, Mysore State, 1968.

Mysore State Marketing Department, Vyavasayothpannagala Vanijya Varthe. September 1966 to August 1969, Chief Marketing Office, Bangalore, Mysore State.

Nagaraju et al., "Food Projections," U.A.S. Miscellaneous Series No. 8. University of Agricultural Sciences, Bangalore, Mysore State, 1968.

National Council of Applied Economic Research, Structure and Behavior of Food Grain Prices. New Delhi, 1969.

_____, Market Towns and Spatial Development in India. New Delhi, 1965.

_____, Long-Term Demand and Supply for Selected Agricultural Commodities. New Delhi, 1962.

Ruttan, V. W., "Agricultural Product and Factor Markets in Southeast Asia," Economic Development and Cultural Change. Vol. 117, Illinois: University of Chicago, July 1969.

Secretary, Agricultural Produce Market Committee, Notes on the Working of the Market Committee, Davangere. Davangere, Mysore State, 1970.

_____, A Brief Note on the Working of the Agricultural Produce Committee, Mysore. Agricultural Produce Committee, Mysore, Mysore State, 1970.

University of Agricultural Sciences, Agricultural Production in Mysore State. Unpublished Note, Department of Agronomy, Bangalore, Mysore State, 1969.

APPENDIX

TABLE A-1

GRADE STANDARDS ADOPTED IN USA

Maximum Limit of Defects	Grade I	Grade II	Grade III	Grade IV	Grade V
	----------	----------	Percent	----------	----------
WHEAT					
Heat damaged kernels	0.1	0.2	0.5	1.0	3.0
Damaged kernels	2.0	4.0	7.0	10.0	15.0
Foreign matter	0.5	1.0	2.0	3.0	5.0
Shrunken and broken kernel	3.0	5.0	8.0	12.0	20.0
Total defect	3.0	5.0	8.0	12.0	20.0
CORN					
Moisture	14.0	15.5	17.5	20.0	23.0
Broken corn and foreign matter	2.0	3.0	4.0	5.0	7.0
Damaged kernels	3.0	5.0	7.0	10.0	15.0
SORGHUM					
Moisture	13.0	14.0	15.0	18.0	--
Damaged kernels	2.0	5.0	10.0	15.0	--
Broken kernels and foreign matter	4.0	8.0	12.0	15.0	--

Sample grade: Wheat, corn, or sorghum that does not meet any of the above requirements.

Source: Official Grains Standards of the United States, U.S.D.A., 1966, Washington, D. C.

VITA

A. N. Krishna Murthy was born in Bangalore, Mysore State, on November 17, 1926. He studied at United Mission High School and Central College in that city before proceeding to Madras where he received the Bachelor of Veterinary Science degree from the University of Madras. He served as veterinary assistant surgeon for three years in Mysore State before proceeding to Indian Veterinary Research Institute at Izathnagar, Uttar Pradesh, for Advanced Training in Physio-Pathology of Reproduction.

He was deputed by the State government for the one year Senior Certificate Course in Agricultural and Animal Husbandry Statistics at the Institute of Agricultural Research Statistics, New Delhi. He received the Master of Science degree with a major in Agricultural Economics from the University of Tennessee in 1963.

Murthy was assistant professor at the University of Agricultural Sciences in Mysore State, before proceeding to the University of Tennessee in 1968 for higher studies. In addition he served as warden of the Agricultural College Hostel and secretary, University Cafeteria, at Dharwar campus. Murthy was the recipient of financial assistance from the government of Mysore throughout his educational career in India, and his study at the University of Tennessee on both the occasions was financed by the United States Agency for International Development. Murthy is married and has two children.