



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

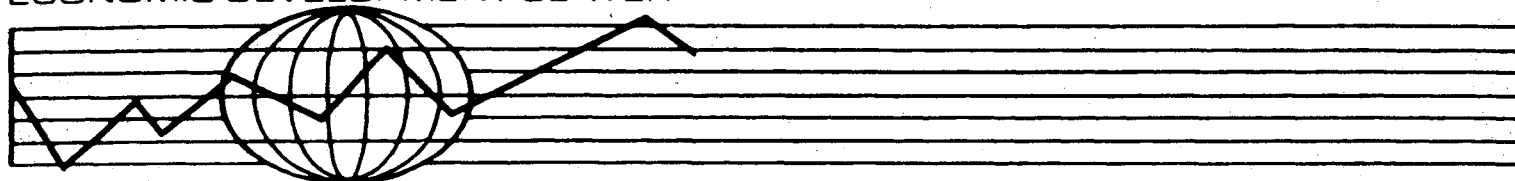
AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

(Bulletin Number 1)

June 1973

ECONOMIC DEVELOPMENT CENTER



CROPPING REGIONS IN INDIA

K. William Easter and Martin E. Abel

ECONOMIC DEVELOPMENT CENTER

Department of Economics, Minneapolis

Department of Agricultural and Applied Economics, St. Paul

UNIVERSITY OF MINNESOTA

CROPPING REGIONS IN INDIA

K. William Easter and Martin E. Abel

Bulletin No. 1
June 1973

Economic Development Center
Department of Economics, Minneapolis
Department of Agricultural and Applied Economics, St. Paul
University of Minnesota

TABLE OF CONTENTS

	<u>Page</u>
I. <u>Introduction</u>	1
II. <u>Food Crops -- Cereals</u>	
1. Rice	8
2. Wheat	11
3. Jowar	14
4. Maize	17
5. Barley	17
6. Bajra	22
7. Ragi	25
8. Millets	28
III. <u>Food Crops -- Pulses</u>	
9. Pulses	31
10. Gram	34
11. Tur	37
IV. <u>Food Crops -- Oilseeds</u>	
12. Groundnut	40
13. Coconut	43
14. Other Oilseeds	43
V. <u>Food Crops -- Others</u>	
15. Sugarcane	48
16. Potatoes	51
VI. <u>Fiber Crops</u>	
17. Cotton	51
18. Jute	54
19. Mesta	59
VII. <u>Spices and Other Crops</u>	
20. Black Pepper	59
21. Dry Ginger	63
22. Dry Chillies	63
23. Turmeric	67
24. Tobacco	67
VIII. <u>References</u>	73
IX. <u>Appendix Tables</u>	75

CROPPING REGIONS IN INDIA*

K. William Easter and Martin E. Abel**

I. Introduction

Crop regions are defined for 21 crops and three groups of crops (other oilseeds, millets and pulses). Several crops, such as tea, coffee, rubber, fruits, and vegetables, are not included because of the lack of data, but those that are included account for a large proportion of total crop acreage and production and thus provide a good overall view of crop production in India. The regions are developed for only 14 states because of data limitations. Throughout the manuscript, total production refers to production in these 14 states. Except for maize and jute, these states produced over 90 percent of the production of each crop in all of India. 1/

The percentage contribution of a district to the total production of a crop and the percentage of a district's gross cropped area under a crop are used as the primary criteria in delineating crop regions. 2/ Districts are included in the defined cropping regions if they produced 0.5 percent

* This work was supported by funds from the Ford Foundation and the Economic Development Center of the University of Minnesota.

** Associate Professor and Professor, Department of Agricultural and Applied Economics, University of Minnesota. We would like to thank J. S. Sarma, Ram Saran, and W. B. Donde for assistance in obtaining the basic data and for encouraging us to pursue the analysis presented in this report.

1/ National or total production in this paper does not include Assam, Himachal Pradesh, Jammu and Kashmir, the Union Territories, and the six northern hill districts of Uttar Pradesh.

2/ The gross cropped area figures are based on 30 crops: wheat, rice, jowar (sorghum), maize, bajra (millet), ragi (millet), barley, gram, (chick pea), tur (pigeon pea), other pulses, groundnut (peanuts), nigerseed, linseed, sesamum, rapeseed and mustard, castor seed, sun-hemp, mesta, jute, tobacco, sugarcane, potatoes, dry chillies,

or more of the total production of a given crop or if they produced less than 0.5 percent but the crop accounted for a significant part of the cultivated area in the district.

Two types of districts -- core and satellite -- are distinguished in defining cropping regions. A core district is one which accounts for 1 percent or more of total production in the 1967-69 period (1967-68 and 1968-69 crop years) or has a large percentage of the district cropped area in the particular crop. The percent of district cropped area used to distinguish between core and satellite districts varies among the crops and is discussed in the notes to the text tables. A satellite district is one which accounts for at least 0.5 percent but less than 1 percent of total production in the 1967-69 period, or accounts for less than 0.5 percent of total production and has a significant proportion of district cropped area in the crop but the proportion is less than that used in defining core districts.

The core and satellite districts are used to define crop regions. Generally, these districts account for at least 75 percent of national production (14-state basis) of each crop in the 1967-69 period. For some specialized crops like black pepper or dry ginger, a few districts account for the total output.

A minimum of three districts in the same general area, one of which has to qualify as a core district, is required to form a crop region. In addition, to qualify, a region must have more than 1 percent of total production of the crop being considered.

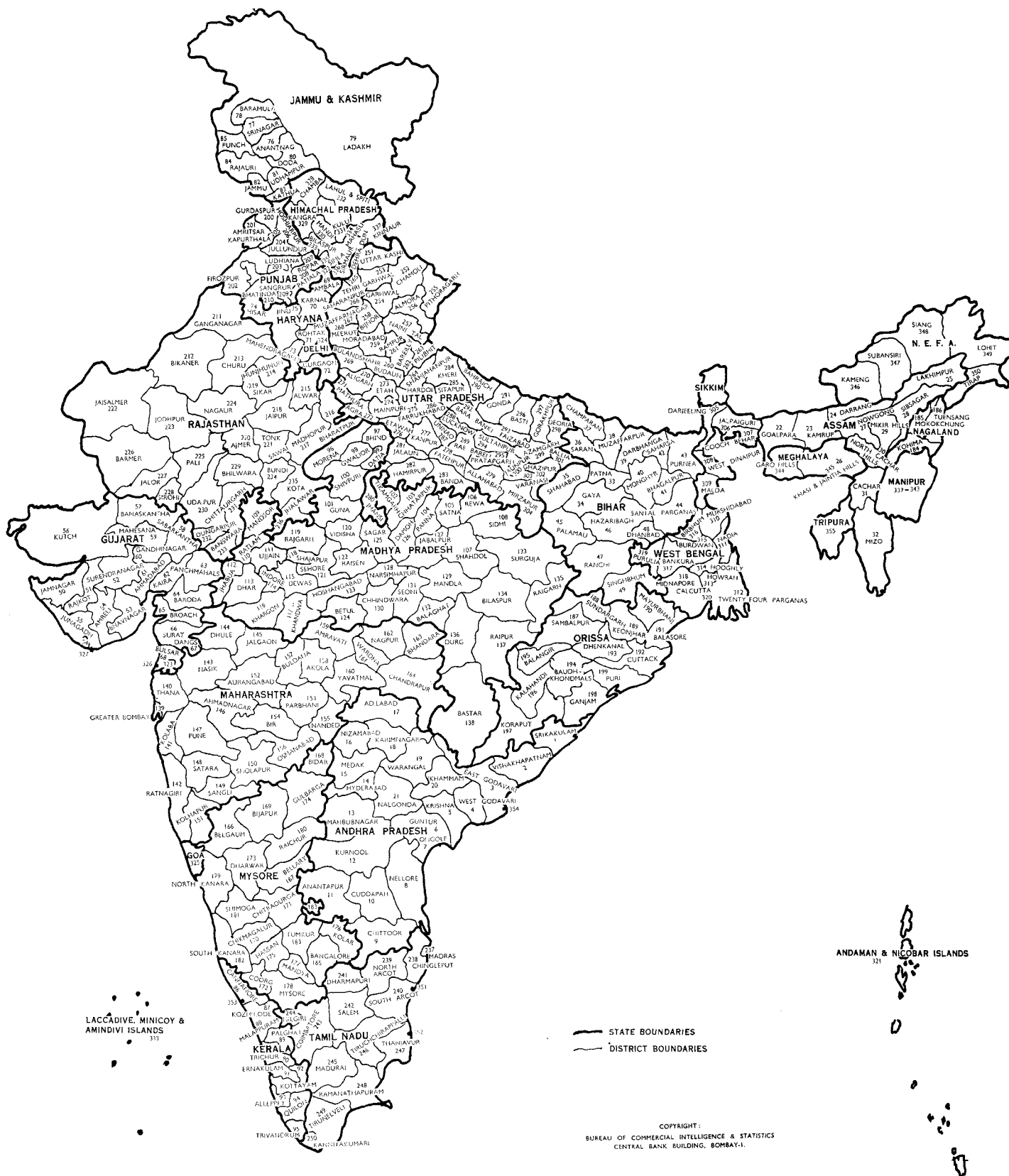
The crops have been grouped into three major categories: food crops, fibers crops, and spices and other crops. The food crops category is divided into cereals, pulses, oilseeds, and other food crops. Rice, wheat, jowar, maize, barley, bajra, ragi, and small millets are included in the cereals; pulses include gram, tur, and other pulses; and oilseeds include groundnut, coconut, and other oilseeds, with the latter including nigerseed, linseed, sesamum, rapeseed, mustard and castor seed. The other food crops category has just two crops, sugarcane and potatoes. Fibers include cotton jute and mesta. Finally, the spices and other crops contain black pepper, dry ginger, turmeric, dry chillies and tobacco. ^{3/}

coconut, dry ginger, small millets, safflower, black pepper, turmeric and cotton.

The district data used in the paper are based on the district boundaries which existed in 1959-60. On the other hand, maps had to be used with the more recent boundaries. But in indicating regions on the maps, the old boundaries are used where possible.

^{3/} See Appendix for the districts included in each region.

A blank map containing district boundaries and a listing of district names is presented. The reader may find it useful to compare the subsequent maps showing cropping regions with this one to ascertain the districts which are included in each crop region. He may also refer to the detailed listing of districts comprising each crop region given in the Appendix tables.



STATES AND DISTRICTS OF INDIA USED IN THE CROP REGIONS*

<u>Andhra Pradesh</u>	Muzaffarpur	Junagadh
Srikakulam	Darbhanga	Kutch
Visakhapatnam	Monghyr	Rajkot
East Godavari	Bhagalpur	Surendranagar
West Godavari	Saharsa	
Krishna	Purnea	
Guntur	Santhal Parganas	<u>Haryana</u>
Nellore	Hazaribagh	Hissar (Hisar)
Kurnool	Ranchi	Rohtak
Anantapur	Palamau	Gurgaon
Cuddapah	Dhanbad	Karnal
Chittoor	Singhbhum	Ambala
Hyderabad		Jind <u>a/</u>
Nizamabad	<u>Gujarat</u>	Mohindergarh
Medak	Ahmedabad	(Mahendragarh)
Mahbubnagar	Banaskantha	
Nalgonda	Baroda	<u>Kerala</u>
Warangal	Broach	Trivandrum
Khammam	Bulsar <u>a/</u>	Quilon
Karimnagar	Dangs	Alleppey
Adilabad	Gandhinagar <u>a/</u>	Kottayam
Ongole <u>a/</u>	Kaira	Ernakulam
	Mehsana (Mahesana)	Trichur
<u>Bihar</u>	Panchmahals	Palghat
Patna	Sabarkantha	Kozhikode
Gaya	Surat	Cannanore
Shahabad	Amreli	Malappuram <u>a/</u>
Saran	Bhavnagar	
Champaran	Jamnagar	

* Only districts which existed in 1959-60 are used in this analysis. Districts formed since 1959-60 are, however, included in this listing and are also shown on the maps in the manuscript.

Changes in the spelling of district names are shown in parentheses following the district names. These new spellings are used on the maps; the old spellings are used in the Appendix tables.

a/ District formed after 1959-60.

Madhya Pradesh

Sagar
 Damoh
 Jabalpur
 Mandla
 Hoshangabad
 Narsimhpur
 (Narsimhapur)
 East Nimar (Khandwa)
 Balaghat
 Betul
 Chindwara
 (Chhindwara)
 Seoni
 Durg
 Raipur
 Bilaspur
 Surguja
 Raigarh
 Bastar
 Bhind
 Morena
 Gwalior
 Shivpuri
 Guna
 Vidisha
 Rajgarh
 Shajapur
 Ujjain
 Ratlam
 Mandsaur (Mandsor)
 Dewas
 Indore
 West Nimar (Khargon)
 Dhar
 Jhabua
 Rewa
 Satna
 Sidhi
 Shahdol
 Datia
 Tikamgarh
 Chhatarpur
 Panna
 Sehore
 Raisen

Maharashtra

Thana
 Kolaba
 Ratnagiri
 Nasik
 Dhulia (Dhule)
 Jalgaon
 Ahmednagar (Ahmadnagar)
 Poona (Pune)
 Satara
 Sangli
 Sholapur
 Kolhapur
 Aurangabad
 Parbhani
 Bhir (Bir)
 Nanded
 Osmanabad
 Buldhana (Buldana)
 Akola
 Amravati
 Yeotmal (Yavatmal)
 Wardha
 Nagpur
 Bhandara
 Chanda (Chandrapur)

Mysore

Bangalore
 Kolar
 Tumkur
 Mysore
 Mandya
 Hassan
 Shimoga
 Chickamagalur
 (Chikmagalur)
 Chitradurga
 Bellary
 Dharwar
 Belgaum
 Bijapur
 North Kanara
 Bidar

Raichur
 Gulbarga
 South Kanara
 Coorg

Orissa

Balasore
 Bolangir (Balangir)
 Cuttack
 Dhenkanal
 Ganjam
 Kalahandi
 Keonjhar
 Koraput
 Mayurbhanj
 Phulbani
 (Baudh-Khondmals)
 Puri
 Sambalpur
 Sundergarh

Punjab

Hoshiarpur
 Jullundur
 Ludhiana
 Ferozepur (Firozpur)
 Amritsar
 Gurdaspur
 Kapurthala
 Bhatinda
 Patiala
 Sangrur
 Ropar a/

Rajasthan

Ajmer
 Alwar
 Banswara
 Barmer
 Bharatpur
 Bhilwara

Rajasthan (continued)

Bikaner
 Bundi
 Chittorgarh
 (Chittaurgarh)
 Churu
 Dungarpur
 Ganganagar
 Jaipur
 Jaisalmer
 Jalore (Jalor)
 Jhalawar
 Jhunjhunu (Jhunjhunun)
 Jodhpur
 Kotah (Kota)
 Nagaur
 Pali
 Sawai Madhopur
 Sikar
 Sirohi
 Tonk
 Udaipur

Tamil Nadu

Chingleput
 South Arcot
 North Arcot
 Salem
 Dharmapuri a/
 Coimbatore
 Tiruchirapalli
 (Tiruchchirappalli)
 Thanjavur
 Madurai
 Ramanathapuram
 Tirunelveli
 Nilgiris (Nilgiri)
 Kanya-Kumari
 (Kanniyakumari)

Uttar Pradesh b/

Dehradun (Dehra Dun)
 Saharanpur
 Muzaffarnagar
 Meerut
 Bulandshahr
 Aligarh
 Mathura
 Agra
 Mainpuri
 Etah
 Bareilly
 Bijnor
 Badaun (Budaun)
 Moradabad
 Shahjahanpur
 Pilibhit
 Rampur
 Farrukhabad
 Etawah
 Kanpur
 Fatehpur
 Allahabad
 Jhansi
 Jalaun
 Hamirpur
 Banda
 Varanasi
 Mirzapur
 Jaunpur
 Ghazipur
 Ballia
 Gorakhpur
 Deoria
 Basti
 Azamgarh
 Nainital (Naini Tal)
 Lucknow
 Unnao
 Rae Bareli
 Sitapur
 Hardoi
 Kheri

Faizabad

Gonda
 Bahraich
 Sultanpur
 Pratapgarh
 Bara Banki

West Bengal

24-Parganas
 Nadia
 Murshidabad
 Burdwan
 Birbhum
 Bankura
 Midnapur (Midnapore)
 Hooghly
 Howrah
 Jalpaiguri
 Darjeeling
 Malda
 West Dinajpur
 Cooch Behar
 Purulia

b/ List of districts excludes six northern hill districts which are not included in the cropping regions.

II. Food Crops -- Cereals

During the 1967-68 and 1968-69 crop years, the eight cereal crops covered almost 100 thousand hectares and total production on an all-India basis was between 83 and 84 million tons. Rice, wheat and jowar were the most important crops, accounting for 72 percent of the area under cereals and 86 percent of the cereal grain production. Bajra was the fourth most important crop in terms of area and maize was fourth in terms of production.

Rice^{4/}

Rice is the most important crop in India in terms of both production and acreage, and its production is widely distributed (figure 1). Twelve regions, comprised of 108 districts, accounted for 85 percent of national production in the 1967-69 period (table 1). Still, 50 percent of India's rice was produced in 35 districts, and the five major regions accounted for 50 percent of total rice production.

Few shifts occurred between the 1959-61 (1959-60 and 1960-61 crop years) and 1967-69 periods in the relative importance of different regions in the production of rice. The minor shifts which did occur generally favored the coastal rice regions as compared to the inland regions. The regions which had modest gains in relative importance were Inland West Bengal, Eastern Tamil Nadu, and Coastal Orissa-West Bengal. Western Mysore and Kerala had very small gains in relative importance. The losers were Eastern Madhya Pradesh, the two regions in Bihar, and Coastal Andhra Pradesh. The remaining regions held almost constant.

The 12 regions accounted for nearly 85 percent of India's production both in 1959-61 and 1967-69. The 84 core districts contributed 74 percent of the production in 1967-69, almost the same as in 1959-61. Eight regions in the States of Tamil Nadu, Andhra Pradesh, Madhya Pradesh, West Bengal, Orissa and Bihar accounted for 70 percent of production in 1967-69.

The development of high-yielding varieties of rice has increased the returns from rice production and encouraged its adoption in the northern part of the Gangetic Plain during the kharif season (monsoon or wet season). This trend should continue with the increase in tube well irrigation in that area of India and several new rice regions should emerge. For example, in Gurdaspur (Punjab), acreage under rice jumped from 19 to 26 percent between 1959-61 and 1967-69, and in Karnal (Haryana), area under

^{4/} The exclusion of Jammu and Kashmir, Assam, Himachal Pradesh, Nagaland and the Union Territories from this study means that about 8.5 percent of India's rice production is not included.

Fig. 1 RICE REGIONS

LEGEND:

- CORE DISTRICTS** (Solid black)
- SATELLITE DISTRICTS** (Hatched)

STATE BOUNDARIES (Solid line)

DISTRICT BOUNDARIES (Dashed line)

States and Union Territories shown: JAMMU & KASHMIR, HIMACHAL PRADESH, PUNJAB, HARYANA, DELHI, RAJASTHAN, GUJARAT, MADHYA PRADESH, UTTAR PRADESH, BIHAR, WEST BENGAL, ORISSA, MAHARASHTRA, ANDHRA PRADESH, KERALA, TAMIL NADU, SIKKIM, ASSAM, NAGALAND, MANIPUR, MIZO, TRIPURA, N. E. F. A., LACCADIVE, MINICOY & AMINDIVI ISLANDS, ANDAMAN & NICOBAR ISLANDS.

Copyright: BUREAU OF COMMERCIAL INTELLIGENCE & STATISTICS, CENTRAL BANK BUILDING, BOMBAY-1.

COPYRIGHT:
BUREAU OF COMMERCIAL INTELLIGENCE & STATISTICS
CENTRAL BANK BUILDING, BOMBAY-1.

Table 1. Rice Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Rice Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Eastern Tamil Nadu	11.1	10.1	8.4	7.5
II. Kerala	3.8	3.5	3.4	3.1
III. Western Mysore	4.1	3.4	2.6	2.2
IV. Western Maharashtra	2.5	2.5	1.8	1.6
V. Coastal Andhra Pradesh	8.3	8.8	7.0	6.8
VI. Eastern Madhya Pradesh	9.1	10.7	8.5	10.1
VII. Eastern Uttar Pradesh	4.6	4.7	2.5	2.3
VIII. Inland West Bengal	10.9	9.9	10.9	9.9
IX. Inland Orissa	6.9	6.8	6.9	6.8
X. Coastal Orissa-Bengal	10.1	8.7	10.1	8.7
XI. Southern Bihar	5.2	6.5	5.2	6.5
XII. Northern Bihar	7.9	8.5	7.0	7.8
Total	84.5	84.1	74.3	73.3

Notes:

A. Criteria for delineating rice regions:

- (1) At least 15 percent of the district's gross cropped area under rice if the district's contribution to total production is 0.5 percent or more in 1967-69.
- (2) At least 25 percent of the district's gross cropped area under rice if the district's contribution to total production is less than 0.5 percent in 1967-69.

B. Core districts have 1 percent of total rice production and at least 30 percent of district under rice or, less than 1 percent of production and at least 35 percent of district under rice in 1967-69.

rice went from 12 to 20 percent.^{5/} In Uttar Pradesh, Muzaffarnagar and Moradabad showed increases in area under rice from 10 to 13.5 and 13 to 16 percent, respectively, between 1959-61 and 1967-69. ^{6/} In the districts where rice acreage increased, the area under pulses, millets, and sugar-cane declined.

Wheat^{7/}

Nine wheat regions are delineated which accounted for 80 percent of wheat production in 1967-69, up from 74 percent in 1959-61 (see figure 2 and table 2). The share of total wheat production accounted for by the 68 core districts went from 63 to 69 percent between 1959-61 and 1967-69. The regions in Punjab, Haryana, and Western Uttar Pradesh accounted for almost 50 percent of total wheat production in 1967-69, a substantial increase from the 37 percent in 1959-61. Northeastern Uttar Pradesh and Western Bihar were the only other regions which showed an increase in share of production between 1959-61 and 1967-69. The combined shares of these two regions increased from less than 9 percent to 10.5 percent. The two regions in Madhya Pradesh and Rajasthan were the major losers in relative production. These two regions together dropped from almost 14 percent to 7.5 percent. West Central and Southern Uttar Pradesh also had declines in their combined shares of total production, from 14 percent to 12 percent.

These shifts show a significant movement of wheat production to the better irrigated areas, particularly to ones served by tube wells. They reflect the dramatic effect that the high-yielding varieties of wheat have had on production in the irrigated areas plus an expansion of irrigated area induced by the increased profitability of the new varieties.

The regions with an increased share of wheat production have achieved the increase through expansion of both yield and area. As a result, acreage of gram declined. The proportion of sugarcane acreage has also declined, particularly in Western Uttar Pradesh, partly as a result of the increased returns from wheat production.

^{5/} Ambala in Haryana and Hoshiarpur, Amritsar, Patiala and Kapurthala in the Punjab all had between 10 and 20 percent of gross area under rice in 1967-69, up from lower percentages in 1959-61.

^{6/} Four districts in Northwestern Uttar Pradesh, Bareilly, Bijnor, Pilibhit, and Nainital, each had 25 percent or more of the gross cropped area under rice in 1967-69 but did not qualify as a region because the total contribution to rice production was only 0.9 percent.

^{7/} The exclusion of Jammu and Kashmir, Assam, Himachal Pradesh and the Union Territories from this study means that about 5 percent of the wheat production in India is not included.

Fig. 2 WHEAT REGIONS

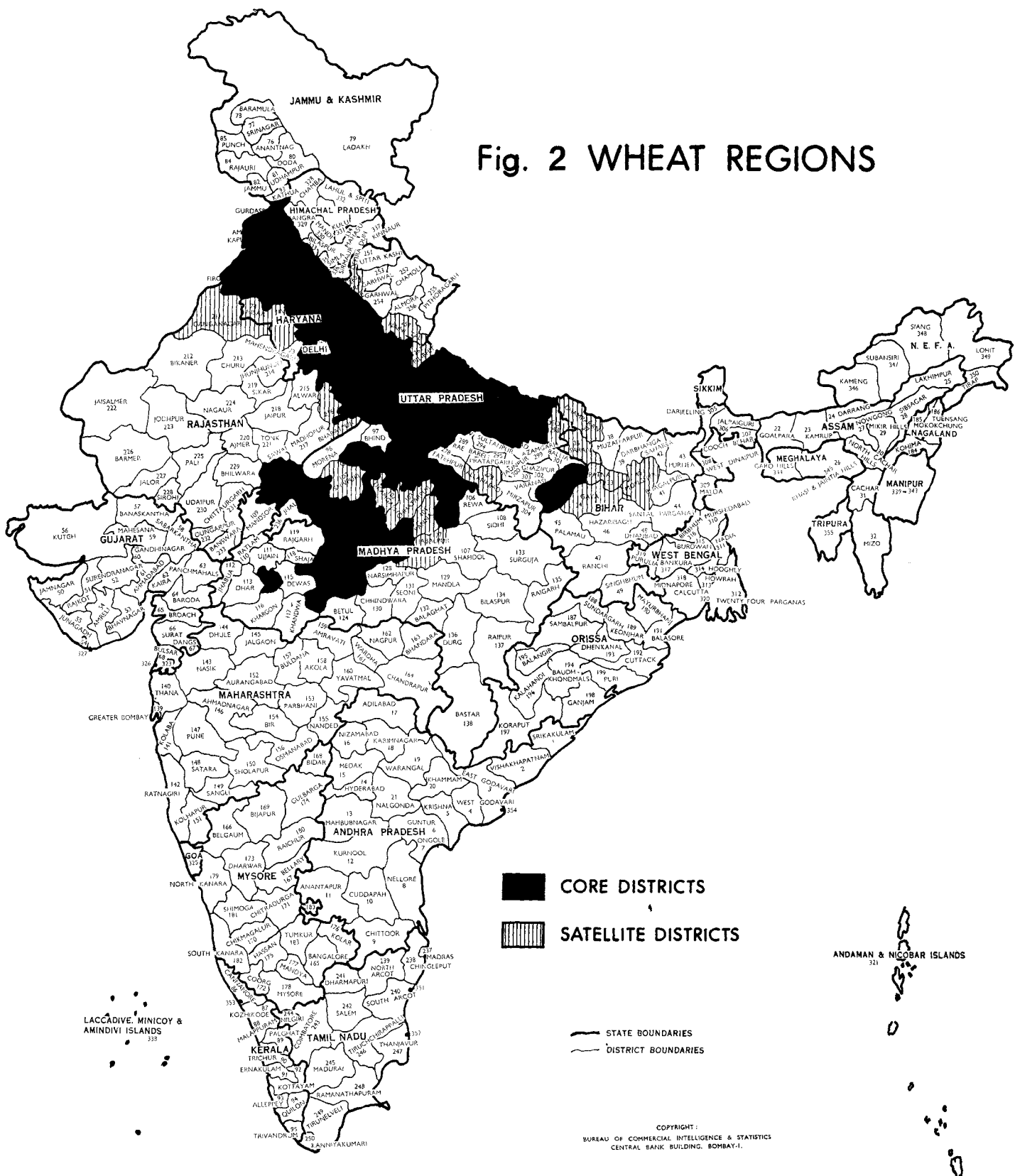


Table 2. Wheat Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Wheat Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Punjab	23.5	16.2	23.5	16.2
II. Haryana-Western Uttar Pradesh	16.5	13.5	13.8	10.5
III. West Central Uttar Pradesh	6.5	7.8	6.3	7.2
IV. Northeastern Uttar Pradesh	6.4	5.8	5.2	4.9
V. Southwestern Uttar Pradesh	9.5	7.5	8.5	6.8
VI. Southern Uttar Pradesh	5.5	6.2	4.2	5.1
VII. Western Bihar	4.1	3.1	1.3	0.9
VIII. Central Madhya Pradesh	5.1	9.9	4.5	8.6
IX. Madhya Pradesh-Rajasthan	<u>2.4</u>	<u>3.8</u>	<u>2.1</u>	<u>3.2</u>
Total	79.5	73.8	69.4	63.4

Notes:

A. Criteria for delineating wheat regions:

- (1) At least 10 percent of the district's gross cropped area was under wheat or the district contributed at least 0.5 percent of total production in 1967-69.
- (2) At least 20 percent of the district's cropped area was under wheat if the district's contribution to total wheat production was less than 0.5 percent in 1967-69.

B. Core districts have at least 0.5 percent of total wheat production and at least 20 percent of the cropped area in the district was under wheat, or they have less than 0.5 percent of total production and at least 25 percent of the cropped area in the district was under wheat in 1967-69.

In the Madhya Pradesh-Rajasthan and the Central Madhya Pradesh regions, land shifted out of wheat production into oilseeds and pulses. Even with these shifts, a large percentage of the cropped area in these regions remained in wheat.

Further expansion of wheat acreage is likely to continue where there is the potential to expand irrigation, particularly in Eastern and South-western Uttar Pradesh. These areas still have considerable acreage of barley, which will be replaced by wheat as irrigation and more drought resistant wheat varieties become available. The Southeastern Uttar Pradesh region, which had over 15 percent of the gross cropped area under barley in 1967-69, is likely to experience the largest increase in wheat. With the spread of electricity and tube well irrigation, Southeastern Uttar Pradesh will probably emerge as an important wheat region. A recent study in Jaunpur district highlights the potential for increased wheat production in this region [1]. In the progressive villages, wheat accounts for 26 percent of the gross cultivated area while barley accounts for only 7 percent. In comparison, the non-progressive villages without tube well irrigation have wheat on only 9 percent of the gross cultivated area and barley on 20 percent.

There may be relatively less opportunity to expand area and production of wheat in Madhya Pradesh and Rajasthan because of the limited possibilities for expanding irrigated area. Still, Northeastern Rajasthan is a possible future wheat region with considerable acreage of barley and gram. Between 1959-61 and 1967-69, five of the eight districts had an increasing percentage of area under wheat.

Jowar

Jowar (sorghum) production is situated between the wheat and bajra (millet) regions of Northern and Western India, and the rice and ragi (millet) regions of Eastern and Southern India (see figure 3). It is the principal cereal grain of Central India, where rainfall is too low for rice but higher than in most millet regions. Jowar is basic for food production in large parts of Maharashtra, Andhra Pradesh, Mysore and Madhya Pradesh.

Jowar can be grouped into four major regions and five smaller regions. These nine regions included 88 percent of India's jowar production in both 1967-69 and 1959-61 (see table 3). The production in the 55 core districts was 73 percent of the total in 1967-69, up only slightly from 1959-61. The combined share of the two major regions, Southwestern Maharashtra and Andhra Pradesh, declined between 1959-61 and 1967-69, from 37.5 to 30.9 percent. The only other region which declined in relative importance was Central Inland Tamil Nadu. The largest gainers were Northern Mysore, from 12 to 15 percent; the two regions of Madhya Pradesh, from 12 to 16 percent; and Central Maharashtra, from 15 to 16 percent. The region in Rajasthan went from slightly below 3 percent to a little above 3 percent, while the one in Gujarat remained stable in its share of total jowar production.

Fig. 3 JOWAR REGIONS

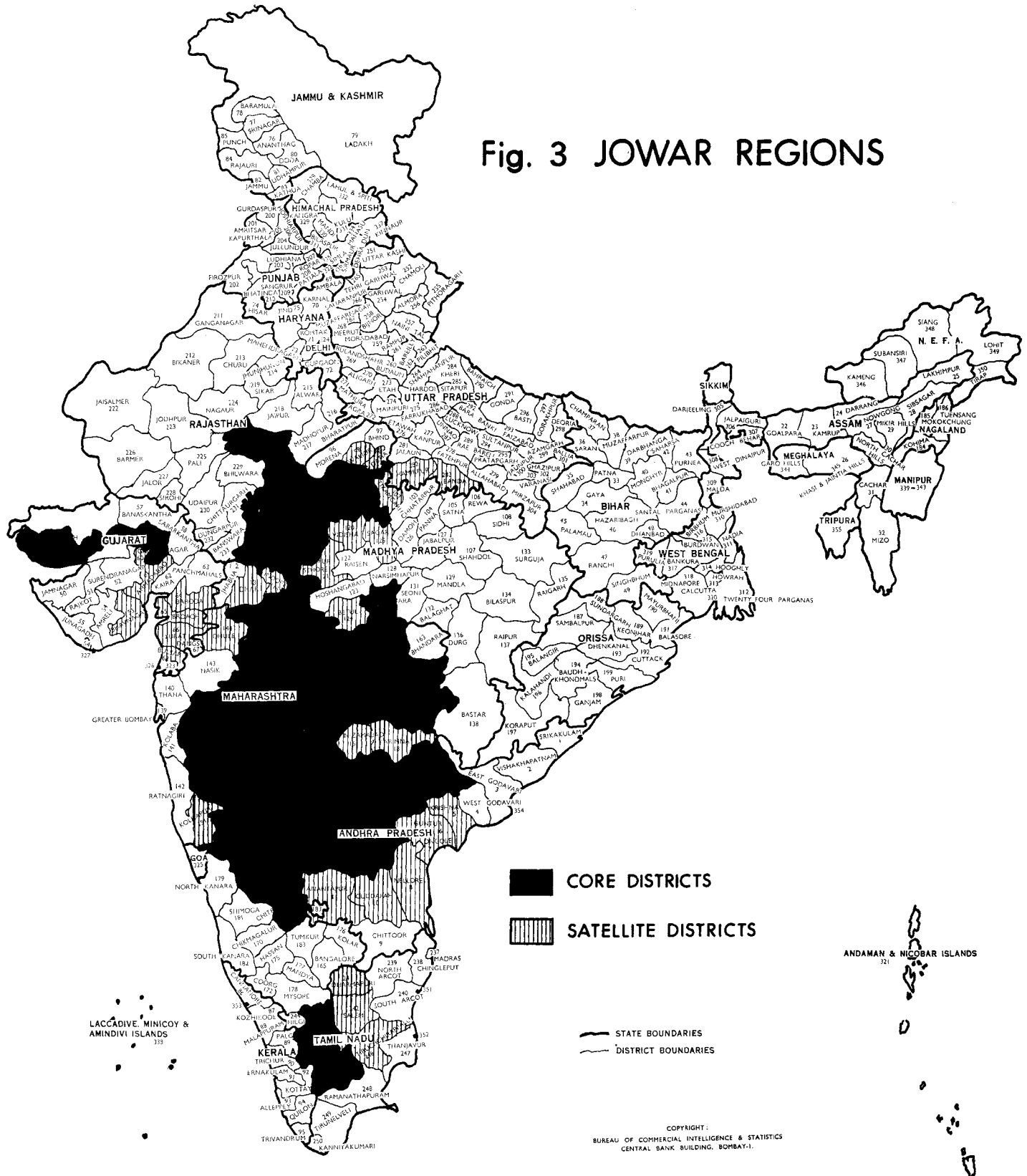


Table 3. Jowar Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Jowar Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Northern Mysore	14.7	11.8	14.7	11.8
II. Central Maharashtra	15.7	14.8	15.7	14.8
III. Southwestern Maharashtra	17.8	21.5	17.1	20.7
IV. Southwestern Madhya Pradesh	8.4	5.8	7.9	5.3
V. Central Madhya Pradesh	7.5	6.5	2.8	2.3
VI. Andhra Pradesh	13.1	16.0	8.8	10.9
VII. Central Eastern Rajasthan	3.4	2.8	3.4	2.8
VIII. Central Inland Tamil Nadu	4.2	5.4	2.4	3.1
IX. Gujarat	<u>3.1</u>	<u>3.1</u>	<u>0.4</u>	<u>0.3</u>
Total	87.9	87.7	73.2	72.0

Notes:

- A. Criteria for delineating jowar regions are the same as for wheat (see notes to table 2).
- B. Core districts had 1 percent of the national jowar production and 20 percent of the district's gross cropped area was under jowar, or less than 1 percent of national jowar production and more than 25 percent of district's gross cropped area was under jowar in 1967-69.

Maize^{8/}

Maize production is concentrated in seven regions, five major regions and two minor ones (see table 4 and figure 4). The largest concentrations of production are in the Southern Rajasthan-Madhya Pradesh region, with 19.5 percent of total production in 1967-1969; Northern Punjab with 16 percent; and in Northern Bihar with 15.5 percent. The two regions in Uttar Pradesh each produced 10 percent of total maize output, while the small regions in Northern Andhra Pradesh and Bihar-Madhya Pradesh each produced about 4 percent. The share of total production in these seven regions was almost 80 percent in 1967-69, down from 81 percent in 1959-61. The 33 core districts contributed 55 percent of total output in both 1967-69 and 1959-61.

The regions in Northern Punjab, Central Uttar Pradesh, Western Uttar Pradesh, and Northern Andhra Pradesh together have increased their share of total production from 34 percent to 41 percent between 1959-61 and 1967-69. The share of the other regions dropped from 47 to 39 percent. Thus, maize production appears to be shifting to the better irrigated areas in Northern India and to Northern Andhra Pradesh.

Barley

Since barley tends to be grown in areas where there is not enough water to grow wheat, the tube well development and use of high-yielding varieties of wheat in the barley-producing regions should cause shifts in production away from barley. The 2.9 percent decline in the share of total barley production in Eastern Uttar Pradesh is probably due to the new high-yielding varieties of wheat and the tube well development in that area [1]. But it is not clear that these are the reasons for the 1.5 percent decline in the relative importance of Southeastern Rajasthan as a producer of barley. Weather conditions or the growth in importance of other crops, i.e., oilseeds, may have been more important in the latter region's decline in relative importance.

Three of the other four regions increased their share of barley production while Southwestern Uttar Pradesh had no significant change (see table 5). Of the three regions with increased shares, only Haryana-Rajasthan had a higher proportion of cropped area under barley in 1967-69 than in 1959-61. The increase came primarily in the two core districts in Haryana and the two adjacent core districts in Rajasthan.

The 37 core districts produced 72.4 percent of the barley in 1967-69, up from 67.9 percent in 1959-61. All 47 districts comprising the six

8/ The figures used in this paper do not include Jammu and Kashmir, Assam, Himachal Pradesh, or the Union Territories, where about 13 percent of the maize, on an all-India basis, is produced.

Fig. 4. MAIZE REGIONS

LEGEND:

- CORE DISTRICTS** (Solid black shading)
- SATELLITE DISTRICTS** (Diagonal line shading)
- STATE BOUNDARIES** (Thick line)
- DISTRICT BOUNDARIES** (Thin line)

The map shows the following states and union territories with their respective district numbers:

- JAMMU & KASHMIR:** Baramulla (78), Srinagar (77), Poonch (76), Anantnag (75), Doda (80), Rajauri (84), Jammu (81), Udhampur (82), Kathua (83), Ladakh (79).
- HIMACHAL PRADESH:** Gurdaspur (100), Jalandhar (101), Ludhiana (102), Patiala (103), Ferozepur (104), Mohali (105), Hoshiarpur (106), Nabha (107), Bathinda (108), Moga (109), Faridkot (110), Tarn Taran (111), Patna Sahib (112), Muzaffargarh (113), Faisalabad (114), Rawalpindi (115), Islamabad (116), Lahore (117), Multan (118), Faisalabad (119), Rawalpindi (120), Islamabad (121), Lahore (122), Multan (123), Faisalabad (124), Rawalpindi (125), Islamabad (126), Lahore (127), Multan (128), Faisalabad (129), Rawalpindi (130), Islamabad (131), Lahore (132), Multan (133), Faisalabad (134), Rawalpindi (135), Islamabad (136), Lahore (137), Multan (138), Faisalabad (139), Rawalpindi (140), Islamabad (141), Lahore (142), Multan (143), Faisalabad (144), Rawalpindi (145), Islamabad (146), Lahore (147), Multan (148), Faisalabad (149), Rawalpindi (150), Islamabad (151), Lahore (152), Multan (153), Faisalabad (154), Rawalpindi (155), Islamabad (156), Lahore (157), Multan (158), Faisalabad (159), Rawalpindi (160), Islamabad (161), Lahore (162), Multan (163), Faisalabad (164), Rawalpindi (165), Islamabad (166), Lahore (167), Multan (168), Faisalabad (169), Rawalpindi (170), Islamabad (171), Lahore (172), Multan (173), Faisalabad (174), Rawalpindi (175), Islamabad (176), Lahore (177), Multan (178), Faisalabad (179), Rawalpindi (180), Islamabad (181), Lahore (182), Multan (183), Faisalabad (184), Rawalpindi (185), Islamabad (186), Lahore (187), Multan (188), Faisalabad (189), Rawalpindi (190), Islamabad (191), Lahore (192), Multan (193), Faisalabad (194), Rawalpindi (195), Islamabad (196), Lahore (197), Multan (198), Faisalabad (199), Rawalpindi (200), Islamabad (201), Lahore (202), Multan (203), Faisalabad (204), Rawalpindi (205), Islamabad (206), Lahore (207), Multan (208), Faisalabad (209), Rawalpindi (210), Islamabad (211), Lahore (212), Multan (213), Faisalabad (214), Rawalpindi (215), Islamabad (216), Lahore (217), Multan (218), Faisalabad (219), Rawalpindi (220), Islamabad (221), Lahore (222), Multan (223), Faisalabad (224), Rawalpindi (225), Islamabad (226), Lahore (227), Multan (228), Faisalabad (229), Rawalpindi (230), Islamabad (231), Lahore (232), Multan (233), Faisalabad (234), Rawalpindi (235), Islamabad (236), Lahore (237), Multan (238), Faisalabad (239), Rawalpindi (240), Islamabad (241), Lahore (242), Multan (243), Faisalabad (244), Rawalpindi (245), Islamabad (246), Lahore (247), Multan (248), Faisalabad (249), Rawalpindi (250), Islamabad (251), Lahore (252), Multan (253), Faisalabad (254), Rawalpindi (255), Islamabad (256), Lahore (257), Multan (258), Faisalabad (259), Rawalpindi (260), Islamabad (261), Lahore (262), Multan (263), Faisalabad (264), Rawalpindi (265), Islamabad (266), Lahore (267), Multan (268), Faisalabad (269), Rawalpindi (270), Islamabad (271), Lahore (272), Multan (273), Faisalabad (274), Rawalpindi (275), Islamabad (276), Lahore (277), Multan (278), Faisalabad (279), Rawalpindi (280), Islamabad (281), Lahore (282), Multan (283), Faisalabad (284), Rawalpindi (285), Islamabad (286), Lahore (287), Multan (288), Faisalabad (289), Rawalpindi (290), Islamabad (291), Lahore (292), Multan (293), Faisalabad (294), Rawalpindi (295), Islamabad (296), Lahore (297), Multan (298), Faisalabad (299), Rawalpindi (300), Islamabad (301), Lahore (302), Multan (303), Faisalabad (304), Rawalpindi (305), Islamabad (306), Lahore (307), Multan (308), Faisalabad (309), Rawalpindi (310), Islamabad (311), Lahore (312), Multan (313), Faisalabad (314), Rawalpindi (315), Islamabad (316), Lahore (317), Multan (318), Faisalabad (319), Rawalpindi (320), Islamabad (321), Lahore (322), Multan (323), Faisalabad (324), Rawalpindi (325), Islamabad (326), Lahore (327), Multan (328), Faisalabad (329), Rawalpindi (330), Islamabad (331), Lahore (332), Multan (333), Faisalabad (334), Rawalpindi (335), Islamabad (336), Lahore (337), Multan (338), Faisalabad (339), Rawalpindi (340), Islamabad (341), Lahore (342), Multan (343), Faisalabad (344), Rawalpindi (345), Islamabad (346), Lahore (347), Multan (348), Faisalabad (349), Rawalpindi (350), Islamabad (351), Lahore (352), Multan (353), Faisalabad (354), Rawalpindi (355), Islamabad (356), Lahore (357), Multan (358), Faisalabad (359), Rawalpindi (360), Islamabad (361), Lahore (362), Multan (363), Faisalabad (364), Rawalpindi (365), Islamabad (366), Lahore (367), Multan (368), Faisalabad (369), Rawalpindi (370), Islamabad (371), Lahore (372), Multan (373), Faisalabad (374), Rawalpindi (375), Islamabad (376), Lahore (377), Multan (378), Faisalabad (379), Rawalpindi (380), Islamabad (381), Lahore (382), Multan (383), Faisalabad (384), Rawalpindi (385), Islamabad (386), Lahore (387), Multan (388), Faisalabad (389), Rawalpindi (390), Islamabad (391), Lahore (392), Multan (393), Faisalabad (394), Rawalpindi (395), Islamabad (396), Lahore (397), Multan (398), Faisalabad (399), Rawalpindi (400), Islamabad (401), Lahore (402), Multan (403), Faisalabad (404), Rawalpindi (405), Islamabad (406), Lahore (407), Multan (408), Faisalabad (409), Rawalpindi (410), Islamabad (411), Lahore (412), Multan (413), Faisalabad (414), Rawalpindi (415), Islamabad (416), Lahore (417), Multan (418), Faisalabad (419), Rawalpindi (420), Islamabad (421), Lahore (422), Multan (423), Faisalabad (424), Rawalpindi (425), Islamabad (426), Lahore (427), Multan (428), Faisalabad (429), Rawalpindi (430), Islamabad (431), Lahore (432), Multan (433), Faisalabad (434), Rawalpindi (435), Islamabad (436), Lahore (437), Multan (438), Faisalabad (439), Rawalpindi (440), Islamabad (441), Lahore (442), Multan (443), Faisalabad (444), Rawalpindi (445), Islamabad (446), Lahore (447), Multan (448), Faisalabad (449), Rawalpindi (450), Islamabad (451), Lahore (452), Multan (453), Faisalabad (454), Rawalpindi (455), Islamabad (456), Lahore (457), Multan (458), Faisalabad (459), Rawalpindi (460), Islamabad (461), Lahore (462), Multan (463), Faisalabad (464), Rawalpindi (465), Islamabad (466), Lahore (467), Multan (468), Faisalabad (469), Rawalpindi (470), Islamabad (471), Lahore (472), Multan (473), Faisalabad (474), Rawalpindi (475), Islamabad (476), Lahore (477), Multan (478), Faisalabad (479), Rawalpindi (480), Islamabad (481), Lahore (482), Multan (483), Faisalabad (484), Rawalpindi (485), Islamabad (486), Lahore (487), Multan (488), Faisalabad (489), Rawalpindi (490), Islamabad (491), Lahore (492), Multan (493), Faisalabad (494), Rawalpindi (495), Islamabad (496), Lahore (497), Multan (498), Faisalabad (499), Rawalpindi (500), Islamabad (501), Lahore (502), Multan (503), Faisalabad (504), Rawalpindi (505), Islamabad (506), Lahore (507), Multan (508), Faisalabad (509), Rawalpindi (510), Islamabad (511), Lahore (512), Multan (513), Faisalabad (514), Rawalpindi (515), Islamabad (516), Lahore (517), Multan (518), Faisalabad (519), Rawalpindi (520), Islamabad (521), Lahore (522), Multan (523), Faisalabad (524), Rawalpindi (525), Islamabad (526), Lahore (527), Multan (528), Faisalabad (529), Rawalpindi (530), Islamabad (531), Lahore (532), Multan (533), Faisalabad (534), Rawalpindi (535), Islamabad (536), Lahore (537), Multan (538), Faisalabad (539), Rawalpindi (540), Islamabad (541), Lahore (542), Multan (543), Faisalabad (544), Rawalpindi (545), Islamabad (546), Lahore (547), Multan (548), Faisalabad (549), Rawalpindi (550), Islamabad (551), Lahore (552), Multan (553), Faisalabad (554), Rawalpindi (555), Islamabad (556), Lahore (557), Multan (558), Faisalabad (559), Rawalpindi (560), Islamabad (561), Lahore (562), Multan (563), Faisalabad (564), Rawalpindi (565), Islamabad (566), Lahore (567), Multan (568), Faisalabad (569), Rawalpindi (570), Islamabad (571), Lahore (572), Multan (573), Faisalabad (574), Rawalpindi (575), Islamabad (576), Lahore (577), Multan (578), Faisalabad (579), Rawalpindi (580), Islamabad (581), Lahore (582), Multan (583), Faisalabad (584), Rawalpindi (585), Islamabad (586), Lahore (587), Multan (588), Faisalabad (589), Rawalpindi (590), Islamabad (591), Lahore (592), Multan (593), Faisalabad (594), Rawalpindi (595), Islamabad (596), Lahore (597), Multan (598), Faisalabad (599), Rawalpindi (600), Islamabad (601), Lahore (602), Multan (603), Faisalabad (604), Rawalpindi (605), Islamabad (606), Lahore (607), Multan (608), Faisalabad (609), Rawalpindi (610), Islamabad (611), Lahore (612), Multan (613), Faisalabad (614), Rawalpindi (615), Islamabad (616), Lahore (617), Multan (618), Faisalabad (619), Rawalpindi (620), Islamabad (621), Lahore (622), Multan (623), Faisalabad (624), Rawalpindi (625), Islamabad (626), Lahore (627), Multan (628), Faisalabad (

COPYRIGHT:
BUREAU OF COMMERCIAL INTELLIGENCE & STATISTICS
CENTRAL BANK BUILDING, BOMBAY-1.

Table 4. Maize Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Maize Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Southern Rajasthan-				
Madhya Pradesh	19.5	22.2	15.3	17.3
II. Northern Punjab	16.1	13.2	9.3	7.9
III. Northern Bihar	15.5	19.1	12.5	15.1
IV. Northern Andhra Pradesh	4.1	2.8	3.0	1.6
V. Western Uttar Pradesh	10.1	9.0	7.0	4.9
VI. Central Uttar Pradesh	10.4	8.7	7.4	6.9
VII. Bihar-Madhya Pradesh	<u>3.8</u>	<u>5.8</u>	<u>0.7</u>	<u>1.0</u>
Total	79.5	80.8	55.2	54.7

Notes:

A. Criteria for delineating maize regions are:

- (1) At least 10 percent of the district's gross cropped area was under maize if the district's contribution to total maize production was less than 0.5 percent in 1967-69.
- (2) If the district's contribution to total maize production was 0.5 percent or more the district must have a minimum of 5 percent of gross cropped area under maize in 1967-69.

B. Core districts had 1 percent or more of total production and 10 percent or more of the cropped area in the district under maize, or less than 1 percent of total production and 15 percent or more of the cropped area in the district under maize in 1967-69.

Fig. 5 BARLEY REGIONS

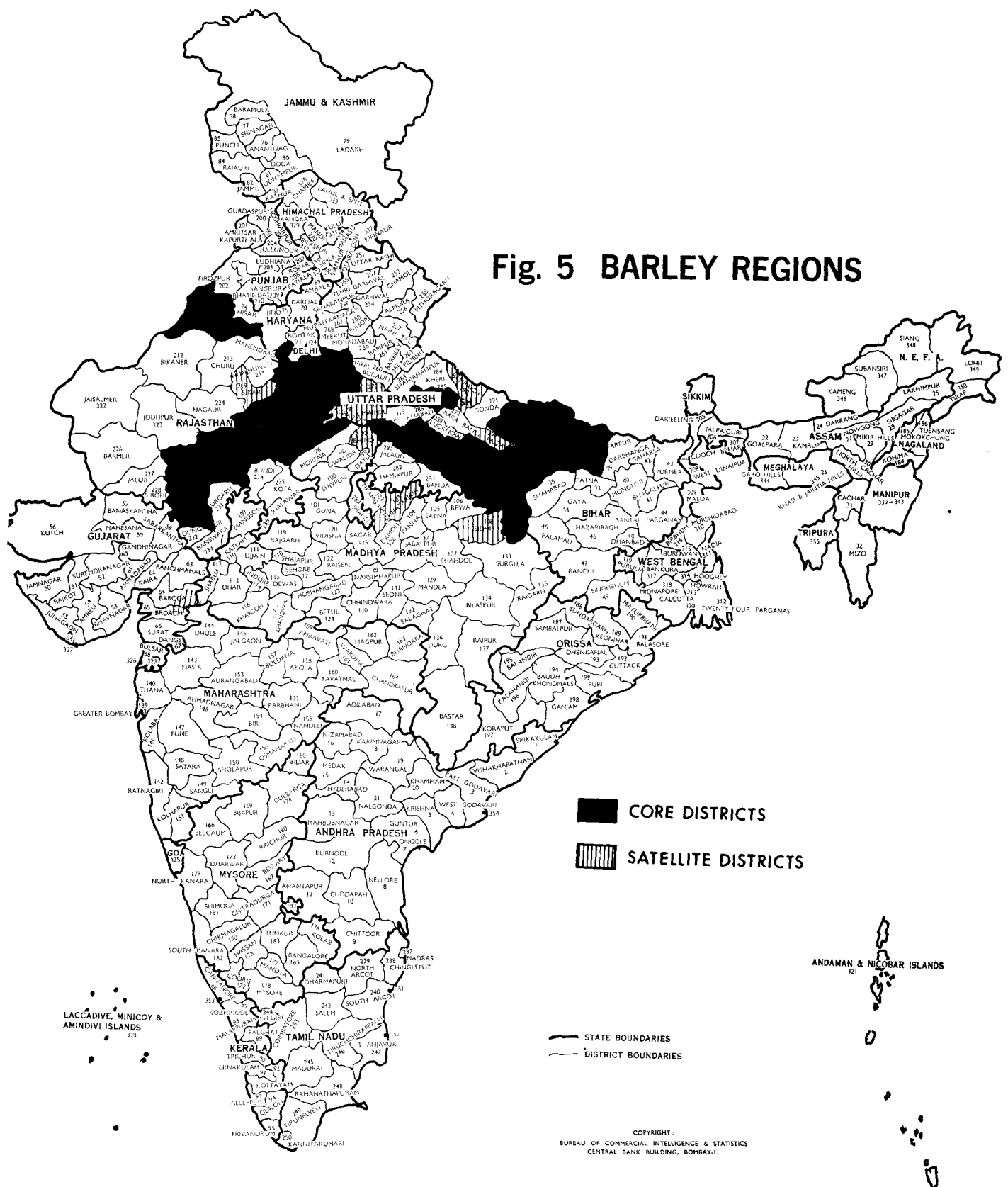


Table 5. Barley Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Barley Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Haryana-Rajasthan	17.4	13.0	16.6	11.9
II. Southeastern Rajasthan	6.7	8.2	6.7	8.2
III. Northwestern Bihar	4.3	3.8	4.3	3.8
IV. Southwestern Uttar Pradesh	9.4	9.5	6.7	5.3
V. Eastern Uttar Pradesh	27.7	30.6	26.4	28.0
VI. Central Uttar Pradesh	<u>14.0</u>	<u>12.8</u>	<u>11.7</u>	<u>10.7</u>
Total	79.5	77.9	72.4	67.9

Notes:

- A. Criteria for delineating barley regions are the same as for maize (see notes to table 4).
- B. Core districts have a minimum of 20 percent of gross cropped area under barley or contribute at least 1 percent of total barley production in 1967-69.

regions produced 79.5 percent of the barley in 1967-69, up from 77.9 percent in 1959-61. These figures indicate that barley is becoming more concentrated within the core districts. And as indicated above, this concentration is in the areas of Haryana, Rajasthan, and Uttar Pradesh, which are generally too dry for wheat production.

Five districts with significant barley production did not qualify as part of a region because of the small proportion of district acreage in barley. These include Ferozepur and Sangrur in the Punjab, and Hissar, Rohtak and Karnal in Haryana. The share of production in these five districts in 1967-69 was 5.4 percent, up from 2.6 percent in 1959-61. However, the proportion of district crop area under barley in each district increased from between 1 and 3 percent in 1959-61 to between 3 and 4 percent in 1967-69. If this increase continues, these districts could qualify as a barley region in the near future.

The developments in these five districts highlight the fact that in some of the dryer wheat districts in Northwestern India, both barley and wheat production are increasing. This is contrary to the more general pattern of wheat substituting for barley, especially on irrigated land. The forces behind these shifts are not clear. Analysis is needed to determine the factors causing expansion of both wheat and barley acreage.

Bajra

Since bajra is the most important millet included in the section on millets, it is considered separately. Furthermore, bajra is the main staple for many Indians living in the dry areas from the Haryana to Tamil Nadu. In some areas it is the only food grain available.

Seventy-three districts in the nine bajra cropping regions accounted for 86 percent of the total production in 1967-69 (see table 6), with five regions accounting for 68 percent. Each of these five regions contributes over 10 percent to total production, with Gujarat contributing almost 21 percent. The 50 core districts produced 72.7 percent of the bajra in 1967-69, up from 66 percent in 1959-61. The growth in the relative importance of the core districts indicates that bajra production has become more concentrated in the core districts.

Three districts with significant amounts of production -- Chitradrug in Mysore, Visakhapatnam in Andhra Pradesh, and Allahabad in Uttar Pradesh -- did not qualify as part of a region because of their isolation from other bajra-producing districts. They accounted for 2.3 percent of the total production in 1967-69 and had 12 percent, 9 percent, and 15 percent, respectively, of the district cropped area under bajra.

Within the nine regions, the share of bajra production increased in only three -- Gujarat, Haryana-Punjab and Eastern Rajasthan. These

Fig. 6 BAJRA REGIONS

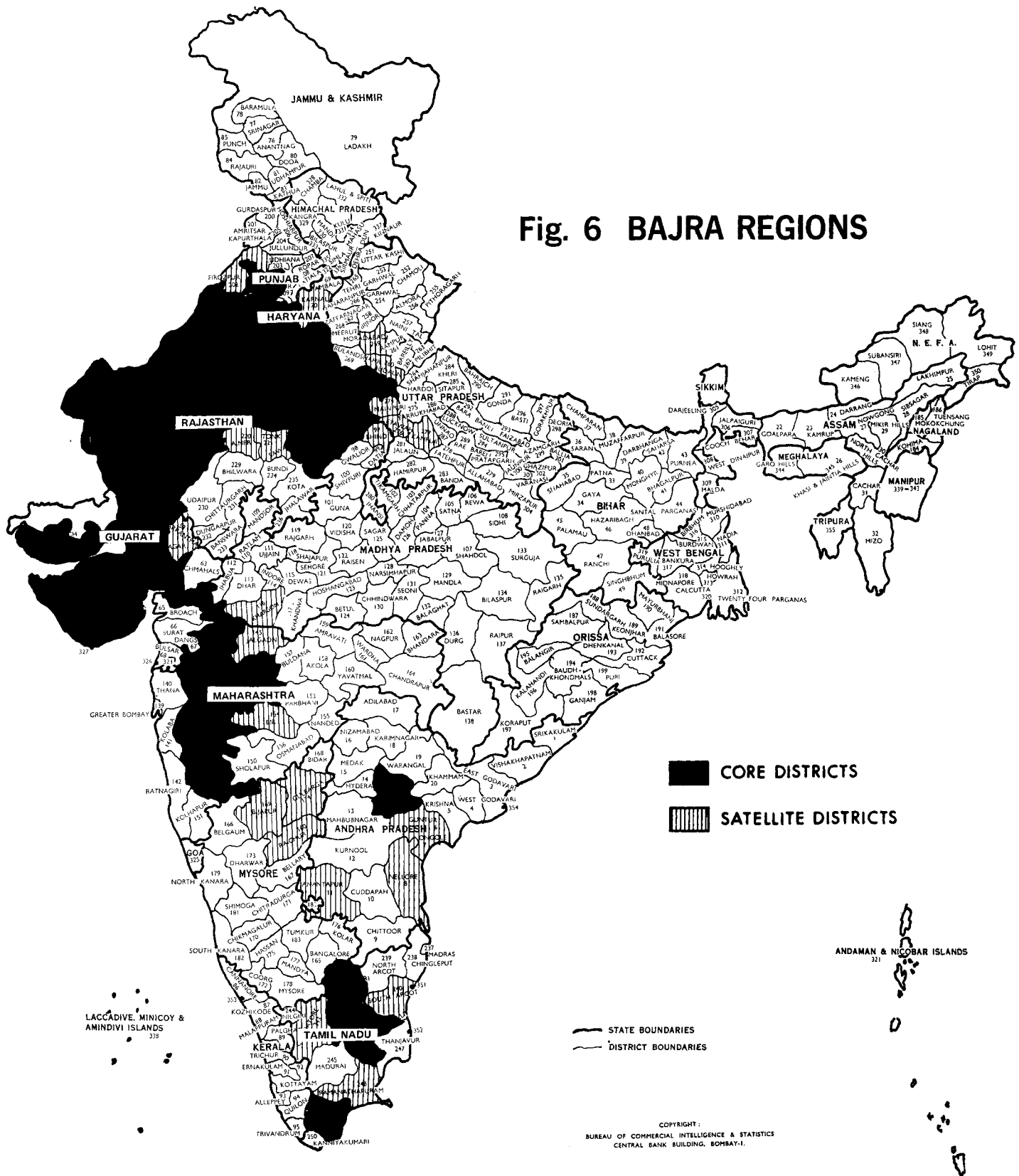


Table 6. Bajra Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Bajra Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Tamil Nadu	5.8	8.4	3.6	4.9
II. Maharashtra	11.0	12.2	9.4	10.8
III. Maharashtra-Mysore	3.1	4.4	1.2	2.1
IV. Gujarat	20.9	11.2	20.4	10.9
V. Haryana-Punjab	13.2	8.9	11.9	8.0
VI. Eastern Rajasthan	10.3	9.4	9.4	9.0
VII. Western Rajasthan	12.5	14.5	12.5	14.5
VIII. Southwestern Uttar Pradesh	6.9	9.8	3.7	4.6
IX. Andhra Pradesh	2.7	4.2	0.6	1.2
Total	<u>86.4</u>	<u>83.0</u>	<u>72.7</u>	<u>66.0</u>

Notes:

- A. Criteria for delineating bajra regions are the same as for maize (see notes to table 4).
- B. Criteria for core districts are the same as for maize (see notes to table 4).

increases were 9.7 percent, 4.3 percent and 0.9 percent, respectively. Of the 14.9 percent increase in combined shares, 13.8 percent occurred in the core districts and 9.5 percent in the core districts of Gujarat alone.

The shares of production in the remaining six regions declined between 1959-61 and 1967-69. These declines ranged between 2 and 3 percent for Tamil Nadu, Western Rajasthan and Southwestern Uttar Pradesh. The share in each of the other three regions dropped by a little over 1 percent.

The regions with increased shares, particularly Gujarat, generally had an increased proportion of the district crop area under bajra; the remaining regions had fairly constant proportions of acreage in bajra between 1959-61 and 1967-69.

Ragi

Ragi is second in production only to bajra among the millets grown in India. Thus it is also considered separately as well as being included in the section on millets. In contrast to bajra, ragi is predominately grown in the South, with Mysore accounting for a third of the total production in 1967-69, down from over 41 percent in 1959-61. Ragi is a much more important food grain in Mysore than in other regions. For example, between 28 and 64 percent of crop area is in ragi in the districts of the Southern Mysore region. The proportion of crop area under ragi in regions outside Mysore is generally less than 10 percent.

Together, the six regions in Mysore, Tamil Nadu and Southern Andhra Pradesh contributed almost 60 percent of the total production in 1967-69, down from almost 71 percent in 1959-61 (see table 7). Five of these six southern regions had declining shares during this period with only Western Tamil Nadu showing a slight increase. Although ragi production is still concentrated in the South, the other four regions located in Central and Northeastern India had most of the increases. All four of these regions increased their share of total production between 1959-61 and 1967-69; the Orissa-Andhra Pradesh region had the largest increase in share of 5.3 percent. The total increase for the four regions was from 18.8 percent in 1959-61 to 29.7 percent in 1967-69. In contrast, the proportion of district crop area planted to ragi has remained fairly constant in all regions.

The share of total ragi production of the 42 districts in the ten ragi regions has been relatively stable at slightly over 89 percent, with the declining shares in the South offset by increases in the other areas. The share of the six southernmost regions dropped 11.3 percent, which is almost the same as the 10.9 percent increase in the share of the four northernmost regions. The same type of shift occurred among the 36 core districts.

Fig. 7 RAGI REGIONS

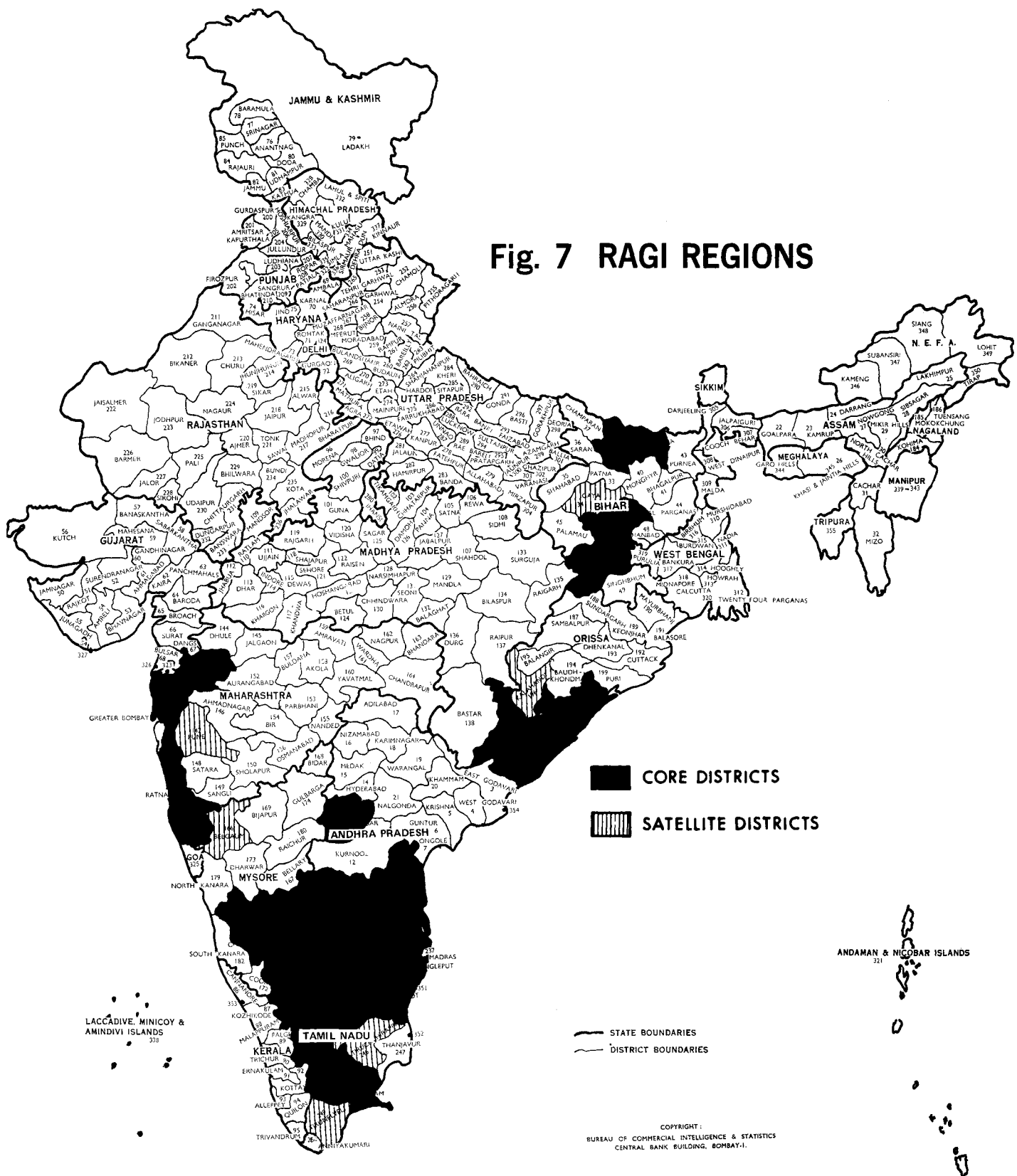


Table 7. Ragi Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Ragi Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Central Mysore	4.6	6.5	4.1	6.0
II. Southern Mysore	27.6	34.6	27.6	34.6
III. Orissa-Andhra Pradesh	10.8	5.5	10.1	5.2
IV. Southern Andhra Pradesh	8.8	9.6	8.8	9.6
V. Western Tamil Nadu	9.8	9.2	9.8	9.2
VI. Northern Tamil Nadu	4.7	5.7	4.7	5.7
VII. Southern Tamil Nadu	4.0	5.2	2.3	3.3
VIII. Western Maharashtra	10.3	8.2	9.7	7.7
IX. Northern Bihar	5.4	2.5	5.4	2.5
X. Southern Bihar	<u>3.2</u>	<u>2.6</u>	<u>2.5</u>	<u>2.3</u>
Total	89.2	89.6	85.0	86.1

Notes:

A. Criteria for delineating ragi regions are:

- (1) At least 2 percent of the district's gross cropped area was in ragi if the district's contribution to total production was 0.5 percent or more in 1967-69.
- (2) At least 5 percent of the district's gross cropped area was in ragi if the district's contribution to total production was less than 0.5 percent in 1967-69.

B. Core districts account for 1 percent or more of total ragi production or at least 7 percent of a district's gross cropped area was in ragi in 1967-69.

There were also some definite shifts within regions that are worth considering. In the largest region, Southern Mysore, all districts but Bangalore had declining shares. Bangalore increased its share from 8 to 10.3 percent while the other five districts dropped from 26.6 to 17.3 percent between 1959-61 and 1967-69. During the same period the proportion of crop area in Bangalore district devoted to ragi was constant at just under two-thirds. In the region with the largest increase, Orissa-Andhra Pradesh, Ganjam and Koraput in Orissa accounted for most of the increase, while Srikakulam in Andhra Pradesh actually declined.

Since the area under ragi did not change much between 1959-61 and 1967-69, most of the shifts in regional production shares can be explained by changes in average yields. In all the regions with increasing shares, the average yields were up in 1967-69, particularly in Orissa and Northern Bihar. Yields were down in Mysore, with the exception of Bangalore, which had a high average yield in the 1967-68 crop year. Tamil Nadu and Andhra Pradesh regions had fairly constant average yields over the study period.

Millets

This broad group includes ragi, bajra and small millets. The 14 regions accounted for 81 percent of the total millet production in 1967-69 as compared to 84 percent in 1959-61 (see figure 8 and table 8). Six of the regions were predominantly bajra, two ragi, one small millets, and one bajra-small millets, while the remaining four were a mixture of all three crops. The two largest regions, Tamil Nadu millets and Gujarat bajra, contributed over 24 percent of the total production in 1967-69, up from under 22 percent in 1959-61. However, during this period the Tamil Nadu region's share dropped 3.7 percent while Gujarat's increased by 6.2 percent.

In general, most of the gains were in the bajra regions while the ragi and small millets regions experienced declining shares. The only non-bajra region with an increasing share was the Orissa-Andhra Pradesh region and this increase was all in Orissa. Besides Tamil Nadu, the Southern Mysore ragi and Southern Andhra Pradesh millets regions had sizeable declines of 3.3 percent and 4.8 percent, respectively. The Southern Haryana-Punjab bajra region increased 3.3 percent and the Northeastern Rajasthan bajra region 1 percent. The six bajra regions together increased from under 34 to over 44 percent of total millets production between 1959-61 and 1967-69.

The 78 core districts produced 69 percent of the millets in 1967-69, a slight drop from 1959-61. The core districts in only the three bajra regions of Gujarat, Haryana-Punjab and Northeastern Rajasthan had a significant increase in the share of total millets production, from 13 percent to 22.5 percent. The new hybrid bajra varieties appear to have favored the regions in the western part of India and have caused some relative shifts in production to these regions. Favorable rainfall may be another

Fig. 8 MILLETS REGIONS

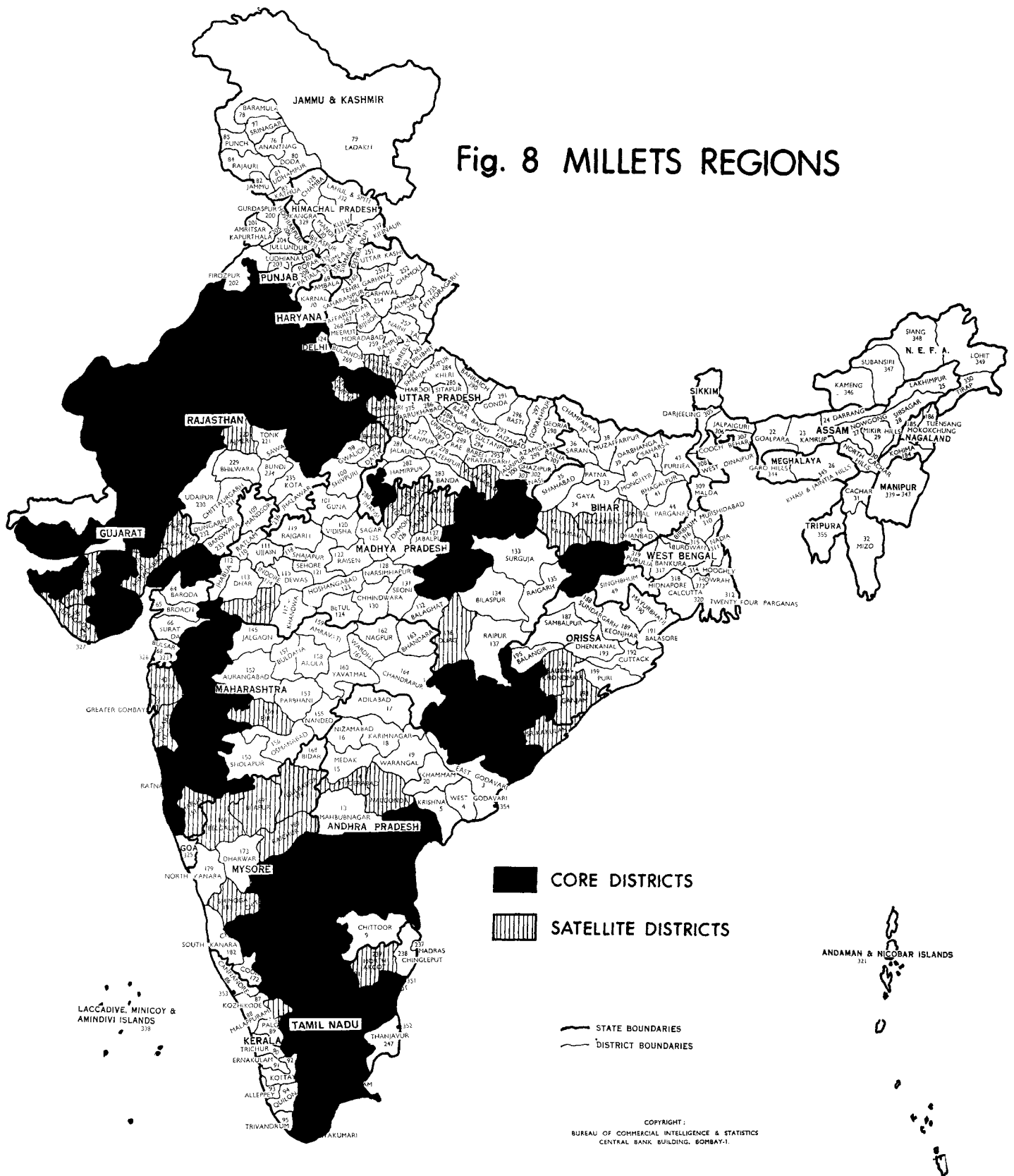


Table 8. Millets Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Millets Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Tamil Nadu Millets	11.1	14.8	10.3	13.4
II. West Central Maharashtra Bajra	7.9	8.0	7.2	7.5
III. Western Maharashtra Ragi	1.7	2.1	0.8	0.9
IV. Gujarat Bajra	13.1	6.9	10.7	5.7
V. Southern Mysore Ragi	6.7	10.3	6.4	9.9
VI. Northern Mysore Bajra and Small Millets	2.9	3.8	1.3	1.8
VII. Southern Haryana-Punjab Bajra	6.9	3.6	6.9	3.6
VIII. Western Rajasthan Bajra	7.8	7.5	7.5	7.4
IX. Northeastern Rajasthan Bajra	5.2	4.3	4.9	3.9
X. Southern Andhra Pradesh Millets	6.7	11.5	6.2	10.7
XI. North Central Madhya Pradesh Small Millets	2.4	2.7	1.5	1.6
XII. Orissa-Andhra Pradesh Millets	3.9	3.0	2.4	1.6
XIII. Southwestern Uttar Pradesh Bajra	3.2	3.3	1.9	1.8
XIV. Southern Bihar-Uttar Pradesh Millets	1.8	2.3	1.0	1.1
Total	81.3	83.8	69.0	70.9

Notes:

- A. Criteria for delineating millets regions are the same as for maize (see notes to table 4).
- B. Criteria for core districts are the same as for maize (see notes to table 4).

factor which helped these regions increase their share of millets production. But in general, it appears that millet production has not become more concentrated.

III. Food Crops -- Pulses

Pulses accounted for slightly under 18 percent of the total food grain area in the 1968-69 crop year on an all-India basis, down from over 20 percent in the 1964-65 crop year. During the same period the share of total food grain production provided by pulses dropped from almost 14 percent to 11 percent. The absolute area in pulses dropped by 2.6 million hectares and production by 2 million tons.

Within pulses, gram accounted for 33 percent of the area and 41 percent of the production in the 1968-69 crop year. Tur was much less important, with only 12 percent of the area and 17 percent of the pulse production. This represents a significant change since the 1964-65 crop year when gram accounted for 37 percent of the pulse area and 47 percent of the pulse production, and tur accounted for 11 percent of the area and 15 percent of the production.

Pulses

The pulses group includes gram, tur, and other pulses, which are produced throughout India with the greatest concentration being in the northern states (see figure 9). The wide distribution of pulses is indicated by the fact that nearly 75 percent of total pulse production takes place in 100 districts.

The 14 pulse regions defined in this paper accounted for 74 percent of total production in 1967-69, up from 70 percent in 1959-61 (see table 9). The 80 core districts accounted for 61 percent of the total production in 1967-69, up from 57 percent in 1959-61. Of the 14 regions, nine had a gain in share of production between 1959-61 and 1967-69, while four lost in share. The major reductions occurred in the Haryana gram and Western Uttar Pradesh gram and other pulses regions, where the shares dropped from 15 to 13 percent and 8 to 7 percent, respectively. The big gainers were Coastal Orissa, 2 percent, and Bihar, 1.5 percent. It should be noted that due to the sharp decline in pulses production, the Punjab no longer qualified as a pulse region in 1967-69 while it did in 1959-61.

Gram was the most important pulse in the seven regions in Northwest India. These regions accounted for 50 percent of the pulse production in 1967-69, down from 51.5 percent in 1959-61. The decline was primarily in the Haryana and Western Uttar Pradesh regions where wheat has been replacing gram. In general, the rest of the Uttar Pradesh, Rajasthan and

Fig. 9 PULSE REGIONS

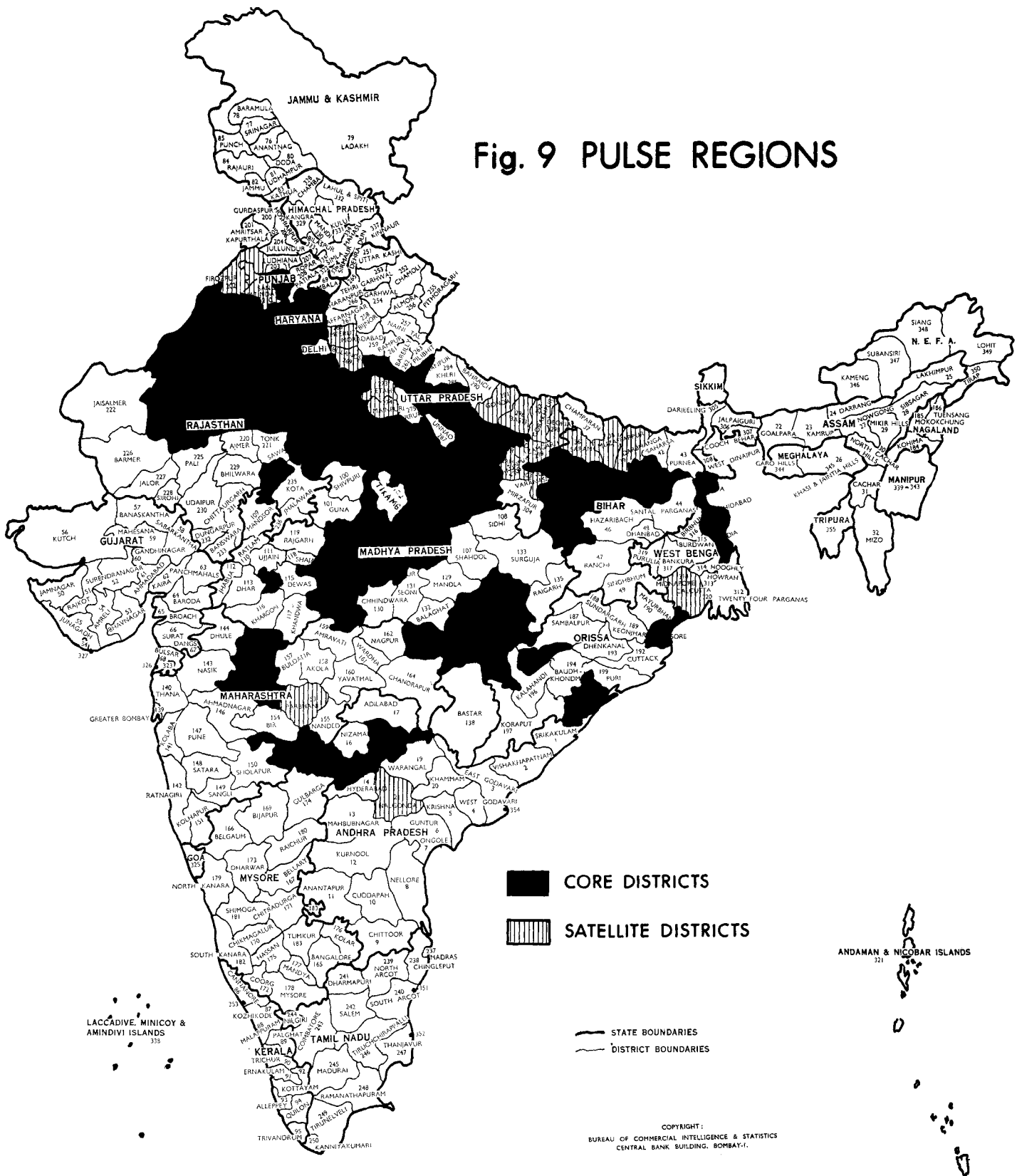


Table 9. Pulse Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Pulse Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Haryana Gram	13.0	14.8	11.3	12.2
II. Bihar Pulses	8.6	7.1	7.1	5.9
III. Rajasthan-Madhya Pradesh Gram	5.8	4.9	5.8	4.9
IV. Western Rajasthan Pulses	2.7	2.6	2.7	2.6
V. Eastern Madhya Pradesh Pulses	3.6	3.6	3.6	3.6
VI. Central Madhya Pradesh Gram and Other Pulses	4.9	5.3	4.9	5.3
VII. Central West Bengal Pulses	2.4	1.6	2.4	1.6
VIII. Central Maharashtra Pulses	2.6	1.8	2.0	1.5
IX. Eastern Uttar Pradesh Gram and Other Pulses	7.6	7.1	3.9	3.6
X. Western Uttar Pradesh Gram and Other Pulses	7.4	8.2	4.4	4.7
XI. South Central Uttar Pradesh Gram	7.9	7.8	7.9	7.8
XII. Central Uttar Pradesh Gram and Other Pulses	3.2	3.4	2.1	2.3
XIII. Coastal Orissa Pulses	2.4	0.4	1.9	0.1
XIV. Northeastern Andhra Pradesh Pulses	1.5	1.4	1.0	1.2
Total	<u>73.6</u>	<u>70.0</u>	<u>61.0</u>	<u>57.3</u>

Notes:

- A. Criteria for delineating pulse regions are the same as for jowar (see notes to table 3).
- B. Criteria for core districts are the same as for barley (see table 5).

Madhya Pradesh increased their shares slightly, except for Central Madhya Pradesh and Central Uttar Pradesh, which declined. All the other pulse regions -- Bihar, West Bengal, Andhra Pradesh, Orissa, and Maharashtra -- increased their shares of pulse production from a total of 12 to 17.5 percent. This was most likely in response to the higher prices of pulses due to a decline in northwest production and a continued strong demand for pulses.

Gram

Gram is included in the broad pulse category but is shown here separately because of its overall importance among the pulses, particularly in the northern states. It is one of the main crops displaced by the new high-yielding varieties of wheat. This displacement has caused considerable concern because of the importance of gram as a source of protein in the Indian diet.

Over 58 percent of the gram production is found in four regions while 79 percent is produced in nine regions (see figure 10 and table 10). Many of the shifts in production have occurred among the four biggest regions, Haryana-Punjab, Eastern Rajasthan-Haryana, South Central Uttar Pradesh, and Southwestern Uttar Pradesh. These shifts have been mostly between the core districts of Haryana-Punjab and the other three large regions. Eastern Rajasthan-Haryana was the biggest gainer with 5.1 percent, followed by Southwestern Uttar Pradesh with 2.2 percent, and South Central Uttar Pradesh with 1.4 percent, while Haryana-Punjab lost 6.6 percent. The only other significant shifts were the increased share of Northwestern Madhya Pradesh and the declining share of West Central Madhya Pradesh.

The differences in relative availability of irrigation water and the spread and adaptability of the new wheat varieties probably explains many of the changes in shares. However, the increase in shares was not accompanied by an increased proportion of the acreage under gram. In fact, Northwestern Madhya Pradesh, North Central Madhya Pradesh, West Central Madhya Pradesh, and South Central Uttar Pradesh appeared to maintain the same proportion of gram acreage between 1959-61 and 1967-69. The remaining regions exhibited a definite decline in the proportion of cropped area in gram, with the Haryana-Punjab region experiencing the most drastic decline.

The shifts in gram production have led to some increased concentration of production. The 50 core districts produced 67.7 percent of total production in 1967-69, up from 65.1 percent in 1959-61. For all 70 districts in the nine gram regions, the share went up from 76.4 percent to 78.7 percent during the same period. The only significant gram-producing districts which did not qualify within a region were Mursludabad and Nadia in West Bengal and Bidar in Mysore. Together they accounted for 2.5 percent of total gram production and 8, 13, and 21 percent of the district cropped area under gram, respectively.

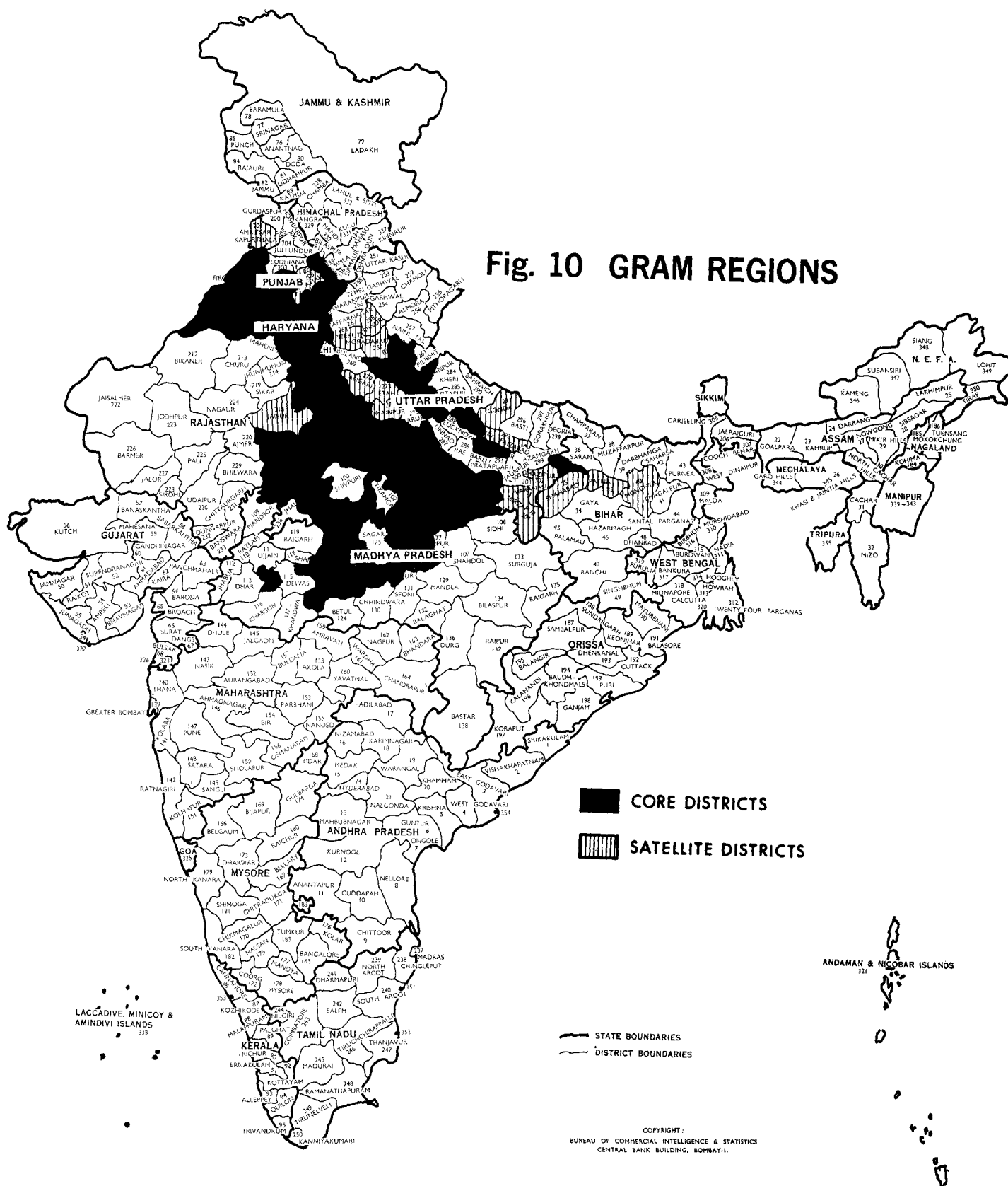


Table 10. Gram Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Gram Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Haryana-Punjab	21.5	28.1	20.4	26.1
II. Eastern Rajasthan-Haryana	16.8	11.7	16.1	10.9
III. Northwestern Madhya Pradesh	4.5	3.7	4.5	3.7
IV. North Central Madhya Pradesh	2.9	2.8	2.9	2.8
V. West Central Madhya Pradesh	3.8	4.2	3.8	4.2
VI. Eastern Uttar Pradesh-Bihar	4.3	4.5	0.5	0.5
VII. South Central Uttar Pradesh	11.5	10.1	11.5	10.1
VIII. Central Uttar Pradesh	4.4	4.5	2.7	2.8
IX. Southwestern Uttar Pradesh	9.0	6.8	5.3	4.0
Total	<u>78.7</u>	<u>76.4</u>	<u>67.7</u>	<u>65.1</u>

Notes:

- A. Criteria for delineating gram regions are the same as for maize (see notes to table 4).
- B. Core districts had over 10 percent of gross area under gram or contributed 1.0 percent or more to total gram production in 1967-69.

The continued spread of tube well irrigation and new high-yielding varieties of wheat could continue to adversely affect gram production. Even significant increases in gram prices are not likely to alter these shifts because of the relatively high profitability of the new wheat.

Tur

Of the pulses included in the pulses section, tur is second in importance to gram. ^{9/} Although tur is grown in Madhya Pradesh, Uttar Pradesh, and Bihar, it is also widely grown in Mysore and Maharashtra (figure 11). The major center of production is southeast of the center of gram production with some overlap in Madhya Pradesh, Uttar Pradesh, and Bihar.

Tur production tends to be fairly widespread, with 73 districts in ten regions producing 76.6 percent of the tur in 1967-69, down slightly from 77.6 percent in 1959-61 (see table 11). The 46 core districts had a constant share of slightly over 58 percent of the total production during the same period. The proportion of district cropped area under tur was also very stable at from 2 to 8 percent. But the fairly constant shares hide some definite shifts between regions.

Eastern Uttar Pradesh and Northern Bihar were the big gainers in tur production, increasing from 15.3 percent in 1959-61 to 23.7 percent in 1967-69. They were followed by Central Mysore-Andhra Pradesh, Northern Mysore-Maharashtra, and South Central Madhya Pradesh, with increases in share of 1.3, 0.8 and 0.5 percent, respectively. Of the remaining five regions, three declined in relative importance while two had almost constant shares. The big declines came in Southwestern Uttar Pradesh, North Central Maharashtra, and South Central Uttar Pradesh. The share produced by these three regions dropped from 39.1 percent in 1959-61 to only 27.2 percent in 1967-69. The biggest decline, 6.6 percent in Southwestern Uttar Pradesh, can probably best be explained by the tube well development and the new varieties of wheat. The decline in the other two regions is more difficult to explain, with adverse weather playing a possible role. However, in the future, as the new varieties of wheat are grown more widely in Uttar Pradesh and in parts of Madhya Pradesh, further shifts and declines in tur production will probably take place.

Eastern Uttar Pradesh, which had the biggest increase in production shares, 6.3 percent, is likely to have a future decline due to competition from more profitable crops, particularly irrigated wheat. The shares in the rest of the Uttar Pradesh regions will also probably continue to decline and more tur will be produced in areas farther south. One would expect the

^{9/} One important difference between gram and tur is the longer growing season for tur. Thus, any area with adequate resources for growing two crops would not find tur profitable.

Fig. 11 TUR REGIONS

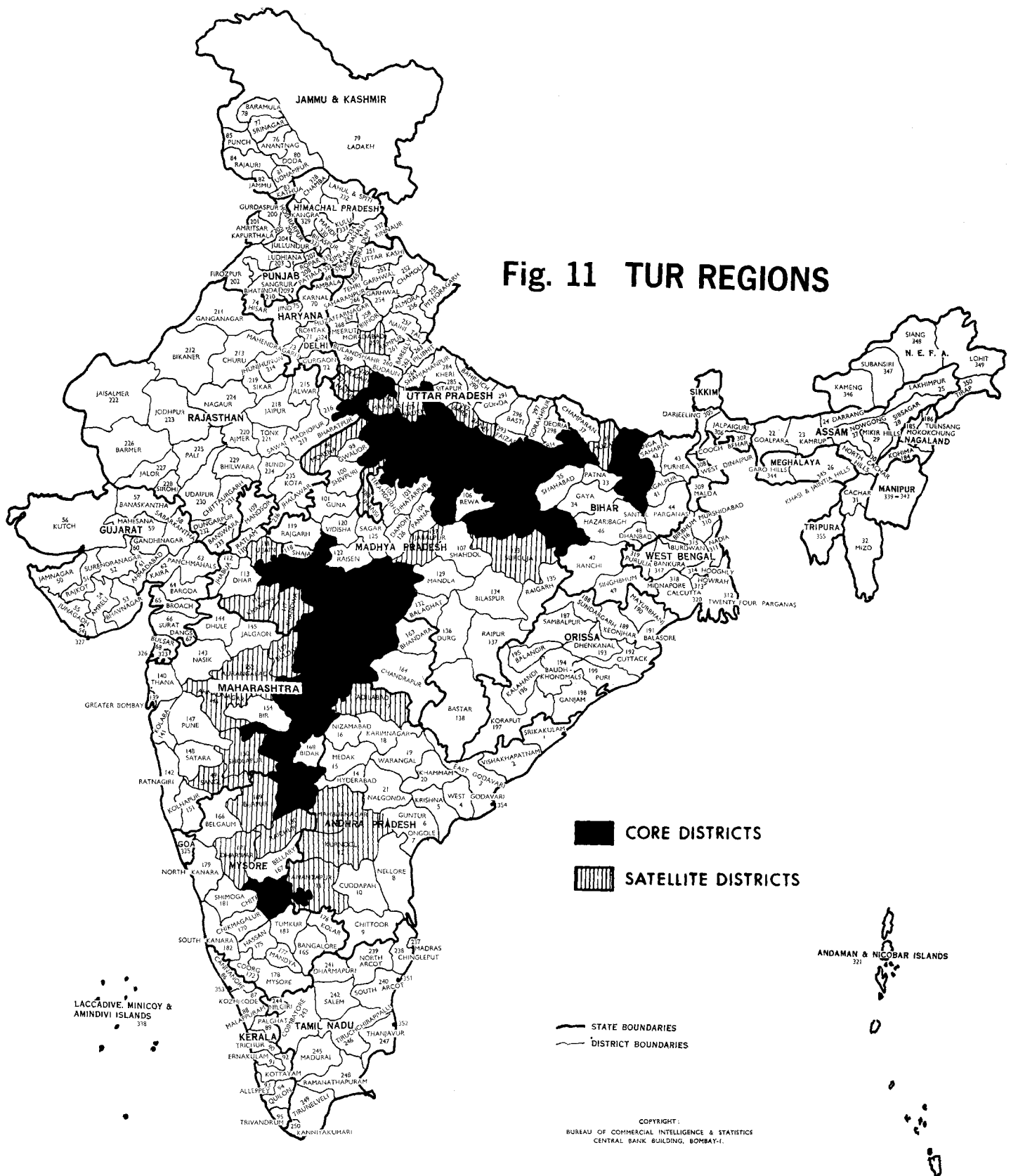


Table 11. Tur Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Tur Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Northern Mysore-Maharashtra	6.8	6.0	3.0	2.8
II. Central Mysore-Andhra Pradesh	2.7	1.4	1.0	0.4
III. North Central Maharashtra	13.6	16.7	10.2	13.6
IV. South Central Madhya Pradesh	7.3	6.8	5.4	5.5
V. North Central Madhya Pradesh	3.1	3.2	1.9	2.0
VI. Northern Bihar	5.3	3.2	4.6	2.5
VII. Southwestern Uttar Pradesh	4.0	10.6	1.4	4.8
VIII. Central Uttar Pradesh	5.8	5.8	4.3	4.2
IX. Eastern Uttar Pradesh	18.4	12.1	18.4	12.1
X. South Central Uttar Pradesh	9.6	11.8	8.3	10.6
Total	<u>76.6</u>	<u>77.6</u>	<u>58.5</u>	<u>58.4</u>

Notes:

- A. Criteria for delineating regions are the same as for ragi (see table 7).
- B. Core districts had 1 percent or more of the total tur production or 5 percent or more of the cropped area in a district under tur in 1967-69.

shares of both Northern Mysore-Maharashtra and South Central Madhya Pradesh to continue to increase, while the declining share of North Central Maharashtra might be reversed.

IV. Food Crops -- Oilseeds

Of the oilseeds grown in India, groundnut is clearly the most important. In the 1968-69 crop year, 7 million hectares of groundnuts were grown and production was 4.5 million tons on an all-India basis. The area of other oilseeds (nigerseed, linseed, sesamum, rapeseed, mustard and castor seed) exceeds the groundnut area by half a million hectares, but production is 2 million tons less. Coconut accounts for 1 million hectares and is quite important in the Southern States, particularly Kerala.

Groundnut

Groundnut production in India is widespread. There are three major concentrations of production and seven lesser ones (see figure 12). In the Western Gujarat groundnut region, eight districts produced 18 percent of total production during 1967-69 (see table 12). The Tamil Nadu region contributed 17 percent, followed by the Inland Andhra Pradesh region with 15 percent. These three regions contributed 51 percent of total groundnut production. The seven minor regions include two in Maharashtra, one each in Northern Mysore, Central Punjab, Eastern Gujarat, Central Uttar Pradesh and Coastal Andhra Pradesh, and accounted for 11 percent, 6 percent, 5 percent, 4 percent, 3 percent and 2 percent, respectively, of total production in 1967-69. The groundnut production for these ten regions is 82 percent of total output.

Two of the major regions, Western Gujarat and Inland Andhra Pradesh, and four minor regions increased their share of production while the other four lost in relative importance. Tamil Nadu lost 4.2 percent while the Central Punjab gained 3.6 percent and Inland Andhra Pradesh gained 2.2 percent in relative importance. The two regions in Maharashtra lost 2.5 percent and Northern Mysore lost 1.7 percent in their respective shares of total output. The four remaining regions had a combined increase of 1.8 percent.

The 30 core districts produced over 63 percent of the groundnut in 1967-69, down from 65 percent in 1959-61. Thus, groundnut production was not becoming more concentrated in the core districts. Groundnut production appears to be shifting from Tamil Nadu, Maharashtra and Mysore to the Punjab and Inland Andhra Pradesh. Increased tube well irrigation, particularly on sandy soils, has been the big factor in increasing the Punjab's share of production, which has been concentrated in Ludhiana

Fig. 12 GROUNDNUT REGIONS

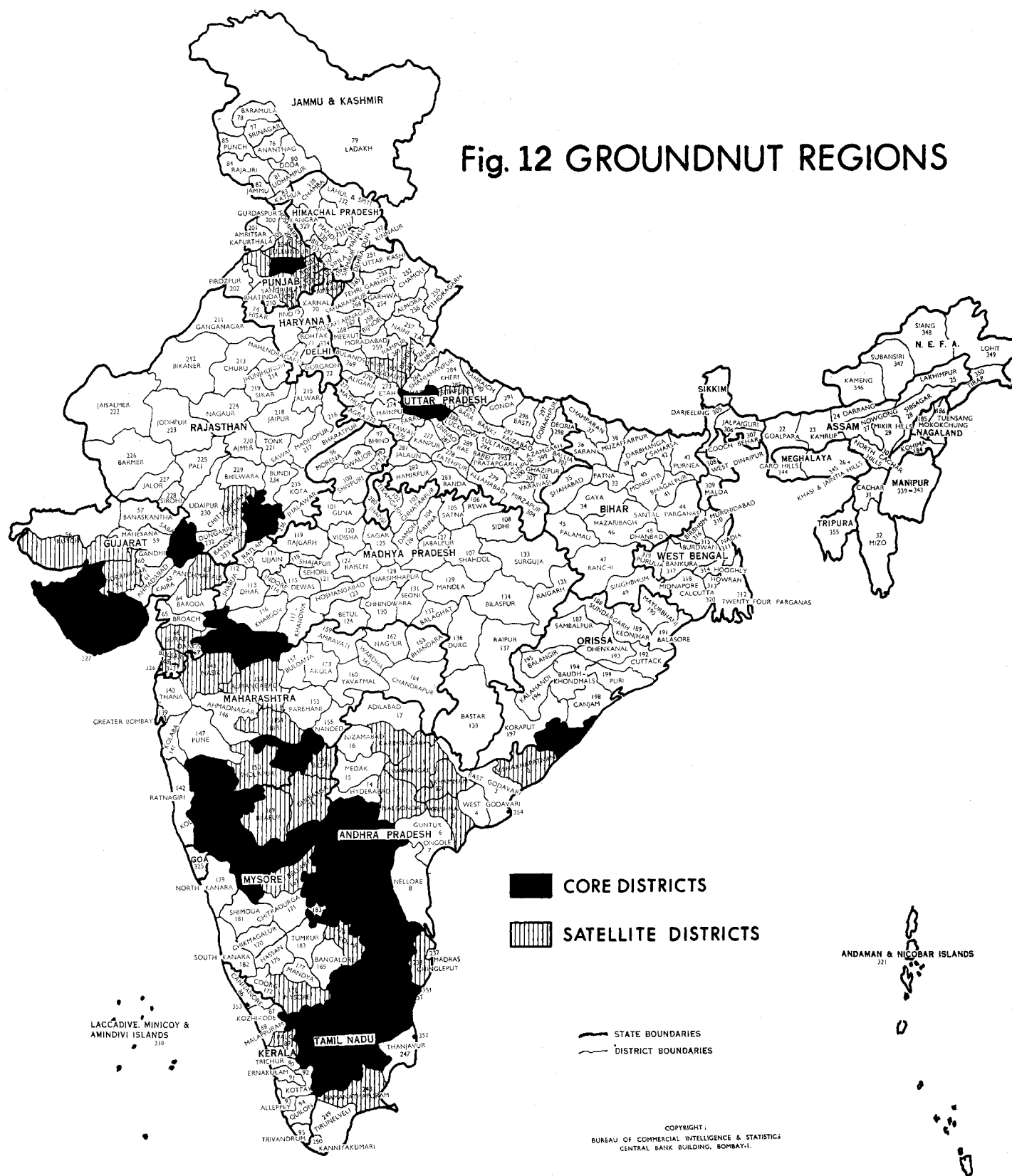


Table 12. Groundnut Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Groundnut</u>			
	<u>Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Western Gujarat	18.3	18.1	16.8	16.7
II. Tamil Nadu	17.4	21.6	14.9	18.9
III. Inland Andhra Pradesh	15.1	12.9	13.0	11.6
IV. Northwestern Maharashtra	3.6	5.5	2.4	3.7
V. Southwestern Maharashtra	7.5	8.1	5.9	5.7
VI. Northern Mysore	6.1	7.8	3.6	4.2
VII. Central Punjab	4.9	1.3	2.1	0.5
VIII. Central Uttar Pradesh	2.7	1.8	1.1	0.7
IX. Eastern Gujarat	3.8	3.4	2.4	2.1
X. Coastal Andhra Pradesh	2.2	1.9	1.2	0.6
Total	81.6	82.4	63.4	64.7

Notes:

- A. Criteria for delineating groundnut regions are the same as for maize (see notes to table 4).
- B. Criteria for core districts are the same as for barley (see notes to table 5).

district. There were also some shifts within regions, particularly in Western Gujarat where two core districts gained a combined total of 2 percent while two others lost almost the same amount.

Coconut

Coconut production is, as one would expect, highly concentrated in the south of India (see figure 13). The state of Kerala alone accounts for about 75 percent of total production in the country although its share of total production declined between 1959-61 and 1967-69 -- from 76.3 percent to 73.1 percent (see table 13). Still, coconut production is an extremely important crop in Kerala, with more than half of total crop area devoted to coconuts in the districts of Quilon, Trivandrum, and Kottayam. In the other districts, the percent of crop area planted to coconuts ranged from 11 percent in Palghat to 48 percent in Kozhikode in 1967-69.

The other states which produce a significant amount of coconut are Tamil Nadu, Mysore, and Andhra Pradesh. Coconut production in Tamil Nadu accounted for 8.9 percent of total production in 1959-61. This grew to 13.7 percent in 1967-69. Mysore's share of total production declined somewhat from 9.2 percent in 1959-61 to 8.0 percent in 1967-69. Andhra Pradesh accounts for a small part of national production. Three coastal districts in Andhra Pradesh accounted for 2.5 percent and 3.3 percent of national production in 1959-61 and 1967-69, respectively.

Twenty-five districts in these four states accounted for 97.0 percent and 98.1 percent of total coconut production in 1959-61 and 1967-69. The 20 core districts, 15 from Kerala and Tamil Nadu, produced 94.9 percent of the coconut output in 1967-69, up from 93.4 percent in 1959-61.

Other Oilseeds

Under other oilseeds are included nigerseed, linseed, sesamum, rapeseed, mustard and castor seed. Ninety-two districts, combined into 13 regions, accounted for 78 percent of the other oilseeds production in 1967-69, up from 74 percent in 1959-61 (see figure 14 and table 14). The 57 core districts produced 59 and 57 percent of the total in 1967-69 and 1959-61, respectively.

The largest center of production is in the Punjab-Haryana region, with almost 14 percent of the total production in 1967-69, as compared to a little over 9 percent in 1959-61. The big gains, besides those in Punjab-Haryana, were in the two Uttar Pradesh regions, which went from a combined total of over 5 percent to 9 percent. The Eastern Rajasthan, Northeastern Andhra Pradesh, South Central Madhya Pradesh, and Northern West Bengal-Bihar regions all increased their shares of production.

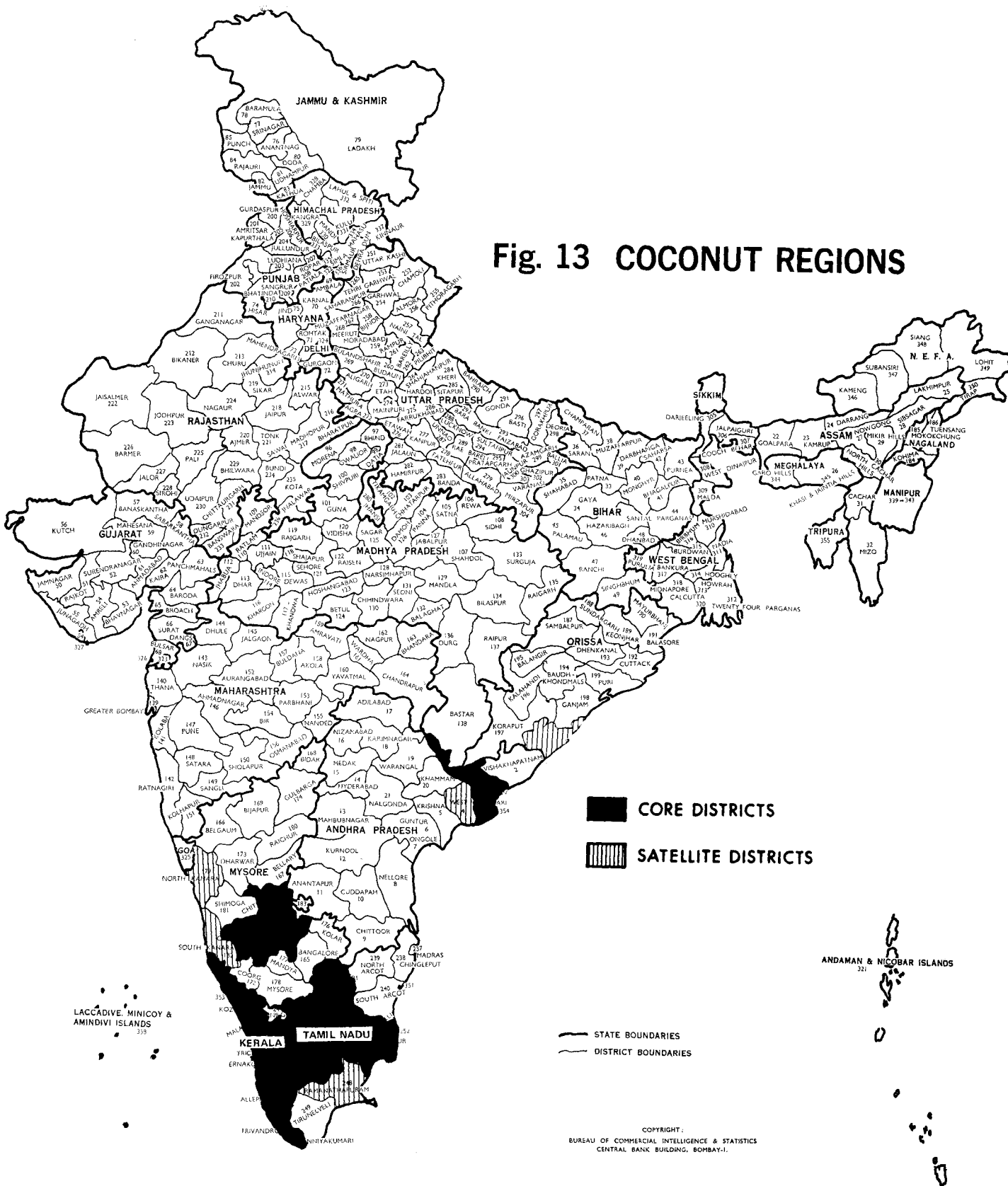


Table 13. Coconut Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Coconut</u>		<u>Core Districts</u>	
	<u>Districts</u>			
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Kerala	73.1	76.3	73.1	76.3
II. Tamil Nadu	13.7	8.9	13.1	8.6
III. Mysore	8.0	9.3	6.5	8.1
IV. Coastal Andhra Pradesh	3.3	2.5	2.2	.4
Total	<u>98.1</u>	<u>97.0</u>	<u>94.9</u>	<u>93.4</u>

Notes:

A. Criteria for delineating coconut regions:

- (1) Three or more districts in the same general area must each have contributed 0.5 percent or more to total coconut production in 1967-69.
- (2) One of the districts must qualify as a core district.

B. Core districts contributed 1 percent or more to total coconut production in 1967-69.

Fig. 14 OTHER OILSEED REGIONS

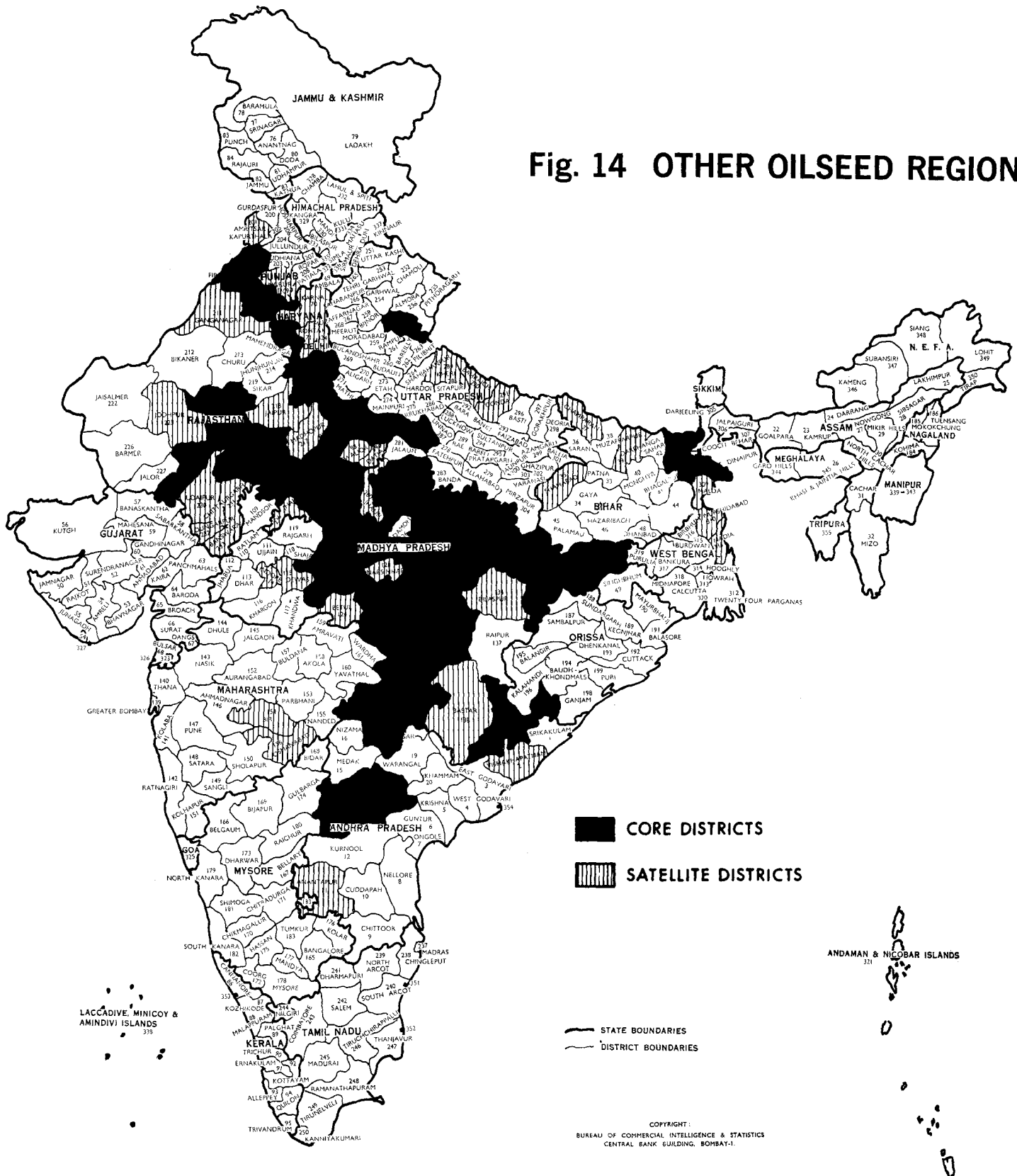


Table 14. Other Oilseed Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Oilseed</u>		<u>Core Districts</u>	
	<u>Districts</u>			
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Punjab-Haryana	13.8	9.4	10.1	5.6
II. Haryana-Rajasthan	6.7	9.1	6.7	9.1
III. Eastern Rajasthan	3.0	1.9	1.2	0.7
IV. South Central Rajasthan	2.9	4.5	2.5	3.8
V. Rajasthan-Madhya Pradesh	3.8	5.3	3.3	4.5
VI. South Central Madhya Pradesh	8.8	7.0	7.7	6.3
VII. North Central Madhya Pradesh	3.1	4.8	2.8	4.5
VIII. Eastern Madhya Pradesh	6.9	8.2	6.1	7.3
IX. Uttar Pradesh-Madhya Pradesh	5.5	3.4	5.0	3.0
X. Northern Uttar Pradesh	3.5	1.8	1.5	0.7
XI. Eastern Maharashtra	5.3	6.1	3.9	4.6
XII. Northeastern Andhra Pradesh	7.6	6.9	5.9	5.3
XIII. Northern West Bengal-Bihar	<u>7.0</u>	<u>5.8</u>	<u>2.7</u>	<u>1.9</u>
Total	77.9	74.2	59.4	57.3

Notes:

- A. Criteria for delineating oilseeds regions are the same as for ragi regions (see notes to table 7).
- B. Criteria for core districts are the same as for ragi (see notes to table 7).

The regions which lost in shares of production included Haryana-Rajasthan, South Central Rajasthan, Rajasthan-Madhya Pradesh, North Central Madhya Pradesh, Eastern Madhya Pradesh, and Eastern Maharashtra. The two biggest losers were Haryana-Rajasthan and North Central Madhya Pradesh, which together lost almost 4 percent in their share of total production. In total, the six regions which experienced declines lost 9 percent while the seven regions with increases gained 13 percent in the shares of total production.

V. Food Crops -- Others

Sugarcane and potatoes complete the discussion of the food crops. Sugarcane is an important crop throughout India, both in terms of value of production and as part of the Indian diet. Potato production, on the other hand, is concentrated in Northeastern India and is not as important in the diet. In the 1968-69 crop year, 2.5 million hectares of sugarcane produced 12 million tons of gur (raw sugar) on an all-India basis, while half a million hectares of potatoes yielded 4.8 million tons.

Sugarcane

Production of sugarcane is spread throughout India with the biggest concentration being in the Upper and Middle Gangetic Plain (see figure 15). Eastern Uttar Pradesh, North Central Uttar Pradesh, and Northern Haryana-Punjab accounted for 14 percent, 8 percent and 7 percent, respectively, of India's sugarcane production. Thus, these four regions in the Gangetic Plain produced almost half of India's sugarcane in 1967-69. However, this was down from 55 percent in 1959-61. Only the Eastern Uttar Pradesh region maintained its share and the core districts of that region had a slight increase in their share.

Other lesser concentrations of sugarcane production are found in Southwestern Maharashtra with 10 percent of total production, Coastal Andhra Pradesh with 5.5 percent, Northern Tamil Nadu with 8 percent and Central Mysore with 3 percent. These latter three regions were the only ones with increased shares of total production between 1959-61 and 1967-69. The combined shares went from 11 percent to over 16 percent. The eight regions with 61 districts accounted for 75 percent of sugarcane production in 1967-69, down slightly from 77 percent in 1959-61. Similarly, the 34 core districts contributed 57 and 56 percent of total sugarcane production in 1959-61 and 1967-69, respectively.

The two districts which had concentrations of sugarcane production but which do not qualify as a region or part of a region are Medak and Nizamabad in Andhra Pradesh, with a total of 2 percent of India's production in 1967-69, as compared to 2.5 percent in 1959-61. Nizamabad has approximately 40 percent of the cropped area irrigated which accounts for

Fig.15 SUGAR CANE REGIONS

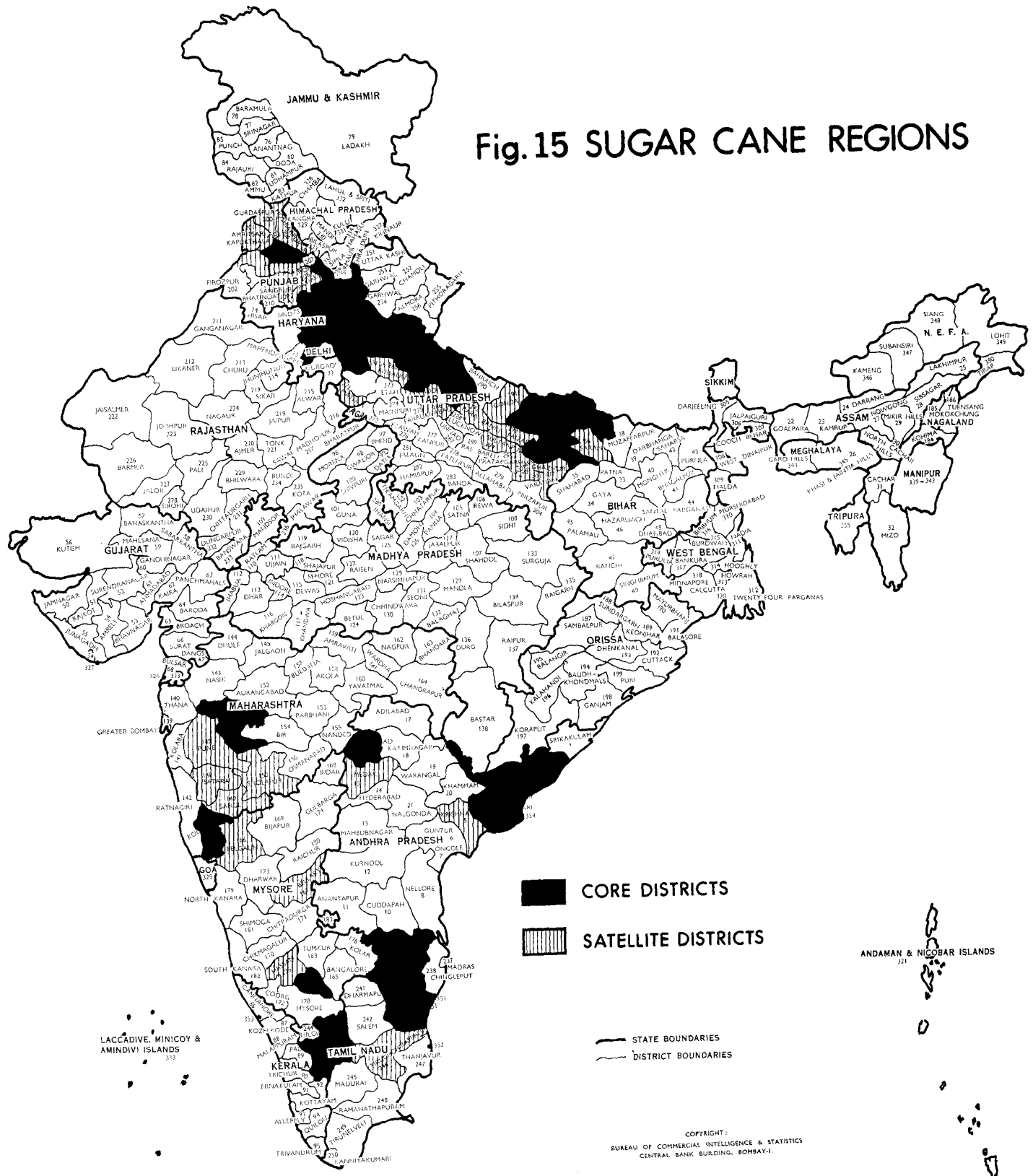


Table 15. Sugarcane Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Sugarcane</u>		<u>Core Districts</u>	
	<u>Districts</u>			
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Western Uttar Pradesh	19.6	22.4	18.3	21.0
II. Eastern Uttar Pradesh	13.7	13.9	8.8	8.6
III. North Central Uttar Pradesh	8.3	10.1	7.1	8.7
IV. Northern Haryana-Punjab	7.1	8.9	4.2	5.2
V. Southwestern Maharashtra	9.9	10.5	5.1	6.3
VI. Coastal Andhra Pradesh	5.5	3.6	4.7	2.9
VII. Northern Tamil Nadu	7.7	5.1	6.5	4.3
VIII. Central Mysore	<u>3.0</u>	<u>2.1</u>	<u>1.4</u>	<u>1.1</u>
Total	74.8	76.6	56.1	57.1

Notes:

A. Criteria for delineating sugarcane regions:

- (1) Three percent or more of the gross cropped area in a district had to be in sugarcane if the contribution to total sugarcane production was less than 0.5 percent of total production in 1967-69.
- (2) If the contribution to total sugarcane production was between 0.5 and 1 percent, then 2 percent or more of the district's cropped area had to be under sugarcane in 1967-69.
- (3) If the contribution to total sugarcane production was over 1 percent, then 1 percent or more of the district's gross cropped area had to be under sugarcane in 1967-69.

B. Core districts contributed 1 percent or more of total sugarcane production and 3 percent of gross cropped area was under sugarcane, or contributed less than 1 percent of total production and over 5 percent of the gross area was under sugarcane in 1967-69.

the 7 percent of the district under sugarcane. The irrigation has changed the production possibilities in this otherwise relatively dry area.

Potatoes^{10/}

Potato production is highly concentrated in Northern India (figure 16). Six regions in the states of Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal, and Orissa accounted for 82.6 percent of total production in 1967-69 (table 16). Uttar Pradesh and Bihar together accounted for 56.6 percent of total production.

Production is not uniformly distributed within the potato-producing regions of Northern India. Out of a total of 58 districts which comprise the potato-producing regions, 33 are designated as core districts and accounted for 65.9 percent of total production, while 25 are designated as satellite districts and accounted for only 16.7 percent of total production in 1967-69.

There have been some very marked shifts in the relative importance of different regions. The relative importance of West Bengal in total production declined sharply from 21.4 percent in 1959-61 to 11.0 percent in 1967-69, while the Coastal Orissa-Bengal region increased in relative importance from 3.8 percent to 10.7 percent of total production. There were also slight increases in the relative importance of the regions in Uttar Pradesh and Bihar.

VI. Fiber Crops

Cotton is the dominate fiber crop in India, accounting for 7.7 million hectares or 89 percent of the fiber crop area in the 1968-69 crop year, on an all-India basis. In terms of production, cotton contributes 5.3 million bales or 57 percent of the fiber production. Jute is second in importance with slightly over half a million hectares and provided 3 million bales or 33 percent of the fiber production in the 1968-69 crop year. Mesta is a relatively minor fiber crop which accounted for about 300 million hectares and 1 million bales.

Cotton

Over two-thirds of cotton production in India was in 26 districts. These districts form the center of the three major cotton regions and the

^{10/} The figures used in this paper do not include Jammu and Kashmir, Assam, Himachal Pradesh, or the Union Territories, where about 8 percent of the potatoes, on an all-India basis, is produced.

Fig. 16 POTATO REGIONS

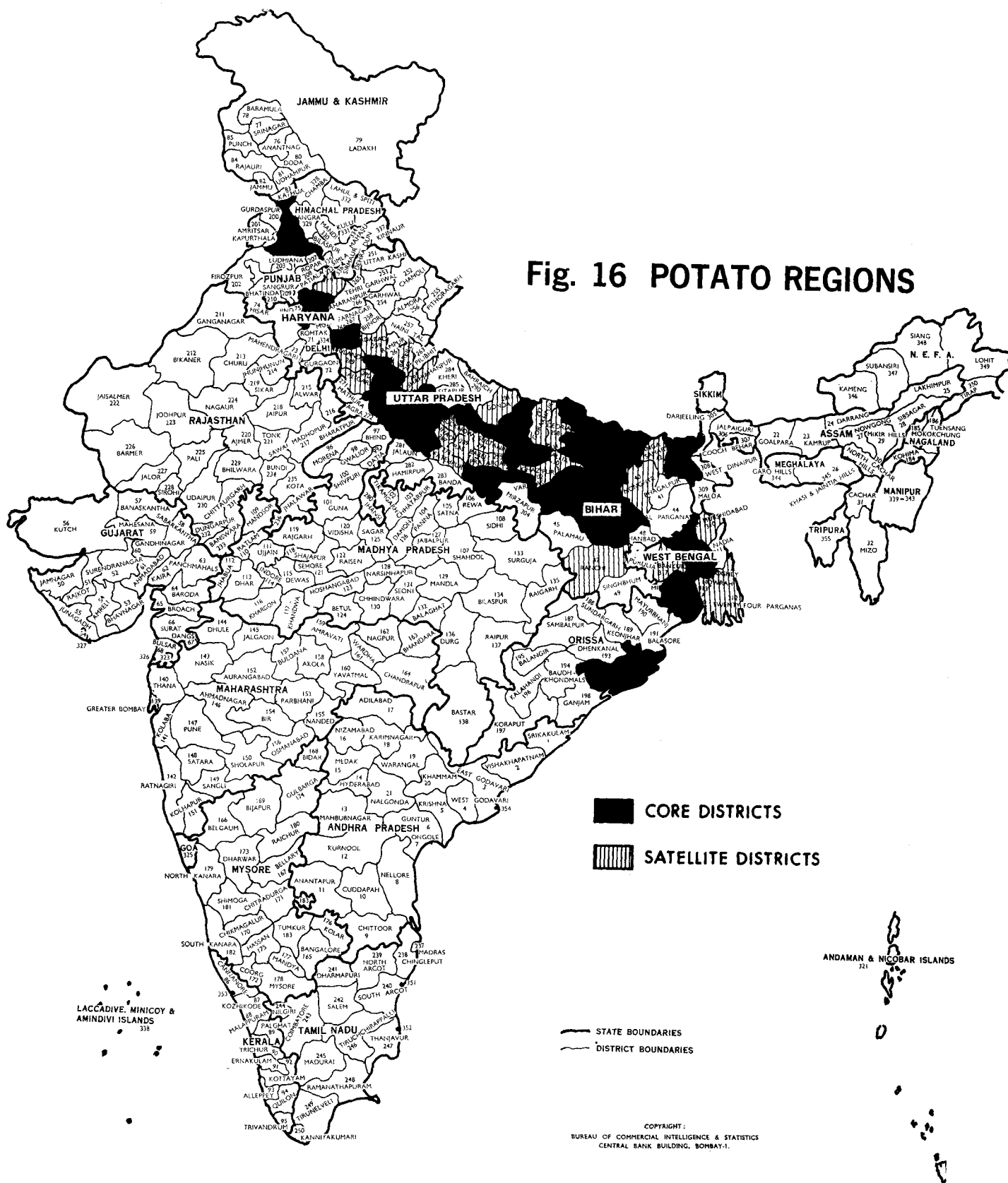


Table 16. Potato Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Potato Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Punjab-Haryana	4.3	4.4	3.7	3.7
II. West Bengal	11.0	21.4	9.6	20.2
III. Coastal Orissa-Bengal	10.7	3.8	9.5	3.1
IV. Bihar	22.0	18.2	20.2	17.3
V. Southwestern Uttar Pradesh	19.6	17.3	14.2	12.1
VI. Eastern Uttar Pradesh	<u>15.0</u>	<u>12.5</u>	<u>8.7</u>	<u>6.5</u>
Total	82.6	77.6	65.9	62.9

Notes:

- A. Criteria for defining regions and core districts are the same as for coconut (see notes to table 13).

three minor regions, which produced 90 percent of India's cotton in 1967-69 (see figure 17). The most important region is in Gujarat, where 12 districts produced 27 percent of India's cotton in 1967-69 (see table 17). The next most important region is in Central Maharashtra, which contributed over 24 percent of India's cotton. The third region is centered in Ferozepur and Bhatinda districts of the Punjab plus Hissar in Haryana and Ganganagar in Rajasthan. This region of eight districts accounts for 22 percent of the cotton produced. These three major cotton regions accounted for over 73 percent of the cotton production in 1967-69.

Three regions where cotton growing is of lesser importance are found in Tamil Nadu, Mysore and Madhya Pradesh. Each of these regions accounted for slightly over 5 percent of the national production.

Between 1959-61 and 1967-69, the three major regions increased their share of production from 63 to 73 percent while the three minor regions dropped from 24 to 17 percent. This indicates that cotton production has become more concentrated. The primary increases have been in the Gujarat and the Southern Punjab regions, whose combined share went from 41 to 49 percent.

The 26 core districts accounted for over 68 percent of total production in 1967-69, compared to 62 percent in 1959-61. The 18 core districts in the three major regions produced over 58 percent of the cotton, up from 48 percent in 1959-61. In contrast, the share of the eight core districts in the minor regions declined from 14 to 10 percent. With only two exceptions, Adilabad and Rewas, all the districts which had increased shares of production were in the core districts of the three major regions and the satellite districts in the Gujarat region.

Jute

Jute production is highly concentrated in Northeastern India. Twenty-one districts in Orissa, West Bengal, Bihar and Uttar Pradesh accounted for 98.5 percent of total production in the 14 states (see figure 18 and table 18). However, the 14 states exclude Assam, which in the 1967-69 period accounted for 19 percent of national jute production. This important omission should be kept in mind since Assam is clearly another important jute region.

Ten districts in West Bengal accounted for 56.3 percent of total jute production in 1967-69. Four districts in the Coastal Orissa-West Bengal region accounted for another 20 percent of total production while four districts in Bihar contributed 18.8 percent. The remaining 3.5 percent was produced in three Uttar Pradesh districts.

There have been some rather sharp shifts in the relative importance of the Coastal Orissa-West Bengal and Bihar regions in jute production. The relative importance in total output of the former area increased from

[illegible]

SATELLITE DISTRICTS

STATE BOUNDARIES
DISTRICT BOUNDARIES

COPYRIGHT:
BUREAU OF COMMERCIAL INTELLIGENCE & STATISTICS
CENTRAL BANK BUILDING, BOMBAY-1.

Table 17. Cotton Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Cotton</u>		<u>Core Districts</u>	
	<u>Districts</u>			
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Gujarat	26.8	22.9	20.1	17.4
II. Central Maharashtra	24.3	23.7	19.6	18.3
III. Southern Punjab	22.3	17.6	18.6	12.5
IV. Southwestern Madhya Pradesh	5.5	7.0	3.8	5.1
V. North Central Mysore	5.8	8.9	3.6	5.6
VI. Southern Tamil Nadu	<u>5.3</u>	<u>7.6</u>	<u>2.7</u>	<u>3.5</u>
Total	90.0	87.7	68.4	62.4

Notes:

- A. Criteria for delineating cotton regions are the same as for maize (see notes to table 4).
- B. Core districts had a minimum of 20 percent of the gross area under cotton or contribute 2.0 percent or more to total cotton production in 1967-69.

Table 18. Jute Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Jute Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. West Bengal	56.3	52.2	54.7	50.7
II. Coastal Orissa-Bengal	20.0	13.8	18.8	12.7
III. Bihar	18.8	25.0	16.6	22.7
IV. Uttar Pradesh	<u>3.4</u>	<u>2.0</u>	<u>1.9</u>	<u>1.0</u>
Total	98.5	93.0	92.0	87.1

Notes:

- A. Criteria for defining regions are the same as for coconut (see notes to table 13).
- B. Core districts contribute 2 percent or more to total jute production.

13.8 percent to 20 percent between 1959-61 and 1967-69, while that of the latter region declined from 25.0 percent to 18.8 percent. The West Bengal and Uttar Pradesh regions increased their shares of total production by 4.1 and 1.4 percent, respectively.

Mesta

Production of mesta is concentrated mainly in Eastern India, with some production occurring in a six-district region of Maharashtra and Mysore (figure 19). Andhra Pradesh and West Bengal are the two most important regions, accounting for 31.7 percent and 28.4 percent of total production in 1967-69, respectively, or 60.1 percent of total output (table 19). However, between 1959-61 and 1967-69, some significant shifts took place in the relative importance of these two regions. The share of total mesta production in Andhra Pradesh increased 6.1 percent while the share for West Bengal dropped by 7.9 percent. One district, Srikukulam, in Andhra Pradesh, accounted for all the increase with its share going from 15.7 to 27.7 percent.

The three districts in the Bihar region accounted for 13.4 percent of total mesta production in 1967-69, with two of them, Purnea and Saharsa, producing 12.8 percent of the total crop. The relative importance of Bihar increased only slightly from 11.3 percent in 1959-61. The Maharashtra-Mysore region, comprised of six districts, accounted for 10.2 percent of total production in 1967-69, down from 15.1 percent in 1959-61. Osmanabad district accounted for almost 3 percent of this decline.

All of the above mentioned mesta production areas were responsible for 92.5 percent of total production in 1967-69, about the same as in 1959-61. The 22 core districts accounted for almost 85 percent of total production during both periods.

VII. Spices and Other Crops

This final group includes the four major Indian spices -- black pepper, dry ginger, dry chillies, and turmeric -- and tobacco. In terms of area, chillies and tobacco are the most important, with 675.7 thousand and 412.4 thousand hectares, respectively, in the 1968-69 crop year, on an all-India basis. Black pepper and dry ginger, which accounted for 100 thousand and 20 thousand hectares, respectively, are very important in Kerala. Turmeric, on the other hand, is widely grown on 60 thousand hectares, from Bihar to Tamil Nadu.

Black Pepper

The nine districts which comprise the state of Kerala produce all of the black pepper in India (figure 20 and table 20). There was very

Fig. 19 MESTA REGIONS

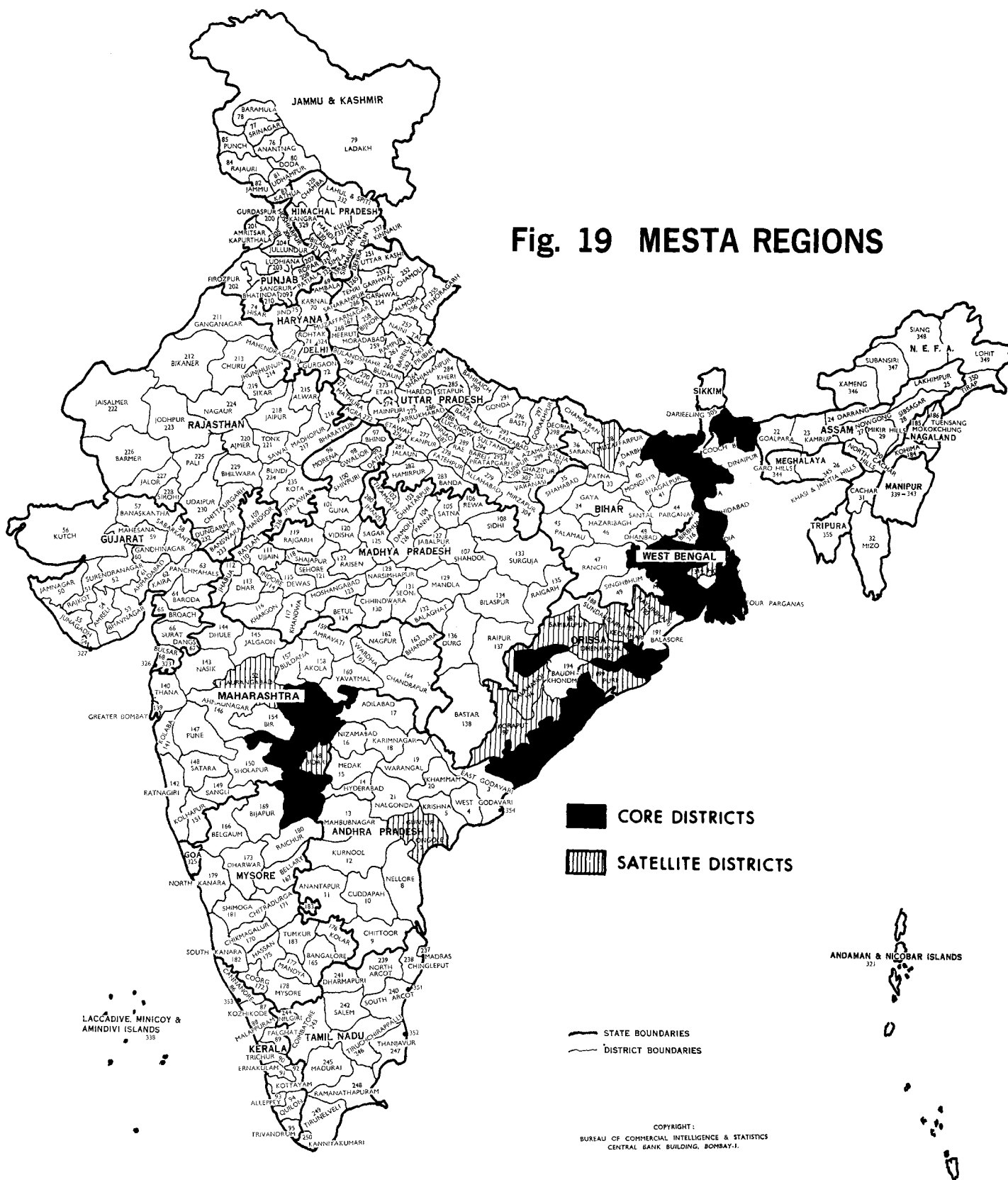


Table 19. Mesta Regions

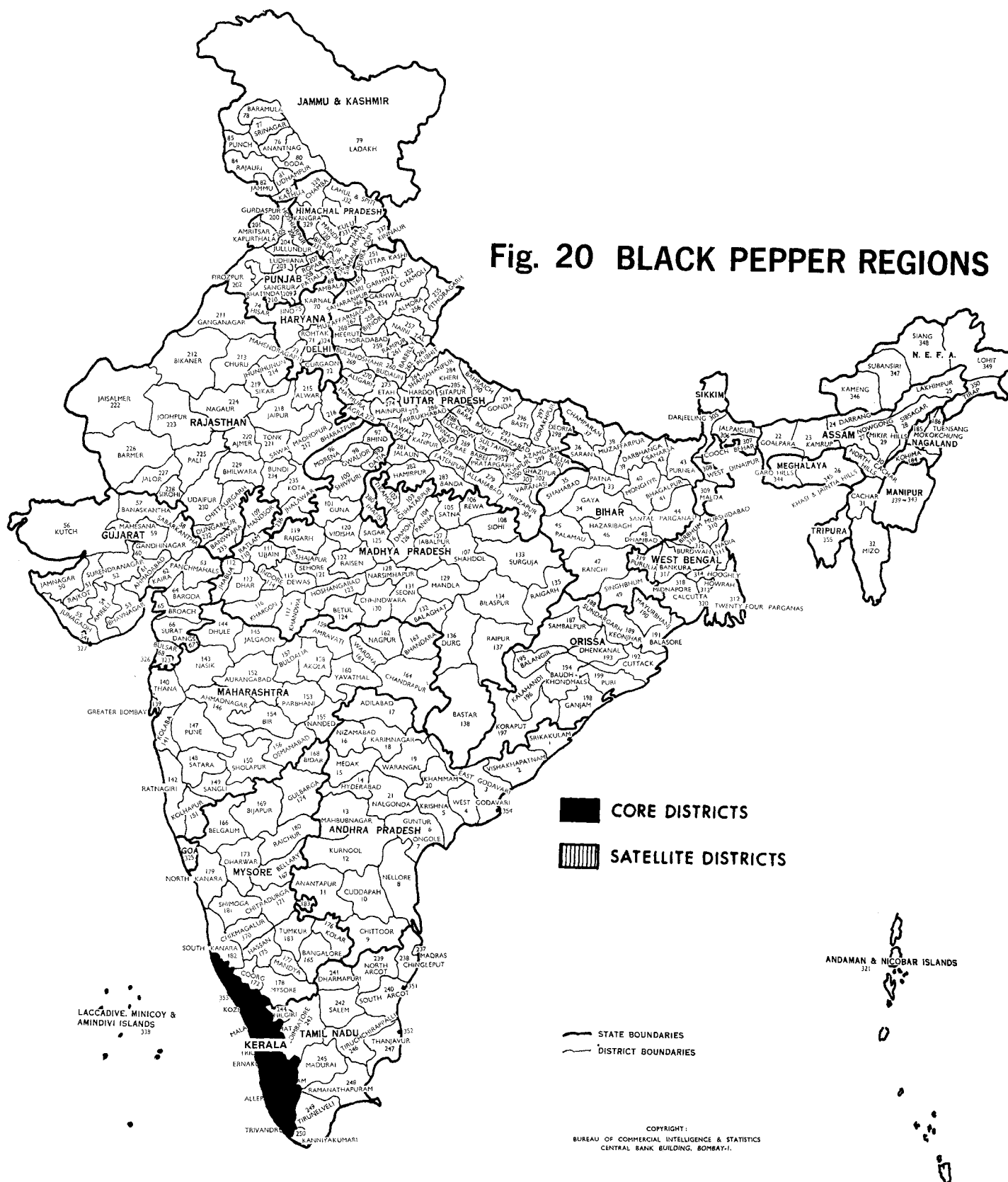
<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Mesta Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Andhra Pradesh	31.7	25.6	31.1	24.4
II. Bihar	13.4	11.3	12.8	11.0
III. Maharashtra-Mysore	10.2	15.1	9.0	12.9
IV. Orissa	8.8	3.9	4.1	2.3
V. West Bengal	<u>28.4</u>	<u>36.3</u>	<u>27.9</u>	<u>34.6</u>
Total	92.5	92.2	84.9	85.2

Notes:

- A. Criteria for defining mesta regions and core districts are the same as for coconut (see notes to table 13).

Table 20. Black Pepper

<u>Region</u>	<u>Percentage Share of National Production</u>	
	<u>1967-69</u>	<u>1959-61</u>
I. <u>Kerala</u>		
Cannanore	29.8	28.9
Kottayam	21.3	20.8
Trivandrum	14.8	13.6
Kozhikode	10.4	11.1
Ernakulam	9.3	10.7
Quilon	8.8	8.6
Palghat	2.5	2.6
Trichur	1.6	1.0
Alleppey	<u>1.4</u>	<u>2.8</u>
Total	100.0	100.0



COPYRIGHT:
BUREAU OF COMMERCIAL INTELLIGENCE & STATISTICS
CENTRAL BANK BUILDING, BOMBAY-1.

little change in the relative importance of each of these districts in total production between 1959-61 and 1967-69. Of these nine districts, five -- Cannanore, Kottayam, Trivandrum, Kozhikode, and Ernakulam -- accounted for 85.1 percent and 85.6 percent of total production in 1959-61 and 1967-69, respectively.

Dry Ginger^{11/}

Although ginger is not as highly concentrated as black pepper, 60 percent of the total production is grown in Kerala (see figure 21). Two districts, Kozhikode and Kottayam, produced over 40 percent of the ginger in 1967-69. If Palghat and Ernakulam are added, the four districts account for 55.8 percent of the total production. The share produced in Kerala declined slightly between 1959-61 and 1967-69.

Twenty-four districts in the four dry ginger regions produced 89.6 percent of the dry ginger in 1967-69, while the 19 core districts contributed 85.8 percent (table 21). Two small regions in West Bengal and Orissa each accounted for about 10 percent of total production in 1967-69, a slight increase from 1959-61. The Gujarat region produced only 2.9 percent in 1967-69.

Dry Chillies

Production of chillies is concentrated in Southern India, with the exception of a small region in Northern Bihar (figure 22). Tamil Nadu is the largest producer, accounting for 25.8 percent of total production, followed by Coastal Andhra Pradesh with 18.4 percent in 1967-69 (table 22). The seven regions in Tamil Nadu, Andhra Pradesh, Maharashtra, Mysore and Bihar were responsible for 85.8 and 88.8 percent of total production in 1959-61 and 1967-69, respectively. Central Maharashtra and the two regions in Andhra Pradesh increased their shares of total production during this period. Only Mysore of the other four regions did not have a decline in share.

Of the 56 districts delineated in the above regions, 27 are classified as core districts and accounted for 62.8 percent and 70.3 percent of total production in 1959-61 and 1967-69, respectively. Two core districts, Guntur district in Andhra Pradesh and Tiruchirapalli in Tamil Nadu, accounted for 15.3 percent of total dry chillies production in 1967-69. Thus, despite the rather widespread production of dry chillies, there is also a considerable degree of geographic concentration.

^{11/} The figures used in this paper do not include Jammu and Kashmir, Assam, Himachal Pradesh, or the Union Territories, where about 7 percent of the dry ginger is produced, on an all-India basis.

Fig. 21 DRY GINGER REGIONS

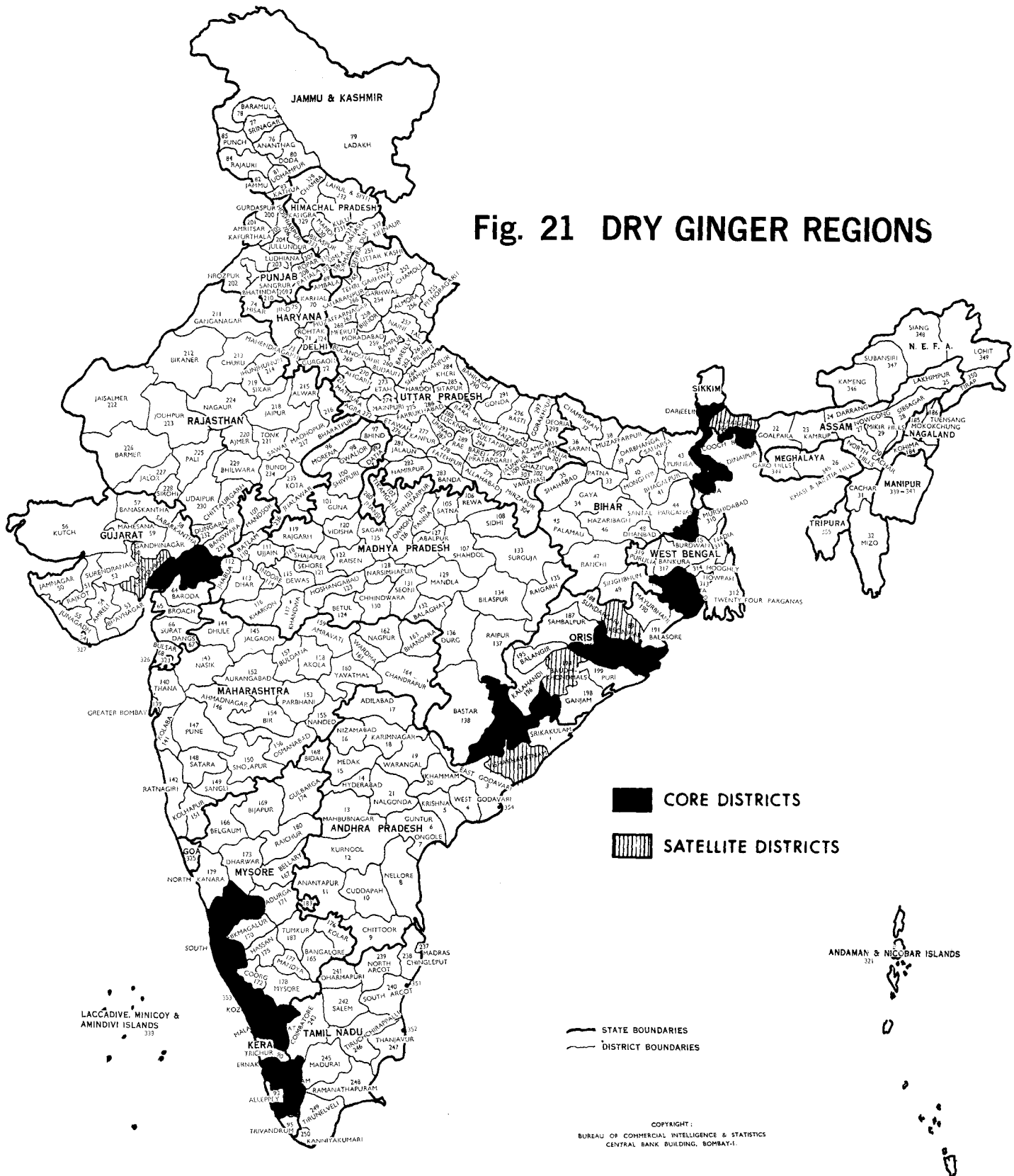


Table 21. Dry Ginger Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Dry Ginger</u>		<u>Core Districts</u>	
	<u>Districts</u>			
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Kerala-Mysore	66.2	67.8	66.2	67.8
II. West Bengal	10.6	4.4	9.9	4.2
III. Orissa	9.9	9.0	7.6	6.6
IV. Gujarat	2.9	2.1	2.1	1.8
Total	89.6	83.3	85.8	80.4

Notes:

- A. Criteria for defining dry ginger regions and core districts are the same as for coconut (see notes to table 13).

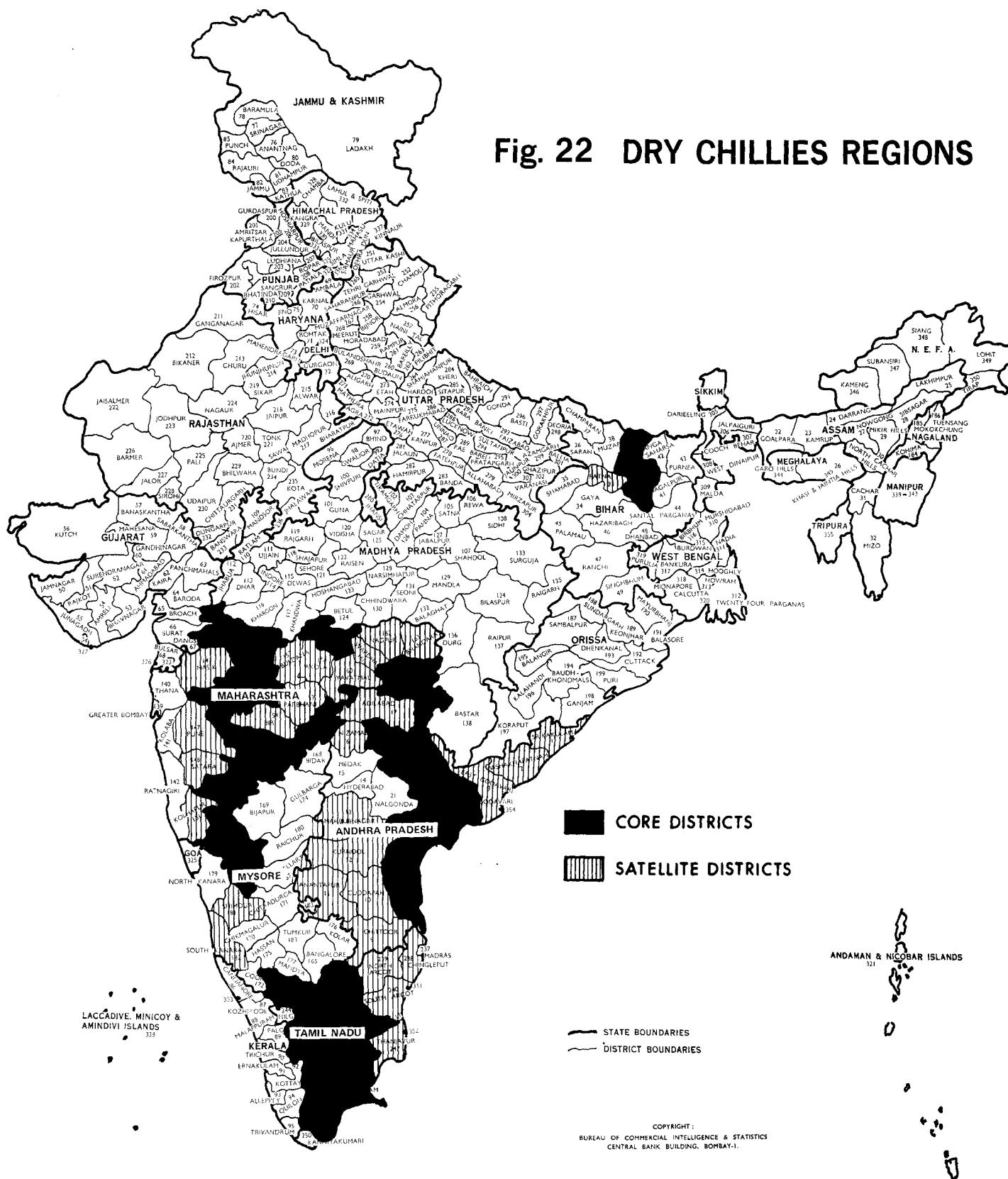
Table 22. Dry Chillies Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Dry Chillies</u>		<u>Core Districts</u>	
	<u>Districts</u>			
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Bihar	3.4	4.0	2.8	3.2
II. Mysore	4.5	4.4	3.2	3.3
III. Coastal Andhra Pradesh	18.4	16.0	15.6	10.8
IV. Inland Andhra Pradesh	9.1	8.1	5.6	2.9
V. Tamil Nadu	25.8	28.9	23.4	25.9
VI. Western Maharashtra	10.7	11.8	7.2	7.9
VII. Central Maharashtra	16.9	12.6	12.5	8.8
Total	88.8	85.8	70.3	62.8

Notes:

- A. Criteria for defining regions and core districts are the same as for coconuts (see notes to table 13).

Fig. 22 DRY CHILLIES REGIONS



Turmeric

Production of turmeric is widely dispersed over India (figure 23). Thirty-nine districts accounted for nearly 90 percent of total production in 1967-69. However, production was not uniformly distributed among these 39 districts. In fact, five core districts -- Phulbani in Orissa, Guntur and Cuddapah in Andhra Pradesh, Coimbatore in Tamil Nadu, and Sangli in Maharashtra -- accounted for almost half of total production in 1967-69. The most important state was Andhra Pradesh, which produced 30.1 percent of the total crop in 1967-69, followed by Orissa with 18.8 percent. There were some shifts in the relative importance of different regions between 1959-61 and 1967-69. The relative importance of Southern Orissa, Coastal Andhra Pradesh, Maharashtra-Andhra Pradesh, and Northern Bihar regions increased while that of the Tamil Nadu, Kerala, Southwestern Maharashtra, Northern Orissa, and Southern Andhra Pradesh regions declined.

Tobacco

There are 25 districts in six tobacco-producing regions which accounted for over 86 percent of total production in 1967-69 and 81 percent in 1959-61 (see figure 24 and table 24). The 15 core districts contributed 79 percent of total production in 1967-69, up from 72 percent in 1959-61. This indicates that tobacco production has become more concentrated in a few important districts.

The most important of these regions is Coastal Andhra Pradesh. The six districts (five core districts and one satellite district) which comprise this region accounted for 40 percent of total production in 1967-69, up from 32.9 percent in 1959-61. Within this region, one district, Guntur, stands out as an extremely important tobacco-producing area; it accounted for one-fourth of total production in 1967-69 as compared to 22.8 percent in 1959-61.

A group of six inland districts in Andhra Pradesh also produces a significant amount of tobacco. This region accounted for 9.5 percent of national production in 1967-69, up from 6.5 percent of total production in 1959-61. The Coastal and Inland tobacco regions in Andhra Pradesh together accounted for 39.4 percent and 49.5 percent of total production in 1959-61 and 1967-69, respectively. Not only is Andhra Pradesh the most important tobacco-producing state, but its relative importance has increased markedly.

The second most important tobacco-producing area in India is found in Gujarat. Here, four districts accounted for nearly one-quarter of total production in 1967-69, up from a little over one-fifth of total production in 1959-61. Within this region, Kaira district alone accounted for 18.8 percent of total production in 1967-69, up from 15 percent in 1959-61.

Fig. 23 TURMERIC REGIONS

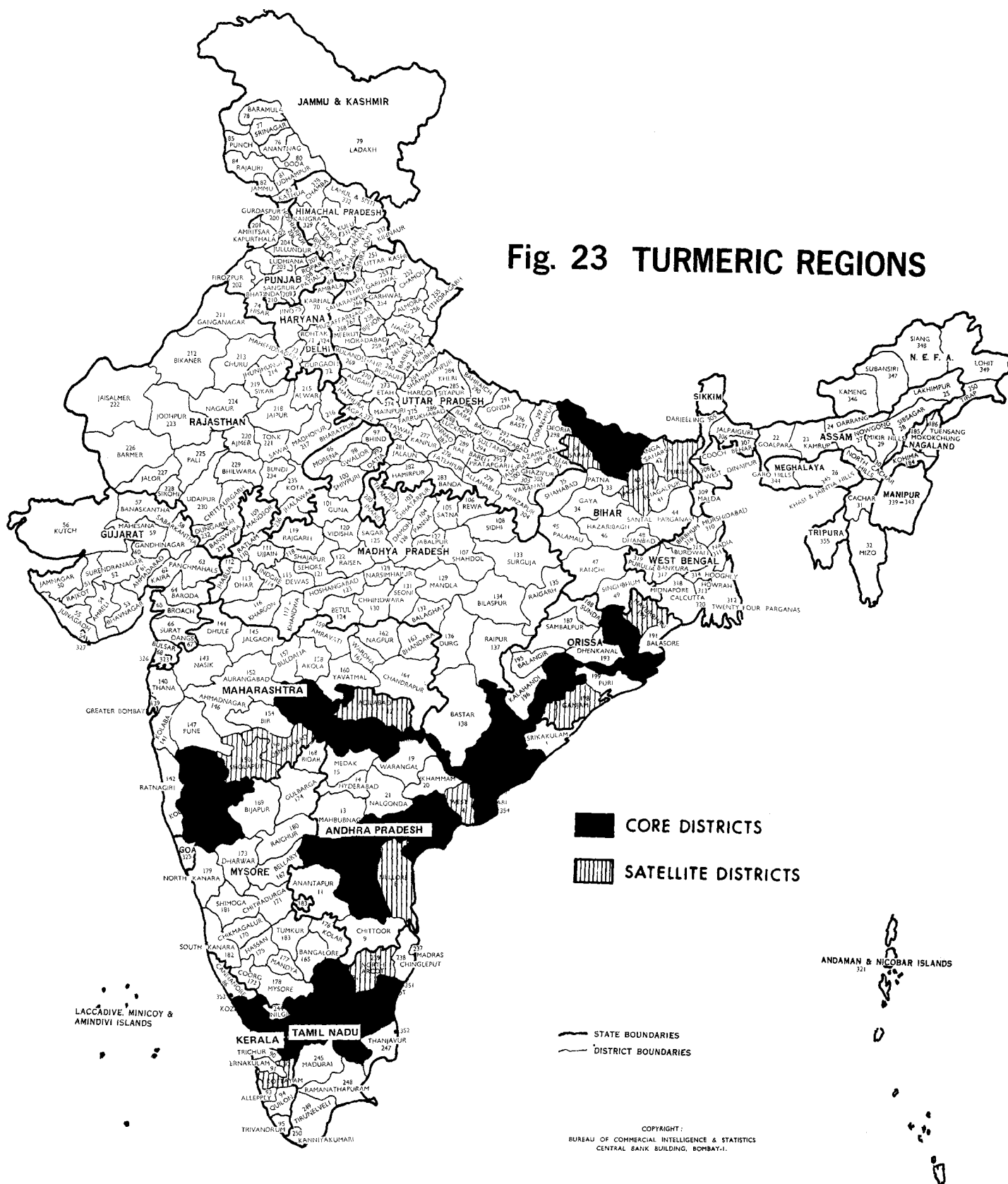


Table 23. Turmeric Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Turmeric</u>		<u>Core Districts</u>	
	<u>Districts</u>			
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Southern Orissa	16.1	10.0	15.4	9.6
II. Northern Orissa	2.7	3.7	2.2	2.8
III. Tamil Nadu	14.5	17.7	13.9	17.1
IV. Northern Bihar	9.0	6.2	6.7	3.1
V. Southwestern Maharashtra	10.9	16.1	10.4	15.5
VI. Maharashtra-Andhra Pradesh	7.8	5.7	6.6	4.7
VII. Coastal Andhra Pradesh	16.4	13.3	15.9	12.6
VIII. Southern Andhra Pradesh	9.4	10.1	8.9	9.5
IX. Kerala	<u>2.9</u>	<u>3.8</u>	<u>2.0</u>	<u>2.6</u>
Total	89.7	86.6	82.0	77.5

Notes:

- A. Criteria for defining turmeric regions and core districts are the same as for coconut (see notes to table 13).

Fig. 24 TOBACCO REGIONS

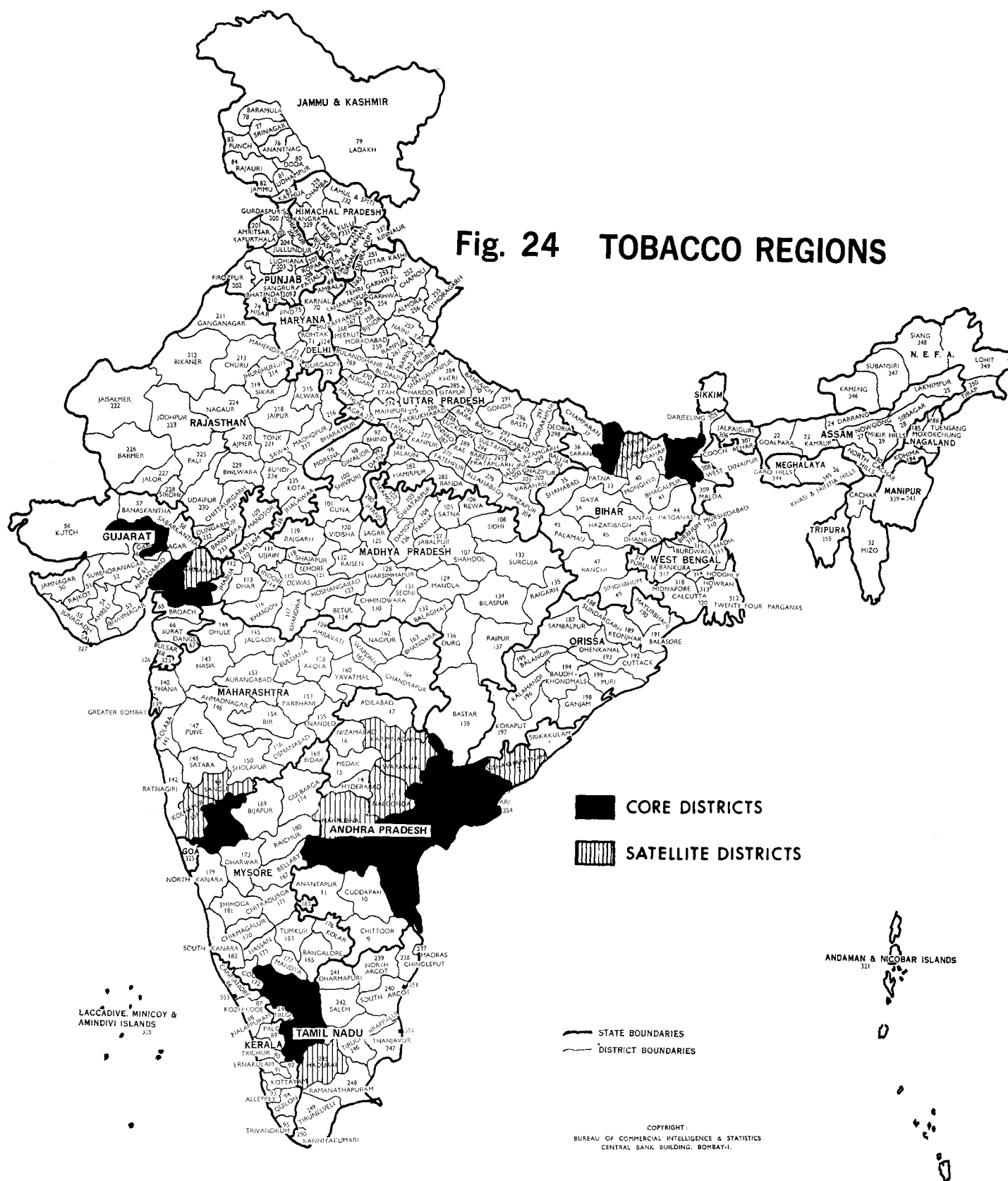


Table 24. Tobacco Regions

<u>Region</u>	<u>Percentage Share of National Production</u>			
	<u>All Tobacco</u>			
	<u>Districts</u>		<u>Core Districts</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
I. Coastal Andhra Pradesh	40.0	32.9	39.5	32.3
II. Inland Andhra Pradesh	9.5	6.5	5.8	4.3
III. Gujarat	24.1	20.9	23.5	20.6
IV. Tamil Nadu-Mysore	6.1	8.4	5.6	7.6
V. Mysore-Maharashtra	3.0	8.3	1.5	4.3
VI. Bihar	<u>3.7</u>	<u>4.0</u>	<u>3.0</u>	<u>2.6</u>
Total	86.4	81.0	78.9	71.7

Notes:

- A. Criteria for delineating tobacco regions and core districts are the same as for coconut (see notes to table 13).

The three other tobacco-producing regions are Tamil Nadu-Mysore, Mysore-Maharashtra, and North Bihar. These regions accounted for only 12.8 percent of total production in 1967-69, a significant drop from 20.7 percent in 1959-61. The two southern regions were the biggest losers in tobacco production, with a drop of 7.6 percent in share of total output.

It is interesting to note that while tobacco production is distributed fairly widely over India, two districts -- Guntur in Andhra Pradesh and Kaira in Gujarat -- accounted for 44.1 percent of total output in 1967-69. Furthermore, these two districts have grown in relative importance since 1959-61, when they accounted for 37.8 percent of total production.

REFERENCES

1. Easter, K. William and Shrinath Singh. "The Importance of Regional Differences in Agricultural Development." Annual Conference of the Indian Society of Agricultural Statistics, New Delhi, March 1972.
2. Nair, K. N. Symasundaran "Constraints that Are Limiting Agricultural Production and Causing Uneven Distribution of Gains -- A Case, Palghat District, Kerala State." Unpublished Ph.D. dissertation, Indian Agricultural Research Institute, New Delhi, 1972.
3. Abel, Martin E. and K. William Easter. "Agricultural Development Planning and Program Evaluation with a Focus on Regional Restraints." Economic and Political Weekly, Vol. VI, Nos. 30-32, Special Issue, 1971.
4. Sinha, B. N. "Agricultural Efficiency in India." Geographer, Vol. XV, November 1968.
5. Jodha, N. S. and V. S. Vyas. Conditions of Stability and Growth in Arid Agriculture. Agro-Economic Research Center, Sardar Patel University, Vallabh Vidyanagar, 1968.
6. Resource Development Regions and Divisions of India. Planning Commission, Government of India, 1965.
7. "District-wise Distribution of Rice, Wheat, Groundnut, Cotton, Jute and Sugarcane (1959-60 to 1961-62)." Agricultural Situation in India, February 1967, pp. 1003-17.
8. Mosher, A. T. To Create a Modern Agriculture (Organization and Planning). Agricultural Development Council, Inc., New York, 1971.
9. Mosher, A. T. Creating a Progressive Rural Structure (To Serve a Modern Agriculture). Agricultural Development Council, Inc., New York, 1969.
10. Minhas, B. S. and A. Vaidyanathan. "Growth of Crop Output in India, 1951-54 to 1958-61." Journal of the Indian Society of Agricultural Statistics, Vol. XVII, No. 2, 1965, pp. 230-52.

11. Misra, V. N. "Growth of Crop Output in Gujarat: A Component Analysis." Anvesak (Journal of the Sardar Patel Institute of Economic and Social Research), Vol. 1, No. 1, June 1971, pp. 1-15.
12. Agricultural Prices Commission. Report on Price Policy for Kharif Cereals for the 1971-72 Season. Ministry of Agriculture, Government of India, New Delhi, September 1971.
13. The Report of the Irrigation Commission, 1972, Vol. 1. Ministry of Irrigation and Power, New Delhi.
14. Easter, K. William. "Analysis of the Modernization of Indian Agriculture." The Ford Foundation, New Delhi, September 1970. (Mimeographed.)
15. Batra, B. B. and K. W. Easter. "The Impact of Field Channels on Irrigated Villages in Sambalpur." The Ford Foundation, New Delhi, June 1972. (Mimeographed.)
16. Directorate of Economics and Statistics. Estimates of Area and Production of Principal Crops in India, 1954-55 to 1964-65, Part I and II. Government of India, 1970.
17. Directorate of Economics and Statistics. Indian Agriculture in Brief. 10th ed. Government of India.
18. Directorate of Economics and Statistics. Agricultural Situation in India, Vol. 26. Government of India, 1971-72.
19. Joint Director of Agriculture, Uttar Pradesh. Bulletin of Agricultural Statistics for Uttar Pradesh, 1968-69 and 1969-70. Superintendent, Printing and Stationery, Lucknow, India, U. P., 1971 and 1972.
20. Directorate of Agriculture, Madhya Pradesh, Agricultural Statistics, Madhya Pradesh, 1950-71. Bhopal, India, 1972.

APPENDIX

Table of Contents

<u>Table Number</u>		<u>Page</u>
	Table Notes	1
1	Rice	2
2	Wheat	6
3	Jowar	9
4	Maize	12
5	Barley	15
6	Bajra	17
7	Ragi	20
8	Milletts	22
9	Pulses	27
10	Gram	31
11	Tur	34
12	Groundnut	37
13	Coconut	40
14	Other Oilseed	41
15	Sugarcane	45
16	Potatoes	48
17	Cotton	50
18	Jute	52
19	Mesta	53
20	Black Pepper	55
21	Dry Ginger	56
22	Dry Chillies	57
23	Turmeric	60
24	Tobacco	63

APPENDIX TABLE NOTES

The District names and areas which existed in 1959-60 are used in all tables. The alternative names and area changes for districts were noted earlier in the text.

The criteria for delineating crop regions are noted in the main text tables for each crop. The appendix tables are numbered the same as the text tables for easy reference.

The following State abbreviations are used in the appendix tables.

<u>States</u>	<u>Abbreviations</u>
Andhra Pradesh	A.P.
Behar	B.
Gujarat	G.
Haryana	H.
Kerala	K.
Madhya Pradesh	M.P.
Maharashtra	M.
Mysore	My.
Orissa	O.
Punjab	P.
Rajasthan	R.
Tamil Nadu	T.N.
Uttar Pradesh	U.P.
West Bengal	W.B.

If districts from more than one state are included in a region these State abbreviations are listed after the district names for all but the one State with the most districts in the region.

TABLE 1: RICE REGIONS

I. Eastern Tamil Nadu

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Rice	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
1. Thanjavur	3.6	3.0	84	87
2. South Arcot	1.4	1.3	46	42
3. Chingleput	1.2	1.3	76	75
4. North Arcot	1.2	1.0	45	37
5. Ramanathapuram	0.7	0.6	45	39
6. Kanya-Kumari	<u>0.3</u>	<u>0.3</u>	69	76
Sub-Total	8.4	7.5		
B. <u>Satellite Districts</u>				
1. Tirunelveli	0.8	0.9	34	33
2. Madurai	0.8	0.8	28	27
3. Tiruchirapalli	<u>1.1</u>	<u>0.9</u>	31	28
Total	11.1	10.1		

II. Kerala

A. <u>Core Districts</u>				
1. Palghat	1.1	1.0	76	77
2. Trichur	0.5	0.4	68	72
3. Ernakulam	0.4	0.4	56	59
4. Alleppey	0.4	0.4	49	52
5. Kozhikode	0.4	0.4	44	47
6. Cannanore	0.4	0.3	42	47
7. Quilon	<u>0.2</u>	<u>0.2</u>	35	33
Sub-Total	3.4	3.1		
B. <u>Satellite Districts</u>				
1. Trivandrum	0.2	0.2	32	37
2. Kottayam	<u>0.2</u>	<u>0.2</u>	33	33
Total	3.8	3.5		

III. Western Mysore

A. <u>Core Districts</u>				
1. South Kanara	0.9	0.7	87	86
2. Shimoga	0.9	0.6	51	47
3. North Kanara	0.4	0.4	89	89
4. Coorg	0.2	0.3	96	93
5. Chikamagalur	<u>0.2</u>	<u>0.2</u>	35	34
Sub-Total	2.6	2.2		
B. <u>Satellite Districts</u>				
1. Dharwar	0.7	0.4	15	9
2. Mandya	0.3	0.3	29	25
3. Mysore	<u>0.5</u>	<u>0.5</u>	19	13
Total	4.1	3.4		

Table 1 -- continued

		Percent of National Production		Percent of District in Rice	
		<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
IV.	<u>Western Maharashtra</u>				
	<u>A. Core Districts</u>				
	1. Thana	0.7	0.6	76	73
	2. Kolaba	0.6	0.6	60	76
	3. Ratnagiri	<u>0.5</u>	<u>0.4</u>	58	52
	Sub-Total	<u>1.8</u>	<u>1.6</u>		
	<u>B. Satellite Districts</u>				
	1. Kolhapur	0.3	0.4	33	28
	2. Surat (G)	<u>0.4</u>	<u>0.5</u>	26	25
	Total	<u>2.5</u>	<u>2.5</u>		
V.	<u>Coastal Andhra Pradesh</u>				
	<u>A. Core Districts</u>				
	1. West Godavari	1.9	1.5	74	77
	2. Krishna	1.8	1.7	62	64
	3. Guntur	1.4	1.1	32	25
	4. East Godavari	1.4	1.5	64	66
	5. Srikakulam	<u>0.5</u>	<u>1.0</u>	45	52
	Sub-Total	<u>7.0</u>	<u>6.8</u>		
	<u>B. Satellite Districts</u>				
	1. Visakhapatnam	0.2	0.6	32	36
	2. Nellore	0.6	0.8	33	32
	3. Chittoor	<u>0.5</u>	<u>0.6</u>	28	27
	Total	<u>8.3</u>	<u>8.8</u>		
VI.	<u>Eastern Madhya Pradesh</u>				
	<u>A. Core Districts</u>				
	1. Raipur	1.9	2.0	63	60
	2. Bilaspur	1.5	1.8	62	62
	3. Durg	1.3	1.6	42	39
	4. Bastar	0.9	1.2	61	60
	5. Raigarh	0.8	0.9	64	64
	6. Balaghat	0.6	0.7	59	58
	7. Surguja	0.5	0.6	50	51
	8. Bhandara (M)	0.8	0.9	53	51
	9. Shahdol	<u>0.2</u>	<u>0.4</u>	38	41
	Sub-Total	<u>8.5</u>	<u>10.1</u>		
	<u>B. Satellite District</u>				
	1. Chanda (M)	<u>0.6</u>	<u>0.6</u>	33	31
	Total	<u>9.1</u>	<u>10.7</u>		

Table 1 -- continued

	Percent of National Production		Percent of District in Rice	
	1967-69	1959-61	1967-69	1959-61
VII. <u>Eastern Uttar Pradesh</u>				
A. <u>Core Districts</u>				
1. Basti	0.7	0.6	41	41
2. Gorakhpur	0.5	0.5	42	39
3. Azamgarh	0.3	0.3	41	37
4. Faizabad	0.3	0.2	37	32
5. Gonda	0.5	0.4	35	34
6. Sultanpur	<u>0.2</u>	<u>0.3</u>	37	35
Sub-Total	2.5	2.3		
B. <u>Satellite Districts</u>				
1. Varanasi	0.3	0.3	33	36
2. Mirzapur	0.3	0.4	32	31
3. Ghazipur	0.1	0.2	32	31
4. Deoria	0.3	0.3	33	32
5. Bara Banki	0.3	0.3	32	30
6. Pratapgarh	0.1	0.1	29	28
7. Bahraich	0.2	0.3	26	29
8. Rae Bareilly	0.3	0.3	28	30
9. Jaunpur	<u>0.2</u>	<u>0.2</u>	26	27
Total	4.6	4.7		
VIII. <u>Inland West Bengal</u>				
A. <u>Core Districts</u>				
1. Burdwan	2.1	2.0	88	87
2. Birbhum	1.5	1.3	90	81
3. Bankura	1.3	1.3	93	92
4. West Dinajpur	1.2	0.8	72	71
5. Murshidabad	1.0	0.9	50	49
6. Hooghly	0.9	0.8	73	71
7. Howrah	0.2	0.3	82	74
8. Jalpaiguri	0.7	0.7	77	75
9. Cooch Behar	0.7	0.5	74	69
10. Nadia	0.6	0.6	46	48
11. Malda	0.6	0.5	56	53
12. Darjeeling	<u>0.1</u>	<u>0.2</u>	50	50
Total	10.9	9.9		
IX. <u>Inland Orissa</u>				
A. <u>Core Districts</u>				
1. Sambalpur	1.7	1.2	86	86
2. Mayurbhanj	0.9	0.9	87	96
3. Bolangir	0.9	0.8	61	73
4. Koraput	0.8	1.1	65	82
5. Dhenkanal	0.8	0.9	88	84
6. Kalahandi	0.6	0.6	73	79
7. Keonjhar	0.6	0.5	81	92
8. Sundergarh	0.4	0.6	87	81
9. Phulbani	<u>0.2</u>	<u>0.2</u>	60	51
Total	6.9	6.8		

Table 1 -- continued

		Percent of National Production		Percent of District in Rice	
		<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
X.	<u>Coastal Orissa-Bengal</u>				
	<u>A. Core Districts</u>				
	1. Cuttack	2.1	1.1	85	78
	2. Balasore	1.0	1.0	66	98
	3. Puri	1.0	0.9	82	75
	4. Ganjam	1.0	0.7	64	77
	5. Midnapur (W.B.)	2.8	3.0	86	88
	6. 24-Parganas (W.B.)	<u>2.2</u>	<u>2.0</u>	82	84
	Total	10.1	8.7		
XI.	<u>Southern Bihar</u>				
	<u>A. Core Districts</u>				
	1. Palamau	0.1	0.3	36	30
	2. Ranchi	1.0	1.2	64	63
	3. Singhbhum	0.9	1.1	86	84
	4. Hazaribagh	0.6	0.9	59	61
	5. Dhanbad	0.3	0.4	81	64
	6. Purulia (W.B.)	0.8	0.9	88	89
	7. Santhal Parganas	<u>1.5</u>	<u>1.7</u>	70	64
	Total	5.2	6.5		
XII.	<u>Northern Bihar</u>				
	<u>A. Core Districts</u>				
	1. Gaya	1.2	1.3	53	48
	2. Shahabad	1.1	1.5	42	42
	3. Champaran	0.9	1.0	54	53
	4. Darbhanga	0.9	0.8	52	49
	5. Muzaffarpur	0.6	0.6	48	43
	6. Patna	0.7	0.9	40	41
	7. Purnea	0.7	0.9	55	52
	8. Bhagalpur	0.5	0.6	42	41
	9. Saharsa	<u>0.4</u>	<u>0.2</u>	45	32
	Sub-Total	7.0	7.8		
	<u>B. Satellite Districts</u>				
	1. Monghyr	0.5	0.5	32	30
	2. Saran	<u>0.4</u>	<u>0.2</u>	30	32
	Total	7.9	8.5		

TABLE 2: WHEAT REGIONS

I. Punjab

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Wheat	
	1967-69	1959-61	1967-69	1959-61
1. Ferozepur	4.4	3.7	41	37
2. Ludhiana	3.4	1.4	46	41
3. Sangrur	3.2	2.6	36	28
4. Bhatinda	3.0	1.8	34	24
5. Amritsar	2.4	1.3	45	41
6. Patiala	2.3	1.9	42	36
7. Jullundur	1.9	1.4	49	47
8. Gurdaspur	1.2	0.7	43	42
9. Hoshiarpur	1.0	1.0	42	37
10. Kapurthala	0.7	0.4	48	48
Total	23.5	16.2		

II. Haryana and Western Uttar PradeshA. Core Districts

1. Karnal	3.0	2.0	35	25
2. Rohtak	1.8	1.6	28	21
3. Gurgaon	1.3	0.8	22	13
4. Ambala	1.1	0.8	30	26
5. Meerut (U.P.)	2.2	2.0	39	30
6. Bulandshahr (U.P.)	1.9	1.3	34	22
7. Muzaffarnagar (U.P.)	1.5	1.2	36	32
8. Saharanpur (U.P.)	1.0	0.8	34	28
Sub-Total	13.8	10.5		

B. Satellite Districts

1. Hissar	1.6	1.6	12	10
2. Ganganagar (R)	1.1	1.4	14	14
Total	16.5	13.5		

III. West Central Uttar PradeshA. Core Districts

1. Moradabad	1.2	1.4	36	32
2. Rampur	0.5	0.5	30	22
3. Budaun	1.0	1.2	33	29
4. Bareilly	0.6	0.7	25	23
5. Shahjahanpur	0.7	0.7	28	24
6. Hardoi	0.8	1.0	22	22
7. Sitapur	0.6	0.8	24	20
8. Bijnor	0.9	0.9	31	26
Sub-Total	6.3	7.2		

B. Satellite Districts

1. Dehra Dun	0.1	0.2	29	28
2. Nainital	0.1	0.4	24	21
Total	6.5	7.8		

Table 2 -- continued

		Percent of National Production		Percent of District in Wheat	
		1967-69	1959-61	1967-69	1959-61
IV.	<u>Northeastern Uttar Pradesh</u>				
	<u>A. Core Districts</u>				
	1. Basti	1.0	0.9	22	15
	2. Gonda	0.9	0.9	22	19
	3. Gorakhpur	0.7	0.6	21	14
	4. Bahraich	0.7	0.6	21	19
	5. Kheri	0.7	0.6	23	20
	6. Bara Banki	0.6	0.7	21	17
	7. Faizabad	0.6	0.6	21	17
	Sub-Total	5.2	4.9		
	<u>B. Satellite Districts</u>				
	1. Deoria	0.8	0.6	19	13
	2. Pilibhit	0.4	0.3	27	23
	Total	6.4	5.8		
V.	<u>Southwest Uttar Pradesh</u>				
	<u>A. Core Districts</u>				
	1. Aligarh	1.7	1.0	30	20
	2. Mathura	1.2	0.9	33	22
	3. Etah	1.0	1.0	26	22
	4. Mainpuri	1.0	0.7	27	19
	5. Lucknow	0.4	0.4	30	22
	6. Agra	0.8	0.8	26	18
	7. Farrukhabad	0.9	0.9	28	22
	8. Etawah	0.9	0.6	28	15
	9. Unnao	0.6	0.5	24	17
	Sub-Total	8.5	6.8		
	<u>B. Satellite District</u>				
	1. Bharatpur (R)	1.0	0.7	19	11
	Total	9.5	7.5		
VI.	<u>Southern Uttar Pradesh</u>				
	<u>A. Core Districts</u>				
	1. Hamirpur	0.9	1.2	25	26
	2. Jhansi	0.9	0.9	31	27
	3. Jalaun	0.8	1.0	28	27
	4. Kanpur	0.9	1.0	25	18
	5. Banda	0.7	1.0	21	20
	Sub-Total	4.2	5.1		
	<u>B. Satellite Districts</u>				
	1. Allahabad	0.5	0.4	15	14
	2. Tikamgarh (M.P.)	0.4	0.3	20	16
	3. Chhatarpur (M.P.)	0.4	0.4	22	18
	Total	5.5	6.2		

Table 2 -- continued

		Percent of National Production		Percent of District in Wheat	
		<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
VII.	<u>Western Bihar</u>				
	<u>A. Core District</u>				
	1. Shahabad	1.3	0.9	24	12
	<u>B. Satellite Districts</u>				
	1. Champaran	0.6	0.2	13	5
	2. Gaya	0.7	0.6	13	9
	3. Patna	0.5	0.3	11	7
	4. Monghyr	0.5	0.6	16	11
	5. Saran	<u>0.5</u>	<u>0.5</u>	16	12
	Total	4.1	3.1		
VIII.	<u>Central Madhya Pradesh</u>				
	<u>A. Core Districts</u>				
	1. Vidisha	0.9	1.6	47	55
	2. Sagar	0.9	1.6	50	58
	3. Raisen	0.6	1.1	41	48
	4. Sehore	0.6	1.4	37	55
	5. Damoh	0.4	0.8	38	46
	6. Hoshangabad	0.4	1.0	31	44
	7. Indore	0.3	0.5	31	43
	8. Satna	<u>0.4</u>	<u>0.6</u>	26	31
	Sub-Total	4.5	8.6		
	<u>B. Satellite Districts</u>				
	1. Jabalpur	0.4	0.9	25	29
	2. Panna	<u>0.2</u>	<u>0.4</u>	21	26
	Total	5.1	9.9		
IX.	<u>Madhya Pradesh Rajasthan</u>				
	<u>A. Core Districts</u>				
	1. Guna	0.4	0.7	25	30
	2. Kotah (R)	0.7	0.9	28	32
	3. Gwalior	0.5	0.8	34	35
	4. Bundi (R)	0.3	0.5	27	26
	5. Datia	<u>0.2</u>	<u>0.3</u>	29	35
	Sub-Total	2.1	3.2		
	<u>B. Satellite District</u>				
	1. Shivapuri	<u>0.3</u>	<u>0.6</u>	21	25
	Total	2.4	3.8		

TABLE 3: JOWAR REGIONS

I. Northern Mysore

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Jowar	
	1967-69	1959-61	1967-69	1959-61
1. Bijapur	3.3	2.3	53	50
2. Gulbarga	3.2	2.1	52	51
3. Raichur	1.8	1.1	35	33
4. Belgaum	1.5	2.0	33	30
5. Chitradurga	1.2	0.6	31	24
6. Bidar	1.2	0.5	35	33
7. Bellary	0.8	1.0	35	35
8. Dharwar	1.7	2.2	24	27
Total	14.7	11.8		

II. Central MaharashtraA. Core Districts

1. Nanded	2.5	2.0	41	44
2. Parbhani	2.3	2.7	41	41
3. Buldana	2.1	2.0	41	35
4. Akola	1.9	1.5	33	30
5. Yeotmal	1.7	1.5	36	36
6. Wardha	1.0	0.6	32	31
7. Jalgaon	1.8	2.1	21	22
8. Amravati	1.2	1.2	26	27
9. Nagpur	1.2	1.2	39	41
Total	15.7	14.8		

III. Southwestern MaharashtraA. Core Districts

1. Sholapur	3.2	3.5	70	67
2. Osmanabad	2.6	3.3	42	43
3. Ahmednagar	2.5	3.1	51	54
4. Aurangabad	2.2	2.0	35	32
5. Bhir	1.9	2.5	42	43
6. Sangli	1.9	2.6	42	42
7. Satara	1.4	1.6	36	36
8. Poona	1.4	2.1	52	50
Total	17.1	20.7		

B. Satellite Districts

1. Kolhapur	0.7	0.8	18	16
Total	17.8	22.5		

IV. Southwestern Madhya PradeshA. Core Districts

1. Shajapur	1.4	0.9	39	33
2. Ujjain	1.4	0.8	35	36
3. West Nimar	1.4	1.0	33	29
4. Rajgarh	1.2	0.8	46	41
5. Dewas	1.1	0.7	35	30
6. East Nimar	0.9	0.8	29	23
7. Ratlam	0.5	0.3	27	22
Sub-Total	7.9	5.3		

Table 3 -- continued

	Percent of National Production		Percent of District in Jowar	
	1967-69	1959-61	1967-69	1959-61
B. <u>Satellite Districts</u>				
1. Dhar	0.5	0.3	21	15
Total	8.4	5.8		
V. <u>Central Madhya Pradesh</u>				
A. <u>Core Districts</u>				
1. Guna	1.0	0.8	40	32
2. Shivpuri	0.4	0.3	26	23
3. Jhansi (U.P.)	0.6	0.7	27	24
4. Chhindwara	0.8	0.5	27	28
Sub-Total	2.8	2.3		
B. <u>Satellite Districts</u>				
1. Sehore	0.8	0.5	23	16
2. Gwalior	0.5	0.3	21	16
3. Tikamgarh	0.4	0.5	22	21
4. Datia	0.1	0.1	22	18
5. Indore	0.2	0.2	21	18
6. Hamirpur (U.P.)	0.6	0.8	20	20
7. Vidisha	0.5	0.3	18	12
8. Betul	0.5	0.5	21	10
9. Banda (U.P.)	0.5	0.7	14	14
10. Sagar	0.6	0.3	13	8
Total	7.5	6.5		
VI. <u>Andhra Pradesh</u>				
A. <u>Core Districts</u>				
1. Adilabad	1.3	1.7	42	44
2. Mahbubnagar	1.3	1.4	32	35
3. Khammam	1.2	0.7	50	46
4. Warangal	0.9	0.7	37	36
5. Medak	0.8	1.3	33	33
6. Hyderabad	0.4	0.9	35	35
7. Kurnool	1.3	2.2	27	29
8. Nalgonda	0.6	1.0	27	31
9. Chanda (M)	1.0	1.0	31	30
Sub-Total	8.8	10.9		
B. <u>Satellite Districts</u>				
1. Karimnagar	0.5	0.5	25	24
2. Guntur	1.1	1.1	16	23
3. Anantpur	0.6	0.9	19	18
4. Nellore	0.6	1.1	25	29
5. Cuddapah	0.6	0.5	24	29
6. Nizamabad	0.4	0.5	20	22
7. Krishna	0.5	0.5	12	16
Total	13.1	16.0		

Table 3 -- continued

		Percent of National Production		Percent of District in Jowar	
		<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
VII.	<u>Central Eastern Rajasthan</u>				
	<u>A. Core Districts</u>				
	1. Kotah	1.1	0.8	37	32
	2. Jhalawar	0.8	0.7	44	41
	3. Tonk	0.3	0.2	30	28
	4. Mandasaur (M.P.)	1.0	0.7	39	35
	5. Bundi	0.1	0.2	26	26
	6. Ajmer	<u>0.1</u>	<u>0.2</u>	27	23
	Total	3.4	2.8		
VIII.	<u>Central Inland Tamil Nadu</u>				
	<u>A. Core Districts</u>				
	1. Coimbatore	1.4	1.7	26	20
	2. Madurai	<u>1.0</u>	<u>1.4</u>	21	21
	Sub-Total	2.4	3.1		
	<u>B. Satellite Districts</u>				
	1. Salem	1.0	1.4	16	16
	2. Tiruchirapalli	<u>0.8</u>	<u>0.9</u>	17	16
	Total	4.2	5.4		
IX.	<u>Gujarat</u>				
	<u>A. Core Districts</u>				
	1. Mehsana	0.3	0.2	25	23
	2. Kutch	<u>0.1</u>	<u>0.1</u>	25	23
	Sub-Total	0.4	0.3		
	<u>B. Satellite Districts</u>				
	1. Bhavnagar	0.1	0.1	20	20
	2. Ahmedabad	0.2	a	20	15
	3. Baroda	0.5	0.5	10	14
	4. Surat	0.7	0.6	21	16
	5. Broach	0.4	0.3	20	18
	6. Dhulia (M)	<u>0.8</u>	<u>1.3</u>	21	25
	Total	3.1	3.1		

a. Less than 0.05 percent.

TABLE 4: MAIZE REGIONS

I. Southern Rajasthan -- Madhya Pradesh

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Maize	
	1967-69	1959-61	1967-69	1959-61
1. Udaipur	4.0	4.6	45	39
2. Bhilwara	2.3	2.4	34	33
3. Chittorgarh	2.1	1.8	24	23
4. Banswara	1.2	1.5	33	31
5. Dungarpur	1.0	0.9	34	30
6. Panchmahals (G)	2.4	3.1	34	24
7. Jhabua (M.P.)	1.1	1.6	25	23
8. Sabarkantha (G)	1.2	1.4	17	4
Sub-Total	15.3	17.3		
B. <u>Satellite Districts</u>				
1. Jhalwara	0.8	0.8	12	9
2. Ajmer	0.8	1.0	13	14
3. Sirohi	0.2	0.3	12	9
4. Dhar (M.P.)	0.7	1.1	13	9
5. West Nimar (M.P.)	0.5	0.4	6	4
6. Ratlam (M.P.)	0.4	0.4	11	8
7. Mandsaur (M.P.)	0.8	0.9	11	8
Total	19.5	22.2		

II. Northern Punjab

A. <u>Core Districts</u>				
1. Ludhiana	3.1	1.6	16	14
2. Jullundur	1.9	1.5	19	16
3. Hoshiarpur	1.8	2.2	24	22
4. Ambala (H)	1.4	1.6	17	14
5. Amritsar	1.1	1.0	11	9
Sub-Total	9.3	7.9		
B. <u>Satellite Districts</u>				
1. Sangrur	1.7	1.1	7	6
2. Ferozepur	1.7	1.0	5	3
3. Karnal (H)	1.0	1.2	7	8
4. Gurdaspur	0.8	0.6	11	8
5. Kapurthala	0.5	0.4	12	11
6. Patiala	1.1	1.0	9	10
Total	16.1	13.2		

III. Northern Bihar

A. <u>Core Districts</u>				
1. Darjeeling (W.B.)	0.5	0.6	37	39
2. Saran	3.6	3.4	21	18
3. Monghyr	2.5	3.8	21	21
4. Bhagalpur	0.9	2.3	17	15
5. Darbhanga	2.2	2.6	13	9
6. Muzaffarpur	1.8	1.2	13	11
7. Saharsa	1.0	1.2	11	15
Sub-Total	12.5	15.1		

		Percent of National Production		Percent of District in Maize	
		1967-69	1959-61	1967-69	1959-61
B.	<u>Satellite Districts</u>				
1.	Ballia (U.P.)	0.5	0.5	9	7
2.	Patna	1.0	0.7	9	4
3.	Purnea	0.6	1.9	5	8
4.	Champaran	0.9	0.9	5	5
	Total	15.5	19.1		
IV.	<u>Northeastern Andhra Pradesh</u>				
A.	<u>Core Districts</u>				
1.	Nizamabad	1.1	0.5	11	7
2.	Karimnagar	1.9	1.1	16	11
	Sub-Total	3.0	1.6		
B.	<u>Satellite Districts</u>				
1.	Warangal	0.5	0.5	7	8
2.	Medak	0.6	0.7	11	6
	Total	4.1	2.8		
V.	<u>Western Uttar Pradesh</u>				
A.	<u>Core Districts</u>				
1.	Bulandshahr	1.8	1.2	18	13
2.	Aligarh	1.1	0.6	15	9
3.	Etah	1.0	1.0	18	10
4.	Mainpuri	0.9	0.6	17	9
5.	Farrukhabad	2.0	1.2	19	12
6.	Dehra Dun	0.2	0.3	17	16
	Sub-Total	7.0	4.9		
B.	<u>Satellite Districts</u>				
1.	Etawah	0.2	0.4	10	7
2.	Meerut	0.7	1.2	10	9
3.	Saharanpur	0.5	0.4	8	8
4.	Muzaffarnagar	0.5	0.6	6	6
5.	Nainital	0.7	0.8	14	11
6.	Rampur	0.5	0.7	14	13
	Total	10.1	9.0		
VI.	<u>Central Uttar Pradesh</u>				
A.	<u>Core Districts</u>				
1.	Bahraich	2.9	3.1	27	22
2.	Gonda	1.7	2.1	15	14
3.	Kheri	1.2	0.8	11	9
4.	Jaunpur	1.6	0.9	16	12
	Sub-Total	7.4	6.9		

		Percent of National Production		Percent of District in Maize	
		<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
B. <u>Satellite Districts</u>					
1.	Sitapur	0.8	0.6	7	5
2.	Kanpur	0.6	0.4	7	5
3.	Unnao	0.5	0.4	11	8
4.	Hardoi	<u>1.1</u>	<u>0.4</u>	9	5
	Total	10.4	8.7		
VII. <u>Bihar-Madhya Pradesh</u>					
A. <u>Core Districts</u>					
1.	Palamau	0.7	1.0	18	11
B. <u>Satellite Districts</u>					
1.	Surguja (M.P.)	0.8	0.9	6	5
2.	Mandla (M.P.)	0.6	0.7	5	5
3.	Hazaribagh	0.8	0.9	14	9
4.	24-Parganas	<u>0.9</u>	<u>2.3</u>	9	7
	Total	3.8	5.8		

TABLE 5: BARLEY REGIONS

I. <u>Haryana-Rajasthan</u>		Percent of National Production		Percent of District in Barley	
A. <u>Core Districts</u>		<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
1. Gurgaon (H)		3.4	1.4	13	9
2. Mohindergarh (H)		1.3	0.4	10	4
3. Ganganagur		1.5	1.5	6	5
4. Alwar		2.5	1.7	12	7
5. Bharatpur		1.5	0.8	5	4
6. Jaipur		5.0	5.0	14	14
7. Sawai-Madhopur		<u>1.4</u>	<u>1.1</u>	8	6
Sub-Total		16.6	11.9		
B. <u>Satellite District</u>					
1. Sikar		<u>0.8</u>	<u>1.1</u>	5	4
Total		17.4	13.0		
II. <u>Southeastern Rajasthan</u>					
A. <u>Core Districts</u>					
1. Ajmer		1.0	1.4	8	10
2. Bhilwara		1.3	1.7	11	15
3. Pali		1.1	1.1	7	6
4. Tonk		1.6	1.6	9	10
5. Udaipur		<u>1.7</u>	<u>2.4</u>	9	13
Total		6.7	8.2		
III. <u>Northwestern Bihar</u>					
A. <u>Core Districts</u>					
1. Saran		1.7	1.6	10	12
2. Champaran		1.5	1.1	8	10
3. Muzaffarpur		<u>1.1</u>	<u>1.1</u>	7	8
Total		4.3	3.8		
IV. <u>Southwestern Uttar Pradesh</u>					
A. <u>Core Districts</u>					
1. Bulandshahr		1.7	2.1	9	12
2. Aligarh		2.8	1.8	9	11
3. Mathura		<u>2.2</u>	<u>1.4</u>	10	11
Sub-Total		6.7	5.3		
B. <u>Satellite Districts</u>					
1. Agra		0.7	1.4	6	9
2. Mainpuri		0.7	0.9	5	8
3. Etah		0.6	1.0	5	7
4. Bhind (M.P.)		<u>0.7</u>	<u>0.9</u>	6	9
Total		9.4	9.5		

Table 5 -- Continued

		Percent of National Production		Percent of District in Barley	
		<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
V.	<u>Eastern Uttar Pradesh</u>				
	<u>A. Core Districts</u>				
	1. Jaunpur	4.6	3.6	24	25
	2. Ghazipur	1.2	2.4	18	18
	3. Ballia	2.2	1.8	17	17
	4. Azamgarh	5.2	4.7	14	21
	5. Basti	2.1	1.4	8	11
	6. Deoria	1.2	1.6	9	12
	7. Gorakhpur	1.8	2.3	10	15
	8. Mirzapur	1.1	1.8	14	12
	9. Varanasi	1.5	2.1	13	15
	10. Allahabad	2.0	2.9	15	15
	11. Sultanpur	1.5	1.6	9	10
	12. Pratapgarh	2.0	1.8	18	19
	Sub-Total	26.4	28.0		
	<u>B. Satellite Districts</u>				
	1. Faizabad	0.6	1.4	6	8
	2. Sidhi (M.P.)	0.7	1.2	8	11
	Total	27.7	30.6		
VI.	<u>Central Uttar Pradesh</u>				
	<u>A. Core Districts</u>				
	1. Kanpur	1.6	2.1	9	11
	2. Fatehpur	1.7	1.3	14	15
	3. Etawah	1.0	1.1	5	7
	4. Unnao	1.8	1.9	14	17
	5. Rae Bareli	1.9	1.5	14	14
	6. Sitapur	1.8	1.0	7	8
	7. Hardoi	1.9	1.8	8	11
	Sub-Total	11.7	10.7		
	<u>B. Satellite Districts</u>				
	1. Lucknow	0.5	0.5	6	8
	2. Chhatarpur (M.P.)	1.2	0.9	11	10
	3. Bahraich	0.6	0.7	6	7
	Total	14.0	12.8		

TABLE 6: BAJRA REGIONS

I. <u>Tamil Nadu</u>				
	Percent of National Production		Percent of District in Bajra	
	1967-69	1959-61	1967-69	1959-61
A. <u>Core Districts</u>				
1. Tiruchirapalli	1.5	2.0	13	14
2. Tirunelveli	1.0	1.3	15	16
3. Salem	<u>1.1</u>	<u>1.6</u>	10	11
Sub-Total	3.6	4.9		
B. <u>Satellite Districts</u>				
1. South Arcot	0.8	0.7	7	8
2. Coimbatore	0.8	1.6	7	8
3. Ramanathapuram	<u>0.6</u>	<u>1.2</u>	8	11
Total	5.8	8.4		
II. <u>Maharashtra</u>				
A. <u>Core Districts</u>				
1. Nasik	3.7	3.3	51	39
2. Dhulia	1.6	2.1	24	18
3. Ahmednagar	1.4	2.1	26	22
4. Poona	1.3	2.1	21	23
5. Aurangabad	<u>1.4</u>	<u>1.2</u>	16	14
Sub-Total	9.4	10.8		
B. <u>Satellite Districts</u>				
1. Jalgaon	0.6	0.6	9	9
2. Bhil	0.6	0.6	11	11
3. West Nimar (M.P.)	<u>0.4</u>	<u>0.2</u>	10	4
Total	11.0	12.2		
III. <u>Maharashtra-Mysore</u>				
A. <u>Core Districts</u>				
1. Satara (M)	0.9	1.4	26	27
2. Sangli (M)	<u>0.3</u>	<u>0.7</u>	21	22
Sub-Total	1.2	2.1		
B. <u>Satellite Districts</u>				
1. Bijapur	0.8	1.3	14	13
2. Gulbarga	0.6	0.6	7	7
3. Raichur	<u>0.5</u>	<u>0.4</u>	5	5
Total	3.1	4.4		
IV. <u>Gujarat</u>				
A. <u>Core Districts</u>				
1. Kaira	3.4	1.3	25	18
2. Mehsana	2.8	1.8	36	34
3. Bhavnagar	2.8	1.2	32	22

Table 6 -- continued

	Percent of National Production		Percent of District in Bajra	
	1967-69	1959-61	1967-69	1959-61
4. Banaskantha	2.6	1.8	59	54
5. Kutch	1.7	1.0	32	27
6. Amreli	1.7	0.9	26	21
7. Surendranagar	0.7	0.3	20	17
8. Baroda	0.2	0.2	17	3
9. Jamnagar	1.2	0.7	18	14
10. Junagadh	1.3	0.8	14	17
11. Rajkot	1.0	0.6	13	11
12. Ahmedabad	1.0	0.3	12	8
Sub-Total	20.4	10.9		
B. <u>Satellite District</u>				
1. Sabarkantha	0.5	0.3	12	3
Total	20.9	11.2		
V. <u>Haryana-Punjab</u>				
A. <u>Core Districts</u>				
1. Hissar	3.2	2.4	26	21
2. Gurgaon	1.3	1.2	25	27
3. Rohtak	1.2	0.9	16	17
4. Mohindergarh	0.8	1.7	49	45
5. Bhatinda (P)	2.4	0.7	13	8
6. Sangrur (P)	1.9	0.8	12	10
7. Ganganagar (R)	1.1	0.3	21	12
Sub-Total	11.9	8.0		
B. <u>Satellite Districts</u>				
1. Karnal	0.5	0.6	5	4
2. Ferozepur (P)	0.8	0.3	5	3
Total	13.2	8.9		
VI. <u>Eastern-Rajasthan</u>				
A. <u>Core Districts</u>				
1. Morena (M.P.)	1.6	1.6	26	20
2. Alwar	1.5	1.9	30	28
3. Sawai-Madhopur	1.3	1.5	29	19
4. Bharatpur	1.3	1.1	25	34
5. Pali	0.5	0.6	25	21
6. Sirohi	0.1	0.1	24	20
7. Jaipur	3.1	2.2	35	26
Sub-Total	9.4	9.0		
B. <u>Satellite Districts</u>				
1. Ajmer	0.5	0.3	13	8
2. Tonk	0.4	0.1	10	3
Total	10.3	9.4		

Table 6 -- continued

		Percent of National Production		Percent of District in Bajra	
		<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
VII.	<u>Western Rajasthan</u>				
	<u>A. Core Districts</u>				
	1. Nagaur	2.4	2.7	52	51
	2. Sikar	2.2	2.0	55	52
	3. Barmer	1.9	3.5	92	91
	4. Jodhpur	1.6	1.4	65	74
	5. Jalore	1.6	1.5	72	73
	6. Jhunjhunu	1.1	2.1	51	56
	7. Churu	1.1	0.6	48	41
	8. Bikaner	0.5	0.3	44	47
	9. Jaisalmer	<u>0.1</u>	<u>0.4</u>	97	93
	Total	12.5	14.5		
VIII.	<u>Southwestern Uttar Pradesh</u>				
	<u>A. Core Districts</u>				
	1. Aligarh	1.2	1.5	20	21
	2. Etah	1.1	1.2	22	20
	3. Agra	0.8	1.4	27	27
	4. Mathura	<u>0.6</u>	<u>0.5</u>	15	13
	Sub-Total	3.7	4.6		
	<u>B. Satellite Districts</u>				
	1. Moradabad	0.5	0.8	9	10
	2. Kanpur	0.5	0.5	5	6
	3. Etawah	0.5	1.0	13	17
	4. Budaun	0.9	1.5	14	19
	5. Mainpuri	0.3	0.6	14	14
	6. Bhind (M.P.)	<u>0.5</u>	<u>0.8</u>	12	11
	Total	6.9	9.8		
IX.	<u>Andhra Pradesh</u>				
	<u>A. Core Districts</u>				
	1. Nalgonda	0.6	1.2	17	16
	<u>B. Satellite Districts</u>				
	1. Guntur	0.6	0.8	6	7
	2. Nellore	0.8	0.9	7	7
	3. Anantapur	<u>0.7</u>	<u>1.3</u>	8	9
	Total	2.7	4.2		

TABLE 7: RAGI REGIONS

I. Southern Mysore

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Ragi	
	1967-69	1959-61	1967-69	1959-61
1. Bangalore	10.3	8.0	64	65
2. Tumkur	6.9	8.5	39	36
3. Mysore	4.2	4.4	29	27
4. Kolar	2.4	6.2	51	49
5. Hassan	2.9	4.5	37	41
6. Mandya	0.9	3.0	28	31
Total	27.6	34.6		

II. Central MysoreA. Core Districts

1. Chickamagalur	0.9	1.2	25	24
2. Chitradurga	1.8	3.4	10	13
3. Shimoga	1.4	1.4	13	12
Sub-Total	4.1	6.0		

B. Satellite District

1. Belgaum	0.5	0.5	2	2
Total	4.6	6.5		

III. Orissa-Andhra PradeshA. Core Districts

1. Ganjam	3.3	0.6	7	6
2. Koraput	2.6	0.3	10	3
3. Srikakulam (A.P.)	2.7	3.3	8	10
4. Visakhapatnam (A.P.)	1.5	1.0	9	8
Sub-Total	10.1	5.2		

B. Satellite District

1. Kalahandi	0.7	0.3	3	4
Total	10.8	5.5		

IV. Southern Andhra PradeshA. Core Districts

1. Chittoor	2.6	4.0	11	15
2. Anantapur	1.7	1.8	3	4
3. Nellore	1.6	1.2	4	5
4. Mahbubnagar	1.5	1.3	5	5
5. Cuddapah	1.4	1.3	5	5
Total	8.8	9.6		

V. Western Tamil NaduA. Core Districts

1. Salem	6.8	6.4	17	16
2. Coimbatore	2.9	2.7	5	5
3. Nilgiris	0.1	0.1	9	8
Total	9.8	9.2		

Table 7 -- continued

		Percent of National Production		Percent of District in Ragi	
		1967-69	1959-61	1967-69	1959-61
VI.	<u>Northern Tamil Nadu</u>				
	<u>A. Core Districts</u>				
	1. North Arcot	1.7	2.4	4	6
	2. South Arcot	1.5	1.7	3	4
	3. Chingleput	1.5	1.6	5	5
	Total	4.7	5.7		
VII.	<u>Southern Tamil Nadu</u>				
	<u>A. Core Districts</u>				
	1. Ramanathapuram	1.3	2.2	4	7
	2. Madurai	1.0	1.1	2	3
	Sub-Total	2.3	3.3		
	<u>B. Satellite Districts</u>				
	1. Tirunelveli	0.8	0.7	2	2
	2. Tiruchirapalli	0.9	1.2	2	3
	Total	4.0	5.2		
VIII.	<u>Western Maharashtra</u>				
	<u>A. Core Districts</u>				
	1. Nasik	2.9	2.6	6	6
	2. Ratnagiri	2.5	2.0	22	22
	3. Thana	1.9	1.0	13	12
	4. Kolhapur	1.4	1.4	10	10
	5. Kolaba	1.0	0.7	11	10
	Sub-Total	9.7	7.7		
	<u>B. Satellite District</u>				
	1. Poona	0.6	0.5	2	2
	Total	10.3	8.2		
IX.	<u>Northern Bihar</u>				
	<u>A. Core Districts</u>				
	1. Darbhanga	3.0	1.3	4	6
	2. Saharsa	1.3	0.8	5	7
	3. Muzaffarpur	1.1	0.4	2	2
	Total	5.4	2.5		
X.	<u>Southern Bihar</u>				
	<u>A. Core Districts</u>				
	1. Ranchi	1.6	1.4	7	7
	2. Hazaribagh	0.9	0.9	7	6
	Sub-Total	2.5	2.3		
	<u>B. Satellite District</u>				
	1. Gaya	0.7	0.3	2	2
	Total	3.2	2.6		

TABLE 8: MILLETS REGIONS

I. Tamil Nadu Millets

A. <u>Core Districts</u>	Percent of National Production		Percent of Districts in Millets	
	1967-69	1959-61	1967-69	1959-61
1. Salem	2.7	3.2	39	40
2. Tiruchirapalli	1.7	2.5	26	29
3. Ramanathapuram	1.3	1.9	24	29
4. Tirunelveli	0.9	1.0	23	24
5. South Arcot	1.5	2.0	17	22
6. Coimbatore	1.3	1.7	17	18
7. Madurai	0.9	1.1	17	16
Sub-Total	10.3	13.4		
B. <u>Satellite Districts</u>				
1. North Arcot	0.7	1.3	10	16
2. Nilgiris	0.1	0.1	17	19
Total	11.1	14.8		

II. West Central Maharashtra Bajra

A. <u>Core Districts</u>				
1. Nasik	2.7	2.3	56	48
2. Dhulia	1.0	1.2	25	22
3. Ahmednagar	1.0	1.1	27	23
4. Poona	0.9	1.2	22	25
5. Satara	0.6	0.8	29	31
6. Sangli	0.2	0.3	21	22
7. Aurangabad	0.8	0.6	16	14
Sub-Total	7.2	7.5		
B. <u>Satellite Districts</u>				
1. Bhir	0.4	0.4	13	14
2. West Nimar (M.P.)	0.3	0.1	11	4
Total	7.9	8.0		

III. Western Maharashtra Ragi

A. <u>Core Districts</u>				
1. Ratnagiri	0.7	0.8	34	40
2. Dangs (G)	0.1	0.1	57	57
Sub-Total	0.8	0.9		
B. <u>Satellite Districts</u>				
1. Thana	0.4	0.4	13	12
2. Kolhapur	0.3	0.5	11	17
3. Kolaba	0.2	0.3	12	16
Total	1.7	2.1		

Table 8 -- continued

IV. <u>Gujarat Bajra</u>	Percent of National Production		Percent of District in Millets	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
A. <u>Core Districts</u>				
1. Kaira	2.2	1.3	34	30
2. Mehsana	1.7	0.9	38	36
3. Bhavnagar	1.6	0.6	32	22
4. Banaskantha	1.5	1.0	60	57
5. Amreli	1.0	0.4	26	21
6. Kutch	1.0	0.4	32	22
7. Surendranagar	0.4	0.2	20	18
8. Panchmahals	0.6	0.6	16	12
9. Jamnagar	0.7	0.3	18	14
Sub-Total	<u>10.7</u>	<u>5.7</u>		
B. <u>Satellite Districts</u>				
1. Ahmedabad	0.6	0.2	13	9
2. Junagadh	0.8	0.4	14	17
3. Rajkot	0.6	0.3	13	11
4. Sabarkantha	0.4	0.3	14	4
Total	<u>13.1</u>	<u>6.9</u>		
V. <u>Southern Mysore Ragi</u>				
A. <u>Core Districts</u>				
1. Bangalore	2.2	2.1	67	68
2. Tumkur	1.7	2.6	55	50
3. Mysore	0.9	1.2	31	29
4. Kolar	0.6	1.7	60	59
5. Hassan	0.6	1.2	37	42
6. Mandya	0.2	0.8	31	37
7. Chikmagalur	0.2	0.3	26	25
Sub-Total	<u>6.4</u>	<u>9.9</u>		
B. <u>Satellite District</u>				
1. Shimoga	0.3	0.4	16	15
Total	<u>6.7</u>	<u>10.3</u>		
VI. <u>Northern Mysore Bajra and Small Millets</u>				
A. <u>Core Districts</u>				
1. Chitradruga	0.8	1.3	29	33
2. Bellary	0.5	0.5	17	17
Sub-Total	<u>1.3</u>	<u>1.8</u>		
B. <u>Satellite Districts</u>				
1. Bijapur	0.5	0.6	14	14
2. Gulbarga	0.4	0.5	10	12
3. Raichur	0.4	0.3	13	10
4. Belgaum	0.3	0.6	11	11
Total	<u>2.9</u>	<u>3.8</u>		

Table 8 -- continued

VII. Southern Haryana-Punjab Bajra

A. <u>Core Districts</u>	<u>Percent of National Production</u>		<u>Percent of District in Millets</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
1. Hissar	1.9	1.1	26	21
2. Gurgaon	0.8	0.5	25	27
3. Ganganagar (R)	0.6	0.1	21	12
4. Mohindergarh	0.4	0.8	49	45
5. Bhatinda (P)	1.4	0.3	13	8
6. Sangrur (P)	1.1	0.4	12	10
7. Rohtak	<u>0.7</u>	<u>0.4</u>	16	18
Total	6.9	3.6		

VIII. Western Rajasthan Bajra

A. <u>Core Districts</u>				
1. Nagaur	1.4	1.3	52	51
2. Sikar	1.3	0.9	55	52
3. Barmer	1.1	1.6	92	91
4. Jodhpur	0.9	0.7	65	74
5. Jalore	0.9	0.7	73	75
6. Jhunjhunu	0.6	1.0	51	56
7. Churu	0.6	0.3	48	41
8. Pali	0.3	0.3	26	22
9. Bikaner	0.3	0.2	44	47
10. Sirohi	0.1	0.2	34	36
11. Jaisalmer	<u>a</u>	<u>0.2</u>	97	93
Sub-Total	7.5	7.4		
B. <u>Satellite District</u>				
1. Ajmer	<u>0.3</u>	<u>0.1</u>	13	8
Total	7.8	7.5		

IX. Northeastern Rajasthan Bajra

A. <u>Core Districts</u>				
1. Alwar	0.8	0.9	30	24
2. Sawai Madhopur	0.7	0.7	29	19
3. Bharatpur	0.7	0.5	25	34
4. Jaipur	1.8	1.0	35	26
5. Morena (M.P.)	<u>0.9</u>	<u>0.8</u>	26	20
Sub-Total	4.9	3.9		
B. <u>Satellite District</u>				
1. Bhind (M.P.)	<u>0.3</u>	<u>0.4</u>	12	11
Total	5.2	4.3		

X. Southern Andra Pradesh Millets

A. <u>Core Districts</u>				
1. Kurnool	1.1	2.0	26	32
2. Anantapur	1.1	2.2	32	35
3. Nellore	1.0	1.4	22	25
4. Chittoor	0.8	1.7	23	33

Table 8 -- continued

		Percent of National Production		Percent of Districts in Millets	
		1967-69	1959-61	1967-69	1959-61
5.	Mahbubnagar	0.8	0.9	21	23
6.	Cuddapah	0.6	0.9	20	30
7.	Guntur	0.8	1.6	18	25
	Sub-Total	6.2	10.7		
B. <u>Satellite Districts</u>					
1.	Nalgonda	0.3	0.6	17	18
2.	Hyderabad	0.2	0.2	13	14
	Total	6.7	11.5		
XI. <u>North Central Madhya Pradesh Small Millets</u>					
A. <u>Core Districts</u>					
1.	Mandla	0.5	0.4	31	29
2.	Shahdol	0.3	0.3	24	21
3.	Sidhi	0.3	0.4	30	23
4.	Rewa	0.3	0.3	21	14
5.	Tikamgarh	0.1	0.2	20	19
	Sub-Total	1.5	1.6		
B. <u>Satellite Districts</u>					
1.	Durg	0.4	0.6	15	15
2.	Satna	0.2	0.2	15	11
3.	Chhatarpur	0.2	0.2	16	17
4.	Panna	0.1	0.1	12	14
	Total	2.4	2.7		
XII. <u>Orissa-Andhra Pradesh Millets</u>					
A. <u>Core Districts</u>					
1.	Visakhapatnam (A.P.)	0.7	1.0	29	26
2.	Bastar (M.P.)	0.4	0.4	20	19
3.	Koraput	0.7	0.1	15	4
4.	Kalahandi	0.6	0.1	17	9
	Sub-Total	2.4	1.6		
B. <u>Satellite Districts</u>					
1.	Ganjam	0.7	0.2	8	7
2.	Phulbani	0.1	0.1	13	17
3.	Srikakulam (A.P.)	0.7	1.1	12	15
	Total	3.9	3.0		
XIII. <u>Southwestern Uttar Pradesh Bajra</u>					
A. <u>Core Districts</u>					
1.	Aligarh	0.7	0.7	20	21
2.	Etah	0.7	0.5	22	20
3.	Agra	0.5	0.6	27	27
	Sub-Total	1.9	1.8		

Table 8 -- continued

	Percent of National Production		Percent of District in Millets	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
B. <u>Satellite Districts</u>				
1. Budaun	0.5	0.7	14	19
2. Mathura	0.3	0.3	15	15
3. Etawah	0.3	0.2	13	17
4. Mainpuri	<u>0.2</u>	<u>0.3</u>	14	15
Total	3.2	3.3		
XIV. <u>Southern Bihar-Uttar Pradesh Millets</u>				
A. <u>Core Districts</u>				
1. Ranchi	0.5	0.7	17	16
2. Mirzapur (U.P.)	<u>0.5</u>	<u>0.4</u>	15	14
Sub-Total	1.0	1.1		
B. <u>Satellite Districts</u>				
1. Hazaribagh	0.2	0.4	14	12
2. Palamau	0.1	0.2	13	11
3. Allahabad (U.P.)	<u>0.5</u>	<u>0.6</u>	13	11
Total	1.8	2.3		

a. Less than 0.05 percent.

TABLE 9: PULSE REGIONS

I. Haryana Gram

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Pulses	
	1967-69	1959-61	1967-69	1959-61
1. Hissar	3.2	4.3	30	52
2. Rohtak	1.4	1.1	24	31
3. Gurgaon	1.2	0.7	22	31
4. Mohindergarh	0.9	0.5	29	39
5. Sangrur (P)	1.4	1.6	18	36
6. Ganganagar (R)	2.1	2.4	43	55
7. Karnal	1.1	1.6	16	33
Sub-Total	11.3	12.2		
B. <u>Satellite Districts</u>				
1. Ferozepur (P)	0.8	1.5	13	26
2. Bhatinda (P)	0.9	1.1	19	42
Total	13.0	14.8		

II. Bihar Pulses

A. <u>Core Districts</u>				
1. Shahabad	2.1	1.8	26	37
2. Gaya	1.6	1.1	24	34
3. Patna	1.6	1.5	33	41
4. Monghyr	1.0	0.8	24	30
5. Bhagalpur	0.6	0.4	23	27
6. Palamau	0.2	0.3	20	32
Sub-Total	7.1	5.9		
B. <u>Satellite Districts</u>				
1. Muzaffarpur	0.5	0.4	14	19
2. Saran	0.5	0.4	11	13
3. Darbhanga	0.5	0.4	11	15
Total	8.6	7.1		

III. Rajasthan-Madhya Pradesh Gram

A. <u>Core Districts</u>				
1. Bharatpur	1.4	1.1	31	28
2. Alwar	1.1	0.8	29	35
3. Sawai Madhopur	0.7	0.7	21	37
4. Bhind (M.P.)	0.9	0.9	43	41
5. Morena (M.P.)	0.9	0.7	30	33
6. Datia (M.P.)	0.2	0.2	37	35
7. Gwalior (M.P.)	0.4	0.4	27	29
8. Bundi	0.2	0.1	20	21
Total	5.8	4.9		

Table 9 -- continued

IV. Western Rajasthan Pulses

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Pulses	
	1967-69	1959-61	1967-69	1959-61
1. Jaipur	0.5	0.7	25	39
2. Bikaner	0.4	0.2	55	50
3. Sikar	0.3	0.3	35	41
4. Jodhpur	0.3	0.2	24	13
5. Nagaur	0.2	0.4	29	27
6. Jhunjhunu	0.2	0.2	45	40
7. Churu	0.8	0.6	52	58
Total	2.7	2.6		

V. Eastern Madhya Pradesh Pulses

A. <u>Core Districts</u>				
1. Durg	1.3	1.5	31	30
2. Raipur	0.7	0.8	25	25
3. Bilaspur	0.7	0.7	26	25
4. Bolangir (O)	0.5	0.3	28	19
5. Bhandara (M)	0.4	0.3	23	21
Total	3.6	3.6		

VI. Central Madhya Pradesh Gram and Other Pulses

A. <u>Core Districts</u>				
1. Jabalpur	0.6	0.8	28	28
2. Raisen	0.6	0.6	41	38
3. Narasimhapur	0.4	0.6	47	49
4. Vidisha	0.4	0.6	24	23
5. Sehore	0.4	0.2	23	16
6. Hoshangabad	0.4	0.5	24	22
7. Rewa	0.3	0.3	24	21
8. Betul	0.3	0.4	25	15
9. Chhatarpur	0.3	0.2	22	22
10. Satna	0.3	0.2	23	16
11. Panna	0.2	0.2	20	23
12. Damoh	0.2	0.2	20	17
13. Indore	0.2	0.2	30	25
14. Sagar	0.3	0.3	20	20
Total	4.9	5.3		

VII. Central West Bengal Pulses

A. <u>Core Districts</u>				
1. Nadia	0.9	0.7	32	32
2. Murshidabad	0.9	0.7	24	27
3. Malda	0.6	0.2	24	22
Total	2.4	1.6		

VIII. Central Maharashtra Pulses

A. <u>Core Districts</u>				
1. Jalgaon	0.7	0.6	20	23
2. Aurangabad	0.7	0.5	20	21
3. Osmanabad	0.6	0.4	20	21
Sub-Total	2.0	1.5		
B. <u>Satellite District</u>				
1. Parbhani	0.6	0.3	19	15
Total	2.6	1.8		

Table 9 -- continued

IX. Eastern Uttar Pradesh Gram and Other Pulses

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Pulses	
	1967-69	1959-61	1967-69	1959-61
1. Rae-Bareli	0.5	0.7	21	25
2. Ballia	0.7	0.5	26	27
3. Ghazipur	0.6	0.6	24	27
4. Sultanpur	0.8	0.7	23	28
5. Faizabad	0.7	0.7	21	28
6. Pratapgarh	0.6	0.4	22	25
Sub-Total	3.9	3.6		
B. <u>Satellite Districts</u>				
1. Azamgarh	0.8	0.8	19	20
2. Varanasi	0.6	0.6	19	23
3. Basti	0.8	0.7	12	14
4. Jaunpur	0.5	0.5	11	15
5. Gorakhpur	0.5	0.5	12	14
6. Deoria	0.5	0.4	11	12
Total	7.6	7.1		

X. Western Uttar Pradesh Gram and Other Pulses

A. <u>Core Districts</u>				
1. Agra	1.0	1.3	30	36
2. Mathura	0.9	0.8	23	29
3. Etawah	0.8	0.8	22	30
4. Budaun	0.5	0.5	20	21
5. Aligarh	1.2	1.3	18	27
Sub-Total	4.4	4.7		
B. <u>Satellite Districts</u>				
1. Etah	0.9	0.9	17	23
2. Mainpuri	0.7	0.8	18	26
3. Bulandshahr	0.7	0.9	15	19
4. Meerut	0.7	0.9	13	18
Total	7.4	8.2		

XI. South Central Uttar Pradesh Gram

A. <u>Core Districts</u>				
1. Allahabad	1.5	1.3	26	28
2. Fatehpur	0.9	0.8	27	33
3. Banda	1.3	1.4	43	41
4. Hamirpur	1.2	1.2	43	44
5. Jalaun	1.0	1.0	47	46
6. Jhansi	0.9	0.9	29	30
7. Kanpur	1.1	1.2	26	26
Total	7.9	7.8		

Table 9 -- continued

XII. Central Uttar Pradesh Gram and Other Pulses

	Percent of National Production		Percent of District in Pulses	
	1967-69	1959-61	1967-69	1959-61
A. <u>Core Districts</u>				
1. Bara Banki	0.8	0.8	23	30
2. Lucknow	0.3	0.3	20	28
3. Hardoi	0.6	0.7	23	29
4. Shahjahanpur	<u>0.4</u>	<u>0.5</u>	21	26
Sub-Total	2.1	2.3		
B. <u>Satellite Districts</u>				
1. Gonda	0.6	0.5	13	15
2. Sitapur	<u>0.5</u>	<u>0.6</u>	17	22
Total	3.2	3.4		

XIII. Coastal Orissa Pulses

A. <u>Core Districts</u>				
1. Balasore	1.2	0.0	32	--
2. Ganjam	<u>0.7</u>	<u>0.1</u>	25	13
Sub-Total	1.9	0.1		
B. <u>Satellite District</u>				
1. Midnapore (W.B.)	<u>0.5</u>	<u>0.3</u>	10	9
Total	2.4	0.4		

XIV. Northeastern Andhra Pradesh Pulses

A. <u>Core Districts</u>				
1. Karimnagar	0.1	0.1	20	19
2. Medak	0.2	0.2	20	20
3. Bidar (My)	<u>0.7</u>	<u>0.9</u>	38	33
Sub-Total	1.0	1.2		
B. <u>Satellite District</u>				
1. Nalgonda	<u>0.5</u>	<u>0.2</u>	12	11
Total	1.5	1.4		

Table 10: GRAM REGIONS

I. Haryana-Punjab

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Gram	
	1967-69	1959-61	1967-69	1959-61
1. Hissar	6.9	8.6	29	50
2. Ambala	0.7	1.1	12	22
3. Karnal	2.2	3.1	14	30
4. Ferozepur (P)	1.7	3.1	12	25
5. Bhatinda (P)	2.0	2.3	19	40
6. Sangrur (P)	3.0	3.2	18	35
7. Ganganagar (R)	3.9	4.7	33	48
Subtotal	20.4	26.1		
B. <u>Satellite Districts</u>				
1. Amritsar (P)	0.5	0.7	7	14
2. Patiala (P)	0.6	1.3	9	22
Total	21.5	28.1		

II. Eastern Rajasthan-Haryana

A. <u>Core Districts</u>				
1. Alwar	2.4	1.6	26	30
2. Bharatpur	3.0	2.2	27	24
3. Bundi	0.5	0.2	17	17
4. Kotah	0.8	0.6	14	16
5. Sawai-Madhopur	1.4	1.3	17	24
6. Tonk	0.7	0.6	15	21
7. Rohtak (H)	2.9	2.3	23	30
8. Gurgaon (H)	2.5	1.2	19	28
9. Mohindergarh (H)	1.9	0.9	28	37
Subtotal	16.1	10.9		
B. <u>Satellite District</u>				
1. Jaipur	0.7	0.8	7	16
Total	16.8	11.7		

III. Northwestern Madhya Pradesh

A. <u>Core Districts</u>				
1. Bhind	1.7	1.5	32	31
2. Morena	1.7	1.3	23	25
3. Gwalior	0.8	0.6	20	22
4. Datia	0.3	0.3	28	28
Total	4.5	3.7		

IV. North Central Madhya Pradesh

A. <u>Core Districts</u>				
1. Rewa	0.5	0.4	14	10
2. Satna	0.4	0.3	14	9
3. Panna	0.3	0.3	14	14
4. Chhatarpur	0.5	0.4	14	14
5. Damoh	0.2	0.2	11	10
6. Jabalpur	1.0	1.2	18	19
Total	2.9	2.8		

Table 10 -- Continued

V. West Central Madhya Pradesh

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Gram	
	1967-69	1959-61	1967-69	1959-61
1. Raisen	0.8	0.7	23	22
2. Sehore	0.5	0.3	13	9
3. Hoshangabad	0.4	0.4	12	12
4. Vidisha	0.7	1.2	19	19
5. Indore	0.3	0.2	17	16
6. Narsimhapur	0.5	0.8	27	32
7. Guna	0.6	0.6	12	17
Total	3.8	4.2		

VI. Eastern Uttar Pradesh-BiharA. Core District

1. Ballia	0.5	0.5	11	14
-----------	-----	-----	----	----

B. Satellite Districts

1. Varanasi	0.5	0.4	8	10
2. Mirzapur	0.5	0.6	8	12
3. Shahabad (B)	0.9	1.2	6	11
4. Patna (B)	0.6	0.6	6	8
5. Monghyr (B)	0.8	0.8	8	13
6. Ghazipur	0.5	0.4	10	12
Total	4.3	4.5		

VII. South Central Uttar PradeshA. Core Districts

1. Jhansi	1.5	1.5	21	24
2. Jalaun	1.8	1.6	39	38
3. Hamirpur	2.3	1.8	35	36
4. Banda	2.1	2.1	35	34
5. Allahabad	1.5	1.1	16	17
6. Fatehpur	1.0	1.0	20	24
7. Kanpur	1.3	1.0	17	17
Total	11.5	10.1		

VIII. Central Uttar PradeshA. Core Districts

1. Sultanpur	0.6	0.6	11	14
2. Bara Banki	1.1	1.1	15	21
3. Hardoi	0.6	0.7	11	16
4. Shahjahanpur	0.4	0.4	11	15
Subtotal	2.7	2.8		

B. Satellite Districts

1. Faizabad	0.6	0.6	9	14
2. Gonda	0.5	0.3	6	8
3. Sitapur	0.6	0.8	10	15
Total	4.4	4.5		

Table 10 -- Continued

IX. Southwestern Uttar Pradesh

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Grams	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
1. Etawah	0.6	0.5	11	14
2. Rampur	0.3	0.3	12	16
3. Budaun	0.7	0.4	11	10
4. Bareilly	0.5	0.5	12	14
5. Mathura	1.4	0.9	14	18
6. Agra	<u>1.8</u>	<u>1.4</u>	21	25
Subtotal	5.3	4.0		
B. <u>Satellite Districts</u>				
1. Meerut	0.7	0.5	6	7
2. Aligarh	0.7	0.5	7	7
3. Mainpuri	0.7	0.5	9	13
4. Etah	0.8	0.5	7	10
5. Moradabad	0.5	0.4	6	8
6. Bijnor	<u>0.3</u>	<u>0.4</u>	10	11
Total	9.0	6.8		

TABLE 11: TUR REGIONS

I. Northern Mysore Maharashtra

A. <u>Core Districts</u>	<u>Percent of National Production</u>		<u>Percent of District in Tur</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
1. Gulbarga	1.1	1.7	6	6
2. Osmanabad (M)	1.9	1.1	6	6
Subtotal	3.0	2.8		
B. <u>Satellite Districts</u>				
1. Bidar	0.8	0.3	4	6
2. Bijapur	0.5	0.4	2	2
3. Dharwar	0.5	0.5	2	2
4. Raichur	0.5	0.5	2	2
5. Sangli (M)	0.8	0.7	3	3
6. Sholapur (M)	0.7	0.8	3	3
Total	6.8	6.0		

II. Central Mysore Andhra Pradesh

A. <u>Core District</u>				
1. Chitradurga (My)	1.0	0.4	4	6
B. <u>Satellite Districts</u>				
1. Kurnool	0.6	0.4	2	2
2. Anantapur	0.6	0.4	3	3
3. Mahbubnagar	0.5	0.2	2	2
Total	2.7	1.4		

III. North Central Maharashtra

A. <u>Core Districts</u>				
1. Yeotmal	2.4	2.7	5	5
2. Amravati	1.6	3.1	6	5
3. Wardha	1.3	2.2	6	7
4. Akola	1.2	2.0	5	4
5. Nagpur	1.1	1.8	8	8
6. Parbhani	1.4	0.8	4	4
7. Nanded	1.2	1.0	5	6
Subtotal	10.2	13.6		
B. <u>Satellite Districts</u>				
1. Buldhana	0.8	1.5	4	3
2. Adilabad (A.P.)	0.9	0.4	5	4
3. Ahmednagar	0.8	0.5	2	1
4. Aurangabad	0.9	0.7	4	4
Total	13.6	16.7		

IV. South Central Madhya Pradesh

A. <u>Core Districts</u>				
1. Hoshangabad	1.2	1.5	6	5
2. Chhindwara	1.1	1.5	4	4
3. Betul	1.0	1.2	8	8
4. Narsimhpur	0.7	0.6	5	3
5. Sehore	0.6	0.3	5	2
6. Indore	0.4	0.2	8	6
7. Dewas	0.4	0.2	5	3
Subtotal	5.4	5.5		

Table 11 -- continued

	Percent of National Production		Percent of District in Tur	
	1967-69	1959-61	1967-69	1959-61
B. <u>Satellite Districts</u>				
1. East Nimar	0.7	0.8	4	3
2. West Nimar	0.6	0.3	4	3
3. Ujjain	0.6	0.2	4	2
Total	7.3	6.8		
V. <u>North Central Madhya Pradesh</u>				
A. <u>Core Districts</u>				
1. Mirzapur (U.P.)	0.4	0.8	5	5
2. Sidhi	0.5	0.4	5	6
3. Satna	0.5	0.2	5	4
4. Palamau (B)	0.5	0.6	5	7
Subtotal	1.9	2.0		
B. <u>Satellite Districts</u>				
1. Jabalpur	0.7	0.7	2	2
2. Surguja	0.5	0.5	2	1
Total	3.1	3.2		
VI. <u>Northern Bihar</u>				
A. <u>Core Districts</u>				
1. Saran	2.0	1.3	5	6
2. Monghyr	1.4	0.6	3	3
3. Darbhanga	1.2	0.6	2	3
Subtotal	4.6	2.5		
B. <u>Satellite District</u>				
1. Muzaffarpur	0.7	0.7	2	2
Total	5.3	3.2		
VII. <u>Southwestern Uttar Pradesh</u>				
A. <u>Core Districts</u>				
1. Etah	1.0	1.4	3	4
2. Agra	0.4	3.4	6	8
Subtotal	1.4	4.8		
B. <u>Satellite Districts</u>				
1. Aligarh	0.8	2.3	2	3
2. Mainpuri	0.8	1.7	3	4
3. Moradabad	0.5	0.8	2	3
4. Mathura	0.5	1.0	3	4
Total	4.0	10.6		
VIII. <u>Central Uttar Pradesh</u>				
A. <u>Core Districts</u>				
1. Unnao	1.4	1.4	6	7
2. Hardoi	1.2	0.8	5	5
3. Rae Bareli	1.0	1.5	6	6
4. Lucknow	0.7	0.5	6	6
Subtotal	4.3	4.2		

Table 11 -- continued

	Percent of National Production		Percent of District in Tur	
	1967-69	1959-61	1967-69	1959-61
B. <u>Satellite Districts</u>				
1. Farrukhabad	0.8	1.0	2	3
2. Bara Banki	0.7	0.6	2	1
Total	5.8	5.8		
IX. <u>Eastern Uttar Pradesh</u>				
A. <u>Core Districts</u>				
1. Allahabad	3.8	2.9	5	5
2. Fatehpur	2.9	1.7	6	6
3. Pratapgarh	2.4	1.4	8	8
4. Azamgarh	2.0	1.0	5	4
5. Jaunpur	1.7	1.0	3	3
6. Sultanpur	1.7	1.0	4	4
7. Ballia	1.7	0.8	7	6
8. Varanasi	1.1	1.3	5	5
9. Ghazipur	1.1	1.0	5	6
Total	18.4	12.1		
X. <u>South Central Uttar Pradesh</u>				
A. <u>Core Districts</u>				
1. Kanpur	2.4	3.3	5	6
2. Etawah	1.8	1.5	5	6
3. Banda	1.3	2.3	6	5
4. Jalaun	1.1	1.0	6	6
5. Hamirpur	0.7	1.7	6	7
6. Bhind (M.P.)	0.8	0.7	7	7
7. Datia (M.P.)	0.2	0.1	5	2
Subtotal	8.3	10.6		
B. <u>Satellite Districts</u>				
1. Morena (M.P.)	0.5	0.6	4	5
2. Jhansi	0.8	0.6	4	3
Total	9.6	11.8		

TABLE 12: GROUNDNUT REGIONS

I. Western Gujarat

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Groundnut	
	1967-69	1959-61	1967-69	1959-61
1. Junagadh	5.9	4.4	59	51
2. Jamnagar	3.7	3.2	57	55
3. Rajkot	2.9	3.8	53	51
4. Amreli	2.6	2.7	51	54
5. Bhavnagar	1.7	2.6	34	42
Sub-Total	16.8	16.7		
B. <u>Satellite Districts</u>				
1. Surat	0.6	0.5	7	6
2. Kutch	0.5	0.1	11	4
3. Surendranagar	0.4	0.8	10	12
Total	18.3	18.1		

II. Tamil Nadu

A. <u>Core Districts</u>				
1. North Arcot	3.7	4.6	31	31
2. South Arcot	2.8	3.4	22	21
3. Salem	2.6	2.7	11	12
4. Coimbatore	2.2	3.3	15	16
5. Madurai	1.8	2.4	18	17
6. Tiruchirapalli	1.8	2.5	14	13
Sub-Total	14.9	18.9		
B. <u>Satellite Districts</u>				
1. Palghat (K)	0.5	0.3	5	6
2. Chingleput	0.9	1.0	11	9
3. Ramanathapuram	0.6	1.0	6	7
4. Mysore (My)	0.5	0.4	8	6
Total	17.4	21.6		

III. Inland Andhra Pradesh

A. <u>Core Districts</u>				
1. Chittoor	3.4	2.2	37	24
2. Anantapur	3.1	4.4	26	21
3. Kurnool	3.0	3.1	20	13
4. Cuddapah	2.3	1.3	32	16
5. Mahbubnagar	1.2	0.6	12	5
Sub-Total	13.0	11.6		
B. <u>Satellite Districts</u>				
1. Khammam	0.5	0.1	7	2
2. Nalgonda	0.8	0.3	9	5
3. Warangal	0.5	0.2	8	3
4. Kolar (My)	0.3	0.7	10	11
Total	15.1	12.9		

Table 12 -- continued

IV. Northwestern Maharashtra

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Groundnut	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
1. Dhulia	1.4	2.1	16	18
2. Jalgaon	<u>1.0</u>	<u>1.6</u>	10	13
Sub-Total	2.4	3.7		
B. <u>Satellite Districts</u>				
1. Nasik	0.7	0.9	7	8
2. Aurangabad	<u>0.5</u>	<u>0.9</u>	5	6
Total	3.6	5.5		

V. Southwest Maharashtra

A. <u>Core Districts</u>				
1. Osmanabad	1.8	1.9	12	12
2. Satara	1.8	1.5	13	10
3. Sangli	1.2	1.2	15	13
4. Kolhapur	<u>1.1</u>	<u>1.1</u>	17	15
Sub-Total	5.9	5.7		
B. <u>Satellite Districts</u>				
1. Sholapur	0.8	1.4	6	8
2. Bhir	<u>0.8</u>	<u>1.0</u>	8	8
Total	7.5	8.1		

VI. Northern Mysore

A. <u>Core Districts</u>				
1. Raichur	1.3	0.8	8	11
2. Dharwar	1.2	1.4	14	12
3. Belgaum	<u>1.1</u>	<u>2.0</u>	15	14
Sub-Total	3.6	4.2		
B. <u>Satellite Districts</u>				
1. Gulbarga	0.7	1.1	7	8
2. Bijapur	0.7	0.9	8	11
3. Bellary	0.6	1.2	13	16
4. Bidar	<u>0.5</u>	<u>0.4</u>	6	8
Total	6.1	7.8		

VII. Central Punjab

A. <u>Core Districts</u>				
1. Ludhiana	2.1	0.5	23	9
B. <u>Satellite Districts</u>				
1. Ambala (H)	0.5	0.1	7	2
2. Sangrur	0.8	0.2	5	1
3. Patiala	0.6	0.3	8	4
4. Jullundur	0.6	0.1	10	2
5. Kapurthala	<u>0.3</u>	<u>0.1</u>	12	3
Total	4.9	1.3		

Table 12 -- continued

VIII. Central Uttar Pradesh

	<u>Percent of National Production</u>		<u>Percent of District in Groundnut</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
A. <u>Core Districts</u>				
1. Hardoi	1.1	0.7	11	7
B. <u>Satellite Districts</u>				
1. Budaun	0.6	0.4	11	6
2. Sitapur	0.5	0.5	6	9
3. Bareilly	<u>0.5</u>	<u>0.2</u>	7	10
Total	<u>2.7</u>	<u>1.8</u>		

IX. Eastern Gujarat

A. <u>Core Districts</u>				
1. Mandsaur (M.P.)	1.2	0.6	19	12
2. Sabarkantha	<u>1.2</u>	<u>1.5</u>	25	25
Sub-Total	<u>2.4</u>	<u>2.1</u>		
B. <u>Satellite Districts</u>				
1. Panchmahals	0.7	1.0	16	15
2. Chittorgarh (R)	<u>0.7</u>	<u>0.3</u>	16	7
Total	<u>3.8</u>	<u>3.4</u>		

X. Coastal Andhra Pradesh

A. <u>Core District</u>				
1. Srikakulam	1.2	0.6	12	6
B. <u>Satellite Districts</u>				
1. Visakhapatnam	0.5	0.8	11	10
2. Krishna	<u>0.5</u>	<u>0.5</u>	5	4
Total	<u>2.2</u>	<u>1.9</u>		

TABLE 13: COCONUT REGIONS

I. Kerala

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Coconut	
	1967-69	1959-61	1967-69	1959-61
1. Kozhikode	16.2	17.1	48	43
2. Alleppey	10.6	11.7	47	42
3. Quilon	9.2	9.7	56	52
4. Trivandrum	8.7	8.7	58	52
5. Kottayam	7.1	8.0	53	51
6. Ernakulam	7.0	7.0	38	33
7. Cannanore	6.4	6.5	37	31
8. Trichur	5.6	5.5	27	22
9. Palghat	2.3	2.1	11	8
Total	73.1	76.3		

II. Tamil Nadu

A. <u>Core Districts</u>				
1. Kanya Kumari	3.7	2.2	25	16
2. Thanjavur	3.3	2.2	2	2
3. Coimbatore	1.8	1.0	1	1
4. Madurai	1.8	1.1	1	1
5. Tiruchirapalli	1.3	1.0	1	1
6. Salem	1.2	1.1	1	1
Sub-Total	13.1	8.6		
B. <u>Satellite District</u>				
1. Ramanathapuram	0.6	0.3	1	1
Total	13.7	8.9		

III. Mysore

A. <u>Core Districts</u>				
1. Hassan	2.3	2.5	10	10
2. Tumkur	1.7	4.3	9	6
3. Chickamagalur	1.4	0.5	7	7
4. Chitradurga	1.1	0.8	2	2
Sub-Total	6.5	8.1		
B. <u>Satellite Districts</u>				
1. North Kanara	0.9	0.6	5	5
2. South Kanara	0.6	0.6	5	5
Total	8.0	9.3		

IV. Coastal Andhra Pradesh

A. <u>Core District</u>				
1. East Godavari	2.2	0.4	4	5
B. <u>Satellite Districts</u>				
1. West Godavari	0.5	0.9	1	1
2. Srikakulam	0.6	1.2	1	1
Total	3.3	2.5		

TABLE 14: OTHER OILSEED REGIONS

I. Punjab-Haryana Region

A. <u>Core Districts</u>	<u>Percent of National Production</u>		<u>Percent of District in Other Oilseed</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
1. Hissar (H)	5.8	3.1	10	5
2. Ferozepur	2.4	1.1	6	3
3. Bhatinda	1.9	1.4	7	5
Sub-Total	10.1	5.6		
B. <u>Satellite Districts</u>				
1. Ganganagar (R)	0.8	0.8	2	2
2. Rohtak (H)	0.8	0.5	2	2
3. Karnal (H)	0.8	0.7	2	2
4. Sangrur	0.7	0.9	2	2
5. Amritsar	0.6	0.9	5	4
Total	13.8	9.4		

II. Haryana-Rajasthan Region

A. <u>Core Districts</u>				
1. Gurgaon (H)	1.0	1.6	5	6
2. Mohindergarh (H)	0.6	0.9	7	5
3. Alwar	2.3	2.8	12	16
4. Bharatpur	1.7	2.5	9	13
5. Morena (M.P.)	1.1	1.3	11	10
Total	6.7	9.1		

III. Eastern Rajasthan Region

A. <u>Core Districts</u>				
1. Bhilwara	0.4	0.1	10	6
2. Tonk	0.4	0.4	7	6
3. Ajmer	0.4	0.2	10	7
Sub-Total	1.2	0.7		
B. <u>Satellite Districts</u>				
1. Udaipur	0.3	0.1	6	3
2. Dungarpur	0.1	0.1	6	5
3. Chittorgarh	0.3	0.2	5	5
4. Banswara	0.2	0.1	6	9
5. Sawai-Madhopur	0.5	0.4	6	5
6. Jaipur	0.4	0.3	5	3
Total	3.0	1.9		

IV. South Central Rajasthan Region

A. <u>Core Districts</u>				
1. Pali	1.3	1.4	28	23
2. Nagaur	0.5	1.2	8	8
3. Jalore	0.5	0.7	7	9
4. Sirohi	0.2	0.5	18	18
Sub-Total	2.5	3.8		

Table 14 -- continued

		Percent of National Production		Percent of District in Other Oilseed	
		1967-69	1959-61	1967-69	1959-61
B.	<u>Satellite District</u>				
1.	Jodhpur	0.4	0.7	6	5
	Total	2.9	4.5		
V.	<u>Rajasthan-Madhya Pradesh Region</u>				
A.	<u>Core Districts</u>				
1.	Guna	1.3	1.7	12	11
2.	Kotah (R)	0.9	1.2	8	12
3.	Sehore	0.4	0.4	7	6
4.	Raisen	0.4	0.6	8	5
5.	Bundi (R)	0.3	0.6	9	13
	Sub-Total	3.3	4.5		
B.	<u>Satellite Districts</u>				
1.	Dewas	0.3	0.5	5	6
2.	Jhalawar (R)	0.2	0.3	5	6
	Total	3.8	5.3		
VI.	<u>South Central Madhya Pradesh Region</u>				
A.	<u>Core Districts</u>				
1.	Hoshangabad	1.1	0.8	16	13
2.	Jabalpur	0.6	0.6	7	7
3.	Chhindwara	0.7	0.7	11	11
4.	Mandla	2.0	1.8	17	16
5.	Seoni	1.0	0.6	15	14
6.	Balaghat	0.8	0.7	11	12
7.	Sagar	0.7	0.4	7	5
8.	Vidisha	0.8	0.7	8	7
	Sub-Total	7.7	6.3		
B.	<u>Satellite Districts</u>				
1.	Narsimhapur	0.3	0.2	6	4
2.	Betul	0.4	0.2	6	3
3.	Indore	0.4	0.3	5	4
	Total	8.8	7.0		
VII.	<u>North Central Madhya Pradesh Region</u>				
A.	<u>Core Districts</u>				
1.	Satna	0.6	0.8	9	11
2.	Panna	0.6	0.7	15	14
3.	Sidhi	0.4	1.1	11	16
4.	Rewa	0.4	0.9	9	10
5.	Chhatarpur	0.6	0.7	11	15
6.	Tikamgarh	0.2	0.3	8	10
	Sub-Total	2.8	4.5		
B.	<u>Satellite District</u>				
1.	Jhansi (U.P.)	0.3	0.3	5	5
	Total	3.1	4.8		

Table 14 -- continued

VIII. Eastern Madhya Pradesh

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Other Oilseed	
	1967-69	1959-61	1967-69	1959-61
1. Durg	2.5	2.8	8	11
2. Surguja	1.0	1.4	9	11
3. Shahdol	0.7	1.2	13	12
4. Raigarh	0.8	0.8	7	8
5. Ranchi (Bihar)	<u>1.1</u>	<u>1.1</u>	4	5
Sub-Total	6.1	7.3		
B. <u>Satellite District</u>				
1. Bilaspur	<u>0.8</u>	<u>0.9</u>	4	5
Total	6.9	8.2		

IX. Uttar Pradesh Madhya Pradesh

A. <u>Core Districts</u>				
1. Kanpur	1.1	0.9	4	3
2. Etawah	1.0	0.5	4	3
3. Agra	0.7	0.5	6	3
4. Hamirpur	0.6	0.6	6	5
5. Bhind (M.P.)	0.8	0.8	8	7
6. Shivpuri (M.P.)	<u>0.8</u>	<u>0.7</u>	13	11
Sub-Total	5.0	3.0		
B. <u>Satellite Districts</u>				
1. Gwalior (M.P.)	0.4	0.3	6	5
2. Datia (M.P.)	<u>0.1</u>	<u>0.1</u>	6	5
Total	5.5	3.4		

X. North Uttar Pradesh Region

A. <u>Core District</u>				
1. Nainital	1.5	0.7	9	6
B. <u>Satellite Districts</u>				
1. Bahraich	0.8	0.5	3	3
2. Kheri	0.6	0.2	2	1
3. Gonda	<u>0.6</u>	<u>0.4</u>	2	2
Total	3.5	1.8		

XI. Eastern Maharashtra Region

A. <u>Core Districts</u>				
1. Chanda	1.2	1.7	9	11
2. Nagpur	0.9	1.0	8	7
3. Bhandara	0.6	1.2	7	9
4. Koraput (O)	<u>1.2</u>	<u>0.7</u>	6	6
Sub-Total	3.9	4.6		

Table 14 -- continued

	Percent of National Production		Percent of District in Other Oilseed	
	1967-69	1959-61	1967-69	1959-61
B. <u>Satellite Districts</u>				
1. Bastar (M.P.)	0.8	0.9	5	10
2. Visakhapatnam (A.P.)	0.6	0.6	6	6
Total	5.3	6.1		
XII. <u>Northeastern Andhra Pradesh</u>				
A. <u>Core Districts</u>				
1. Mahbubnagar	2.2	1.3	8	9
2. Nalgonda	1.8	2.8	14	15
3. Hyderabad	0.7	0.4	11	11
4. Adilabad	0.6	0.3	8	8
5. Karimnagar	0.6	0.5	11	11
Sub-Total	5.9	5.3		
B. <u>Satellite Districts</u>				
1. Anantapur	0.5	0.4	2	2
2. Bhir (M)	0.7	0.6	3	3
3. Osmanabad (M)	0.5	0.6	3	3
Total	7.6	6.9		
XIII. <u>Northern West Bengal-Bihar Region</u>				
A. <u>Core Districts</u>				
1. West Dinajpur	1.2	0.9	6	6
2. Purnea (B)	1.5	1.0	3	4
Sub-Total	2.7	1.9		
B. <u>Satellite Districts</u>				
1. Champaran (B)	0.8	0.5	2	2
2. Darbhanga (B)	0.7	0.3	2	2
3. Shahabad (B)	0.8	0.8	2	2
4. Nadia	0.7	0.9	5	6
5. Malda	0.6	0.4	5	5
6. Murshidabad	0.7	1.0	4	6
Total	7.0	5.8		

TABLE 15: SUGARCANE REGIONS

I. Western Uttar Pradesh

A. <u>Core Districts</u>	<u>Percent of National Production</u>		<u>Percent of District in Sugarcane</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
1. Meerut	5.1	5.5	22	26
2. Muzaffarnagar	4.7	4.5	25	28
3. Saharanpur	2.9	3.1	17	17
4. Bijnor	2.1	2.7	17	19
5. Moradabad	2.0	2.4	9	12
6. Bulandshahr	1.3	2.6	7	14
7. Dehradun	0.2	0.2	6	7
Sub-Total	18.3	21.0		
B. <u>Satellite Districts</u>				
1. Budaun	0.7	0.6	4	5
2. Mathura	0.6	0.8	4	3
Total	19.6	22.4		

II. Eastern Uttar Pradesh

A. <u>Core Districts</u>				
1. Deoria	2.9	2.5	13	14
2. Azamgarh	1.6	1.3	9	7
3. Basti	1.2	1.2	4	4
4. Gorakhpur	1.1	1.0	4	4
5. Champaran (B)	1.4	2.1	5	7
6. Ballia	0.6	0.5	6	6
Sub-Total	8.8	8.6		
B. <u>Satellite Districts</u>				
1. Sultanpur	0.3	0.4	3	3
2. Varanasi	0.9	0.8	4	5
3. Ghazipur	0.8	0.5	4	5
4. Gonda	0.7	0.8	3	3
5. Faizabad	0.7	0.8	5	5
6. Jaunpur	0.7	0.7	5	5
7. Saran (B)	0.8	1.3	4	5
Total	13.7	13.9		

III. North Central Uttar Pradesh

A. <u>Core Districts</u>				
1. Kheri	2.1	2.1	13	14
2. Nainital	1.0	1.0	11	11
3. Sitapur	1.0	1.2	6	7
4. Shahjahanpur	0.9	1.1	6	6
5. Pilibhit	0.6	1.0	8	12
6. Rampur	0.5	0.9	7	11
7. Bareilly	1.0	1.4	7	10
Sub-Total	7.1	8.7		

Table 15 -- continued

	Percent of National Production		Percent of District in Sugarcane	
	1967-69	1959-61	1967-69	1959-61
B. <u>Satellite Districts</u>				
1. Bara Banki	0.6	0.7	5	5
2. Hardoi	0.6	0.7	3	4
Total	8.3	10.1		
IV. <u>Northern Haryana-Punjab</u>				
A. <u>Core Districts</u>				
1. Rohtak (H)	1.5	2.1	7	7
2. Karnal (H)	1.3	1.3	5	5
3. Ambala (H)	0.7	0.9	8	9
4. Jullundur	0.7	0.9	7	8
Sub-Total	4.2	5.2		
B. <u>Satellite Districts</u>				
1. Kapurthala	0.1	0.2	4	7
2. Gurdaspur	0.3	0.6	4	7
3. Amritsar	0.6	0.5	4	9
4. Patiala	0.6	0.7	4	4
5. Sangrur	0.7	0.8	3	2
6. Hoshiarpur	0.2	0.5	5	6
7. Ludhiana	0.4	0.4	3	4
Total	7.1	8.9		
V. <u>Southwestern Maharashtra</u>				
A. <u>Core Districts</u>				
1. Kolhapur	3.0	2.4	11	9
2. Ahmednagar	2.1	3.9	3	3
Sub-Total	5.1	6.3		
B. <u>Satellite Districts</u>				
1. Sholapur	1.0	0.9	1	1
2. Poona	0.9	1.1	2	2
3. Sangli	0.8	0.6	2	1
4. Satara	0.7	0.6	2	2
5. Belgaum (My)	1.4	1.0	2	1
Total	9.9	10.5		
VI. <u>Coastal Andhra Pradesh</u>				
A. <u>Core Districts</u>				
1. West Godavari	2.3	1.0	5	2
2. Visakhapatnam	1.4	1.0	5	3
3. East Godavari	1.0	0.9	3	2
Sub-Total	4.7	2.9		
B. <u>Satellite District</u>				
1. Krishna	0.8	0.7	2	1
Total	5.5	3.6		

Table 15 -- continued

VII. Northern Tamil Nadu

	<u>Percent of National Production</u>		<u>Percent of District in Sugarcane</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
A. <u>Core Districts</u>				
1. Coimbatore	2.2	1.4	3	2
2. South Arcot	1.9	1.0	3	2
3. North Arcot	1.3	1.0	3	2
4. Chittoor (A.P.)	<u>1.1</u>	<u>0.9</u>	4	2
Sub-Total	6.5	4.3		
B. <u>Satellite District</u>				
1. Tiruchirapalli	<u>1.2</u>	<u>0.8</u>	2	1
Total	7.7	5.1		

VIII. Central Mysore

A. <u>Core District</u>				
1. Mandya	1.4	1.1	7	5
B. <u>Satellite Districts</u>				
1. Bellary	0.8	0.6	2	1
2. Hassan	<u>0.8</u>	<u>0.4</u>	2	1
Total	3.0	2.1		

TABLE 16: POTATOES

I. Punjab-Haryana

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Potatoes	
	1967-69	1959-61	1967-69	1959-61
1. Hoshiarpur	1.5	1.0	1	a
2. Jullundur	1.2	1.7	1	1
3. Karnal (H)	<u>1.0</u>	<u>1.0</u>	a	a
Sub-Total	3.7	3.7		
B. <u>Satellite District</u>				
1. Ambala (H)	<u>0.6</u>	<u>0.7</u>	1	1
Total	4.3	4.4		

II. West Bengal

A. <u>Core Districts</u>				
1. Hooghly	4.6	9.3	7	6
2. Burdwan	3.8	6.6	3	1
3. Birbhum	<u>1.2</u>	<u>4.3</u>	2	1
Sub-Total	9.6	20.2		
B. <u>Satellite Districts</u>				
1. Murshidabad	0.8	0.9	a	a
2. Bankura	<u>0.6</u>	<u>0.6</u>	1	1
Total	11.0	21.4		

III. Coastal Orissa-Bengal

A. <u>Core Districts</u>				
1. Cuttack	5.6	0.6	2	1
2. Midnapur	2.3	2.4	1	1
3. Puri	<u>1.6</u>	<u>0.1</u>	1	a
Sub-Total	9.5	3.1		
B. <u>Satellite District</u>				
1. 24-Parganas (W.B.)	0.7	0.5	a	a
2. Howrah (W.B.)	<u>0.5</u>	<u>0.2</u>	2	1
Total	10.7	3.8		

IV. Bihar

A. <u>Core Districts</u>				
1. Patna	4.4	3.6	2	2
2. Shahabad	3.6	2.7	1	1
3. Saran	2.2	2.9	1	1
4. Muzaffarpur	2.2	2.3	2	1
5. Gaya	2.1	2.8	1	1
6. Hazaribagh	2.1	0.5	2	1
7. Champaran	1.3	0.9	1	1
8. Purnea	1.3	0.6	1	1
9. Darbhanga	<u>1.0</u>	<u>1.0</u>	1	1
Sub-Total	20.2	17.3		

Table 16 -- continued

	Percent of National Production		Percent of District in Potatoes	
	1967-69	1959-61	1967-69	1959-61
B. <u>Satellite Districts</u>				
1. Monghyr	0.8	0.5	1	a
2. Ranchi	0.5	0.2	a	a
3. Saharsa	0.5	0.2	1	a
Total	22.0	18.2		
V. <u>Southwestern Uttar Pradesh</u>				
A. <u>Core Districts</u>				
1. Farrukhabad	5.1	4.1	6	4
2. Mainpuri	1.4	1.2	1	1
3. Kanpur	1.3	1.2	1	1
4. Hardoi	1.1	1.3	1	1
5. Etawah	1.1	0.8	1	1
6. Meerut	1.1	1.0	1	1
7. Bara Banki	1.1	0.7	1	1
8. Budaun	1.0	0.9	1	1
9. Etah	1.0	0.9	1	1
Sub-Total	14.2	12.1		
B. <u>Satellite District</u>				
1. Bulandshahr	0.8	0.5	1	a
2. Shahjahanpur	0.8	0.9	1	1
3. Moradabad	0.8	0.9	a	a
4. Lucknow	0.8	0.5	1	1
5. Aligarh	0.6	0.7	a	a
6. Unnao	0.6	0.7	1	1
7. Bareilly	0.5	0.6	a	a
8. Sitapur	0.5	0.4	a	a
Total	19.6	17.3		
VI. <u>Eastern Uttar Pradesh</u>				
A. <u>Core Districts</u>				
1. Allahabad	2.1	1.2	2	1
2. Jaunpur	1.6	1.5	2	1
3. Varanasi	1.3	1.0	2	1
4. Faizabad	1.3	0.9	2	1
5. Azamgarh	1.2	0.8	1	1
6. Basti	1.2	1.1	1	1
Sub-Total	8.7	6.5		
B. <u>Satellite Districts</u>				
1. Gorakhpur	0.9	0.8	1	1
2. Gonda	0.9	0.9	a	a
3. Sultanpur	0.8	0.8	1	1
4. Ballia	0.7	0.6	1	1
5. Pratapgarh	0.7	0.5	1	1
6. Deoria	0.6	0.6	a	a
7. Fatehpur	0.6	0.6	1	1
8. Ghazipur	0.6	0.7	1	1
9. Rae Bareli	0.5	0.5	1	a
Total	15.0	12.5		

a. Less than 0.5 percent.

TABLE 17: COTTON REGIONS

I. Gujarat

	Percent of National Production		Percent of District in Cotton	
	1967-69	1959-61	1967-69	1959-61
A. <u>Core Districts</u>				
1. Surendranagar	3.8	2.9	47	44
2. Baroda	5.9	4.2	45	46
3. Broach	3.8	3.4	56	53
4. Ahmedabad	3.1	3.0	36	33
5. Surat	1.9	2.3	24	29
6. Sabarkantha	1.6	1.6	25	26
Sub-Total	20.1	17.4		
B. <u>Satellite Districts</u>				
1. Rajkot	1.9	1.3	12	15
2. Mehsana	1.4	1.1	12	13
3. Kutch	0.9	0.7	13	15
4. Kaira	0.9	0.9	12	13
5. Junagadh	0.9	1.1	6	11
6. Bhavnagar	0.7	0.4	7	6
Total	26.8	22.9		

II. Central Maharashtra

A. <u>Core Districts</u>				
1. Amravati	3.8	3.4	52	50
2. Yeotmal	3.1	2.5	43	39
3. Jalgaon	3.0	2.7	33	25
4. Akola	2.2	1.7	42	41
5. Parbhani	2.2	2.2	26	26
6. Buldana	2.1	2.9	36	37
7. Nanded	2.0	1.9	26	27
8. Wardha	1.2	1.0	40	37
Sub-Total	19.6	18.3		
B. <u>Satellite Districts</u>				
1. Nagpur	0.7	0.9	15	14
2. Aurangabad	1.3	1.7	13	15
3. Dhulia	0.8	0.9	12	7
4. Adilabad (A.P.)	0.8	0.2	15	10
5. Bhir	0.6	0.9	9	8
6. Osmanabad	0.5	0.8	6	6
Total	24.3	23.7		

III. Southern Punjab

A. <u>Core Districts</u>				
1. Ferozepur	5.7	6.0	18	19
2. Bhatinda	5.2	3.4	21	17
3. Hissar (H)	5.5	1.4	13	3
4. Ganganagar (R)	2.2	1.7	12	7
Sub-Total	18.6	12.5		

Table 17 -- continued

		Percent of National Production		Percent of District in Cotton	
		1967-69	1959-61	1967-69	1959-61
B.	<u>Satellite Districts</u>				
1.	Sangrur	1.5	2.4	7	11
2.	Amritsar	0.8	0.9	7	9
3.	Patiala	0.7	1.0	6	8
4.	Ludhiana	0.7	0.8	5	10
	Total	22.3	17.6		
IV.	<u>Southwestern Madhya Pradesh</u>				
A.	<u>Core Districts</u>				
1.	West Nimar	1.5	2.3	24	24
2.	East Nimar	0.9	1.5	33	34
3.	Dewas	0.7	0.5	23	15
4.	Shajapur	0.7	0.8	22	24
	Sub-Total	3.8	5.1		
B.	<u>Satellite Districts</u>				
1.	Ujjain	0.6	0.6	19	18
2.	Rajgarh	0.4	0.4	15	16
3.	Dhar	0.4	0.5	13	12
4.	Ratlam	0.3	0.4	18	18
	Total	5.5	7.0		
V.	<u>North Central Mysore</u>				
A.	<u>Core Districts</u>				
1.	Dharwar	1.4	2.6	21	23
2.	Raichur	1.4	1.8	25	28
3.	Bellary	0.8	1.2	22	19
	Sub-Total	3.6	5.6		
B.	<u>Satellite Districts</u>				
1.	Belgaum	0.7	0.9	9	7
2.	Bijapur	0.6	1.1	10	12
3.	Kurnool (A.P.)	0.9	1.3	12	13
	Total	5.8	8.9		
VI.	<u>Southern Tamil Nadu</u>				
A.	<u>Core District</u>				
1.	Coimbatore	2.7	3.5	12	15
B.	<u>Satellite Districts</u>				
1.	Madurai	0.6	1.0	7	7
2.	Ramanathapuram	1.1	1.5	13	15
3.	Tirunelveli	0.9	1.6	19	21
	Total	5.3	7.6		

TABLE 18: JUTE

		Percent of National Production		Percent of District in Jute	
		1967-69	1959-61	1967-69	1959-61
I.	<u>West Bengal</u>				
A.	<u>Core Districts</u>				
	1. Nadia	10.0	6.1	11	7
	2. Murshidabad	8.9	9.2	9	9
	3. Hooghly	8.3	7.0	10	10
	4. Cooch-Behar	7.8	9.0	15	15
	5. Jalpaiguri	7.6	8.4	14	14
	6. West Dinajpur	7.5	5.9	10	10
	7. Burdwan	2.4	1.6	2	1
	8. Malda	2.2	3.5	5	6
	Sub-Total	54.7	50.7		
B.	<u>Satellite Districts</u>				
	1. Howrah	1.1	0.9	4	4
	2. Darjeeling	0.5	0.6	5	3
	Total	56.3	52.2		
II.	<u>Coastal Orissa-Bengal</u>				
A.	<u>Core Districts</u>				
	1. 24-Parganas	9.2	5.3	5	4
	2. Cuttack (O)	6.9	4.6	5	4
	3. Midnapur	2.7	2.8	1	1
	Sub-Total	18.8	12.7		
B.	<u>Satellite District</u>				
	1. Balasore (O)	1.2	1.1	1	1
	Total	20.0	13.8		
III.	<u>Bihar</u>				
A.	<u>Core Districts</u>				
	1. Purnea	13.0	17.6	13	13
	2. Saharsa	3.6	5.1	6	6
	Sub-Total	16.6	22.7		
B.	<u>Satellite Districts</u>				
	1. Champaran	1.2	1.6	1	1
	2. Darbhanga	1.0	0.7	1	1
	Total	18.8	25.0		
IV.	<u>Uttar Pradesh</u>				
A.	<u>Core District</u>				
	1. Kheri	1.9	1.0	2	1
B.	<u>Satellite Districts</u>				
	1. Sitapur	0.9	0.5	1	1
	2. Bahraich	0.6	0.5	a	a
	Total	3.4	2.0		

a. Less than 0.5 percent.

TABLE 19: MESTA

		Percent of National Production		Percent of District in Mesta	
		1967-69	1959-61	1967-69	1959-61
I.	<u>Andhra Pradesh</u>				
A.	<u>Core Districts</u>				
	1. Srikakulam	27.7	15.7	13	6
	2. Visakhapatnam	3.4	8.7	2	3
	Sub-Total	31.1	24.4		
B.	<u>Satellite District</u>				
	1. Guntur	0.6	1.2	1	1
	Total	31.7	25.6		
II.	<u>Bihar</u>				
A.	<u>Core Districts</u>				
	1. Purnea	7.5	7.0	2	3
	2. Saharsa	5.3	4.0	2	4
	Sub-Total	12.8	11.0		
B.	<u>Satellite District</u>				
	1. Muzaffarpur	0.6	0.3	1	1
	Total	13.4	11.3		
III.	<u>Maharashtra-Mysore</u>				
A.	<u>Core Districts</u>				
	1. Osmanabad	3.1	6.0	2	2
	2. Parbhani	1.4	1.7	1	1
	3. Nanded	1.4	1.9	1	1
	4. Gulbarga (My)	3.1	3.3	1	1
	Sub-Total	9.0	12.9		
B.	<u>Satellite Districts</u>				
	1. Aurangabad	0.6	0.8	1	1
	2. Bidar (My)	0.6	1.4	2	1
	Total	10.2	15.1		
IV.	<u>Orissa</u>				
A.	<u>Core Districts</u>				
	1. Bolangir	1.6	0.4	1	a
	2. Ganjam	1.3	1.3	1	a
	3. Cuttack	1.1	0.6	a	a
	Sub-Total	4.1	2.3		

Table 19 -- continued

B. <u>Satellite Districts</u>	Percent of National Production		Percent of District in Mesta	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
1. Mayurbhanj	0.8	0.2	a	a
2. Koraput	0.8	0.2	a	a
3. Sambalpur	0.8	0.9	a	a
4. Dhenkanal	0.7	0.3	1	a
5. Kalahandi	0.6	0.0	a	a
6. Keonjhar	0.6	0.0	1	a
7. Puri	0.5	0.0	a	a
Total	8.8	3.9		

V. West BengalA. Core Districts

1. West Dinajpur	6.2	2.3	2	2
2. Nadia	5.4	12.0	2	5
3. 24-Parganas	3.0	6.1	1	1
4. Murshidabad	2.9	5.0	1	2
5. Malda	2.3	2.2	1	2
6. Cooch-Behar	1.9	2.2	1	1
7. Purulia	1.4	0.1	1	a
8. Burdwan	1.3	1.9	a	a
9. Jalpaiguri	1.2	1.7	1	1
10. Midnapur	1.2	0.4	a	a
11. Bankura	1.1	0.7	1	1
Sub-Total	27.9	34.6		

B. Satellite District

1. Hooghly	0.5	1.7	a	1
Total	28.4	36.3		

a. Less than 0.5 percent.

TABLE 20: BLACK PEPPER

I. Kerala

	Percent of National Production		Percent of District in Black Pepper	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
1. Cannanore	29.8	28.9	19	20
2. Kottayam	21.3	20.8	10	11
3. Trivandrum	14.8	13.6	7	8
4. Kozhikode	10.4	11.1	6	6
5. Ernakulam	9.3	10.7	4	5
6. Quilon	8.8	8.6	3	4
7. Palghat	2.5	2.6	1	1
8. Trichur	1.6	1.0	a	a
9. Alleppey	1.4	2.8	1	1
Total	<u>100.0^b</u>	<u>100.0^b</u>		

a. Less than 0.5 percent.

b. Figures do not add to the totals due to rounding.

TABLE 21: DRY GINGER

I. Kerala-Mysore

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Dry Ginger	
	1967-69	1959-61	1967-69	1959-61
1. Kozhikode	23.1	20.7	2	2
2. Kottayam	17.5	17.8	3	3
3. Palghat	8.8	9.7	1	1
4. Ernakulam	6.4	7.0	1	1
5. Cannanore	2.2	2.1	a	a
6. Quilon	1.3	1.2	a	a
7. Shimoga (My)	3.9	3.7	a	a
8. South Kanara (My)	1.6	4.7	a	a
9. Nilgiris (T.N.)	1.4	.9	a	a
Total	66.2	67.8		

II. West BengalA. Core Districts

1. Darjeeling	3.6	2.1	a	a
2. West Dinajpur	2.0	.5	a	a
3. Cooch-Behar	1.9	.2	a	a
4. Midnapore	1.4	.7	a	a
5. Birbhum	1.0	.7	a	a
Sub-Total	9.9	4.2		

B. Satellite District

1. Jalpaiguri	.7	.2	a	a
Total	10.6	4.4		

III. OrissaA. Core Districts

1. Koraput	3.5	4.4	a	a
2. Cuttack	2.1	1.1	a	a
3. Dhenkanal	2.0	1.1	a	a
Sub-Total	7.6	6.6		

B. Satellite District

1. Keonjhar	.7	.9	a	a
2. Phulbani	.5	.6	a	a
3. Visakhapatnam (A.P.)	.6	.9	a	a
Total	9.9	9.0		

IV. GujaratA. Core District

1. Kaira	1.1	.7	a	a
2. Panchmahals	1.0	1.1	a	a
Sub-Total	2.1	1.8		

B. Satellite District

1. Ahmedabad	.8	.3	a	a
Total	2.9	2.1		

a. Less than 0.5 percent.

TABLE 22: DRY CHILLIES

I. Bihar

A. <u>Core Districts</u>	<u>Percent of National Production</u>		<u>Percent of District in Dry Chillies</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
1. Monghyr	1.7	1.2	1	2
2. Darbhanga	1.1	2.0	1	2
Sub-Total	2.8	3.2		
B. <u>Satellite District</u>				
1. Patna	0.6	0.8	1	a
Total	3.4	4.0		

II. Mysore

A. <u>Core Districts</u>				
1. Dharwar	2.0	2.3	3	3
2. Belgaum	1.2	1.0	1	1
Sub-Total	3.2	3.3		
B. <u>Satellite Districts</u>				
1. Shimoga	0.8	0.7	4	3
2. South Kanara	0.5	0.4	1	2
Total	4.5	4.4		

III. Coastal Andhra Pradesh

A. <u>Core Districts</u>				
1. Guntur	9.2	4.1	6	2
2. Nellore	2.8	3.7	1	1
3. Krishna	2.5	1.8	2	1
4. West Godavari	1.1	1.2	1	1
Sub-Total	15.6	10.8		
B. <u>Satellite Districts</u>				
1. Srikakulam	0.8	1.9	1	1
2. Visakhapatnam	0.8	1.0	1	a
3. Chittoor	0.6	1.2	1	1
4. East Godavari	0.6	1.1	1	1
Total	18.4	16.0		

IV. Inland Andhra Pradesh

A. <u>Core Districts</u>				
1. Warangal	2.2	0.7	2	1
2. Karimnagar	1.7	1.8	2	1
3. Khammam	1.7	0.4	2	1
Sub-Total	5.6	2.9		

Table 22 -- continued

		Percent of National Production		Percent of District in Dry Chillies	
		<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
B. <u>Satellite Districts</u>					
1.	Anantapur	0.8	1.9	1	1
2.	Adilabad	0.6	0.4	2	2
3.	Cuddapah	0.6	0.7	1	1
4.	Mahbubnagar	0.5	0.5	1	1
5.	Kurnool	0.5	1.5	1	2
6.	Nizamabad	<u>0.5</u>	<u>0.2</u>	1	1
	Total	9.1	8.1		
V. <u>Tamil Nadu</u>					
A. <u>Core Districts</u>					
1.	Tiruchirapalli	6.1	7.5	2	2
2.	Tirunelveli	5.5	4.6	4	3
3.	Ramanathapuram	4.7	5.3	3	3
4.	Madurai	3.2	3.2	1	1
5.	Coimbatore	2.3	3.1	1	1
6.	Salem	<u>1.6</u>	<u>2.2</u>	a	a
	Sub-Total	23.4	25.9		
B. <u>Satellite Districts</u>					
1.	Chingleput	0.7	0.9	1	1
2.	North Arcot	0.6	0.8	a	a
3.	South Arcot	0.6	0.8	a	a
4.	Thanjavur	<u>0.5</u>	<u>0.5</u>	a	a
	Total	25.8	28.9		
VI. <u>Western Maharashtra</u>					
A. <u>Core Districts</u>					
1.	Dhulia	3.1	3.6	1	2
2.	Sangli	1.6	1.4	1	1
3.	Sholapur	1.5	1.5	1	1
4.	Ahmednagar	<u>1.0</u>	<u>1.4</u>	a	a
	Sub-Total	7.2	7.9		
B. <u>Satellite Districts</u>					
1.	Bhir	0.8	0.9	1	1
2.	Nasik	0.8	1.1	a	a
3.	Poona	0.8	0.7	a	a
4.	Kolhapur	0.6	0.6	2	2
5.	Satara	<u>0.5</u>	<u>0.6</u>	a	a
	Total	10.7	11.8		

Table 22 -- continued

VII. Central Maharashtra

	Percent of National Production		Percent of District in Dry Chillies	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
A. <u>Core Districts</u>				
1. Amravati	3.1	2.1	1	1
2. Jalgaon	2.6	1.5	1	1
3. Nanded	2.3	2.0	4	3
4. Osmanabad	1.7	1.1	1	1
5. Chanda	1.5	1.2	2	1
6. Aurangabad	<u>1.3</u>	<u>0.9</u>	1	1
Sub-Total	12.5	8.8		
B. <u>Satellite Districts</u>				
1. Nagpur	0.9	1.1	4	3
2. Yeotmal	0.8	0.5	1	a
3. Parbhani	0.6	0.4	1	a
4. Buldana	0.6	0.5	1	1
5. Wardha	0.5	0.4	1	1
6. Bhandara	0.5	0.6	1	1
7. Akola	<u>0.5</u>	<u>0.3</u>	1	a
Total	16.9	12.6		

a. Less than 0.5 percent.

TABLE 23: TURMERIC REGIONS

I. <u>Southern Orissa</u>		Percent of National Production		Percent of District in Turmeric	
A. <u>Core Districts</u>		1967-69	1959-61	1967-69	1959-61
1. Phulbani		13.7	8.1	5	4
2. Koraput		<u>1.7</u>	<u>1.5</u>	a	a
Sub-Total		15.4	9.6		
B. <u>Satellite District</u>					
1. Ganjam		<u>0.7</u>	<u>0.4</u>	a	a
Total		16.1	10.0		
II. <u>Northern Orissa</u>					
A. <u>Core Districts</u>					
1. Cuttack		1.1	0.8	a	a
2. Keonjhar		<u>1.1</u>	<u>2.0</u>	a	a
Sub-Total		2.2	2.8		
B. <u>Satellite District</u>					
1. Mayurbhanj		<u>0.5</u>	<u>0.9</u>	a	a
Total		2.7	3.7		
III. <u>Tamil Nadu</u>					
A. <u>Core Districts</u>					
1. Coimbatore		10.0	12.4	a	a
2. Tiruchirapalli		1.5	2.0	a	a
3. Salem		1.3	1.4	a	a
4. South Arcot		<u>1.1</u>	<u>1.3</u>		
Sub-Total		13.9	17.1		
B. <u>Satellite District</u>					
1. North Arcot		<u>0.6</u>	<u>0.6</u>	a	a
Total		14.5	17.7		
IV. <u>Northern Bihar</u>					
A. <u>Core Districts</u>					
1. Darbhanga		2.8	1.7	a	a
2. Champaran		2.2	1.1	a	a
3. Muzaffarpur		<u>1.7</u>	<u>0.3</u>	a	a
Sub-Total		6.7	3.1		
B. <u>Satellite Districts</u>					
1. Monghyr		0.9	1.4	a	a
2. Purnea		0.8	1.4	a	a
3. Saran		<u>0.6</u>	<u>0.3</u>	a	a
Total		9.0	6.2		

V. Southwestern Maharashtra

	Percent of National Production		Percent of District in Turmeric	
	1967-69	1959-61	1967-69	1959-61
A. <u>Core Districts</u>				
1. Sangli	5.7	7.2	a	a
2. Satara	2.3	4.2	a	a
3. Kolhapur	1.3	1.6	a	a
4. Belgaum (My)	<u>1.1</u>	<u>2.5</u>	a	a
Sub-Total	10.4	15.5		
B. <u>Satellite District</u>				
1. Sholapur	<u>0.5</u>	<u>0.6</u>	a	a
Total	10.9	16.1		

VI. Maharashtra-Andhra Pradesh

A. <u>Core Districts</u>				
1. Parbhani	1.8	1.6	a	a
2. Nanded	1.1	1.0	a	a
3. Karminagar (A.P.)	1.9	1.0	a	a
4. Nizamabad (A.P.)	<u>1.8</u>	<u>1.1</u>	a	a
Sub-Total	6.6	4.7		
B. <u>Satellite Districts</u>				
1. Osmanabad	0.6	0.6	a	a
2. Adilabad (A.P.)	<u>0.6</u>	<u>0.4</u>	a	a
Total	7.8	5.7		

VII. Coastal Andhra Pradesh

A. <u>Core Districts</u>				
1. Guntur	11.0	7.7	a	a
2. Krishna	1.8	1.5	a	a
3. Visakhapatnam	1.6	1.1	a	a
4. East Godavari	<u>1.5</u>	<u>2.3</u>	a	a
Sub-Total	15.9	12.6		
B. <u>Satellite District</u>				
1. West Godavari	<u>0.5</u>	<u>0.7</u>	a	a
Total	16.4	13.3		

VIII. Southern Andhra Pradesh

A. <u>Core Districts</u>				
1. Cuddapah	7.8	8.0	a	a
2. Kurnool	<u>1.1</u>	<u>1.5</u>	a	a
Sub-Total	8.9	9.5		
B. <u>Satellite District</u>				
1. Nellore	<u>0.5</u>	<u>0.6</u>	a	a
Total	9.4	10.1		

V. Southwestern Maharashtra

A. <u>Core Districts</u>	<u>Percent of National Production</u>		<u>Percent of District in Turmeric</u>	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
1. Sangli	5.7	7.2	a	a
2. Satara	2.3	4.2	a	a
3. Kolhapur	1.3	1.6	a	a
4. Belgaum (My)	<u>1.1</u>	<u>2.5</u>	a	a
Sub-Total	10.4	15.5		
B. <u>Satellite District</u>				
1. Sholapur	<u>0.5</u>	<u>0.6</u>	a	a
Total	10.9	16.1		

VI. Maharashtra-Andhra Pradesh

A. <u>Core Districts</u>				
1. Parbhani	1.8	1.6	a	a
2. Nanded	1.1	1.0	a	a
3. Karminagar (A.P.)	1.9	1.0	a	a
4. Nizamabad (A.P.)	<u>1.8</u>	<u>1.1</u>	a	a
Sub-Total	6.6	4.7		
B. <u>Satellite Districts</u>				
1. Osmanabad	0.6	0.6	a	a
2. Adilabad (A.P.)	<u>0.6</u>	<u>0.4</u>	a	a
Total	7.8	5.7		

VII. Coastal Andhra Pradesh

A. <u>Core Districts</u>				
1. Guntur	11.0	7.7	a	a
2. Krishna	1.8	1.5	a	a
3. Visakhapatnam	1.6	1.1	a	a
4. East Godavari	<u>1.5</u>	<u>2.3</u>	a	a
Sub-Total	15.9	12.6		
B. <u>Satellite District</u>				
1. West Godavari	<u>0.5</u>	<u>0.7</u>	a	a
Total	16.4	13.3		

VIII. Southern Andhra Pradesh

A. <u>Core Districts</u>				
1. Cuddapah	7.8	8.0	a	a
2. Kurnool	<u>1.1</u>	<u>1.5</u>	a	a
Sub-Total	8.9	9.5		
B. <u>Satellite District</u>				
1. Nellore	<u>0.5</u>	<u>0.6</u>	a	a
Total	9.4	10.1		

IX. Kerala

	Percent of National Production		Percent of District in Turmeric	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
A. <u>Core Districts</u>				
1. Kozhikode	1.0	1.3	a	a
2. Palghat	1.0	1.3	a	a
B. <u>Satellite District</u>				
1. Kottayam	<u>0.9</u>	<u>1.2</u>	a	a
Total	2.9	3.8		

a. Less than 0.5 percent.

TABLE 24: TOBACCO REGIONS

I. Coastal Andhra Pradesh

A. <u>Core Districts</u>	Percent of National Production		Percent of District in Tobacco	
	1967-69	1959-61	1967-69	1959-61
1. Guntur	25.3	22.8	12	9
2. West Godavari	4.6	3.9	3	3
3. Krishna	4.0	2.5	2	2
4. Nellore	3.0	0.9	2	1
5. East Godavari	2.6	2.2	2	2
Sub-Total	39.5	32.3		
B. <u>Satellite District</u>				
1. Visakhapatnam	0.5	0.6	a	a
Total	40.0	32.9		

II. Inland Andhra Pradesh

A. <u>Core Districts</u>				
1. Kurnool	2.9	1.3	1	1
2. Khammam	2.9	3.0	2	2
Sub-Total	5.8	4.3		
B. <u>Satellite Districts</u>				
1. Mahbubnagar	1.0	0.3	a	a
2. Warangal	1.0	0.4	1	1
3. Karimnagar	0.9	0.2	1	1
4. Nalgonda	0.8	0.3	a	a
Total	9.5	6.5		

III. Gujarat

A. <u>Core Districts</u>				
1. Kaira	18.8	15.0	12	15
2. Baroda	3.2	4.8	3	4
3. Mehsana	1.5	0.8	1	1
Sub-Total	23.5	20.6		
B. <u>Satellite District</u>				
1. Panchmahals	0.6	0.3	a	a
Total	24.1	20.9		

IV. Tamil Nadu-Mysore

A. <u>Core Districts</u>				
1. Coimbatore	4.4	6.8	1	2
2. Mysore (My)	1.2	0.8	1	2
Sub-Total	5.6	7.6		
B. <u>Satellite District</u>				
1. Madurai	0.5	0.8	a	a
Total	6.1	8.4		

Table 24 -- continued

V. Mysore-Maharashtra

	Percent of National Production		Percent of District in Tobacco	
	<u>1967-69</u>	<u>1959-61</u>	<u>1967-69</u>	<u>1959-61</u>
A. <u>Core District</u>				
1. Belgaum (My)	1.5	4.3	2	2
B. <u>Satellite Districts</u>				
1. Kolhapur	0.8	2.5	2	3
2. Sangli	<u>0.7</u>	<u>1.5</u>	1	1
Total	3.0	8.3		

VI. Bihar

A. <u>Core Districts</u>				
1. Purnea	1.8	1.0	a	a
2. Muzaffarpur	<u>1.2</u>	<u>1.6</u>		
Sub-Total	3.0	2.6		
B. <u>Satellite District</u>				
1. Darbhanga	<u>0.7</u>	<u>1.4</u>	a	a
Total	3.7	4.0		

a. Less than 0.5 percent.