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Distribution of Paddy Varieties in Palghat Taluk.

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General. The wide-spread use of a host of varieties is a striking feature of paddy cultivation in the Malabar district. The practice has probably been found necessary because of the absence of regular irrigation systems, the peculiar distribution of rainfall and the uneven contour of the land. As regards the requirements of the soil and the limitations of water supply every ryot seems to know his lands so intimately that the different varieties are perhaps chosen only to reduce the local irregularities of soil and water supply. The multiplicity of varieties may therefore be taken as an index of the diverse conditions of paddy cultivation prevalent in the locality. Besides this, the type of land and land tenure, resistance to pests and diseases, season and rainfall, the demands of the markets and the mills, also exert a powerful influence on the choice of varieties that are grown. In 1938—39 Palghat taluk raised 207,445 acres of paddy, which represents 71·2 per cent of the annual cultivated area. Farming in the taluk is practically confined to the cultivation of rice in wet lands.

Season and rainfall. There are two regular harvesting seasons for the paddy crop, the first falling about the month of *Kanni* (September-October) and the second about *Makaram* (January-February) and the two are therefore distinguished as the *Kanni* crop and the *Makaram* crop respectively. The *Kanni* crop is sown broadcast in April, while the *Makaram* crop is invariably transplanted from nurseries, separately raised in the month of July. The entire crop is rainfed. The average annual rainfall of the tract is 90 inches of which about 65 inches are received during the South-West monsoon, while the North-East monsoon brings in about 15 inches and the dry, hot weather about 10 inches of rain.

Types of wet land. The wet lands of Palghat, where paddy is regularly grown as a rainfed crop, fall under two distinct types. There are the 'double-crop' lands which raise two successive crops of paddy annually; there are also what are locally known as *pottas* or 'single-crop' lands, which grow only one crop in the year. Of 207,445 acres under paddy (1938—39), the single crop lands constitute 33,981 acres, the remainder being composed of double crop area in its two fairly equal harvesting seasons. The single crop lands form nearly a third of the double crop area in the *Kanni* crop season. Sometimes even a third crop of paddy is raised in summer in the double crop lands which have the benefit of springs or other irrigation sources. But such favoured areas are very rare and their cultivation is of little importance.

Cultivation. In December—January, there is sufficient moisture in the fields after the harvest of the paddy crop. This moisture is taken advantage of to plough the land. Subsequently, cross ploughing, breaking clods and getting the soil into fine tilth, collecting weeds and stubbles for burning on the land are all attended to by way of preparatory cultivation during the hot weather months. On receipt of the first pre-monsoon rains in April, the crop is generally sown broadcast in the dry field, though portions of the single crop lands are also transplanted during the south west monsoon in June-July. The varieties sown in the double crop area are of a comparatively shorter duration than those sown in the single crop lands. The crop is off the double crop lands by the end of August or early in September and is immediately followed by a second crop. In the single crop area, the harvest may get prolonged to October partly due to the late planting and partly because of the cultivation of long duration varieties.

The varieties cultivated in the second crop season are comparatively longer in duration than in the first crop and are therefore sown in separate nurseries in July-August. The success of the second crop depends as much on the quickness with which it is planted before the North-East monsoon rains as on the distribution of the rains in the North-East monsoon itself. The second crop is harvested by December or January and the land is again prepared for the same crop in the succeeding year.

Varieties. The important varieties for the *Kanni* crop are *Chambaan Chornali, Thavalokkannan Kazhama, Areeri* etc., while *Chitteni* and *Anakkomban* are the main types in vogue for the *Makaram* crop. They vary in duration from $3\frac{1}{2}$ months to 5 months in the case of the Kanni crop and 5 to 7 months for the *Makaram* crop. The superior strains evolved by the Agricultural Department are popular for the *Makaram* crop season and the strains in use were reported to be GEB. 24, Co. 1, Co. 2, Co. 3, Co. 5, Co. 8, Adt. 5 and Adt. 8. Their distribution in the six Revenue *Firkas* of the taluk, as revealed by the enquiries made in 1939-40, is shown by the plus sign (+) in Table 1 below.

TABLE I

Distribution of paddy varieties in Palghat Taluk (1939—1940).

Local name of variety.	Revenue Firkas.					
	Palghat Town.	Elapulli	Kollengode	Alathur.	Coyalmannum.	Parli.
Kanni Crop (April—September)						
CHAMBAAN	+	+	+	+		+
Matta-chambaan		+	+		+	
Anna-chambaan		+		+		
Chinna-chambaan					+	
Irippapoo-chambaan		+	+			+
Poo-chambaan			+	+	+	

Local name of variety.	Revenue Firkas.					
	Palghat Town.	Elapulli.	Kollengode	Alathur.	Coyal-manna.	Parli.
CHORNALI	+	+	+	+	+	+
Kata-chornali		+				
Valiya-chornali		+				
Kottayi-chornali						+
THAVALAKKANNAN	+		+	+	+	+
KAZHAMA			+	+		
Chen-kazhama	+				+	
Karin-kazhama		+				+
Veluthari-kazhama			+	+	+	+
Raja-kazhama						+
AREERI	+					+
CHEERA		+	+	+	+	+
KARUPPALI					+	
ARYAN	+					
Pon-aryan				+		+
CHOTTURAYAN					+	
ERJMAKKARI					+	
PARAMBUVATTAN				+		+
NAVARA		+				
Makaram Crop (July—January)						
CHITTENI		+	+	+	+	+
Balan-chitteni	+					
ANAIKOMBAN	+		+			+
VRICHIKAPANDI	+	+		+		
ORUMANIYAN					+	
PAPPARUMANIYAN		+		+	+	
MUNDONPALA				+		+
Karuthamundonpala						+
Chokanna-mundonpala						+
KARANI					+	
VELLARI						+
VELLETHAN					+	+
VELLAKOLI					+	+
VELLARYAN					+	
ARIKKIRARI						+
VALIAVEMBALA						+
KUMBALONE						+
GEB. 24	+	+	+	+	+	+
Co. 1		+				
Co. 2	+	+		+	+	
Co. 3			+	+		+
Co. 5	+			+		
Co. 8	+	+	+			
Adt. 5		+	+			
Adt. 8		+	+			

As there are many varieties under cultivation in every holding, the mixing up of types is inevitable and it is indeed a problem to select seeds free from mixtures with other varieties. The economic disadvantages of sowing mixed seeds are realised, though imperfectly, by many ryots but rigorous avoidance of mixtures is seldom practiced. However, in an otherwise undiversified farming, where paddy follows paddy in necessary repetition, the innumerable local varieties are in a way pleasing as well as useful from the occupational standpoint.

Spread of strains. Out of 26 holdings examined at random in the Palghat taluk, ten were found using small quantities of improved strains of the Department. The strains found popular were GEB. 24, Co. 2, and Co. 3 and they were confined to the *Makaram* crop. The Coimbatore strains have spread in the tract since they fit in well between the local *Chitteni* and *Anakkomban*. From planting to harvest they take about 90 days for GEB. 24, 110 days for Co. 2 and 115 days for Co. 3 while *Chitteni* and *Anakkomban* take 100 and 130 days respectively. *Chitteni* is grown in fairly highlevel fields whereas *Anakkomban* is raised in much lower situations with assured water supply. Between these two, many gradations could be noticed in the nature of the fields, where such small intervals as 5 to 10 days or even less in the duration of varieties are specially helpful to tide over conditions of drought. The Coimbatore strains, that have spread, fulfil this purpose and hence their popularity. Moreover, they fetch a better price in the market because of their superior quality. It is a disconcerting feature, however, that many ryots are tempted by the high prices offered for improved varieties and sell away their entire stock, even their seed material, and thus hinder the normal spread of strains. There is certainly scope for a more widespread use of strains and it will be obvious from the accompanying table that even each holding could increase its area under superior types.

TABLE II. Distribution of improved strains in 10 holdings in Palghat taluk (1939--40)

Cropping Season.	Total quantity* of seeds used in each holding.	Names of strains used.	Quantity* of strains used.	Percentage of strains to total seeds used.
July—August	25	GEB. 24	10	40·0
	35	GEB. 24	4	11·4
to	40	GEB. 24	9	22 5
December—January.	70	Co. 3	11	15 7
	78	GEB. 24	8	10 3
		Co. 2	25	32·1
(*Makaram*)	80	Co. 2	15	18·8
	100	Co. 3	25	25·0
	110	GEB. 24	60	54·5
	120	GEB. 24	10	8·3
	144	GEB. 24	10	7·0
Average,	80·0		19·0	23·0

(* Quantities are expressed in *para*, a local measure, weighing 16 to 18 lb. of dry paddy)

As regards the *Kanni* crop, selections from the Agricultural Research Station at Pattambi in South Malabar have yet to gain a foot-hold. Their popularity in the tract is ultimately a matter of their ability to imitate the growth intervals of the local types. The main varieties and their many sub-types are of relatively short duration and are peculiar to the taluk, which is situated mid-way between the rest of Malabar and the dry regions of the Coimbatore district. Here, isolation and selection from among the local varieties and their spread seem to be the need of the hour.

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The Nizam Sugar Factory Plantation.

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Introductory. In the course of the last decade, India has been able to become self-sufficient with regard to her sugar requirements. But South India is far behind in contributing her proportionate quota of sugar as the number of sugar factories and large scale sugarcane plantations are few. The Nizam Sugar Factory Ltd, however, satisfies a longfelt need in the Hyderabad State.

This sugar factory is situated at Bodhan one hundred miles distant from Hyderabad city (Deccan). It possesses an extensive cane estate of about 8000 acres. The area is not a contiguous block but extends on the eastern and northern directions of the factory the farthest points being about seven miles in either direction. Of the total estate only about 3000 acres are planted every year. All the area is cultivated under the Nizam-Sagar project, one of the biggest in India. In this paper, an attempt is made to give a brief account of the plantation side of the sugar factory.

Soil. The soil varies from light red loams to medium and heavy black soils with a porous morram or light black subsoil.

Climate. Average rainfall is about 35—40 inches most of which is received during the South west monsoon. A few intermittent heavy showers, occur during the North west monsoon. The altitude of the place is about 1200 feet above sea level.

Varieties of Cane. The varieties that are chiefly propagated at present in the estate, are P. O. J. 2878; Co 290; Co 419; E. K. 28 and H. M. 230. Of these P. O. J. 2878 gives a very good yield in red loams provided all cultural operations are done properly and in time. Co. 290 is very useful in alkaline and in black soils; Co. 419 is very promising particularly in black soils and the area under this variety is gradually increasing. Out of 3000 acres, P. O. J 2878 occupies half the area; Co. 290 occupies 1000 acres and the other varieties are planted in the rest of the area.