

Account Bulletin.

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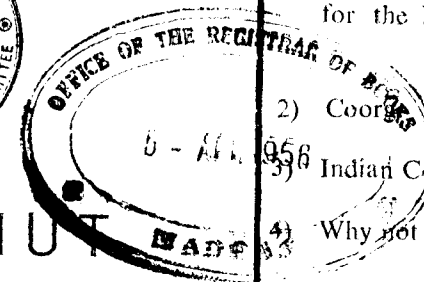
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4) Why not Areca growers also grow green manure?

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THE INDIAN CENTRAL ARECANUT COMMITTEE,

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"ARECANUTS IN MALAYA"

BY

K. K. NAMBIAR,

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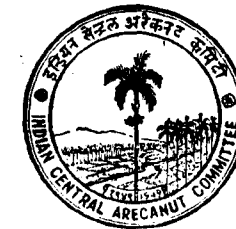
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Vol. VI.

FEBRUARY 1956.

No. 11.

REPORT ON THE SURVEY of Waste Lands suitable for the Development of Arecanut Cultivation in Assam, Bengal, Bombay, Coorg, Madras and Mysore State.

(Continued)

(P. A. SREENIVASAN, B. Sc. (Agr.)

MADRAS.

Madras is the principal producer of arecanuts with 88,341 acres in Malabar, 22,341 acres in South Kanara, 1,667 acres in the Mettupalayam tract and the Noyyal valley of Coimbatore and 1,299 acres in the Vasishtavadi basin of the Salem District. The present survey was sanctioned for the Malnad regions of Malabar and South Kanara District.

A. MALABAR.

I. The Malnads of this District are lying in a long stretch in the hinterland from Patiyotuchal Kanhileri in the North (Chirakkal taluk) and up to the foot of the ghats in Walayar near the Palghat gap and again skirt on the Nelliampathies and their spurs in the South. Every taluk except Ponnani has a stretch of Malnad. Wynad taluk, Attapadi in Walluvanad taluk and portions of Nelliampathies in Palghat taluk

are the upghat regions corresponding to the plantation Districts of Mysore and Coorg and lower Nilgiris (Gudalur). They have an average elevation of 2,500' to 3,000' above M. S. L.

II. *Climate.* The District is within the influence of the South West Monsoon receiving over 100-120" of rainfall in 130 days, chief distribution being, in South West Monsoon period 80-95", North East Monsoon 10-20", Hot Weather 2" and Ante-Monsoon rains 8-10". The hinterland nearer the ghats experience heavier rainfall than the coast and is sometimes 150-170". Except Wynad, Attapadi and Nelliampathies where sub-tropical climate prevails during the cold weather, the rest of the District has a temperature range between 70°-100°F.

III. *Soils.* Soils are distinctly lateritic in origin. And in most

places they are of a loamy character, except that the river borne silt has rendered some areas in the hinterland more clayey and highly moisture retaining. Soils are inherently good everywhere for arecanuts, the only limitation being adequate water supply.

IV. *Availability of land* The District possesses three distinct areca belts.

1. Coastal lift irrigated type and midghat lift irrigated type in Ponnani Taluk, Malappuram, Kottakkal firkas of Ernad and parts in Walluvanad adjoining Kuttipuram firka of Ponnani.
2. The rainfed mixed crop in the coconut gardens, the latter contributing to not less than 400,000 acres in the District, besides the homestead and scattered plantings.
3. The unirrigated river bank plantings and those in the

drainage valleys of natural water sheds and their isolated catchments where moisture retention is ideal and natural fertilisation takes place through river-borne silt. These are situated mostly in the hinterland beyond a distance of 10-15 miles from the coast.

(a) *Coastal and midghat region.* Most of the areas available for irrigated type as in (1) above have been utilised. Also on consideration of cost of reclamation and planting and from the point of view of geographical limit, entailing delicate and constant attention, whatever is available can be commissioned into production, only with assured and continued price incentives. Under this category, the Agriculture Department has reported that 1,500 acres of lands are available in the following villages :—

Chalasseri, Edapal, Kaladi, Kumaranellur, Angadi, Kalpakancheri, Marakkara, Kurumathur, Melumuri, Irimbilyam, Tirunayya, Omachapuzha, Puchatri, Ozhur.

Waste land area exists only in the hinterland villages adjoining the ghats and the Wynad plateau, the Attappady valley and Nelliampathies Hills.

(b) *Hinterland villages.* Consequent upon the pressure of population on land in the adjoining Travancore-Cochin State, large number of agricultural families have migrated from that State and settled on hinterland villages. These immigrant families have occupied unsurveyed private forest lands, cleared them, reclaimed and commissioned them to an abiding system of cultivation.

It starts with a shifting type of tapioca cultivation, and when finally the immigrants decide to settle upon the spot and find capital for it, they slowly switch over to planting arecanut as a mixed crop with other perennials as in Travancore-Cochin. The following are the important areas where these immigrants have settled :—

1. Kanhileri, 2. Irikkur, 3. Iritty-Payam-Aralam-Kuttupuzha, 4. Peravur-Mananthanua-Verkalam-Nedumpoyil-Kolayad-Tholampram, 5. Kuttiyadi-Meruthoukara-Kavilumpara-Kayanna-Kinalur-Panangad, 6. Perambra-Paleri, 7. Tamarasseri-Puduppadi, 8. Areacode-Nilampur-Kalikavu-Karuvarakundoo-Edavanna-Melattur, 9. Mannar-ghat side.

Some of these areas under 3, 4, 5, 7 and 8 are now visited and it was found that most of the possible places (moist lowlying situations) have been planted with arecanuts. In the Iritty-Peravur tract besides the nursery of our member, Shri N. T. Narayanan Nambiar, about 25,000 seedlings are found in situ with 3 progressive ryots. There are also smaller nurseries in the entire tract. Local enquiries also revealed that seedlings are available at Re. 0-0-6 to Re. 0-1-0 each. The local demand for seedlings in these areas will be poor unless the seedlings are regularly consigned to each of these pockets which are cut off from one another. Even then, it is a question of comparative costs which nursery projects may not be able to compete with. Attempts to rehabilitate these settlers on large scale areca cultivation that way has only limited indications.

(c) The areas are unsurveyed and unsettled waste lands (belonging to private landlords-Jenmis) leased out to the settlers. As such, issue of capital State loans cannot be readily attempted to the tenants. There are however well-to-do and progressive among them who can be induced to take up garden scale cultivation. The Agriculture Department has estimated that an approximate area of 11,177 acres can be expected under such types (Cannanore 7,752, Taliparamba 2,450, and Ernad 975). As per the estimates of the Revenue Department 78,932 acres in Government and private waste and 100,000 acres under unsurveyed private forest are available for areca cultivation. It should be observed that these figures require elaborate scrutiny and at best they may relate to the possibility of planting of arecanut as a mixed or an unirrigated crop. Nor is it possible to conceive of large sized gardens in the severely denuded tract from the point of view of shade and manure and perennial water supply except in some localities, as in Koduvally, Tamarasseri, Puduppadi, Nedumparayil, Kanavam, Nilambur, Mampad, Karuvarakundu, Kalikavu etc. Even here, in some localities only lift irrigation can be practised. The conception of lift irrigation has only a secondary priority in view of the higher production costs, at least in future areca development programmes. Consistent with this, only two types can be availed of for flow irrigation facilities :—

1. Lands in the immediate foot of the ghats as in Manimuli, Puduppady and Karuvarakundu

are served with flow irrigation by natural and perennial hill streams. At least 1000-2000 acres can be put under areca as in the Mettupalayam tract in the three above tracts. Attempts have been already made by some people in Puduppady on a smaller scale.

2. Moist vacant valleys within the Reserve forests and private forests :—

Forest preservation laws are very rigid which restrict the use of such deep moist valleys for the development of future plantations on the same lines as the gardens of Mysore and South Kanara Malnad. The District abounds in private forests, the operation and maintenance of which is governed by the Madras Private Forests preservation Act. This Act came into force in 1948 subsequent to the large denudation which took place in the last decade in the foot hills regions and the Act does not favour in general further exploitation of the private forests for agricultural purposes. But it is learnt that executive instructions have been issued by the Government to grant permission for clear and selective felling of private forests to plant crops like coffee, tea, cardamom and rubber. Such deep moist valleys with dependable irrigation sources were inspected in (1) Maruthongara Desom belonging to Srimathi V. K. Janaki Amma in R. S. No. 33/2, and (2) in the Kongad Mala near the Travancore settlers' colony in Maruthongara Paleri, Kavilumpara unsurveyed area (Kurumbranad) belonging to one M. Avulla Haji of Kuttiyadi. He is prepared to cultivate 200 acres

or arrange for it by leasing to intending planters if permission will be given for clearing and planting of arecanuts. This is only a specific instance and much more area can be localised. Since clear felling may be required only in the deepest stretches of the valley and the jungle-clad upper hills of the valley have to be perforce preserved for successful arecanut garden cultivation, the Madras Government can be induced to accommodate the needs of arecanut expansion also within their private forests as they have done in the case of tea, coffee, rubber and cardamom crops. Even in the Central Pepper belt of Kottayam taluk in Peravur, Kozhakunnu, Iritty (Mattanur) tract, where is a race for lands of all sorts to plant pepper, the settlers have always used the deeper valleys for organised areca plantation. And it is certain if the valleys are permitted to be assigned with a specific directive to plant arecanut, large areas will be commissioned into production.

(d) *Moist sheltered valleys of Rubber Estates.* Rubber is another plantation crop which does not tolerate moisture and there are many deep sheltered valleys in the rubber tracts of Malabar. The Kainadi Estate in Tamarasseri, Shri T. V. Jacob and Shri K. M. Abraham of Tamarasseri, Shri M. C. Pothan of Puduppadi and the Poonoor Estates near Tamarasseri have taken to arecanut cultivation in the moist valleys recently. During the propaganda tours in 1950-52, I had seen the same scope in the rubber valleys of Muvattupuzha (Kottayam Division) and at the foothills of Nelliampathies in Travancore-

Cochin. Systematic and intensive contact with rubber interests in the West Coast seems to be a clue for further action in the matter.

V. *Assignment of waste lands.* Maximum priority is given for the assignment of lands to landless labour and poor at the rate of 2½ acres wet or 5 acres of dry land. The Madras Land Utilisation Order, 1950 also contemplates requisitioning and assignment of private waste lands for production of food crops. The Malabar Tenancy Act also provides for a similar measure. Specific directions to requisition of lands suitable for arecanut may concede some more incentive. Assessment varies from Re. 0-14-0 to Rs. 1-8-0 per acre. The purchase price of these lands vary from Rs. 200 to Rs. 600 per acre depending upon the nature of the land and the tenure under which it is transferred.

VI. *Development of areca on the Upghat tract—Wynad, Attappady and Nelliampathy.* Deep moist valleys absolutely indicative of this crop exist in vast stretches on the up-ghat tract of Wynad, Attappady and Nelliampathy. But the chief limitations are :—

(1) Delayed maturity of trees to come to flush (11-12 years after planting);

(2) Delayed maturity of bunches in the season (i. e. past October it sets buttons and the ripe fruits are available only in May-June); the ripe nuts do not harden satisfactorily and they are also known to cause perspiration. The Wynad grower has essentially to sell his crop raw on account of its tastes, but fortunately it comes to harvest after the monsoon when processing costs are low.

Studies on the introduction of types from the adjoining Mysore plateau and the North Kanara region may lend some useful clue in planting up these areas in course of time. This problem may be considered at least as an exploratory trial planting on the existing Agricultural Research Station (Ambalavayil) in Wynad and the Cochin Government's Fruit Research Station (Pulayampara Plantation) Nelliampathy. Also if possible, with some progressive planters. Wynad has at present no extensive areca area worth reckoning, but here again an intensive search for the results of any imaginative planter's effort in the introduction of Mysore types may lend useful results. This is particularly important as this area is also found to switch over to arecanut cultivation in a large measure after the significant decline of the citrus industry in the last ten years. If the present trends of planting are any index, there will be a number of technological problems arising out of this tract in future. Moreover, the principal aim is to raise areas more suited for sundried supari. Therefore, as a first measure, the existing ripe nut samples, whose original parent localities are indisputably known, have to be subjected to some critical market analysis and assessment. Based on the results of rapid investigations of this kind, it may be possible to declare a policy on large scale introduction of successful types in Wynad, Attapady and Nelliampathies.

VII. Regional Research and Intensive Cultivation methods.

(a) The establishment of the Regional Research Station suggested

by the Agricultural Officer for all India Arecanut Survey in 1948-49, was deferred as the Travancore Station was settled in Trichur nearby. That tract (Trichur) corresponds to the garden tract served by lift irrigation in Ponnani and Ernad of Malabar. The rest of the District which contributes to more than 50% of the area corresponds to the conditions existing in three-fourths of the Travancore tract also. This distinct unirrigated laterite type with nominal cultivation is sharply different from those obtaining in the moist sheltered valleys of Koppa, Srinigeri of Mysore Malnad, or Puthur Malnad of South Kanara. It may be costly to design a Research Station for every type; but co-operative experiments in the tract may render a clue to the empirical data for stepping up production.

(b) The coconut garden tract of Malabar cannot be said to have been fully interplanted with arecanut palms in all localities where the latter will thrive. This is the only venue where the need of providing for capital costs and reclamation charges is obviated. Local planters have their own yardsticks of regulating mixed population, for they often do realise and observe the optimum limit for moisture on the ascent of a coconut grove in mid-ghat region. Yet, this is another direction in which co-operative experiments on existing holdings of well randomised and homogenous groups should precede, for it will throw light in quicker time both from the point of view of existing production as also extension of area. As the growers are purely

guided by the question of economics, they have also interplanted in recent years almost all the important low-lying tracts. It is therefore a matter equally concerning both the coconut and arecanut interests and specific co-operation is required in investigating the scope and limitations of this problem.

B. SOUTH KANARA DISTRICT.

I. South Kanara's existing areca belt comprises of 3 distinct types in 23,000 acres, viz.,

1. Coastal tract:—Mangalore and Udipi taluks and Mangalapadi and Kumbala firkas of Kasaragode and Hosdrug firkas (3,000 acres).
2. Mid-ghat regions in Kasaragode:—Kumbala, Badiadka (5,000 acres),
3. Hinterland or Malnad type as in Puttur, Coondapur and Karkal taluks (15,000 acres).

It is mostly concentrated in the malnad, the handicaps of which region have been described in the case of Bombay and Mysore.

The Malnad of South Kanara District is comprised of the slopes of the Western Ghats, the hills and the spurs at their foot and in addition the vast forest clad tract of land ranging from about 15-30 miles wide all along the western side of the ghats running from North to South in the taluks of Coondapur, Karkal, Puthur, parts of Kasaragode and Udipi.

II. *Climate and Rainfall.* The District is benefitted by the South West Monsoon receiving over

130" to 175" of rainfall in 135 days. Distribution is chiefly during January to September (90"–100"), 20"–30" until the retreating North East Monsoon tails off in October–November. Cold and hot weather rains are rather uncertain (2-5") and the ante-monsoon rains are rather unusually heavy and well distributed in certain years (5-8") during April–May. The range of temperature is between 70 and 90°.

III. *Soils.* Soils are derived from the laterites and are good deep gravelly loams. Deeper into the hinterland, the valleys get narrower and more moist resembling those met with in the Malnad of Mysore and North Kanara. The riverside soils are silt laden. Although chemically identical these transported earths have a higher fertilising value on account of their physical properties.

IV. *Availability of lands.* Suitable types of waste lands with perennial irrigation facilities are not available in the mid-ghat and coastal regions. All such spots have been occupied and planted. In such regions there is a tendency for the conversion of paddy lands into areca gardens. Puthur and Coondapur and Karkal and parts of Udipi taluks adjoining the Western Ghats are the only regions where lands of desirable types exist. Cultivation throughout Kasaragode taluk and Puttur Cusba and Vittal firkas of Puthur taluk is very intensive but the cultivation of the malnad tracts in Puthur is of a very poor and nominal order where most gardens do not receive irrigation or systematic intercultural and

manuring. Maximum yields go up to 5 candies or 25 cwts., and 2½ to 3 candies (12 to 15 cwts.) are common averages in the former area. The corresponding figures in Puthur malnads are only 2 and 1-1½. Conditions in Coondapur malnads are similar and these regions are west of the Mysore malnads and contiguous to the North Kanara areca tract in the below ghat regions and the same handicaps exist in the same degree of severity.

PUTHUR TALUK.

(a) *Assessed and Unassessed waste lands.* The Revenue Officers were of opinion that any comprehensive information about the total extent suited for areca from out of assessed and unassessed wastes is not available as the question required elaborate examination in each village. Under the circumstances, only a general picture so far ascertained, of the tract in its representative stretches can be had which indicates the possibility for localisation of efforts in future areca development work. Extensive areas may not be available from the assessed and unassessed lands. Whatever is available is also being diverted to arecanut cultivation. Considerable investment is required for the provision of a dependable water head like the excavation of a tank in most places coming under this category. Therefore, such spots which exist particularly in the Puthur and Vittal firkas and the urban surroundings of Uppinangadi firkas have not been commissioned into production. About 20 acres of such lands were seen in Halinerenky and Begathur and 4 already under reclamation in Herebandady and about 22

acres are available in Keppu near Vittal. Owing to the high capital costs on reclamation and tank excavation this area may require very substantial capital assistance for development.

(b) *Areas abandoned and absorbed into the Reserve Forests.* Such types are available throughout the foothill regions in the Beltangady, Uppinangadi, Kokkada, Subramanya and Sullia firkas. Large areas of this description exist in Mundaje and Charmadi, Beltangadi and Iyala villages. About 10 acres of land in Sudha mugar and 6-00 acres of land in Mundaje belonging to Messrs M. K. Bhide and P. N. Khadilkar respectively are the only assessed wastes which have not yet been absorbed by the encroaching forests. Under such circumstances, the parties are of opinion that they cannot extend the area in the locality without sufficient relaxation of the forest regulations and mitigating the rigors of the life in Malnad. The area, if developed, can accommodate about 60 acres in Mundaje and 40 acres in Beltangady and Liyila. The Nerlya Cardamom Estates which was once a populace colony was abandoned and has been again settled for colonisation and cardamom production. It is said that large valleys can be found there for future areca gardens. In the Uppinangady and Kokkada areas, the following villages are ideal for localising future efforts for plantations:—

Bellala, Hathyadka, Shishila, Guttigaru, Markunja, Nellayadi, Alangkar, Hosmet, Golihattu, Alantiya, Dharmastala and Subramanya.

The Sullia firka of Puthur offers greater scope than any other part, for the abandonment of cultivation and the neglect of cultivation have been more here. Also suitable assessed wastes exist in larger measure in the foothill regions. Expansion is in progress in new areas and some considerable areas have been planted up in recent years. The forest valleys also have been planted to arecanut in this region. As the area comes under the National Extension Service Block, greater efforts can be localised from the point of view of attracting labour and capital as also providing some funds as capital loans from out of the 4 lakhs of rupees already allotted for land Improvement Loans in this block. The following figures about the four villages visited in this tract give some interesting data about the recent advances made towards extension of areca cultivation here:—

Total approximate area of waste lands fit for areca. .. 263 acres.
Area under areca (old gardens). .. 331 ..
Approximate area of areca gardens newly brought under cultivation, of which.

- (a) Bearig (young) 95-30,,
(b) Non-bearing. 51-20,,

These are in respect of Ubradkamithur, Sullia, Sampajee and Aranthodu and much greater development is said to have taken place in Nalkuru, Yenekal, Kribhage, Khilarmale, Pumale, Todikena where 100 acres of forest valleys also have been assigned for cultivation of arecanut.

(c) *Assignment of forest valleys for arecanut cultivation.* Deep moist valleys within the reserve forests have been assigned for areca cultivation according to G. O. No. Ms. No. 1944 Dev. Dept. dated 15-8-1938 on long term lease for 50 years. The important conditions and terms of payment are as follows:—

1. Seigniorage value of timber, in the site.
2. Security of Rs.200 per acre.
3. Fee for observance of rules - Rs.25 per acre.
4. Actual cost of survey and making plans.
5. The area must be planted up within 3 years of leasing.
6. Rent - first five years nil; 6th to 10th Re.1 per acre; 11th to 15th Rs.3 per acre; 15th year onwards Rs.6.

About 38 plots have been assigned in Puthur Forest Range in 14 villages in over 138 acres. In Sullia, side 100 acres have been assigned in 6 villages and in the Aletti and Jalsur Reserve areas in Kasaragod range and in the Panathady reserves also large areas have been assigned. Since these areas are within the reserve forests, cost of labour and reclamation is higher and the conditions imposed upon the lessee are also naturally very rigid. These are two evils which cannot be effectively solved in the forest tracts; but this venue also has been closed. The Forest Grievances Enquiry Committee constituted by the Government in 1950 endorsed the long term leasing policy of forest valleys but the Government have not agreed with the recommendations in the interests of forest preservation. Sub-

sequently, the concession has been withdrawn. Owing to the sheltered requirements of the crop, the cultivation can be undertaken only in the enclosures within forests with dependable water supply and therefore many well-to-do and progressive growers seek the restoration of the concession.

(d) *Current paddy fallows.* Over 12,000 acres of current paddy fallows and abandoned paddy areas exist in the foothill regions of Puthur Taluk between Bangadi and Sullia. Most of the area is vacant due to acute labour scarcity and other economic disabilities. Under the existing physical handicaps it is too optimistic to expect these areas to be put to any system of cultivation. However, it is for consideration if some portions of these lands with perennial irrigation facilities can be availed of for areca production also when these handicaps are relieved in future.

(e) *Irrigation from jungle streams.* Flow irrigation is preferred for obvious reasons, but this is possible only in the immediate foothill regions as in Charamady or Sampajee where the wild streams pass through a considerable area and section of land and make the venture of raising a garden feasible and successful. In the lower reaches the country is rough and the streams cannot be used for direct flow irrigation without much investment on capital schemes of bunding. Therefore, the water is lifted from the streams over a head of 10 to 15 feet. Numerous possibilities exist in harnessing the scope in this direction. The extent of 100 acres

near Koila and 200 acres in Nalinerenky, Hirebanadady, Begathur and Uppinangadi by the sides of the Kumaradhari River is only a portion of the possibilities in that direction in South Kanara. By the side of the Kandadka Hole in Ubradkamithur about 100 acres can be had; about 10 acres are situated in the Forest Farms, a joint stock concern. At Aranthodu by the side of the Payaswani river many gardens have sprung up. Of this, one 5-00 acres belongs to one Shri N. Narasinga Rai who has installed a pump set for lifting water and the annual cost of irrigation is 150-175 rupees per acre. Some schemes of harnessing these waters for flow irrigation can be investigated. Co-operative river pumping operations can be only of limited application and therefore the Land Improvement Loans may have to be liberally granted to individuals for installing pump sets.

(f) *Disease affected and neglected areas.* The stem breaking disease has taken a very large toll and many of the gardens are in a neglected condition. In the course of the observations and enquiries in Mundaje, some interesting information came to be noticed. It appears the growers in Mundaje, enamoured of the high yields of Badiadka sector in Kasaragode, practised the wider spacing adopted in Kasaragode side for intensive cultivation and this naturally has interfered with shade regulation of the desired degree resulting in the sun scorch. It cannot be said how far this is the sole factor responsible for the disease. But, for reasons of topographical

nature, the spacing in foothill regions of South Kanara has to be definitely closer for efficient shade regulation. This is only an incidental observation. The resuscitation of the affected gardens is a problem of first class magnitude. In the first instance the loss of effective area has to be assessed and in any scheme for the issue of loans or any concession that might be rendered in South Kanara, the replanting of such areas deserve a higher priority.

(g) *Kumki for green leaves.* Amidst evergreen forests one sees growers suffering for want of leaves. It is significantly so in certain parts adjoining the foothills and the reserve forests where the Vargadar (Ryot) has not been assigned separate dry lands (Kumki) for the removal of green leaves. Removal of shrubs from the existing undergrowth of the forests plantations of Hopea species has however been conceded in the findings of Government and the recommendations of the Forest Enquiry Committee of 1950. The Government does not agree to the extension of further concessions like new assignment of wooded holdings (Kumkis) in view of the low percentage of forests (34%) in the area.

(h) *Water rights.* Traditional rights are conferred upon the growers for the use of water from natural streams. In recent years the streams have not been able to protect the entire cultivation for many reasons; they have ceased to be perennial or gone slender due to the denudation in the catchments of the watersheds on the one hand and the phenomenal

increase in cultivation on the other. The Secretary of the Agriculturists' Association said that the incidence of disputes and litigation on account of water rights is on the increase and therefore thorough hydrometric survey and a refixation of water rights is essential side by side with the expansion of cultivation.

V. In Coondapur and Udipi also in the Kollur, Hosangadi, Mudur Vandse Sankaranarayana tract, 1,000 acres of areca plantation are said to be abandoned, but Revenue Department's estimate of available lands is only 359 acres as below:—

Coondapur:—	Kollur	26
	Mudur	279
	Hallihole	32
Udipi:—	Shirur	5
	Santhur	17
		359

VI. In the absence of comprehensive figures, only an estimate is possible and it may be expected that 5,000 acres can be converted into gardens in South Kanara as follows:—

Coondapur-Udipi-Karkal Mainads.	1,000 acres.
Puthur Taluk:—	
Beltangady firka.	800 "
Uppinangadi.	800 "
Kokkada firka.	1,000 "
Sullia.	1,200 "
Puthur Vittal.	200 "
	5,000 "

VII. *Supply of seedlings.* The position is much the same as in the Mysore tract. But the expansion of area and the underplanting programmes are seen at much

greater pace. Therefore the demand for seedlings from the reliable gardens is on the increase. Current season's seednut prices were Rs. 40—45 per 1000 and seedlings are sold at 4 annas to 6 annas each. Seedlings of 3 years are generally required. Those who want to reduce the time lag in raising their own, go in for reliable material, sprouted seeds or seedlings from neighbouring gardens. In addition to this spasmodic demand, there will be a good demand for seedlings if they are of proven quality only. So nursery projects may be of substantial assistance from the point of ready availability and comparative costs.

The Puthur nuts are a smaller type. Of late, there is a tendency in the Puthur Malnads for introducing the bolder types of nuts in existence from the favoured Kasaragod tract. As the cultivation of Puthur malnads is of a poor order, the tendency cannot be readily endorsed. However the results of these attempts are worth watching in future years.

VIII. Need for intensive cultivation As in the South Western malnad of Mysore, the system of cultivation calls for some improvement to step up production in the existing areas of Beltangady, Kokkada, Uppinangadi and Sullia firkas. Without irrigation and manuring, but with some nominal cultural operations, the growers are able to realise 1 to 1½ candy or 560 to 700 Lbs. of sun-dried nuts. This is also an identical area for intensive field studies on the comparative costs of production and recommendation of systems of practices to be adopted in these Hinterlands.

IX. Cost of production and cost of planting. Cost of planting, inclusive of construction of a good overhead spring tank is Rs. 9,000/- to Rs. 11,500/- per acre. If the flow irrigation can be availed of from the jungle streams it will be Rs. 7,500—9,500. The cost of annual maintenance is Rs. 775/- per acre for flow irrigation; and Rs. 950/- in the case of lift irrigation.

Average yield:—2½-3 candies or 1,400 Lbs. to 1,680 Lbs.
Gross profit—Average price of Rs. 500 per candy.
Rs. 1,250-1,500.
Net profit—Rs. 475-550/-
Cost of production per maund.—Rs. 45-50.

(Costs and profits from subsidiary crops not reckoned).

Extensive cultivation.

Cost of cultivation. Rs. 250-300
Average yield. 1-1½ candies or 560-840 Lbs.
Gross Profit. Rs. 500-750
Net Profit. Rs. 250-500
Cost of production. Rs. 30-35.

X. Assignment and finance for planting. Waste lands are assigned only for the landless poor. Under the Land Improvement Loans Act, loans up to Rs. 2000 per acre can be availed of for planting areca at 4½-5% interest returnable in 10 to 20 annual instalments. During the past 5 years the following amounts have been sanctioned under the Act in the taluks:—

Mangalore	Rs. 36,630/-
Karkal	Rs. 28,500/-
Puthur	Rs. 13,400/-

These figures indicate that the provisions are inadequate for the regular financing of the new plantations in the waste lands.

C. LANDS AVAILABLE IN OTHER DISTRICTS OF MADRAS.

I. Coimbatore. (a) In the Mettupalayam tract on the foot-hills of Nilgiris where the irrigation methods are by flow and where the fruitfall disease is also absent, over 480 acres are reported to be available as follows:—

- | | |
|--|--------|
| (i) Odanthurai - Puliamarathukadu. | 28-00 |
| (ii) Ayacut under the Garikai, Venkata Rama Chetty Channel, the cultivation of which area will depend upon the flow in the Bhavani river | 329-00 |
| (iii) Another 125 acres belonging to five ryots, the cultivation of which will also depend upon the above | 125-00 |
| | 482-00 |

The natural limitations are the availability of water in the rivers and the equally attractive but quicker returns from the annual crops like tobacco. However, as the ryots are well to do, some organised drive for the extension of the area may yield good results.

(b) **Noyyal River Valley.** The Noyyal River basin in Chitrachavadi, Dhaliyur, Seemedu, Sundapalayam, Muniyamuthur etc. occupy a good area under mixed plantations of areca and coconut. Due to the drought in the recent past, large tracts of these gardens have dried up and there is good scope for reviving them by timely supply of seedlings

COORG.

Coorg has an existing area of 555 acres. Of this, 90% is concentrated in North Coorg in Bhagamandla Nadu. The rest is scattered in Ammatinadu in the North Eastern Coorg contiguous to Periyapatna arecanut tract in Mysore State and in Srimangalanadu in South Eastern Coorg, close to the malnad of North Malabar. The plateau has an average elevation of 2500/-3000/ and higher points also exist. The soils and climatic conditions are therefore similar to what obtains in the Mysore malnad.

I. Bhagamandla tract. It consists of some important villages of the slopes of the ghats contiguous to the Sullia firka of Puthur taluk and Hosdrug sub

of the Mettupalayam type. Attention is concentrated, however, towards annual crops like sugarcane, tobacco, cotton etc. in this area also.

II. SALEM DISTRICT. The Vasista Nadi Basin in Attur taluk of Salem also requires some concentrated study to find out if the area under areca can be increased.

III. NILGIRIS DISTRICT. The District Agricultural Officer, Nilgiris, has reported that about 500 acres of land in Devarshola of Gudalur taluk and another 200 acres more or less on the eastern slope of the Nilgiris in the Coonoor Taluk on the Haji Moyar Reserves as suitable for areca cultivation.

taluk and conditions are identical to that of South Kanara. About 125 acres are available in 10 villages.

The area between Hosdrug and the Karikke tract of Bhagamandla will be opened up with the completion of the Hosdrug-Coorg road and many scattered blocks of moist valleys with good water, sheds may be made use of for areca gardens. This is a pepper tract adjoining Panathady, Eleri, Maruthoth, Maloth, Belur-Kayyar, Kinanur and Chimeni of Hosdrug. And the pepper growers who have sufficient capital may be induced to invest in areca gardens also. Pepper growers of Hosdrug with whom the matter was discussed were of opinion that areca prices must be assured for a long range future. That is the only incentive they seem to need.

II. In Srimangala and Ammatti on the plateau, there are 135 and 82 acres of suitable lands. The cultivation in these regions is said to be scattered and so considerable efforts will have to be spent in making it a profitable garden scale cultivation. Moreover, the higher altitudes are said to be not favourable for the hardening of the endosperm, though the fruit fall does not exist.

However, in Hudikere side, it appears there is some expansion in cultivation and we have supplied over 3,000 seednuts to the Glenlorna Estates. The question of hardening of the endosperm and introduction of suitable types requires investigation as already dealt with in respect of the Wynad region of Malabar.

INDIAN COUNCIL OF AGRICULTURAL RESEARCH, NEW DELHI.

Farm News Release No. 143.

COMPOST FROM CANE TRASH-EASY MANURE TO PREPARE.

New Delhi:—A manure of a very good quality can be prepared from cane trash. Sugarcane trash on farms is, at present, mostly wasted by being used for burning purposes.

For preparing manure from cane trash, dig a pit three feet in depth and of sufficient length and breadth to hold all the trash produced on your farm. Moisten the trash and spread it evenly in the pit in nine inch layers alternating with two to three inches layers of a thick slurry of cowdung in water. Fill up the pit this way till the heap rises to 1½ feet above the ground level. Make the top dome-shaped. After a week, cover the heap with an inch or or 1½ inches thick layer of loose earth.

The manure will be ready for use in about six to eight months.

Instead of cowdung horsedung may be used. Old compost can also be used, in which case the layer of compost over the trash should be 4½ inches thick.

Farm News Release No. 146.

LACK OF PLANT FOOD IN SOIL.

How plants react.

Farmers can sometimes find out whether the soil is lacking in any plant food by the symptoms plants show.

If the leaves make poor growth and show yellowish colour, it is

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Why not Areca growers also grow green manure?

By SHAMA BHAT KHANDIGE, B.Sc. (Ag.)

an indication that there is not enough of potash or phosphates in the soil. Premature shedding of leaves is an indication that nitrogen or phosphates or potash is lacking in the soil.

If the leaves appear scorched, it means there is an excess of lime in the soil. On the other hand, if the leaves are dark-coloured and show curling, lime is lacking in the soil. If leaves are not uniformly green, it is an indication that there is not enough potash.

Lack of potash gives fruits like tomatoes an irregular form. A scorched appearance in fruits is due to lack of nitrogen.

Lack of phosphates or excess of nitrogen makes grains, pods and roots slow in ripening. If there is not enough potash in the soil, fruits fail to ripen. Stunted roots are generally due to a lack of either lime or phosphates or both.

Farm News Release No. 147.

'DAMPING OFF' IN TOMATOES.

Soil and Seed Treatment.

Tomato seedlings raised during the hot and humid season are liable to be affected by 'damping off' disease. This is caused by a fungus in the soil. The disease causes a dark, water-spoked construction of the stem at or near the base. In case the disease is very serious, the entire nursery is wiped out.

One way to control the disease is to disinfect the soil. Dilute about 10 c. c. of commercial formalin with 50 c. c. of water. Spray this over the bed. This quantity of solution will be sufficient for a bed of 20 inches x 14 inches. Rake the soil and allow

The importance of growing green manure crops is being felt more and more in recent years by the growers of all crops and no less by the areca growers.

The areca growers of Mysore, it to stand for 24 hours before preparing the bed.

Satisfactory results have also been obtained by burning a layer of dried grass or twigs or dried cowdung spread evenly on the bed. The ashes are then worked into the bed.

Treating the seed with red oxide of copper at 1½ ounces per pound of seed or soaking the seed in a 10 per cent copper sulphate solution for one hour will also give good results.

Farm News Release No. 148.

SELECTED CASHEWNUT SEED.

First step for Raising a good Plantation.

The first consideration in raising a cashewnut plantation should be the selection of the right type of seed for planting.

Seed should be selected from healthy trees which bear regularly, produce a high yield, and bear medium to large-sized and heavy nuts.

Individual nuts picked out from a heap, though of good quality, should never be used as seed material. The parentage of such seed not being known, the plants raised from them may turn out to be poor and disappointing.

North Kanara, South Kanara and parts of South Malabar etc. apply large quantities of green leaf in some form or the other to their gardens, but now-a-days they are not able to procure the required quantities of green leaf. Hence it has become necessary for them to take up the alternative method of growing green manures in their gardens. Efforts were made in one of the Research Stations financed by the Indian Central Arecanut Committee to find out some suitable green manures.

Though various kinds of plants are grown for manure purposes, the leguminous plants are the most widely grown since they increase the soil nitrogen through the nitrogenfixing bacteria of their root nodules. Calopogonium muconoides, Pueraria javanica and Centrosema pubescens are found to be thriving well even under the shade of areca trees as green manure-cum-cover crops.

If there is sufficient facility for irrigation, the seeds of the cover crops may be sown in between the rows of areca trees during the months of January or February. The advantages of sowing the above green manure seeds during this period are as follows:-

1. The crops get well established before the beating South-West Monsoon rains commence in June or July (in regions where the S. W. Monsoon is very heavy).
2. The crops give good protection to the surface soil from the

direct rays of sun during the summer months (viz. March to May).

3. The manure crops prevent the erosion of surface soil containing manurial ingredients during the heavy rainy season (July to middle of August.)

4. They suppress weed growth.
5. They improve the texture of the soil.

6. Finally, a good green manure crop becomes available at the end of August or early September.

The cover crops of Pueraria javanica and Centrosema pubescens if trained over the young stems of areca trees can, with their thick foliage, protect the tender stems from sun-scorch.

In case the garden is situated in a place where there is not sufficient water for irrigation and where there is a long spell of drought from November till the onset of South-West Monsoon, then the seeds of Calopogonium

muconoides may be sown with the summer showers in April-May. Seeds germinate with the help of moisture available in the soil and by the time the heavy South-West Monsoon sets in, the crops would have established fairly well to withstand the water drippings which are very common in the areca gardens. The crop covers the entire area with its green vegetative growth by about September or October when flowering also commences. If the crop is to be used as green manure, it may be cut and incorporated to the soil. But if allowed to grow, it sets seed and the vines start drying and by about January-February, they get completely dried forming a thick leafy mulch of 2 to 4 inches over the entire area. The mulch so formed protects the soil from the scorching sun during the summer months together with the other benefits derived as already pointed out above.

Hence the above green manure-cum-cover crops can be well tried and the benefits of green manure can be achieved with high yields of areca and thereby more money return to the grower in all the areca growing parts of India.

Import Licensing policy for the period January-June 1956.

The Import Licensing Policy of the Government of India so far the betelnuts are concerned remains materially unaltered. As before, established importers will be granted licences for reasonable amounts for betelnuts. Licences will be issued liberally to actual users also. The validity of licences will be 6 months and Licensing Authorities are the Import Trade Controllers at the ports including Saurashtra and Bhuj.

MARKET REPORTS

Average Weekly Prices of Arecanut during the month of JANUARY 1956.

(Price in rupees per standard maund of 82-2/7 lbs.)

I. At SHIMOGA Market in MYSORE STATE.

Name of quality	WEEK ENDING			
	7th Rs.	14th Rs.	21st Rs.	28th Rs.
Pheeton	150 3	149 12	149 12	149 12
Desavaram	150 9	149 12	149 12	149 12
Rajalu	136 10	135 12	135 12	135 12
Vanti Bette	105 12	106 2	106 2	107 0
Gorabalu	62 9	62 9	62 9	62 9

II. At BOMBAY Market in BOMBAY STATE.

Name of quality	WEEK ENDING			
	7th Rs.	14th Rs.	21st Rs.	28th Rs.
Mangalore Navi				
Vachar Best.	110 0	110 0	Not availa-	112 8
Sirsi Toanchi	275 0	250 0	ble on	237 8
Sirsi Safed	—	—	account of	92 8
Ceylon Nuts	110 0	—	the closure	—
Singapore Nuts	105 0	105 0	of the market.	105 0

III. At CALCUTTA Market in WEST BENGAL STATE.

Name of quality	WEEK ENDING			
	7th Rs.	14th Rs.	21st Rs.	28th Rs.
Sundried (sliced)	110 0			
Ceylon nuts	112 0			
Singapore nuts	104 0			
Penang Nuts	106 0			

IV. In TRAVANCORE—COCHIN STATE.

Name of Market	Name of quality	WEEK ENDING			
		7th Rs.	14th Rs.	21st Rs.	28th Rs.
Trichur	Erasal.	166 12	166 12	166 12	166 12
	Iylon.	144 0	144 0	144 0	144 0
	Choor.	147 8	136 1	136 1	136 1
Alleppey	Assorted.	80 13	73 8	—	66 2
	Garbled.	88 3	80 13	84 0	84 8

V. In HINDUPUR Market in ANDHRA STATE.

Name of quality	WEEK ENDING		
	6th Rs.	13th Rs.	20th Rs.
Billa	139 11	139 11	144 0
Churu	121 11	121 11	126 0
Podi	56 9	56 9	60 0

Average weekly price of arecanut during the month of JANUARY 1956.
(Price in Rupees per Bengal Maund)

VI. In SIRSI Market in BOMBAY STATE.

Name of the quality	WEEK ENDING			
	7th Rs.	14th Rs.	21st Rs.	28th Rs.
Betelnut (Rashi)	96 8	98 11	99 8	99 0
Tatibette	83 2	83 8	84 0	83 0
Kempgoatu	76 0	75 8	74 0	73 8
Biligoatu	70 0	64 8	63 0	59 8
Chali	95 0	88 8	88 8	89 4

Statement showing the quantities of arecanut (betelnut) imported into different ports in India and their value during the month of DECEMBER 1955.

Ports to which imported	Places from which imported							
	CEYLON.		SINGAPORE.		FEDERATION OF MALAYA.		TOTAL.	
	Quantity (cwts)	Value (Rs.)	Quantity (cwts)	Value (cwts)	Quantity (cwts)	Value (Rs.)	Quantity (cwts)	Value (Rs.)
Bombay	216	11,984	1,040	1,24,299	19,605	12,55,516	20,861	13,91,799
Calcutta	150	11,796	26,773	16,21,164	886	51,372	27,809	16,84,332
Madras	4,564	3,37,450	2,560	1,72,030	4,289	1,68,872	11,413	6,78,352
Saurashtra	—	—	107	7,390	—	—	107	7,390
Total	4,930	3,61,230	30,480	19,24,883	24,780	14,75,760	60,190	37,61,873

Statement showing quantities of arecanut exported to foreign countries from BOMBAY PORT and their value during DECEMBER 1955.

Destination	Quantity (cwts.)	Value Rs.
Aden	14	3811
Bahrein Islands	9	1748
Fiji Islands	5	995
Iraq	3	510
Kenya	51	13926
Mozambique	13	3004
Nyasaland	3	704
Pakistan Western	—	—
Rhodesia North	1	128
Saudi Arabia	8	2100
Singapore	—	—
Tanganika	6	1221
Total	107	28147

FOREIGN MARKETS.

I. Average weekly prices of arecanut in COLOMBO market in Ceylon during
JANUARY 1956.
(Price in Indian Rupees per maund of 82 2/7 lbs.)

Name of market	Name of quality	W E E K E N D I N G			
		7th Rs.	14th Rs.	21st Rs.	28th Rs.
<i>Whole Arecanuts:</i>					
Average quality		27 15	26 13		
Whole No. 5		40 7	36 12		
Whole No. 6		38 15	35 10		
Whole No. 7		35 4	33 1		
Vedial		7 6	7 6		

II. Fortnightly prices of arecanut in Singapore during DECEMBER 1955.
Name of variety:—Split Bukit Batu.

Date	Price in dollars per picul.
1-12-1955.	43.00
15-12-1955.	41.00
31-12-1955.	36.00

(1 picul=133-1/3 lbs. and 1 dollar=1.54 Indian Rupees)

III. Malayan Import and export of arecanut during the month of OCTOBER 1955.

During October 1955, 3,023 tons of arecanut valued at 1,124,912 Malayan dollars were imported into Malaya of which imports from Indonesia accounted for 3,018 tons valued at 1,108,725 dollars. Malaya's exports of arecanuts during the same month were as follows:—

	Quantity (tons.)	Value. (Mal. dollars)
(a) to India	2,523	1,644,875
(b) to Burma	—	—
(c) to Indonesia	—	—
(d) to Indo-China	147	77,309

IV. Average weekly wholesale prices of arecanut in East Pakistan During November 1955
(Price in Indian Rupees per maund of 82-3/4 lbs.)

Name of market	Name of quality	W E E K E N D I N G			
		5th Rs.	12th Rs.	19th Rs.	26th Rs.
Dacca		70 0	72 0	70 0	68 0
Narayanaganj		75 0	72 0	75 0	75 0

V. Monthly wholesale price of arecanuts during the months from April to October, 1955,
in Makassar (In Indonesia)

(Price in Rupiahs per 100 Kgms.)	
April	200
May	200
June	200
July	210
August	210
September	200
October	200

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**Offg. Secretary,
Indian Central Arecanut Committee,
KOZHIKODE.**

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SECRETARY,
INDIAN CENTRAL ARECANUT COMMITTEE
P. B. No. 1
KOZHIKODE-1.



ARECANUT CROP IN INDIAN UNION

By Sri. K. Kunhikannan Nambiar, B. Sc. (ag.)

(Secretary, Indian Central Arecanut Committee, Calicut)

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