

Journal of the Madras Agricultural
Students Union.

V. 13. No. 2. February 1925

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(i)

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OPINIONS.

President, World's Dairy Congress, U. S. A.

The Secretary to the President writes:—

Mr. Van Norman wishes me to express to you his thanks for your kindness in sending him a copy of your book, "Manual of Dairy Farming." He has found this an interesting account, and congratulates you on its thoroughness and a pearance. It should be very helpful.

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Within the limits which you have set yourself I consider the book gives sound and valuable information.

Dr. Mann, Director of Agriculture, Bombay Presy.

You seem to have made it exceedingly complete and it will be of great value as a book of reference.

Journal of Agriculture (Pusa.)

The writer shows a genuine appreciation of dairy conditions in India and the book is certainly a valuable addition to the scanty literature available concerning the Dairy Industry in this country. The general principles applicable to Indian Dairying laid down in the book are sound and well and clearly stated. The book can be recommended as a suitable text-book for agricultural students and for all interested in the dairy industry in India.

THE JOURNAL

OF

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Union.

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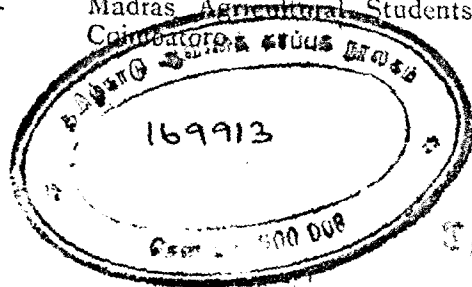
UNION ADVERTISEMENT.

The Ramasastrulu-Munagala Prize 1925.

1. The Prize will be awarded in July this year.
2. The Prize will be in the form of a medal and will be awarded to the member of the Union who submits the best account, of original research or enquiry, carried out by him on, any agricultural subject.
3. The subject-matter shall not exceed in length twelve foolscap pages type-written on one side.
4. Intending competitors should notify the Secretary of the Madras Agricultural Students' Union not later than the 20th June the subject of the paper which they propose to submit and the paper should be sent in so as to reach the Secretary, Madras Agricultural Students' Union not later than the 1st July 1925, with a covering letter showing full name and address of the sender. The author's name should not be shown on the paper which should be entered under a nom-de-plume.
5. Four type written copies of the essays should be sent in.
6. The name of the successful competitor will be announced and the prize awarded at the time of the Conference in July 1925.
7. The Union reserves to itself the right of publishing all or any of the papers.
8. All references in the paper to published books, reports or papers by other workers must be acknowledged.

Any further particulars may be obtained from the Secretary, Madras Agricultural Students' Union, Lawley Rd. P. O.

General Secretary,
M. A. S. Unio



Is the Journal properly addressed to you?
If not, send in your correct address.

THE JOURNAL OF The Madras Agricultural Students' Union.

Vol. XIII.]

FEBRUARY 1925.

[No. 2.

Jottings of a tour in the Laccadives.

S. SUNDARARAMAN, M. A.

The Laccadives are a small group of islands that lie in the Arabian sea and are under the Madras Administration. Some are inhabited, while several are uninhabited. The nearest is Androth which is 124 miles S. W. W. of Calicut, and the farthest is Minicoy which is 260 miles distant in the South Westerly direction. Of the 10 inhabited islands Amini, Kadamath, Kiltan, Chetlat with a few neighbouring uninhabited islands, are within the jurisdiction of the Collector of South Kanara and form the Northern portion of the group, while the rest belong to Malabar.

The representative of the Collector in the South Kanara islands is styled the "Monegar" who has his headquarters at Amini. The Malabar islands have a Revenue Officer known as the "Amin" and there is an Amin for each island. All these Officers exercise revenue and magisterial functions in the islands under them. A sub-assistant Surgeon is also located at Amini to serve the South Kanara

islands while there is no such functionary in the Malabar portion. Whenever the Collector visits these islands a Medical officer follows him and attends also to the vaccination of children and adults locally and scrutinises vital statistics besides rendering medical and sanitary help.

These islands are of diminutive size, the biggest is Minicoy which is about six miles long and half-a mile wide at the broadest portion. The islands are each surrounded by a belt of lagoon and are characterised by the sandy soil, 3 to 5 feet deep. The South-west monsoon rains are severe in June and July while the North-east rains are either scarce or are gentle. Unprotected on all sides these islands are fully subject to the extreme severity of heavy gales which blow for about six months in the year. Sweet water is available in all islands at shallow depths. Houses are all built in the interior of the island and are unlike those in the mainland.

Animals. There are no wild animals. Goats are common; cows are found in several islands; fowls are in plenty. Neither are there cats, dogs, pigs nor rabbits. A few crows visit houses in Minicoy, Kalpini and Androth and a few cranes are seen in the last two islands. The inhabitants catch fish of several kinds, turtles and tortoises and regale themselves. The notable representative of the fish kind is the "Mas" fish or Benneto fish which enjoys worldwide reputation and is reported a delicacy. This is found only in the Minicoy sea. This has given rise locally to a flourishing industry.

People. The total population does not exceed 3,000. The inhabitants are all mussalmans and have great affinities with the Moplahs of Malabar. They are strong and sturdy and kindly take to the sea. The Minicoy men are good sailors. The women-folk are hard working and manage the household when their husbands are out in the sea either fishing or serving in ships as lascars. Preparation of coir fibre, the curing of the coconut kernel and making of jaggery from its juice called "mera" are items of work in which the women engage themselves. There is an elementary school in each island where Malayalam is taught.

Crops. Coconut is the staple crop in all the islands on which the islanders depend for their existence. The tree gives all the materials for building,—posts, rafters, reepers, leaves. It gives the islander nuts which he needs. And the husk furnishes the fibre which is sold to Government in exchange for rice, the prime necessity of life. The kernel however is sold in the mainland during the fair whether with the proceeds of which other necessities as clothes, tobacco, salt,

arecanuts and chillies are bought. Thus the coconut has come to be the mainstay of the islander's life and the prosperity of the island depends solely on the well being of this important tropical plant. In 1920, an Agricultural demonstrator from Calicut had visited these islands and reported on the existence of a few insect pests and diseases attacking coconuts. My trip was undertaken this year with a view to study the latter and attention was concentrated on the origin and prevalence of the disease, its extent and virulence at present. In the inhabited islands the number of coconut trees may run into several lacs. Overcrowding is the chief defect. This impedes clean cultivation, checks fair fruiting or hastens the spread of the disease. The method of cultivation adopted is crude except in Kalpini and Androth. Coconut nurseries are raised in all islands except two. Seedlings from the mainland seem to have been first brought into Androth and Kalpini in 1847 when heavy gales laid the plantations low, largely through the efforts of Sir W. Robinson the then Collector of Malabar. But what was expedient in 1847 became a normal procedure in course of time, the islanders gave up raising seedlings and have been importing from Calicut, Tellichery and other ports which they visit to dispose of the island produce. This introduced Bud-rot disease into these two islands. In the other islands Bud-rot is absent, the Makkathayam law which is followed here leads to rapid sub-division of property and coconut plantations year after year are being parcelled out into fragments and the plots are secured in such a way that intermediate lines of coconut are planted to mark off boundary limits. Thus in a period of 30 years two adjacent plantations started with 100 trees get filled with lines and crosslines and studded with trees in an infinite variety of ways. No light or sun's rays ever fall on the trunk or reach the ground. Moisture-laden winds and heavy showers bring on a thick growth of weeds and grasses which choke up young seedlings and rob off all moisture and what plant food there is in the poor soil and sub-soil to the great detriment of older trees. Absence of manuring and cultural operations hasten this process. The islanders have not yet learnt the usefulness of applying manure. They do not know there are other uses than eating to which they can put their fish to. Mountains of refuse husk and coconut ashes lie about the premises in all directions to be carried away by strong winds whenever they blow. Calotropis, Indigofera, Kolingi and Crotalaria are growing but are not used. No hoeing is given to the plantation. The mammuty or kothu is seen only for digging pits for planting seedlings. It is surprising even in Kalpini and Androth where mammuty is freely used in the Thottani cultivation of sweet potatoes, ragi, samai, paddy, plantains, etc in the flats in all stages of growth it is not once used in the coconut plantation. Coconut seedlings are planted in the

midst of a luxuriant growth of weeds as *Stachytarphyta*, *Wedelia* *Ipomea*, and *Spinifex* and other jungle plants like *Chonum* and *Kanni*. Consequently they are choked up either by them or attacked by the vegetable parasite *Cassyth filiformis* called "Verillatali". This is particularly noticeable in Kavarathi.

Another reason for the failure of the young plantations is thick planting especially in newly taken up "Cowle" lands. Confined to the eight islands out of the ten are the Bleeding disease and *Pestalozzia*. The Bleeding disease is fairly common but is not serious in all plantations where sufficient distance has been allowed. This is so in Kadamath and Kiltan.

Owing to the above causes the produce of nuts has declined in these islands. The carelessness in the selection of seednuts is also another factor in bringing down the yield.

Beetle attack is very severe chiefly in Agathi and Amini. Locust attack is slight. By far the most troublesome element is the goat. No island is free from goats which eat away all the young leaves and damage seedlings.

Damage by rats is sometimes serious. Three devices have been tried. 1. Rat hunt organised by the "Karaniys" (village headmen) by climbing the trees and destroying the nests. Rats drop to the ground, when they are killed. 2. Special hoods made of leaves with their sharpened midribs pointing downwards are tied round trees which prick rats when they climb up. 3. Kerosine tins are tied on tops of trees and beaten to make loud sounds.

An interesting feature in Kiltan is the existence of a small garden owned by a mainlander in which a few arecanuts, lime trees, cotton cholum, maize, red-grain and phaseolus are grown. The ryot is pleased that he made half a moda of grain from his cholum plot last year. This shows the possibility of raising food grains.

In Karathi coconuts are distantly planted on Pandaram lands. The plantations are found on large mounds which it is reported were originally made out of the earth dug out to form depressions for raising crops of rice. The mounds have remained, the rice cultivation is however gone. On the mounds a few pulse crops are grown, interspersed with a few papayas, limes, breadfruits, moringa and betelvine. Government or pandaram lands not reclaimed occupy a very large area. They are overgrown with weeds, which are parasitised by the wiry parasite *Cassyth filiformis*. In the new plantations

raised without clearing, the seedlings have died out because of this parasite attack. Minicoy is peculiar in many ways. The Minicoyans speak a different tongue. They are very good seamen. The island is notorious for mosquitoes. No house is without a mosquito curtain which is merely a closely woven cloth. The island boasts of a light-house built 40 years ago; it is 160 feet high. There is a leper colony as well as a small-pox isolation colony located in a corner of the island. Catching and curing "Mas" fish is an important industry. Coconuts are thickly planted, the plots are overgrown with rank vegetation. A few nice arecanut and betelvine gardens are seen. Surfeited on mas fish, the islanders pay little attention to coconuts. The islanders dread to approach and remove screw pines for fear of disturbing devils for which they are supposed to be haunts.

Kalpini. The whole island presents a wavy surface with tortuous high ridges and inseparable low flats. In these flats sweet potato, paddy, ragi, samai, plantains, chembu, (colocasia) with a few arecanuts and betel vine are grown. Plantains and sweet potatoes are standing crops, Breadfruit and moringa, are also common.

Androth is a rich island. In pandaram lands trees are planted far apart but bear less owing to want of care. "Tottam" cultivation is perfect-Tapioca, Colocasia, (chembu) paddy, ragi, payaru are seen in the fringes of high ridges and the hollows are thick with ferns.

The poor nature of the soil, the existence of the Makkathayam law of inheritance and little care bestowed on coconut cultivation, unrestricted importation of seedlings from the mainland (Malabar and S. Canara) account for the presence to a large extent of the Bleeding disease and Bud-rot, locusts, and other pests and parasites.

Flora of the Laccadives. Along the coast we have *Spinifex* *Squarrosus*, *Cyperus*, *Lamnea asplenifolia*, *Pandanus odoratissimus* (Screwpine), *Ipomea biloba*, *Suriana maritima*, (*Chonum*) *Scaevola Koenigii* ("Kanni"), *Pemphis acidula* (Cherudalam), *Guettarda speciosa*, *Cordia sebastiana*, "Amara", "Kayam", *Erythrina*.

Inland:- *Ficus bengalensis* (Banian), *Thespesia populnea*, *Tamarindus indica*, *Hibiscus tiliaceus*, (Parthi), *Terminalia catappa*, *Zizphus*, *Calophyllum*, *Casuarina*, Fig, "Phatti", "Kandal", *Poinciana alata*, *Colubrina asiatica* ("Baga").

Shrubs and weeds:- *Dodonaea viscosa*, *Lantana*, *Vitex negundo*, *Stachytarpheta indica*, *Wedelia biflora*, *Padilanthus tithymaloides*, *Ocimum gratissimum*, *Peristrophe bicalyculata*, *Aloes*, and *Agave*,

Physalis, Leucas aspers, Lippia nodiflora, Acalyphas, Sida humilis, Phyllanthus niruri, Polygonum, Ammannia, Herpestis in tottams, Polygala, Ageratum, Oldenlandia, Rungia, Aerua, Evolvulus.

Green manure. Tephrosia (Kolinji), Indigofera, Crotalaria and Calotropis gigantea (Erukkan).

Ferns On the edges of flats and in hollows in Androth.

Vegetables. Moringa, Artocarpus incisa (breadfruit). Betel and Areca gardens. Plantains, Papayas, Limes, Pomegranates, Gourds, Melons, Pulses (Payaru), Colocasia. In "*Tottams*" in Kalpini and Andloth. Impomea batatas (sweet potatoes), Colocasia (chembu). Plantain, Tapioca, Paddy, Ragi, Samai, Cholum, (maize), Pulses, (payaru), Mango, Casuarina, Neem, Eriodendron (silk cotton tree), Ficus, religiosa and a date palm—found only one or two as specimens introduced by the islanders from the mainland.

Cassytha filiformis, a vegetable parasite on coconut seedlings "Kanni", "Chonum", "Terminalia, Lantana, Stachytarpheta indica, Wedelia biflora, Ipomea biloba, Spinifex squarrosus, Peristrophe bicalyca.

Development Minister on Land Mortgage Banks.

Gentlemen.—I thank you most heartily for this unique privilege you have offered me of opening the first Land Mortgage Bank of the presidency in this most historic and sacred city. The subject of organising Land Mortgage Banks has been receiving the serious attention of the Government for some time past and their importance has been discussed over and over again on the public platform and in the press, and has been reiterated once again only the other day by Mr. Sivarama Menon while presiding at the North Arcot District Co-operative Conference held at Cheyyar. While I was at Ambur last I had occasion to explain to the members of the supervising unions the conclusions arrived at by the Government on the matter of organising Land Mortgage Banks. It will not be out of place here, I think, to say a few words on the features of the new organisation, though at the risk of repeating myself.

Government have had under their consideration the question of organising Land Mortgage Banks on a co-operative basis in suitable tracts in the presidency which would be in a position to lend money to agriculturists for long periods to enable them to redeem debts on their lands and to effect improvements on those lands. The necessity for these special banks arises from the fact that existing co-operative organisations obtain money only for short periods of 2 and 3 years and cannot take the risk of issuing loans for long periods of from 10 to 20 years. The relief of indebtedness, especially of small landholders, has been and is a most pressing problem in this country. After careful consideration the Government proposed to organise, as an experimental measure, Land Mortgage Banks in four selected localities, and to extend the experiment should it be justified by experience. One of the proposed four Land Mortgage Banks is to be opened now at Conjeevaram and the other three are to be organised at Ambur in the North Arcot District, Kallakurchi in the South Arcot District, and either at Namakkal in the Salem district or in the Bhimavaram or Gudivada Taluk in the Kistna District. These places have been selected because they possess the necessary conditions for the successful working of the Banks, namely, lands fit to be mortgaged, indebted ryots and persons suitable and willing to take an interest in and to conduct such Banks. It may be added that co-operative institutions have been run successfully in these places. The Banks will be on the limited liability basis.

The primary object of these Banks will be to provide loans for the redemption of mortgages on Agricultural lands, but the improvement of land and of methods of cultivation will also be within their scope. The Banks will obtain money from share capital, deposits and debentures. For the present they will have to depend largely on debentures which will be issued on the security of the mortgages of the members. The total value of the debentures will not exceed the amount covered by the mortgages and they will be issued ordinarily for not less than 12 and not more than 20 years. Each Bank will have a working capital of one lakh and as, at the beginning, it is expected, that the entire value may not be taken up by the public, the Government propose to take up debentures to the extent of Rs. 50,000 in each Bank provided the public first take the other Rs. 50,000. The public will be allowed interest at 7 per cent. on these debentures, while the rate to Government will be 6½ per cent. Ample security is provided for investors. It is proposed that a trustee should be appointed to whom will be assigned the mortgages of the members and whose functions will be to see that the banks fulfil their obligations to the debenture-holders. The total value of the debentures actually in circulation at anytime should not exceed the total

value of the mortgage bonds and their assets assigned by the bank to the trustees. The land mortgaged should have no prior encumbrances save those to be redeemed by the loan given by the banks, and the value of a loan should not exceed one-half the value of the land mortgaged. There will also be the condition that the loan will not exceed three-fourths of the estimated net income from the lands during the period covered by the loan.

Each member will be eligible for a maximum loan of Rs. 1,000, and will be charged 9% interest on his borrowings. He will be given the option of repaying the loan in equal instalments spread over a given number of years with interest on the amount outstanding from time to time, or on the equated payment system.

In connection with this Bank in Conjeevaram in particular it is gratifying to learn that it will secure for its efficient management the best talent which is available here in the philanthropic retired gazetted officers of high reputation and other gentlemen running the local Nidhis. The area of jurisdiction of the bank is defined to include only those villages of Conjeevaram as are situated in the Conjeevaram Registration sub-district, which would mean about 100 ryotwari and 30 shrotriem and zamin villages, of which 39 ryotwari and 2 shrotriem villages are being served by 26 co-operative credit societies. It is understood that Dr. Swaminathan, the President of the Madras Central Urban Bank and member and representative of the Conjeevaram Central Bank, has promised to place in March next a sum of Rs. 28,000 at the disposal of the Bank, and it is expected that the local gentlemen will subscribe at least Rs. 22,000 in about 4 or 5 months. When the Government grants Rs. 50,000 the Bank will have Rs. 1,00,000. Thus it may be hoped that very soon the Bank will be able to finance for a lakh. A sum of Rs. 2 lakhs is provided for in the budget for the ensuing year at the rate of Rs. 50,000 for each of the four banks proposed to be started in the Presidency. Considering the urgent necessity for the scheme I do not think there will be the slightest difficulty in finding the required amount. I hope that this bank will supply a long felt want and will play an important part in the economic uplift of the rural population in this tract.

I once again thank you for your kindness in asking me to open this Bank, which I now do with the greatest pleasure.

Speech at the opening of the Land Mortgage Bank at Conjeevaram.

The Land Bank, Southern Rhodesia.

The "Land Bank Act 1924," "to establish and regulate the management of a land and agricultural bank for the Colony of Southern Rhodesia," was promulgated on the 15th August last by Government Notice No. 20, 162S. The bank came into being on that date, and the following constitute the board:—Mr. A. W. Redfern, to act as Manager; Messrs: H. G. Macdonald Huntly, John Richardson, H. S. Hopkins and E. C. Pulbrook. There are 57 clauses and 3 schedules in the Act.

For the purpose of the Act, a farmer is defined as a person who "devotes his attention to farming in the Colony of Southern Rhodesia, either exclusively or together with some profession, business or other occupation."

The Act provides that one member of the board shall retire annually; he may, however, unless removed or disqualified under the provisions of the Act, be re-nominated. No member of the House of Assembly may be a member of the board. The manager is to be the chief executive officer of the bank and will preside at all meetings. The salaries and allowances of the manager, the members of the board and of the bank staff, and all other expenditure incurred by the bank, are to be paid out of its funds. The members of the board (other than the manager or his deputy) are to be paid three guineas a day for each day or portion of a day upon which they are engaged upon the business of the bank. No member, however, is to be paid more than £200 in one year, exclusive of travelling and subsistence expenses. No advance may be made to any company or society in which any member for the time being of the board is directly or indirectly interested as director, manager, shareholder, or member other than as a member of a co-operative agricultural society or company.

The business of the bank, subject to the provisions in the Act specifically prescribed, is set out in section 16 thus:—

- (a) to advance money to farmers on mortgage of land within the Colony of Southern Rhodesia;
- (b) to advance money to, and to guarantee the performance of contracts by co-operative agricultural societies or companies;
- (c) to advance money to farmers holding land from the Crown under the document known as "Agreement of Purchase";

(d) to advance money on note of hand to farmers owning land in the Colony; and generally to make all such advances and do all such acts as the bank may, by this Act or any other law, be authorised to make or do.

The limit of the advance on note of hand is £ 250, and the security, besides the note of hand, will be a note made in the Deeds Registry against the entry relating to the land owned by the borrower. Such an advance, which must be repaid within three years, will ordinarily be made in respect of unencumbered land on receipt of a promissory note signed by the owner, provided the land is in the opinion of the board not of less value than £ 500. If there exists a first mortgage over the land, two sureties approved by the board will be required to countersign such promissory note.

Advance may be made by the bank for all or any of the following purposes, namely :-

(a) improvements, in which term shall be included farm buildings, fences, dividing fences, tanks and other structures for the dipping (or spraying) of stock in accordance with law, tanks, silos or other contrivances for the making or storing of ensilage, the clearing of land for cultivation, the blocking of sluices, dongas and water courses and the planting and maintenance of live hedges to prevent denudation of soil, or any other essential works for the prevention of erosion as approved by the board, the planting of trees, orchards, vineyards, sugar-cane, coffee, tea and other perennial crops, the building of dams, the sinking of wells or boreholes, and the construction of hydraulic rams for raising water from flowing streams or the construction of windmills or other devices for raising water from wells or boreholes;

(b) the purchase of stock or plant of all kinds and of agricultural requirements generally;

(c) the discharge of existing liabilities on land or, in special circumstances, any other existing liabilities;

(d) the payment of costs, incidental to the sub-division of land held in undivided shares;

(e) the establishment and promotion of agricultural and rural industries including, in addition to other such industries; fibre, tobacco, cotton, dairy and like industries, and the cultivation, sale and exportation of fruit;

(f) the construction of irrigation works and work forming part of an irrigation scheme;

(g) the purchase of land for any of the purposes described in paragraphs (a), and (e) of this section by a person or group of persons whose financial resources are deemed adequate to carry on a purpose described in any of those paragraphs.

(h) the carrying on of farming operations generally, provided that advances made for this purpose shall be limited to advances made in terms of paragraph (d) of section sixteen of this Act.

Save in such instances as are specially provided for, no advance will be made except upon first mortgage of land or upon a mortgage, which shall rank as concurrent with any such first mortgage. The board will in every case decide on the special facts whether an advance for the redemption of a prior mortgage or charge will be sanctioned.

For the present, advances will not be made in cases where the object of the advance is purely to defray an existing bond the terms of which are not onerous and which has not been called up.

Applications for an advance must be made in a form prescribed by the board. The form may be had from the office of the Land Bank; P. O. Box 269, Salisbury, or upon application to a magistrate. Ordinary advances to farmers will be limited to \$3,000 or 5,000 in the case of particularly, large agricultural works approved by the Governor. Until the extent of the demands on the funds of the bank can be more accurately ascertained, individual advances in excess of £ 2,000 will be made only in exceptional cases.

No advances on the sole security of the land will be made for an amount exceeding 60 per cent. of the fair agricultural or pastoral value of the land, together with 60 per cent. of the value of the improvements to be effected. An advance made on the security of land will only be made on land permanently occupied and either beneficially cultivated or used for grazing stock. No advance upon the security of Crown land will exceed 50 per cent. of the amount already paid as part of the purchase price, but the board may advance an additional amount up to 50 per cent. of the value if improvements have been made since the agreement of purchase. Advances made under this heading have to be repaid within ten years upon such terms and conditions as the board may determine. Other advances have to be repaid in half-yearly instalments within a period determined by the board, but not in excess of thirty years. The rate of interest will be fixed by the board and it may be increased or reduced at the discretion of the board, but no alteration will be made in regard to advances already granted. The present rate of interest is 6 per cent.

on loans referred to in clauses (a), (c) and (d) of section 16. The form of mortgage bond for securing an advance against the security of the mortgage will be transmitted by the bank to a valuator appointed under the Act.

Clauses 33 to 39 deal with advances to co-operative agricultural societies and companies.

Loans approved of have to be taken up within three months.

Clause 40 stipulates that no advance by the bank for such purposes as buildings, dipping tanks, fencing or silos will be made until the completion of the work.

Clauses 43 to 46 deal with remedies of the bank against defaulting debtors and ensure that the advance is used for the purpose for which it was made. Provision is also made for such inspections as may be deemed advisable.

The covenants constitute the first schedule of the Act and set forth the conditions governing the granting of loans. The principal conditions are as follows:—

(1) Instalments of principal and interest must be paid regularly on due dates.

(2) The mortgagor must keep in good and substantial repair and condition all buildings and other improvements erected and made upon land mortgaged.

(3) The authorised agent of the bank shall at all times be at liberty to inspect such buildings and improvements.

(4) Should the mortgagor fail to keep any buildings and improvements in good repair and condition, the bank may, although it is not obligatory upon them to do so, undertake any such necessary repairs or work at the cost and expense of the mortgagor.

(5) Insurance of buildings, etc., shall be effected by the mortgagor and the policies ceded to the bank as collateral security.

(6) In case of default by the mortgagor in respect of any regulations laid down by the bank, the bank may call up and compel payment of all principal, interest and other moneys owing, whether otherwise due or not.

(7) The mortgagor must cultivate and manage the lands hypothecated in a skilful and proper manner and according to the rules of good husbandry.

Within two months after the end of the year, a statement will be published in the *Gazette* showing the assets and liabilities of the bank, and also a profit and loss account for the preceding year. The board is required to publish monthly in the *Gazette* a complete list of mortgages and securities accepted during the preceding month and such other information relative to the accounts, reports and statements as the Minister of Agriculture may require.

Each Magistrate, Assistant Magistrate, police officer or other official of the public service may be required by the board to report on cases submitted to him and generally to act as agent of the bank.

The costs and fees for preparing a mortgage bond or pledge have to be paid by the applicant in accordance with a scale of charges laid down, and also all charges in connection with the valuation and inspection.

(The Rhodesia Agricultural Journal, Vol. XXI. No 5, Oct. 1924.)

The Imperial Preference. Sugar manufacturers in the realm of the British Empire are much interested in the principle of Imperial Preference. All industries in the common wealth are more or less concerned about it. While the Labour party was in power under the leadership of MacDonald, this principle was signally rejected and ignored, but with the election of Stanley Baldwin, of the Conservative party, this principle, proposed by the Imperial Economic conference in 1917, is once more regnant. Mr. Amery, Secretary of the Colonies has announced that the new Government will carry out the resolution of the Imperial Conference. This resolution in substance acclaims the fact that the time has arrived when all possible encouragement must be given to develop Imperial resources and especially to making the Empire independent of other countries in respect to food supplies and raw materials.

An Australian exchange believes this will be of undoubted value to Queensland especially, which has always a considerable quantity of sugar to export. That will be true of other colonies. The Empire Producers' Association has been making earnest efforts to encourage a solidarity among all producers and such associations, like the Australian Sugar Producers' Association, have been co-operating with this international organization because the impact of financial advantage has too often outplayed Imperial loyalty and the aim has been to avoid weld the two into a composite working agreement.

Under the previous Baldwin Government it was proposed that for a period of ten years the Dominion preference on sugar should be fixed or constant, say £4 5s. and 6d. a ton or one-sixth of the duty of 2-3-4 pence a pound (£25 15s. and 4 pence per ton). The British enjoyed a preference of one-sixth of this duty under the former government, but the late government reduced it to 1-1-4 pence a pound or £11 13s. and 4d. a ton, and then gave preference to the colonies of one-sixth of this amount. If the present government will go back to the old preference, Queensland feels that there will be at least 2 pounds additional return for every ton. The West Indies that give Britain nearly its entire crop will, according to the best authorities, profit still more.

The sugar producers point to the United States as a shining example of what a great nation can do for its dependencies. Cuba is put forth as the result of preferential duties that have so materially shaped her sugar destiny. Hawaii and Porto Rico, and the Philippine islands all demonstrate the impact of preference and the placing on a high plane of an industry that must absolutely see the proper outlets with no high walls to scale lest it be disqualified before even a start is made. This is what the Imperial Preference principle aims to promulgate.

For the year 1923-24, the West Indies produced about 1,60,000 tons of sugar, Demerara 95,490 tons, Mauritius 2,01,500 tons, Natal 1,80,463 and India 35,00,000 tons. The latter country consumes its sugar and has to import from Java. From these figures it will be seen that the colonies can supply the needs of the British Empire if some arrangement can be made whereby these sugars can receive preference, and, in turn, British manufacturers are to have a market for their wares. Sir Philip Lloyd Greame, Chairman of the conference, is quoted as believing that the Imperial Preference Principle is going to become a permanent one and that every part of the Empire will fall in line with this imperial policy.

(Extract from the Louisiana Planter and Sugar Manufacturer Volume LXXXIV, No. 5 31st January 1925).

The World's Wheat Markets. Wheat prices are the resultant of supply and demand of wheat in the great markets of the world, the chief are those at London, Liverpool, and Chicago. The prices of wheat cannot be predicted from a knowledge of conditions in any one locality. The whole of the conditions affecting the supply and demand over the wheat belt of the world must be known to forecast the probable trend of wheat prices.

Cables are continually passing between these great wheat markets and all parts of the world. News regarding the condition of the wheat crop in the various regions of the world is received daily. On receipt of such information as a drought in Canada or the United States, failure of the monsoon in India, abundant falls of rain in Australia and Canada, a plague of locusts in Russia, or the outbreak of fungoid or insect pests in any wheat-producing country, the prices of wheat immediately rise or fall according to the relative importance attached to the news. The effect is to concentrate the price-determining influences in these world's markets.

Modern transportation, which enables the grower in Australia, Argentine, Canada, or India to send his wheat to London or Liverpool, and cable communication, which has eliminated the time element in the receipt of news, have resulted in the whole world becoming dependent for prices on these great markets, where grain traders, dealers, and speculators in wheat buy or sell according to their requirements or according to their estimates of the probable world supply and demand.

Speculation and "Futures" In Liverpool and Chicago extensive trading is done in what are known technically as "Futures" or "options". Wheat is bought or sold for future delivery. The "future" is a contract for the future delivery of wheat without reference to specific lots, made under the rules of some commercial body in a set form by which the conditions as to the unit of amount, the quality, and the time of delivery are fixed, and the determination of the total amount and the price is left open to the contracting parties.

The persons who buy and sell wheat on these exchanges are usually wheat-dealers, millers, and professional speculators. The speculators are divided into two classes, "bulls" and bears. The "bull" speculator buys wheat for future delivery. He takes the risk of a fall in price in order that he may make a profit from a rise in price. The "bear" speculator short sells wheat, i. e., he sells wheat for forward delivery at a fixed price. He does not own wheat at the time he sells, but he expects to be able to buy it in the market at a lower price before the expiry of his contract.

The market becomes "bullish" and strong when reports of crop damage are recorded, when droughts threaten to affect the world's wheat supply, or when any factors operate which tend to diminish the world's wheat supply. On the other hand, when reports of favourable rains, favourable crops reports, increased wheat shipments are received, the market becomes "bearish" and weak.

The operator who sells in a speculative deal may settle the contract on the day of delivery in two ways:—

- (1) By delivery of the wheat,
- (2) By buying the same quantity of wheat on the same exchange

If he buys wheat on the same exchange his operations are settled through the clearing house. Only the difference in the cash cost of the two transactions is paid.

The great cereal market of the United States is located in the building of the Chicago Board of Trade. On the floor of the Grain Exchange are the "wheat," "corn," and "oat" pits, where trading in cereals is conducted.

Function of speculation. It is sometimes stated that speculation at the great grain exchanges determines prices regardless of the law of supply and demand and that high prices for commodities are often caused by the operation of speculators. Such an idea is erroneous, for the freer the competition between the buyers and sellers the more minutely is price regulated by demand and supply. Nowhere is the competition between buyers and sellers keener and freer than on the world's great grain exchanges.

By studying closely and accurately balancing the many intricate factors controlling supply and demand, the grain speculators are able to make fairly accurate estimates of future prices. The speculators buy and sell on their estimates of probable future values.

The most successful speculators are those who get first hand information, and their success is dependent on the accuracy of their estimates. The best facilities for securing early and reliable information are to be found where speculation has been highly organized.

A committee of the British Association for the advancement of Science in 1900, as a result of an investigation into the effect of "futures" on the prices of wheat and cotton reported that the prices of commodities subject to dealings in futures were lowered both by the reduction of risks and the diminished cost of handling the commodity: "Futures" increase the frequency of price fluctuations, but decrease the range of these fluctuations.

According to Dodlinger, "Speculation is the fly-wheel which imparts to the modern commercial machine a motion so uniform that all its parts operate continuously and simultaneously. As men produce and consume, as well as exchange, according to comparative prices, it also directs production and consumption in commodities into the most advantageous channels".

The effects of speculation are, therefore, beneficial to the community. Speculators are the men best equipped for securing and interpreting news of variations in supply and demand, and a price is determined which, with slight local variations, prevails throughout the world. Speculation lessens fluctuations in price, for the short seller "keeps down prices by short sales and then keeps them strong by covering purchases."

The objection to speculation lies in the fact that a group of individuals may secure control of the market and manipulate it as they please. Manipulation may be made either from the "bull" or the "bear" side, but "bear" manipulations are rare. A successful "bear" manipulation consists in selling a commodity short in sufficient quantities to lower the price and to cover these contracts at the low price. A sufficient volume of short sales will depress the price, but the price will immediately rise again when the "bears" commence buying.

Attempts to manipulate the "bull" side of the market are more common. "Bull" manipulations may result in corners. A successful corner results when the market is over-sold, that is when the "bulls" have secured a considerable portion of the supplies and have induced so much short selling that the supplies in the market are insufficient to cover the volume of short contracts within the required time. Though successful corners in wheat were made in Chicago by Hutchison in 1888, and Leither in 1898, they are now almost impossible of accomplishment owing to the magnitude of the purchases which must be made, and because of the fact that when prices rise rapidly enormous supplies are rushed into the market from unexpected sources.

Though occasionally pernicious practices arise from speculation, it is now generally admitted that speculation in "futures" is beneficial to the community in so far as it tends to keep prices steady, and to direct production into the most advantageous channels.

(Extract from the Journal of Agriculture, Victoria, of Jan. 1925.)

Science and the Community. In an address delivered in connexion with the recent celebration of the centenary of the Franklin Institute, Philadelphia, and published in the Journal of the Institute for November, Dr. A. D. Little directs the attention to the curious anomaly that although all the distinctive features of modern civilisation are due to discoveries made by scientific men, yet in no country in the world is the governing and directing power in their hands. It is an interesting but very familiar fact. Dr. Little, in his own engaging and energetic style, is only saying over again something that has been said by various eminent men of science for very many years. It is a fact that not more than 1,00,000 men throughout the world are creatively engaged in the advancement of science, and yet a list of those features of our modern civilisation which distinguish it from the middle ages would show that they are dependent upon these men and could not continue without them. Nevertheless, the opinions of scientific workers are not asked on the direction of the civilisation that their kind have built up, nor are their services considered worthy of any special reward.

At first sight this state of affairs appears to be fantastic. Dr. Little vividly illustrates the astonishing disparity between service and award in a modern community.

"It is incomparably more profitable to draw The Gumps for a comic supplement than to write 'The Origin of Species'. There is more money in chewing gum than in relativity. Lobsters and limousines are acquired far more rapidly by the skilful thrower of custard pies in a moving picture studio than by the no less skilful demonstrator of the projection of electrons. The gate receipts of an international prize fight would support a university faculty for a year."

All this is, of course, quite true, but the implications are a little doubtful. Is it suggested that Einstein should be paid more than the custard pie expert, or that the expert's income should be reduced below the level of that of a professor of physics? The custard-pie expert is paid directly by the public, for the amusement he gives them they pay him an immense income. But the professor of physics does not amuse them: for the most part he bores them, and they are in no position to understand that his work is of real importance to their lives and to the lives of their children.

There is another aspect of the general question, an aspect that Dr. Little has not touched upon. Granted that some scientific men possess great administrative ability and that they could play a very effective part in solving problems now left to the politicians, do we

want to use our scientific men as administrators? In the United States they are already employed in that way to a greater extent than is customary in Europe; but whatever the benefit to the American community, it is not clear that science in the United States has benefited by it.

Mr. Bertrand Russell has recently given it as his opinion that, in the United States, Einstein would probably have been made the administrator of a large university and, as a consequence never have had the leisure necessary to develop his generalised theory of relativity. Would that have been a gain? Was it gain that Newton should have become an industrious and conscientious Master of the Mint, seeing that he produced no more original work in science for the rest of his life? Newton's work in science certainly saved the labours of two or three generations of scientific men. It is difficult to say when the theory of relativity would have been hit upon if Einstein had devoted his time to other things.

It is not at all clear that a scientific man, as soon as he has proved himself to be of great value to science, should be immediately called upon to do something else, even though the something else should be of more immediate practical utility. Dr. Little informs us that American men of science are not in Congress. Well, they are presumably in their laboratories, which may ultimately be a better thing for the world. Nevertheless, it is desirable that so valuable a group should have a means of making the weight of its opinions effective in government.

(Nature dated 3-1-25).

A New Social Order. In the modern world wherever we turned, two remarkable efforts which were being made stared us in our face, the one originating in various religious groups to seek the unity of mankind and the other, in the necessity of the working classes organising together on account of the development of modern machinery. There was a great gulf between these two movements which could be bridged by the one understanding the other and by the creation of an *economic order which would be* harmonious with their moral aspirations and religious ideals and no fellowship was possible or would endure unless it was based on the same level of culture. This implied the recognition by all nations of the right of all other nations to the economic means of a good life. The next thing was they must regard the technique for this purpose as the common capital of the human race and the surplus of one country must be placed at the disposal of other countries for their development and advancement.

This presupposes prevention of waste of human resources arising from poverty, disease and delinquency. These evils owe their origin to the low income of the people. This might be due to the inefficiency on the part of individuals or of the community or to the exploitation of one set of people by the other. This latter was very much in evidence in the sphere of industrial production and agricultural pursuits. Professor Ward illustrated this point by narrating an incident he heard of certain villagers in the United Provinces. They were in a condition of considerable poverty, came to the agricultural department, got better seeds and grew bigger crops. The landlord came to know of this and raised the rents with the consequence that better seeds and improved technique were tabooed by the villagers for ever.

To improve the present state of affairs, there was an imperative need for changes in economic values and economics must no longer be based on a price and profit system but on the highest ethical principle that human life and spirit are worth more than material wealth. To secure a better and more humane social order, three things were necessary, viz., the prevention of social waste due to the race of industrialism, the maintenance of an adequate standard of living and the abolition of war, and the means were the following. The right to poor must be granted as the elementary right of every humane soul and people of culture should agree upon the maximum they will take and then live rigidly within that limit taking only that which is necessary for the health of their body, the health of their mind and the cultivation of their spirit and recognise their neighbours' right to share in their good life and in all that make the good life possible and young men must be taught to develop an economic structure based on justice and co-operation. All men must develop a mind for peace and substitute for the principle of hate, the principle of conquering evil by good, of removing force by spiritual resistance by subjecting themselves to the deeper, sterner and surer test of non-violence.

[Substance of a series of illuminating lectures by Professor H. F. Ward of the Union Theological Seminary, New York, delivered at Madras before very crowded audiences between November 27 and December 3, 1924.]

Washing.

When washing clothes, three things should be kept in view (1) To get out all the dirt, (2) To keep the things in a good colour (3) To use nothing that will destroy the material.

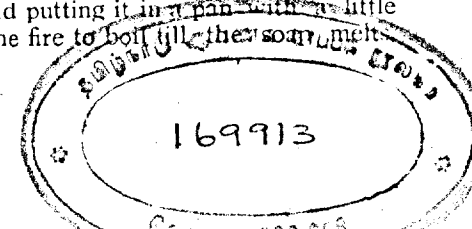
Many washerwomen believe in putting clothes in soak before washing, which is a very good idea, that is, if they know what kind and colour clothes to put in.

The assortment of the clothes should be the first thing. It is not advisable to wash any and everything together. This should be the order of assortment. (1) Lace and collars should be together. (2) All underclothing together. (3) Shirts by themselves, if they are too dirty to be washed with the underclothes. (4) Sheets and pillow cases together. (5) Table linens by themselves. (6) Print dresses and aprons together. (7) Pocket handkerchiefs by themselves. (8) Flannels and stockings separately. Before you begin washing, just let me give you one word of warning about rubbing. Do not expend your strength in rubbing the skin off your hands and fingers, but in rubbing the dirt out of the clothes and do not rub the clothes crossways. Sometimes we find a piece of garment from the wash torn up in the worst way and when we examine it carefully there is dirt on some parts. Now why had that washerwoman been scrubbing so hard as to tear that garment. Instead of looking where the dirt is and trying to get it out, she goes wrecklessly as we may say and scrubs any way. That is a big failure on her part.

Again we sometimes find that a washerwoman complains that a dress or any other garment is not good because it washes out and does not wash well. Now let me say that the blame is often due to the washerwoman and not the cloth. Suppose we have a coloured dress, shirt, apron or any other article to wash and before washing right away we put it in soak for a day saying we are softening the dirt and then rub it the next day with any kind of soap and then burn or boil it; what kind of colour can we expect that garment to keep. It will be turned the very first time.

The soap has a great effect on the destruction of the colour of the article. Many people are fond of using blue soap on any and every article. This is a mistake: Blue soap should never be used on colours such as cream, pink, yellow, etc. In fact it should not be used except on coarse blue materials and white.

Now let us consider, our clothes are sorted out as had been said. We have the white ones in soak and during that time we can be washing the coloured ones. These should be washed in warm water in which soap is dissolved. By that I mean the soap should not be rubbed on then but should be melted in a little pan. This is done by cutting up the soap in small bits and putting it in a pan with a little water which should be placed on the fire to boil till the soap melts.



As soon as this cools it should be poured in the water for washing, and stirred till suds form, we then put in our coloured articles after putting in a little vinegar or ammonia. These help the cloth to keep its colour. These coloured articles should then be rinsed in luke-warm water and when we are quite sure that all the soap water has come out we may starch them, wet and hang them out carefully. When washing day comes round the starch should be prepared first so that the clothes may be starched wet,—this is the best way.

These coloured articles should not be perfectly dry then damp-ed for ironing but should be taken up when they are two-thirds dry, folded up and left for about 3 or 4 hours before ironing. This should be done with a moderately hot iron on the wrong and then on the right side.

I am sure if we do this our coloured clothes must keep their colour.

We will now deal with the flannel or woollen articles. Some times we hear a husband quarrelling on his wife or washerwoman that she has spoiled his flannel pants, or it may be any other flannel or woollen articles, because it has shrunk, the colour changed, etc. Methinks I hear the wife saying it's not her fault the flannel is not good, and the rest of it. What she says may be true, but the washing may be the cause of all.

Now, suppose we have some flannel and woollen materials to wash, the first thing to do is this: Dissolve the soap as in the case of coloured articles—not blue of course. Get a heavy hand sud and after brushing and shaking them, well send them in. These should not be scrubbed, but sob and squeeze in the palm of the hands till they are clean. You may say that cannot cleanse them but no flannel garment should be worn to that extent that it needs scrubbing. After rinsing in warm water they should not be wrung but squeezed between the palm of the hands to get out a little of the water. They should then be well shaken and hung on a clothes line and pinned. As in the case of coloured articles they should not be taken up before they are properly dried and folded as we would an iron garment. They should not be doubled up. These should be then wrapped in a clean bit of article and put down to soak for 3 hours, then ironed. If we do this, husbands and others will be quite pleased when their flannel pants, merinos, etc., come in from the wash, that is if the pressing is properly done.

Lastly we deal with the white ones. These are commonly done but even then sometimes we find that they are of a bad colour.

Many so-called washerwomen take a whole week to get out a few pieces of clothes and perhaps they may not be done properly. Let us contrast this with the washerwoman who knows what she is about.

She puts her white clothes to soak during that time she is attending to the coloured ones, when she has finished rings out these from the soak, scrubs them into another bowl of clean water to get out as much dirt as she can without soap and then puts them in the warm water for washing. She also puts in the water, washing soda and borax, to give the clothes a white colour. After washing properly, she puts them to boil. A kerosine tin can be used for this purpose. The boiling takes about 20 minutes. After this she rinses them, blues them, starches them right away and hangs them out. In this way she is sure of a good colour on her clothes and then the ironing can be done the next day.

In conclusion let me repeat a few points that ought to be remembered by all washer-women. (1) Assort your clothes before washing. (2) Do not boil or burn flannels. (3) Do not wring flannels nor woollen goods. (4) Do not boil or soak coloured dresses and lastly (5) See that the clothes are of a good white colour and free of all dirt before ironing.

(Extract from the Journal of Jamaica Agricultural Society
Volume XXVIII No. 12 of December 1924).

The Indian Economic Position.

BY LALLUBHAI SAMDALDAS, C. I. E.

Inquiry into Agricultural Problems.

It is but a truism to say that *the economic condition of a country depends largely on its industrial development*. When we talk of industrial development in this country, we sometimes fail to recognize the fact that agriculture is the staple industry of this country. The percentage of people living on agriculture proper and other allied industries is calculated by various authorities at something between 65 to 85 per cent, and therefore, in any economic enquiry that is undertaken it is necessary to give the first place to agriculture. Not only should a careful examination into the existing condition of agriculture and agriculturists be undertaken but serious attempts should be made to find out the means of improving the same. *The want of labour-saving machinery, the sub division of land into uneconomic holdings, the lack of cheap and easy credit, the absence of scientific knowledge of agriculture are the main reasons why agriculture in India is in so backward a condition. Any inquiry into agricultural problems will have to include an*

inquiry into the land revenue system of the country which varies from province to province. One of the first points that will emerge in discussions on the land revenue system is whether land revenue is a tax or rent. If it is a tax, as is argued by many scientific economists, then the question arises why even the owner of the smallest agricultural holding has to pay the land tax without any exemption, while incomes from sources other than land get exemption upto Rs. 2,000 per annum. In this connection, attention may be drawn to an anomaly that while a man who invests in land is not charged income-tax another man who invests in industries, or in trade and commerce is charged income-tax on the profits that he makes on such investments. In such circumstances, it is not surprising if the richer classes invest their savings in land and thus raise the price of land by undue competition and then try to get a return on their investment in land by rack renting. *Under the existing land revenue system and the Income Tax Act while the smaller land holders have to pay a proportionately large portion of their income as land revenue, the bigger land lords have, on account of the exemption from payment of income-tax, to pay proportionately less.* The problem, complicated as it is, will have to be considered in the light of the existing Hindu and Mahomedan law under which all sons have equal right in the property of their fathers and in accordance with which lands are sub divided into uneconomic holdings. The questions ought to be tackled as a whole if there is to be a re-adjustment of the taxation of the country on a correct scientific basis, and I hope the Taxation Committee, whose members I welcome here on your behalf, will have the courage to do so in a scientific spirit and will not be frightened by the cry of the Hindu law of inheritance or vested interests being in danger. The problem of the sub-division of agricultural holdings, though a very difficult one, has been fairly successfully tackled in some provinces, and if economists, social reformers and other political leaders give a definite lead both to Government and the public in this matter, it is not incapable of solution in other provinces as well.

So long as land revenue forms a very large percentage of the provincial revenues, it is the duty of these Governments to adopt a policy of improving the economic, social and intellectual condition of those who live on the land and pay out of its proceeds. Unfortunately till very recently, Government have followed the *laissez faire* policy of British statesmen and administrators as regards agricultural as well as other industries, and as a result things were allowed to drift agriculturist's being left entirely at the mercy of the village money-lender regarding financial facilities both for current agricultural expenses and for improving the land. The great famine of 1899-1900 was an eye-opener and some of these Governments have since then adopted various

measures to help the agriculturists and provide scientific agricultural education to enable people to introduce modern and scientific methods of cultivation. While thankfully acknowledging what has been done in this direction, one cannot help saying that the needs of agriculture and agriculturists are not fully realized by high Government officials on the heights of Simla or the plains of Delhi. Even when men who have come in touch with agriculturists as district officers are transplanted to these heights, they very soon forget their old friends, for "out of sight out of mind" applies in this case as in many others. If high Government officials had understood their duties to agriculturists they would not have opposed the amendment to the Imperial Bank Act which wanted to empower the bank to extend to co-operative banks, the facilities which it was authorized to grant to joint stock banks. So long as this attitude towards agriculturists continues and there is no change in the mentality of the men in charge of money power at the head-quarters, there is no possibility of any appreciable advance in the condition of agriculture and no chance of agriculturists getting from the soil what their brethren do in other advanced countries. I know this is politics and not economics but I cannot help referring to the policy of Government in so far as it trenches on and affects the economic development of the country. Talking of the general policy of Government towards agriculturists, *one cannot fail to mention the existing heavy indebtedness of agriculturists and the necessity of adopting measures, both legal and financial, to eradicate this evil as far as it is possible to do so.* The establishment of *land mortgage banks* somewhat on the lines of the *Landschaften* of Germany and of *coniliation boards* with power to examine into old accounts of the *sowcars* are some of the measures that suggest themselves to me as *likely to prove useful* if debt redemption is to be taken upon a systematic basis. Before passing on to other subject, *I desire to urge both Government and legislative bodies to use the villager's money in improving villages and not in beautifying district towns, or provincial capitals, or the Imperial city of Delhi.*

Problem of Unemployment. One of the results of the adoption of any policy aiming at the prevention of sub-division and fragmentation of lands will be to reduce the number of persons dependent on the land and thus to increase unemployment in villages. *Two remedies suggest themselves to me, namely, the development of cottage industries and the drawing of those who are in need of employment to industrial areas, or to such agricultural areas as require more men than are available in that locality or intensive cultivation.* While the colonial Governments of Ceylon, the Federated Malay States, Mauritius and even British Guiana spend money on immigration agencies for the

purpose of recruiting unskilled labour, no systematic attempt of this kind has been made by any Indian provincial Government, except that of Assam in the interest of tea plantations. At present, excepting the statistics prepared by the Bombay Labour Office there are no regular and exact figures of unemployment in the provinces. The first necessity is the preparation and publication of such statistics. The industries departments must then, in consultation with district officers and the co-operative department, find out how many of these people can be employed by the development of the old and the starting of new cottage industries. When this work is done they will be in a position to know the number of men for whom provision has to be made outside the villages, either in their own provinces or in others. If there is co-ordination between provinces, it will not be difficult for any province to find employment for its unemployed in other provinces. It is only after all efforts have been made to find work for the unemployed in our own country that we can think of emigration to other colonies as a remedy for unemployment.

While the problem of unemployment in reference to unskilled labour does not appear on the face of it to be very difficult of solution, *the problem of unemployment of the middle and lower middle classes requires very careful consideration* to enable correct remedies being devised. The educational policy of Government is to a certain extent responsible for creating or increasing the number of this class of unemployed, and while one feels the necessity of modifying and recasting the entire system of education one would not be justified to say off-hand as to how and to what extent the policy should be modified. *Industrialization on a very large scale, with State aid and wherever necessary, and the establishment of a large number of technical schools with a technical institute at their head, have been looked upon as two measures which are likely to meet the needs* of the large number of educated and semi-educated young men of the middle classes who find difficulty in obtaining suitable employment. This evil of the unemployment will go on increasing unless industrialists, politicians, educationists and Government join hands and make an earnest effort to find out the remedies and adopt a bold policy of economic reconstruction.

(Extracts from a speech delivered before the Indian Economic Conference at Benares in January this year in his capacity as President).

Black Sheep. Wensleydale sheep have white wool, but the skin of the face and ears is deep blue, and this colour may extend to other parts of the skin. Breeders select for a maximum amount of pigment.

The breed produces about 15 per cent. of black lambs, together with a number which are "pale blue" and very occasionally one which is pure white. Mr. F. W. Dry, from breeding experiments (Journ. Genet., Vol. 14 No. 2), concludes that the black is a simple recessive, since blacks bred together give only black offspring. The same is true of blacks in certain other breeds of sheep. The blue-faced sheep are found to be heterozygotes analogous to the Blue Andalusian fowl; in other words, a black sheep with a (dominant) white coat. On the other hand, the Karakul sheep is a dominant black. When crossed with white breeds, the lambs are pure black. Such hybrids are now widely bred and their fleeces used as fur, but in the adult the colour becomes grey or dirty white. In black Welsh mountain sheep the colour of the coat and horns is also apparently dominant in crosses. Mr. J. A. Fraser Roberts (Journ. Genet., Vol. 14, No. 3) describes experiments with this breed. A pattern known as "badger face" also occurs, which is white with black markings on the face, belly, and legs. This appears to be recessive to both black & white. In crosses between black and badger-face a white lamb has been known to appear. Such cases of "reversed dominance" have been recorded in other breeds. Their further investigation is a matter of much genetical interest. The badger-face marking has also been studied by Wriedt in a Norwegian breed of sheep. Individuals with reversed badger-face markings, i. e. black where white should appear and vice versa, are also known to occur.

(Nature). G. N. R.

EDITORIAL NOTES.

Indian Economic Conference. In his presidential address at the Benares session of the Conference held in January Mr. Lallubhai Samaldas traversed a very wide field and his speech ranks as one of the best that have been delivered for a long time. It evinces a rare sense of responsibility and a correct grasp of public questions and his words are bound to carry weight not only with the audience before him then but also the larger public outside. Mr. Lallubhai rightly stressed the fact that the study of economics should be pursued without any personal, racial or political bias though it was difficult to draw a line dividing economics from politics.

In his opinion the economic condition of a country largely depends on its industrial development but an enquiry into the economic condition of a people like the Indians who lived mostly on agriculture must first deal with the question of agriculture. He examined the current theories of taxation of land and appealed to the Members of the Taxation Enquiry Committee who were present before him to approach their task with courage, in a scientific spirit, but never in a nervous mood.

He demolished the theory that Governments should not concern themselves in individual undertakings, by his forcible argument that "so long as land revenue formed a very large percentage of provincial resources it was the duty of the Governments to adopt a policy of improving the *Economic, Social, and Intellectual* condition of those who live on the land and pay out of its proceeds". He was of opinion that the establishment of land mortgage banks as in Germany and of conciliation boards to examine the accounts of *sowcars* would prove useful in reducing the crushing indebtedness of the ryot.

Mr. Samaldoss offers no satisfactory solution to the existing evils when he says "one of the results of the adoption of any policy aiming at the prevention of lands will be to reduce the number of persons dependent on the land and thus to increase unemployment in the villages. Two remedies suggest themselves viz., the development of cottage industries and the drawing of those in need of employment to industrial areas or to agricultural areas requiring more men."

How far these remedies have proved effective in driving misery from lands where they have been adopted is only a matter of opinion.

Mr. Lallubhai is certainly on safe ground when he says that "Protection, whether in the form of import duties or bounties and even State aid cannot and will not by themselves bring about the industrialism of the country. The first requisite is an enterprising spirit another, presence of trained and well qualified men". The first is not absent and the second is only a question of time. It is a product of the first, arising from the hearty co-operation of the Government and the people. Mr. Samaldoss laid a special emphasis on other essential facts for industrial development viz., banking facilities, increase of capital, economy and retrenchment. We would earnestly invite the attention of our readers to the extracts of his speech appearing elsewhere which relate to agricultural matters.

New Economic Values. The birth of the Labour and Feminist movements during recent years has brought to the forefront the

question of revising our ideas regarding economics. Growth of population, development of machinery and facilities for easy locomotion have tended to disrupt the family. The school of thinkers who sprang up in the last century and who in spite of Ruskin and Morris successfully advocated the price and profit system as the fundamental basis of all economics gained a very large following. But the recent war and its attendant evils have, however, now forced the West to examine the fundamentals again in the light of the experience gained and efforts are being made to include the human element also as a necessary factor. One of the best exponents of this view is Prof. H. F. Ward of New York who gave a lucid expression to this doctrine to Madras audiences in November last. A short summary of his lectures is published elsewhere in this issue under the heading "A New Social Order." We would invite our readers to a careful perusal of it and especially of the learned professor's exhortation to the rich to fix a standard of living and rigidly limit themselves to it in furtherance of the interests of humanity.

Death duties. The inquiries set afoot by the Taxation Enquiry Committee have given an opportunity to a few witnesses to suggest that death duties as in England might as well be introduced into this country. They honestly believe that this form of taxation is equitable and will augment the present slender revenues of India. It is true that the amounts collected in the shape of death duties would really be considerable as land in this country has been parcelled out amongst several thousands of owners. Our friends seem to forget that the case is different in Western countries where all land is concentrated in the hands of a few people and properties descend intact to the eldest male member. It would be seen that the law of proportion is in-applicable in the case of India and the succession duty say of 15 to 25 per cent. which would not be felt as a hardship in the West would ruin many a family with moderate income and with no other resources to augment it.

The Missing Link. We all know that Scotland is the most literate portion of the British Empire. Her ideals always find ready acceptance elsewhere. This is no less true of Agricultural Education. It is the proud boast of the Edinburgh University to have sent to India a larger number of workers in Agriculture than any other University and thus her ideals are sure to command the respect and be followed by her *alumni* here. In India and especially in our own province of Madras, Agricultural Education has not yet been broad based to the same extent that it ought to be. There are a few agricultural schools of the lower grade and there is a fully equipped and up-to-date Agricultural College at Coimbatore. Real scientific agricultural education has not permeated all strata of society and for a

long time past Government and the public have been at pains to secure means whereby an agricultural bias can be created by adapting the school curriculum in this province. But so far with little appreciable effect. Mr. Anstead in his speech at the last college day and conference gave expression to his opinion that a nexus of agricultural schools should be brought into existence if real advance was desired and that it was his earnest wish to have this carried out before long. The same defect seems to be existing in Scotland also where the Secretary Sir Robert Wright is reported to have thought and expressed likewise and wished Scotchmen to introduce agricultural education in secondary schools. We understand the Madras University has under consideration the desirability of introducing into the Intermediate curriculum agricultural studies of a kind which will serve as a preliminary to the advance studies in the same subject at the Agricultural College, which qualify for the degree. We hope the learned senators would examine this question in all its bearings and arrive at conclusions which would be enduring in their character.

Helping the Agricultural Indebted. It is an open secret that the real cultivator of the soil is not in the happy Elysium that poets have depicted him in. Farmers all over the globe through some cause or other are in a state of indebtedness to a smaller or greater extent. The limit of indebtedness amongst the farmers determines to a large extent the welfare of the nation. In Western countries especially in Germany the question of relieving farmers of their indebtedness has received greater attention than elsewhere and agricultural banks have come into existence. The complicated banking systems operating in industrial centres elsewhere do not confer the same amount of blessing to the needy farmer owing to the inevitable circumstances under which he is working depending as he has been on Nature that is inexorable. Similar attempts at helping the cultivator are being made in India and other countries and in this province they, until recently, took the form of Land Improvement and Agricultural Loans Acts. During the year the Madras Government have tried to help ryots by starting tentatively a few Land Mortgage Banks in selected centres. This step is quite welcome and, we hope will be the foundation of a larger edifice that will follow in the near future. Elsewhere is published an enactment passed for this purpose in the rising colony of Southern Rhodesia. We would invite our readers to study the several sections of the Act.

The School Curriculum. Specialization commences in the secondary classes in all schools in this presidency. The decision that this was the right course which was come to with the introduction of

the S. S. L. C. system has been productive of at least one great disadvantage. It has tended to segregate pupils in different compartments to the detriment of their acquiring a working knowledge of several subjects required in every day life. This is evident in the colossal ignorance which boys now-a-days display when references are made to chief towns in other countries, important articles of merchandise etc., in illustration of principles that are under discussion. Educationists, we believe, have now realised this defect. We hope they would try to remedy it by including at least in the school curriculum, outlines of general geography, etc. This is in our view a great help to students acquiring in their impressionable age knowledge which will stand them in good stead, in later life.

The Economic eye. The pure scientist with an eye to discover fundamentals finds reward for his work in the discovery of something which an applied scientist utilises for the benefit of the community and of himself. The methods employed by each are necessarily different and the public estimation which is based almost always on the immediate utilitarian ends often acts as a deterrent to weak souls in the pursuit of their quest. Health and competence, however, are to be assured before any man, much less a scientist, can devote his time and energies to his work. When these are wanting no progress is possible and the advance of a nation during a particular epoch depends upon the facilities available for men to make researches. Nations fare differently in this respect. Often research has been made the plaything of legislators and financiers and subsidised research degenerates into a dry routine with the result that pseudo-scientists spring up and successfully adopt methods which satisfy the gallery but can never advance the cause of science which is truth. Entrenched behind authority and mailed with the armour of prestige, these get through where real scientists often fail. They may propound theories and publish opinions which may do duty for a time but cannot stand the rigorous test. The right man having been chosen, the public should with discerning care devote sums of money for research and leave details for the workers themselves, for, it is the man that counts in research and not the mechanism and especially in a country like India where a corps of well trained millionaires and scientists is not yet available, it is necessary that the legislators should interfere as little as possible with the scientific workers, safeguarding of course the interest of the public in the expenditure of the monies. The day-to-day scrutiny and interruptions while work is proceeding often tend to little progress and sufficient time should be allowed to lapse before the results are assessed at their true value. Perhaps it may be a few seasons in some cases and it may take several years in others. No

one can estimate at present the loss which the world may have sustained by Sir Isaac Newton's being 'interned' as Master of the Mint soon after his discovery of the Laws of Gravitation which has altered the course of human history.

DEPARTMENTAL NOTES.

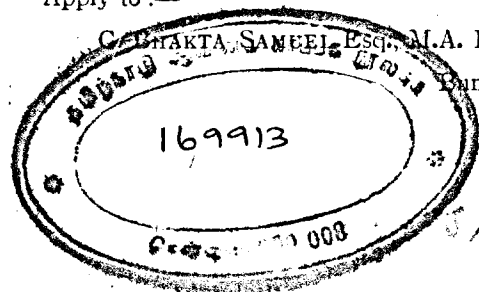
Leave.—

1. Mr. K. Rama Rao, Farm Manager, Nandyal, leave on average pay for one month from 16-1-25.
2. Mr. M. Gopala Chetty, Agricultural Demonstrator, Salem, leave on average pay for 4 weeks from 6-1-25 with permission to prefix the holidays on the 4th and 5th.
3. Mr. A. K. Ganesha Ayyar, Assistant Farm Manager, Millets Breeding Station, leave on average pay for two months from 25-1-25.
4. Mr. P. Krishna Rao, Farm Manager, Millets Breeding Station, leave on average pay for 25 days from 27-1-25.
5. Mr. C. Subba Rao, Assistant Agricultural Demonstrator, Allagadda, leave on average pay for 5 days from 3-1-25 with permission to prefix Christmas holidays.
6. Mr. B. Abisheganatham Pillai, Farm Manager, Nanjanad, leave on average pay from 3rd to 15th January 1925 with permission to avail himself of the Christmas and New year holidays.
7. Mr. K. Govindan Nambiyar, Assistant Farm Manager, Govt. Botanic Gardens, Ootacamund, leave on average pay for one month with effect from 5-1-25.
8. Mr. T. P. Sankaran Nambiyar, 2nd Agricultural Teacher, Agricultural Middle School, Taliparamba, extension of leave on average pay for one month on medical certificate.

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