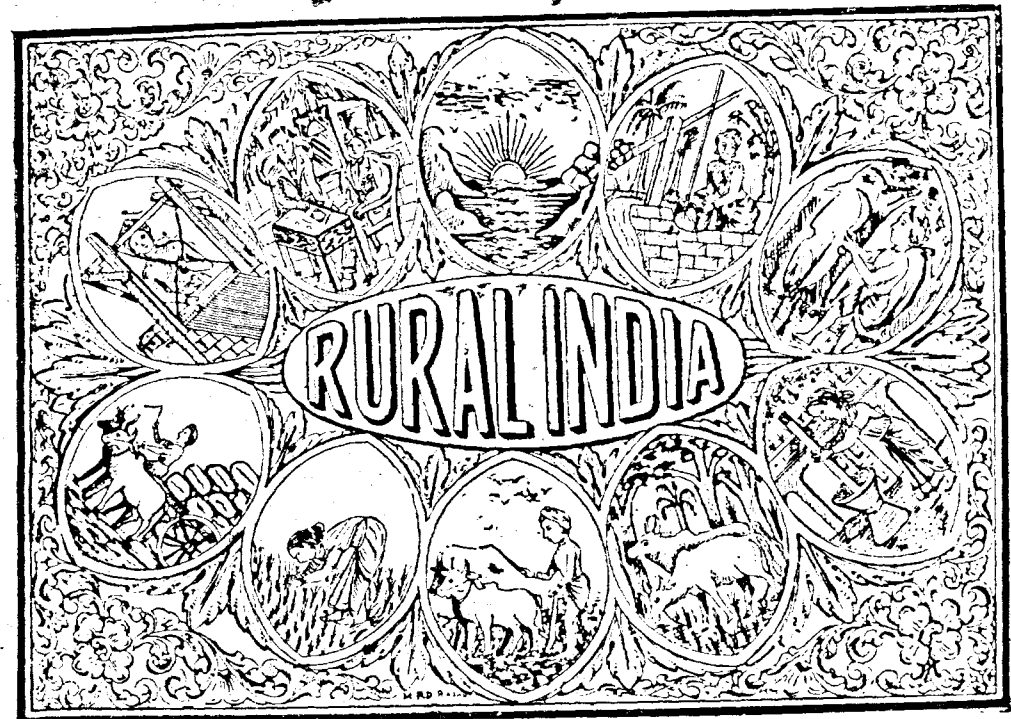




JOURNAL OF THE MADRAS FOREST PANCHAYATS.

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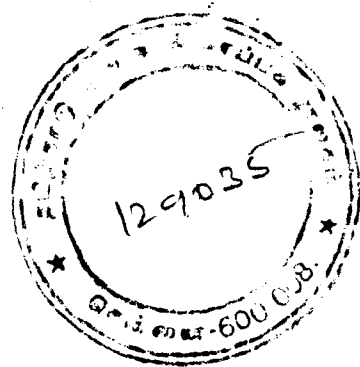
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Madras.

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AGRICULTURAL RESEARCH IN INDIA.

(By the Editor.) 2 - AUG 1931



WE HAVE PERUSED WITH INTEREST THE VOLUME of Scientific Reports of the Imperial Institute of Agricultural Research, Pusa, for 1929-30 which contains the reports of the Director of the Institute and the following Imperial Officers: Imperial Economic Botanist, Imperial Agricultural Chemist, Imperial Agricultural Bacteriologist, Mycologist, Entomologist, Imperial Agriculturist, Imperial Dairy Expert, Imperial Physiological Chemist, Sugar-cane Expert and the Secretary, Sugar Bureau.

The research work carried out at the Pusa Institute aims at establishing principles which can be put into general practice by provincial agencies. Efforts designed to evolve superior varieties of crops either through selection or hybridization were continued and the results are promising. The new Pusa wheats gave high yields and proved most resistant to rust. The Pusa Barley and Oats also produced similar promising results.

An outstanding feature of the year was that an intergeneric cross between Sugarcane and Jowar (Cholam) (Andropogon Sorghum) was successfully performed at the Sugarcane station, Coimbatore. The resultant hybrids include a very wide range of forms and some of them have been found to ripen in about 5 months after the date of planting and to contain over 16 per cent. sucrose with over 85 per cent. purity. The possibilities of this line of work in the evolution of short duration varieties are expected to be fully exploited. There has been a great increase in flue curing of tobacco on a commercial scale in India and this method has largely supplanted the old rack curing method in the production of Cigarette tobacco. A sample of flue cured tobacco was tested by the Indian Leaf Tobacco Company and valued

at as. 8 per pound. Experiments with rack curing of tobacco show that rack curing is preferable to ground curing and of the rack cured those "cured in the sun protected from dews after dusk" and those "cured in the sun unprotected from dews for about 10 days and finally cured in shade" give the best results in respect of colour, texture, and paucity of volatile nicotine.

The influence of manures on crops and soil was studied. According to the report of the Imperial Agricultural Chemist there are four treatments viz. no manure, green manure, superphosphate and green manure *plus* superphosphate. It is maintained that a combination of green manure *plus* superphosphate always produced the highest yield; next came the green manure plot and then the superphosphate plot. Further, the increased yield in the green manure *plus* superphosphate area over the no-manure area was very roughly equivalent to the sum of the individual increases in the green manure and superphosphate area.

Under the orders of the Government of India, the cross-breeding experiments at Pusa were discontinued and the cross-bred herd was dispensed in April-May, 1930. The first cross between the Ayrshire and the Sahiwal were good cattle but further crosses by the Ayrshire bull on cross-bred cows and half-breds on half-breds proved unsatisfactory. The last experiment was to put a pure Sahiwal bull over half-bred cows giving one-fourth breds, one-fourth Ayrshire and three-fourth Sahiwal. Here it appears that the Sahiwal bull if he is of a thoroughly good milking strain, can produce a class of animal which is of a satisfactory milk type and is a distinct improvement in certain points on pure Sahiwal stock, the cows being good milkers and the males lively and hard. If an Ayrshire outcross in Sahiwals produces better milch and working cattle than pure Sahiwals, it is not clear why the work should now be discontinued.

Selective breeding of pure Sahiwal was continued. Drastic alterations in rations and general treatment has reduced sterility among the milch cows from 7.5 per cent. to 1 per cent. The best cows in the Sahiwal herd give about 7,000 lbs. milk in 300 days lactation period while up to 12,000 lbs. has been produced in a similar period by first crosses off inferior milking dams.

In Bangalore the breeding policy is continued, namely,

- (1) Best Scindhi cows bred to selected Scindhi bulls.
- (2) Other Scindhi cows bred to imported Ayrshire or Friesian.
- (3) Half or three-fourth bred cows bred to selected Indian bulls generally Sahiwal.

Cross bred cows gave up to 11,000 lbs. milk in the year while Scindhis gave up to 5,300 lbs.

In Wellington, the policy of previous years has been continued and at Anand, the manufacture of dairy products and experiments in the long distance transport of pasteurised milk were carried out.

Some progress was made during the year in respect of the improvement of the city milk supplies. The New Central Co-operative Dairy Factory created by the Darjeeling Co-operative Society milk Union had been completed and Co-operative Dairying in the direction of the improvement of city milk supplies had made further progress in Dacca, Chittagong, and Calcutta under the direction of the Dairy Section of the Department of the Registrar of Co-operative Societies, Government of Bengal. The Co-operative Department of the Government of Mysore had during the year completed a comprehensive and thorough survey of the conditions of milk supply to Bangalore city with a view to the creation of a modern co-operative milk factory in that city.

Experiments on nutrition of growing animals by the Physiological Chemist shows that gram husk is similar in its action to wheat bran and can under certain circumstances be substituted for it. In the examination of Indian coarse fodders it was found that digestibility was related to the protein content and with advancing maturity the amount of digestible protein and the starch equivalent decrease steadily. Early cut hay indicated better productive power than mature hay partly due to better consumption and partly to its high digestibility. These experiments indicate lines along which the nutrition of cattle in India can be improved. An extensive experiment in rationing dairy cattle for milk production has been started in collaboration with the Military authorities, on the Military Dairy Farm, Kirki, and valuable results are expected. Feeding tests have also been started to investigate the acid-base balance of cattle urine and sulphur metabolism.

Experiments in the Chemical section on the composition of Sugar-cane juice as a result of manuring show that the no manure plots give the highest percentage of sucrose while mustard cake *plus* Super phosphate *plus* potash plots gave the highest yield. Investigations into the occurrence of symbiotic nitrogen-fixing organism within the roots of the rice plant and the influence of manures on crops and soils were continued.

In the Bacteriological section a series of experiments indicated that the addition of 1 or 2 per cent. of Super phosphate to cow or bullock dung greatly diminished the loss of Nitrogen during 10 months storage and a much higher percentage of Nitrogen as Ammonia is recoverable from the dung *plus* super mixture than from dung alone. Nitrification in various soils under different conditions continue to be studied as also the varieties and counts of bacterial infection of the

milk produced at Pusa. Experiments on storage of potatoes proved that charcoal and cinders were the best of the materials tried while seed potatoes stored in charcoal gave a higher yield than those stored in other substances.

Sugar cane tops were successfully converted into silage. Cashew nut juice was fermented to produce vinegar. The juice contains an acid ingredient which spoils the flavour of the vinegar and the acidity it is found is greatly reduced by the addition of 25 per cent common salt. By mixing waste molasses with cashew nut juice and with the resultant increased sugar content, a vinegar containing 7 to 8 per cent acetic acid had been produced. Experiments on the preservative value of spices used in the preparation of mango and other pickles including Cauliflower pickles were carried out and result published.

In the Mycological section, experiments conducted during the year confirmed last year's results that Mosaic disease does not affect the tonnage nor the sucrose content of Sugarcane under Pusa conditions. Downy Mildew was noticed on Sugarcane for the first time.

In all scientific work particularly in agricultural research the results may be slow in coming and some impatience may naturally be expressed at the slowness of the results achieved and the want of definiteness in the conclusions arrived at in some cases. This is inevitable but on a perusal of the reports we have no hesitation in stating that the work such as it has been is on the whole valuable affording sufficient material for carrying on further research.

CO-OPERATIVE MARKETING.

By V. G. Ramachandran M. A., L. T.



IT HAS BEEN OFTEN SAID AND TRULY THAT "Cooperation is the last straw for the Ryot" and it is evident that in these days of economic depression, business of any kind can be best saved only by collective Co-operative enterprise. Co-operative marketing can be the only touchstone which can open out for the ignorant producer-ryot an era of peace and comfort though not a plentiful golden age. India being predominantly an agricultural country it is attempted to deal with this subject of 'Co-operative marketing' with special reference to the study of the marketing of agricultural products.

The literature on this subject is meagre particularly that relating to India. It would be a welcome sign if the co-operative intellects in

the country cease for a moment to think of creating a network of loan societies and utilize their forces for the development of agricultural production and for the spread of the store movement, so as to engineer effective co-operative marketing. It is not the writer's intention to minimise the importance of the loan societies, India being mainly a debtor-country. But what has to be emphasised is that too much attention in that direction is not wholesome and that the same problem can be more usefully tackled by increasing production. By increase of co-operative production and marketing, the net profit to the ryot increases. This puts the ryot on a surer and more self-relying basis.

The history of English co-operation illustrates how by a federation or combination of co-operative producing and sale societies, wholesale production and manufacture of goods can be organized efficiently with the minimum cost and maximum output yielding a large net return. By such a wholesale combination, a strong central producing and distributive co-operative concern is brought into being, capable of catering to many of the needs of the whole population of England, and strong enough to combat the competitions of capitalistic concerns. Needless to say, the producer ryot gets the best value for his goods by the elimination of the machinations of the money-lender or the wily middleman.

It is the same story all the world over and in India in particular; the money-lender and the middleman play a great part in Rural economics. They have the most of it and defraud the agriculturist and often damage the market value of the agricultural products. The reason for this is the utter ignorance of the ryot coupled with the fact that the middleman is in most cases both the banker and the salesman for the ryot. The situation is accentuated by the fall in prices immediately after harvest and as the agriculturist commands very little capital, he cannot afford to wait for a rise in prices, so that he can get the maximum return for his produce. Further more the money-lender is usually most pressing at that time of low prices and so the poor ryot in order to pay off the loans and also to get some ready money for his necessities, is compelled to dispose of his produce to his own money-lender. In most cases the money-lender claims a first charge on the harvest and so a wider and more profitable market is denied to the poor villager. The middleman with his commandeering position introduces a number of fictitious transactions and a deduction is made from the value of the crops at each stage. The valuation is necessarily at the lowest figure and what the ryot ultimately gets as the price for his

produce is only the residual value after making allowances for mixing, adulteration, damping and other improper practices often indulged in by these moneylender-middlemen.

What can co-operative marketing do to alleviate the producer-ryots' lot? The answer can be given categorically:—

1. By co-operative production and distribution a distinct advantage to the buyer is the absence of adulteration. As such by organising co-operative marketing, the ryot can be sure of a good market and of a high value for his goods.
2. By teaching producers to produce more, by applying scientific methods, employing expert talent and using improved implements, better seeds, manure etc. production can be increased proportionate to the market-demand.
3. Cooperative marketing saves the time of the producers.
4. It facilitates the transport of the produce to the market.
5. It secures fair dealing for men who have little business knowledge.
6. It secures for the co-operative society and thus for the producer the profits of the middlemen.
7. It secures better prices by grading and standardising the produce.
8. It secures a different class of purchasers by selling in bulk on a large scale.
9. It secures a good name for honest dealings and high class produce.

The general principles that must strictly be adhered to for the proper initiation and working of co-operative marketing or sale societies have been enunciated lucidly by J. W. Lloyd. They may be restated thus:—

1. Organisation for marketing purpose can be most effective when conditions in an industry are such that the need for improvement is quite generally apparent to those engaged in the industry.
2. There must be a sufficient volume of one product or closely allied produce to be able to meet the demand in a big market and also to thereby reduce the expenses incurred in the operation of organisation and transport.
3. The organisation must be composed of persons whose interests are similar.
4. Definite provision must be made for financing the business of the organisation.
5. The dividends in profits to the members should be in proportion to the value of the produce handled by each.

6. Skilled technical advice should be requisitioned whenever necessary especially in the matter of the process of manufacturing a finished product from raw material, so as to produce the best material at a comparatively low cost.

7. There must be proper business management and efficient and specially trained men to look after it.

8. Opposition of local vested interests such as village traders and money-lenders should be overcome. In such cases the societies should secure all possible help from large buyers in their own ultimate interest as much as in that of the producers, because these societies aim at not only reducing the number of unnecessary middlemen but also in putting on the market improved and unadulterated produce.

9. Most important of all, loyalty of an individual member to his society and the corresponding loyalty of each component society to the wholesale societies can alone ensure permanent success.

10. In a properly constituted grower's Co-operative marketing organization, it makes little difference whether the voting power is based upon individuals, volume of product or shares of stock.

11. For the purposes of marketing the product of a large horticultural industry, an affiliation of local organisations is preferable to a single large organization made up directly of individual growers. In such an affiliation the identity of each local organisation should be preserved and its interest fully represented in the central organisation.

If we review Indian conditions we find that very little progress has been made in the consumer's movement. The Co-operative store movement has not been given the necessary impetus. The sale societies such as the T. U. C. S. may flourish here and there in urban areas but "Rural India" is still in crying need of proper sale societies for catering to the requirements of the villagers and a suitable agency to dispose of the excess agricultural products of the ryots. Joint sale by co-operative effort alone can fetch the maximum value. The very presence of a co-operative sale organisation will be a power to be reckoned with in the business world. If only a well developed network of such societies in the several villages exists with a central controlling whole-sale agency, much of the poverty and misery of the ryot will vanish. But again there are certain evils that have to be avoided in nourishing and building such a co-operative business structure. Many an honest attempt has failed because of bad management, ignorance and lack of business talents in the average ryot, non-adherence to strict co-operative principles, lack of internal unity, disloyalty of members, lack of education, lack of efficient salesman, opposition

of vested interests, lack of interest on the part of members, attempting to operate with too few members, speculation, credit sales unduly encouraged, operating on too small a margin and reckless attempts to undersell. The last mentioned tendency and the false notion that thereby the market could be captured is only suicidal as it will only bring more competition and result in the lowering of prices and reducing the margin of profits.

The extent to which co-operation can aid agricultural production is very little. All that it can do is to insist on the purchase of accessories to production such as fertilizers, implements, cattle etc. As for labour it is not co-operation but individual proprietorship that holds the secret of success as is exemplified in the Danish farmer who is famous for intense labour in a limited area. He is the ideal "Co-operative man". Not only does he apply co-operation in the matter of buying implements, he augments production by intense labour on small holdings. He also has studied the art of marketing goods and it is here that he applies the co-operative principle to the utmost and that is his lesson to the world and to India in particular. With little or no capital the Danish farmer has made a name for himself. By sheer industry and co-operative commonsense he has made himself rich in a few years.

What the Dane can do the poor Indian ryot can also achieve in the production and marketing of paddy, groundnuts, rice, cotton, ghee, oil, mangoes, oranges and other fruits. Indian creameries can also be organised by starting farms for collecting milk and producing butter and we can co-ordinate the several farm societies into federations for the purpose of marketing and distribution. Such wholesale combination will considerably influence the determination of the market price.

It will thus be seen how urgent and necessary is the organization for marketing and sale of agricultural produce in India. It cannot be said that the sale societies will not be successful in India after the advent of successful cotton sale societies in the Punjab and Bombay, Jute sale societies in Bengal, and the groundnut and paddy sale societies in Burma. In Madras, while loan societies are fairly well organised, sale societies are few; Indian sale societies have not progressed very far as they often succumb to the evils outlined above. That was why the Townsend Committee recorded that "the experience of sale societies in India and elsewhere shows that great care is required in the organization of the same." But if a bold effort is made, in spite of the many difficulties that beset co-operative marketing, it cannot be gainsaid that there is great scope for such an enterprise in India. A review of the conditions in Bombay and Bengal may serve as an object lesson.

(To be concluded.)

THE PRESENT ECONOMIC DEPRESSION—ITS LESSON.

By Viswamitra.



THE GREAT WAR WAS THE TURNING POINT IN the world's trade. The countries engaged in the war, victorious or otherwise found themselves utterly devastated. Most of the countries were saddled with huge debts. The victors demanded reparations from the vanquished. The only country which was not hit by the war in spite of her seeming participation was America and many continental countries became America's debtors. This indebted condition of the continental nations stimulated industries in them and wealth had a steady flow into America. Many new nations and others that had not entered the war, successfully competed with the war-ruined nations. America with her huge wealth and resources and Japan with her new industrial civilisation entered the field and proved too formidable competitors. India alone seemed to be fated to be the dumping ground and the wetting stone to the commercial greed of the world. Commercial competition became keener everyday as mass production increased. The markets became restricted while production continued as before. Along with others, India too has been hit though she is not an industrial country. Most of the commercial nations of the world were buying large quantities of India's raw products. When their finished products could not be sold, naturally there was no demand for the raw products of India. But curiously enough those that were affected seriously were the producers, (the Indian ryots) and the manufacturers (the importers in foreign countries). The middlemen and the exporting firms made huge profits. This may appear to be a paradox. At one end, the exporting business firms entered into forward contracts with the foreign importing firms before the advent of the trade depression. At the other end, the exporting firms entered into similar forward contracts with the middlemen. In both the cases, the pre-depression rates were adopted when the prices fell; the middlemen purchased from the ryots at very low prices and sold to the exporters at the contract prices, and made huge profits; thus the ryots and the manufacturers are the people to be adversely affected and ruined.

India is passing through an economic crisis. The ryots are giving up the cultivation of industrial crops and may not be able to take to it again even when trade revives. Because science is progressing by leaps and bounds, commercial interdependence for the supply of raw

products is getting a rude shock. Many nations have already invoked the aid of science and synthetic products are replacing the industrial products of the field. India has already been hit hard by the synthetic dyes. Indigo which was once a flourishing industry was killed mercilessly by the synthetic stuff. The crumbling indigo vats studded all over the country give the necessary warning which cannot be ignored. Experiments are going on it is reported to find a synthetic substitute for the jute—as India is the only country in the whole world having the jute monopoly. What applies to one industrial crop also applies to the others with equal force. Our ryots must be encouraged to grow the industrial crops to the extent of the country's demands. It may be found useful to explain how the raw products have to be treated and consumed.

Oil seeds. We have been exporting the bulk of our oil seeds. Efforts should be made to induce the villagers to press the seeds for oil in the villages themselves. The cakes can be used as cattle food and as manure. Thus the cattle can be improved and milk and milk products may be produced in great quantity. The surplus will go to improve the lands and better crops can be had.

Edible oils will be consumed in greater quantities and the non-edible oils may be used for lighting purposes. In this way kerosine oil which has invaded every Indian home may gradually be replaced by indigenous oils. The surplus oils may be used for the manufacture of soaps etc. This will help to relieve to some extent the unemployment among the educated youngmen in the country.

Paddy is now machine milled even in villages. The result is that the ryots lose their spare time occupation. The villages and the fields do not get the benefit of the waste products. It is well-known that milled rice has poor nourishing properties. It is essential in the interests of the country's prosperity and the health of the people that the paddy should be husked by the villagers in the country method.

Cotton. The ryots in many villages have already realised the folly of their dependence on outside markets in the matter of cloth. Hand-spinning and hand-weaving have a bright future and the ryots are alive to this. Cotton seed yields excellent edible oil and the resulting cake may be more largely used as cattle food, instead of using the seed itself as food.

Sugar-cane should be produced in greater quantities and the manufacture of sugar which was a flourishing business in many villages in the presidency, for example in Mailpatti in North-Arcot District and Palmaner in Chittoor, to name a few centres of the indigenous

sugar industry needs to be revived. Space forbids further detailed description of the lines of development. If these suggestions are considered useful efforts may be made by those working in the fields of co-operation and agriculture to improve the economic lot of the Indian ryots on these and other lines that might suggest themselves as suitable.

NOTES & COMMENTS.

Sri Raja Vikramadeo Varma Garu:— The Government of Madras having recognised the claims of Sri Raja Vikramadeo Varma Garu as successor to the late Raja of Jeypore have formally handed over the Estate to him. We have known the Raja Sahab for many years as an erudite Sanskrit Scholar, a Telugu poet of considerable repute and a highly respected citizen of Vizagapatam. Wealth and wisdom have combined in him, a rare combination, and added to high personal character, he possesses the qualities of amiability, broadmindedness and sympathy for all. As Sir Radhakrishnan happily said, the new Raja comes near the Platonic ideal of "the Philosopher King". The Raja Sahab inaugurated his administration of his valuable Estate by announcing the magnificent donation of a lakh of rupees in perpetuity for the Andhra University which has earned for him the undying gratitude of the University and the Andhra Country. We wish the Raja Sahab long life and good health to administer the important and valuable estate of Jeypore which has great potentialities for further development.

Birth Day Honours. The C. S. I. conferred on Mr. C. W. E. Cotton, I. C. S., Chief Secretary to the Government of Madras is well deserved and is a fitting reward to the ability, discrimination, and tact with which he has been discharging the responsible duties of his office. It is also in recognition of the great interest he has been taking in the advancement of the Fine Arts in this presidency. Dr. L. C. Coleman, Director of Agriculture, Mysore, gets a C. I. E. which however, is a tardy recognition of his valuable work in Mysore as the executive head of the department of Agriculture in that State. Dr. Coleman has been responsible for introducing many useful improvements in the agricultural practices in that State and he has the good fortune of earning the approbation of both the Government and the people. The Knighthood conferred on Prof. S. Radhakrishnan Vice-Chancellor of the Andhra University is in accordance with recent precedents and is in recognition of his valuable researches in the field of Indian Philosophy which have earned for him an international reputation. In honouring him, His Majesty has honoured culture and learning and has endorsed the high opinion formed of his work by learned bodies in East and West. Diwan Bahadur A. Appadurai Pillai M. A. the retiring Director of Industries who has been admitted to the Imperial Service Order has to his credit a long and distinguished service under Government in various capacities. Mr. Javad Husain Sahab, Collector and District Magistrate, South Kanara, has been made a Khan Bahadur. He is one of the youngest of our Collectors, but in his administrative work he has displayed qualities which many a senior and more experienced officer might well envy. We heartily congratulate the recipients on the well merited distinctions they have earned.

Henry H. Wolff:— The sad news of the death in March last of Mr. Wolff one of the oldest co-operators in England will be received with great sorrow in this country.

He was taking great interest in the development of the co-operative movement in India almost from its inception and his advice and wise constructive criticism was frequently sought by and was always available to it. His advice would have been valuable just now when important changes in the Co-operative Act are under contemplation. In him the Co-operative movement loses a valuable friend and a trusted guide.

The Provincial Co-operative Conference:—The 19th Provincial Co-operative Conference was held in June under the presidency of Rao Bahadur T. A. Ramalingam Chettiar, the veteran co-operator. Mr. V. Ramdas Pantulu, President of the Madras Provincial Co-operative Union welcomed the delegates who had come in large numbers from the districts. We reserve to our next issue a more detailed notice of the interesting welcome and Presidential addresses and the proceedings of the conference.

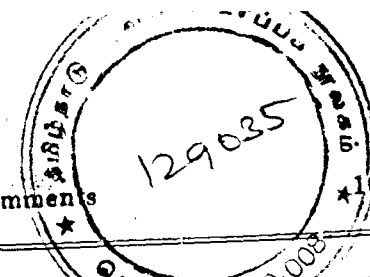
Madras Forest Panchayats. The Government have passed orders on the report of the committee appointed to consider the draft of a standing order submitted by the Board of Revenue relating to Forest Panchayats and also the various suggestions received from the public. The Government have finally approved the standing order and have asked the Board of Revenue to embody the same in the Board's Revised Orders now under publication.

The Committee dealt with two general questions—one relating to compounding fees and the other relating to the treatment of unreserved adjoining forest panchayats. The Government have felt themselves unable to accept the Committee's recommendation that 50 per cent of the compounding fees should be credited to a central fund for the benefit and improvement of panchayat forests. They have, however, directed that an annual grant should be made to each panchayat equal to one half of the compounding fees and one-half of the fines collected on account of forest offences reported by the panchayat in respect of the area of which it is in charge.

Village Panchayats:—Writing under the caption, "Panchayats" in "Young India", Gandhiji suggests the following rules for guidance of village workers.

- (1) Panchayats should in the first instance be elected by a public meeting called for the purpose by beat of drum.
- (2) They should be recommended by the Thesil Committees.
- (3) They may try civil suits if the parties to them refer their disputes to the panchayats. They should not have criminal jurisdiction.
- (4) None should be compelled to refer any matter to panchayats.
- (5) No panchayat should have authority to impose fines, the only sanction behind its civil decrees being its moral authority, strict impartiality and willing obedience of the parties concerned.
- (6) There should be no social or other boycott for the time being.
- (7) Every panchayat will be expected to attend to the education of boys and girls in the village, its sanitation, its medical needs, the upkeep and cleanliness of the village wells and ponds and the uplift of and the daily wants of the so-called untouchables.

Where Forest Panchayats may usefully help:—In most of our villages there are what are known as "Dharma topes." These are gardens of valuable fruit and timber trees endowed by the village community, generally for the maintenance of the village temples, for the conduct of local festivals in them and other objects of utility for the village community. When the monegar and the village servants realised they were



servants first of the village community and then of the ~~other~~ ^{other} ~~topes~~ ^{topes} were carefully conserved and looked after. Now the village officers and servants bestow no thought to their maintenance and the gardens which are supposed to be looked after by some of the leading ryots of the village, the more noisy and selfish among them are rapidly being denuded of everything valuable in them. Forest Panchayats in the villages where they function may obtain control over these village topes, have them carefully conserved, leasing annually the ilupai and mango trees which are the usual trees in them to be utilised for the maintenance of the topes, their surplus funds being utilised for the benefit of the village community and its institutions. There is a custom in most of the villages in which there are "dharma topes" and the custom has not died out of the villagers spending a day in the tope once a year as a religious duty. This day is known as the "vanabhojanam" day, all the people of the village, young and old, brahmins and non-brahmins even the untouchables partake in the "vanabhojanam" and spend the day in feasting and enjoyment under the shade of the old familiar trees. It is said that in a "vanam" the rigid rules of caste need not be observed and consequently there is considerable freedom of movement in the matter of cooking and eating among the several castes. Such a useful village institution should not be allowed to die and the village public garden should be kept intact and in the best possible condition.

A letter from Del Rosa, California, U. S. A. Referring to our article entitled, "Co-operation or Competition" which appeared in the January issue of "Rural India", the Editor of the *Equitist* writes as follows:—

I note the article on "Co-operation or Competition". The "conflict of economic interests" arises from the practice (world-wide) of having some work for others (of fixing prices) on some basis which requires that some work for others longer than others work in return. That makes economic interests appear to be those of slave and enslaver, robbed and robbed. Normally, economic interests would be those of mutual exchanges; each party to the transaction doing for the other what he or she could do best. Thus each would be benefited by the skill gained through specialization. The *Equitist* Way provides for fitting that to the complications of varied production and tastes. Normally distributors are essential to production (unless a product reaches a consumer it is not produced for him or her). And normally all sane adults would be both producers (including distributors) and consumers.

Rural Education in the Panjab:—The education of villagers in Panjab by means of wireless lectures, is the ambitious scheme started in the Jhelum district by Mr. F. L. Brayne, Commissioner of Lahore Division, says the Lahore correspondent of "The Statesman". Mr. Brayne, who is well-known in connexion with the organization of village uplift work in Rohtak district, has arranged an attractive programme of lectures and songs, which will be broadcast under his direct supervision. The selection of the subjects indicates that, along with the attempt of making the programme instructive and amusing, an attempt is also being made to keep the villagers busy during their leisure hours, most of which is usually spent in watching dog fights or indulging in drink. An attempt will be made to improve the social status of the ryots by bringing home to them the utilitarian value of applying and following Mr. Brayne's uplift scheme.

Rural Reconstruction work in Pudukottah. The Pudukottah Durbar have started an Institute for training a batch of village guides for rural reconstruction work.

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Three sessions of the Institute were held towards the close of last year and the early part of this year.

During this period, stress was laid on the general scope of the guides' duties with special reference to the village surveys made by them. They also attended a course of lectures on co-operation and took practical lessons in agriculture, cattle disease, first aid and carpentry.

The second session began on the 3rd January 1931 and ended with the 2nd April 1931. The practical lessons were continued and completed during this session; formal lectures were given on these and other subjects included in the curriculum.

Instruction on these subjects was given by the officials of Government engaged in duties dealing with the respective subjects. Useful talks from local gentlemen—official and non-official—interested in rural welfare, also formed an item in the training.

The third session was mainly spent outside the headquarter town on festival duty, training in forestry, and excursion to selected villages for the study of sanitary conditions and co-operative and panchayat institution.

During their festival duty at Nartamalai, the guides kept the place in a sanitary condition, guided and controlled a large concourse of pilgrims, and rendered personal aid to the conductors of the Agricultural and Industrial Exhibition held at the place. Their part in putting down a fire which might have assumed greater proportions but for prompt and timely aid was greatly appreciated.

The Durbar now proposes to enable them to acquire a practical insight into the actual economic conditions of the country by directing them to make a detailed investigation of the condition of the co-operative societies in the State including the preparation of a property statement and a family budget for each individual member in every society.

It is the intention of the Durbar thereafter to utilize the village guides organisation to study the economic deficiencies of the people by conducting an exhaustive economic survey in definite areas and to utilize the same agency to carry out remedial measures with a view to bring about better economic conditions. The Durbar will watch the progress of their work with care and anxiety.

The cost of the training of the Guides amount roughly to Rs. 7,000.

Rural medical Help:— At a meeting of the Rotarians at Reihmond, Dr. A. Ashton gave a short account of his 38 years' work as medical missionary in India. He said that with a population of 320 million people, 90 per cent. lived in villages with scarcely any real medical attention whatsoever. They were far too poor to travel, and when they did get to the hospitals they often had to bribe the attendants in order to be brought to the attention of the medical men in charge. The lecturer estimated that over 100 million lived in places too remote from the towns to get any attention at all.

Thirty-eight years ago Dr. Ashton commenced at Mirzapore. He journeyed with a tent, crossed the river, and when only a mile from a large hospital, over 100 people came for attention the first day, and he had to call in his wife to help to dispense the medicine, and in the following days they were absolutely overwhelmed with poor natives requiring attention. They went on a further eight miles, and came across a large factory devoted to the manufacture of Mirzapore carpets. This had previously been an indigo factory, and had failed on account of the competition of the German synthetic dyes. The superintendent told the lecturer they had not had a trained medical man for years. After staying there for some time he eventually bought an

old disused factory forty miles from a European settlement, and formed this into a hospital. They started with twenty beds, which eventually became sixty. They averaged 10,000 patients every year. In India all the ordinary European diseases were prevalent, in addition to which they had certain epidemic diseases such as malaria, cholera, plague and dysentery, which required great care in their treatment.

In the influenza outbreak of 1919 it was computed that as many people were killed in India from that cause alone as were killed in the Great War. The lecturer remembered when fifteen out of sixteen people in one hut were affected at the same time. There was nobody to bury the dead or to attend to the sick. India was cursed by quack doctors or her herbalists, who made concoctions from the leaves and from barks of trees. The more unpleasant they were to the taste the more effective they were supposed to be.

Of surgery in villages there was none, with the possible exception of barbers, who used to lance abscesses with their razors. In a great number of cases, owing to the filthy methods in use they caused more harm than good. There was no one to attend to fractured limbs, and when they were set by someone claiming to have the knowledge, a horrible job was made of it.

Forest Development in India:— The Quinquennial Review of Forest Administration in British India for the period ending March 31, 1929, shows that the area under the control of the Forests Department now amounts to 250,000 square miles, approximately one-fifth of the total area of British India. There are in addition valuable and well-managed forests in a number of Indian States, especially in Kashmir, Hyderabad, Mysore and Travancore. The majority of these forests have been already surveyed and good maps are available, generally on the scale 4 inch to the mile. Forest Administration has been extended recently to the North-West Frontier Province, west of the Indus.

The percentage of the total forest area in British India which is now under working plans attained its highest figure in the year 1928-29, having risen from 45 per cent in 1924-25 to 55 per cent in 1928-29.

Rural Up-lift. It is understood that Gandhiji has drawn up an interesting programme of village organisation. Education of the masses is the first item in the programme. According to the scheme, Congress volunteers must distribute themselves all over the country at the rate of one for every ten square miles, if not for every 10 villages. Each volunteer is expected to go to every village in his firda by turns, and collect children and teach them takli-spinning, carding and the alphabets. Sanitation of the village is the next item that the volunteer is expected to tackle. Thirdly he can distribute medicine to the sick. Fourthly he should try to help the "untouchables" by creating facilities for the supply of drinking water to them and relieving their distress.

The volunteer should take a census of the villages in his beat, reporting to his higher authorities the conditions prevailing there. The area of the village, its population, its crops and its revenue, also should be noted down by him.

The volunteer should train a band of workers in every village who can carry on the work in his absence in another village.

Gandhiji lays special emphasis on the production of Khaddar. Every volunteer, he says, should see that each village is self-supporting as far as khadi is concerned.

A Rural Uplift Conference:— Under the auspices of the Indian Agricultural Association, the first Rural Uplift Conference met this month in Pooa. Pandit Madan

Mohan Malaviya presiding. A large number of delegates, coming from outside places and workers interested in the problem of village reconstruction, attend the session.

Mr. G. K. Devadhar, President of the Servants of India Society, who is the Chairman of the Reception Committee in welcoming the guests, explained the objects of the Conference and the various activities very successfully being carried out at the village uplift centre opened by the Deccan Agricultural Association at Khed. Shivapur, a hamlet 16 miles from Poona. He also made a review of similar activities started by other organisations in other parts of the country.

In the course of his presidential address, Pundit Madan Mohan Malaviya dwelt on the immensity of the problem of village reconstruction. He said the nation lived not in the cities and towns, but in the villages, which numbered about 750,000 in the country. He deplored that in spite of the existence of British rule in the country, for 150 years, the vast rural population had remained entirely neglected. While in the cities they could see civilisation in matters of drainage, water-supply, schools etc., they had to witness quite the contrast of it in the villages, nay, beyond a few steps outside a capital city like Delhi for the construction of which crores of rupees were spent. On the contrary villages were the abodes of ignorance, poverty and wretchedness. Continuing, Pundit Malaviya said that the problem of rural uplift required a new orientation. The Government had not utilised the resources of the country so much for education, sanitation and medical aid as for administrative purposes, the Army, Military etc. Pundit Malaviya laid emphasis on the spread of primary education which would go a long way to solve the problem of village reconstruction. He concluded after suggesting two fundamental means to solve the problem of village reconstruction. He said that they must find employment for everybody in the village in spinning and weaving and prepare them for self-defence against riots and dacoitis.

The Rural Uplift Conference, adopted resolutions.

(1) appointing a Committee to frame a scheme for training organisers in the village uplift movement and also to propose means for making the rural uplift movement pay its way.

(2) recommending an immediate inquiry by the Government and other public bodies into the economic condition of the average farmer in different tracts,

(3) expressing the opinion that the present system of education is unsuited to the requirements of villagers and exceedingly costly, that it should be made economical and more suited to their requirements, and that special efforts should be made to make compulsory education more popular and to extend the area of its operation,

(4) recommending the formation of village volunteer corps for the purpose of village defence and the maintenance of peace and harmony in the villages,

(5) recommending a detailed survey of possible village industries and that such industries should be encouraged and,

(6) calling upon all who sympathise with agriculturists to encourage the manufacture and use of handspun and handwoven khaddar, as it most materially helps the village people.

Resolutions were also adopted in favour of insurance of life and live stock, preferably on cooperative lines, the starting of more cooperative credit and other societies, and the formation of sanitary organisations in villages.

Village Uplift.—We are not aware whether Village Uplift work through Government agency is attempted in this Presidency. The Department of Agriculture, C. P. and Berar has been doing that work evidently with success.

The scheme is working in Piparia circle of the Hoshangabad district and Sihra tahsil of the Jubbulpore district.

The following items of work are attended to.—

- (1) Conservation of farm-yard manure.
- (2) Propagation of selected seed.
- (3) Introduction of improved implements.
- (4) Formation of village seed-unions by small annual contributions by members towards formation of capital.
- (5) Cattle breeding, etc.

We agree with the Director of Agriculture that the scheme, if worked with perseverance, has great future before it and has already given promise of considerable improvements. For example, manure pits can now be seen in many villages and people have realized the value of their cattle dung. Several orders for *rahats* (iron Persian wheels) for irrigation have been registered and in some centres village seed unions have already been organized.

Seed Unions.—Referring to seed unions, we have to mention with gratification another development of the department of agriculture C. P. & Berar. The organisation for the supply of good seed to ryots in that province through Government and Co-operative agencies. Co-operative Societies under the control of a Central Bank hold seed wheat for issue to ryots, under what is known as the *barhi* scheme. The seed belonging to each co-operative society is stocked in its own *banda* and is issued to its members at sowing time at 25 per cent *barhi* rate. At harvest the principal and *barhi* seed is collected and the former is stored again in the *banda* for the next year, and the *barhi* collections are sold to liquidate the debt of the Bank which had been taken some years ago to establish the society "*banda*". Out of a Government Grant for the purpose, seed wheat, as *taccavi* in kind is issued to members of tahsil Agricultural Associations. The required quantity of seed is secured either from the Government farms or private seed farms. The seed is issued also on the *Barhi* system.

The seed is issued on joint and several responsibility to a group called a union of cultivators who undertake (1) to enlist themselves as members of tahsil association; (2) to repay the Government loan of seed in kind in ten annual instalments, (3) to pay as interest annually the *barhi* of 20 per cent of the principle due; (4) to stock the seed in a common *banda* belonging to the union; (5) to take care of the union seed *banda* as their own property for which they are jointly and severally responsible; and (6) to distribute at sowing time among themselves the seed in the *banda* and to repay it back duly to the union at harvest time.

Of the 20 per cent *barhi* recovered as interest from the union members half the quantity is credited to Government and the other half to the tahsil association under which the unions work.

Long overdue. The Government of Madras have published in the Fort St. George Gazette the draft of certain rules that they propose to make under the Madras Prevention of Adulteration Act.

Among the rules suggested regarding various foodstuffs one is that where a sample of cow's milk (not being sold as skimmed or separated milk) contains less than 3 per cent, of milk-fat, or a sample of buffalo's milk contains less than 4.5 per cent of the milk-fat, it shall be presumed for the purposes of the Act, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-fat, or the addition thereto of water.

Among other rules suggested regarding various foodstuffs one is that where the proportion of water in a sample of ghee exceeds 1 per cent. it shall be presumed that the ghee is not genuine.

Goat-Browsing Areas. The Government of Madras (Development Department) has issued the following Order :

During the Budget debates in the Legislative Council in March, 1931, it was brought to the notice of Government that much difficulty was being felt in some villages on account of the prohibition of goats from entering reserved forests. In 1913, the Forest Committee which was appointed to consider and report upon matters connected with the regulation of grazing and the supply of other forest produce, recommended that goats should be strictly excluded from all reserved forests and the Government accepted their recommendation.

As the reasons then advanced by the Committee for this recommendation still hold good, the Government are not prepared to reconsider the orders and permit goat-browsing in reserved forests. While recommending the exclusion of goats from reserved forests the Forest Committee of 1913 also held that if in any locality it was found absolutely necessary to provide for goat-browsing, the area to which goats are to be admitted should be disafforested and converted to goat-browsing poramboke. In view of the difficulties now brought to the notice of Government they are pleased to direct that where a need is felt for the provision of areas for goat-browsing, the Chief Conservator will consider, in consultation with the Collector of the district concerned the possibility of disreserving portions of reserved forest for conversion into goat-browsing porambokes. In every such case a report should be made to Government.

Fruit Culture in Madras. The Government of Madras have applied to the Imperial Agricultural Research Council for a grant to conduct researches in respect of fruit culture in the plains and in the hills.

REVIEWS AND NOTICES.

POPULATION AND BIRTH CONTROL IN INDIA By M. S. Krishnamurti Ayyar M. B. C. M., (Printed by Peoples' Printing and Publishing House Ltd., Triplicane Madras. Price Re. 1)

Mr. M. S. Krishnamoorthy Ayyer M. B. & C. M., retired Sanitary Commissioner and medical adviser and joint secretary of the Madras Neo-Malthusian League has published an exceedingly valuable book on the above subject. He has therein dealt with growth of population, average duration and expectation of life, and infant mortality in Europe and India and demonstrated by numerous statistical figures that both the birth and death rates have been falling for a long time in Europe and particularly in England and Wales, and that in India the birth and death rates are the highest in the world, that the infant mortality rate also in India does not show any sign of falling and amounts to one-fourth of whole deaths, and that one fifth of children die before they complete their first year. He also points out that the duration of life is not only lowest in India but is still decreasing while

it is rising in European countries. He observes that the four fundamental items on which action is necessary to bring India to the level of the civilised countries, America and Japan are chiefly

1. reduction of birth rate and general infant mortality rates by birth-control,

2. improving the economic condition of the people and their living by increasing industry.

The author has added a valuable chapter on birth-control wherein he advocates the absolute necessity of birth control in India from humanitarian, economic, evolutionary, Social, Medical, Eugenic and longevity points of view. He discusses the morality of birth control and observes that the subject of birth control is not new either to India or Europe and that even Smritis and Shastras enjoin control of birth. He explains the advantages and disadvantages of several recognised methods of birth control. He suggests also methods for the diffusion of knowledge in regard to birth control and for providing adequate and proper facilities for the adoption of birth control methods. The book on a whole is a valuable contribution to the literature on the subject

C. R.

We have received from the Department of Industries, Travancore Bulletin No. XXX on "Salt Manufacture in South Travancore" by Mr. C. Kumara Das, B. A., M. Sc., A. I. C., Industrial Chemist. The manufacture of salt in Travancore dates back to very early times. Blessed with a long coast line and a vast area of back waters there was never any lack of brine from which salt could be separated. The Bulletin embodies the results of experiments carried out by the state in the manufacture of salt, and gives a general idea of the industry as carried on in the State. It should prove useful to salt manufacturers and others interested in the industry.

VINASASAVADATTAM:— An old Sanskrit Drama:— (Madras Oriental Series, No. 2). To the oriental department of the Travancore State, we owe the discovery of the Sanskrit dramatist Bhasa, although as observed by Mahamahopadhyaya Professor S. Kuppuswamy Sastri in his "Foreword", the Bhasa hypothesis regarding the thirteen plays attributed to him and published in the Travancore Sanskrit Series is still open to doubt. The work now before us is based on a single manuscript deposited in the Government Oriental Manuscript Library, Madras. It is an incomplete anonymous play breaking off at the beginning of the fourth Act. The identity of the plot, style and spirit of the drama to one of the works ascribed to Bhasa and published in the Travancore Sanskrit series may suggest the authorship of the drama to Bhasa. But the evidence for such a conjecture, is very slender. It

is hoped that the fragment now published as a supplement to the Journal of the Oriental Research, Madras, will be helpful in solving some of the difficulties of the Bhasa problem.

THOLKAPPYAM:— with a short commentary in English by Mr. P. S. Subramanya Sastri M. A., Ph. D., Professor of Oriental Studies, Bishop Heber College, Trichinopoly (on leave) and now Assistant Editor, Tamil Lexicon, University of Madras, Vol. I (Madras Oriental Series, No. 3.) This is the earliest extant Tamil Grammar, a treatise long anterior to Nannool. Tholkappiam is divided into three sections, the first of which is now published as Vol. I and deals with phonology—enumeration and classification of sounds. Dr. Subramanya Sastri the learned commentator rightly says that a study of this section throws much light on the early condition of the Tamil language. The Executive Committee of the Journal of Oriental Research have done a service by making available to English educated scholars the sutras of Tholkappiam.

கட்டுரை சட்டமும் லக்ஷியங்களும் (முதல் பாகம்) **LAW AND PRINCIPLES OF CO-OPERATION IN INDIA** By H. CALVERT rendered into Tamil by Mr. M. Rajagopala Chari, Co-operative Inspector.

Published by the Tamil Nadu Co-operative Federation, Coimbatore. Price: Re. 1.

We are glad that the Tamil Nadu Co-operative Federation has brought out an excellent Tamil rendering of Calverts' Law and Principles of Co-operation in India. For many of the defects found in the Co-operative movement to-day are largely due to the fact that most of the members of the Primary societies and even many of the subordinate staff, official and non-official, are ignorant of the Principles underlying the Co-operative movement. It is true that much can be achieved through Co-operation; there is no aspect of a cultivator's activity which cannot be organised on a Co-operative basis. It is also time that if mere increase in the number of Societies serves as an index of the progress of the Co-operative movement, the progress of Madras in Co-operation has been almost phenomenal. But a perusal of the official reports and the proceedings of conferences leads one to think that all is not well with the movement. Schemes for rectification and consolidation are put forward. The cries most often heard are 'deofficialise the movement', 'have official control.' While all these touch but the fringe of the problem, propaganda work organised on proper lines would certainly educate members and induce the Co-operative spirit in them. The better informed the cultivators in Co-operative principles, the greater will be the efficiency and success of the movement.

For purposes of effective propaganda work, books like the one under review, written in the language of the people, will be found highly useful, not merely to the literate members and panchayatdars of primary societies but also to the workers, both official and non official who often feel the necessity of explaining and expounding the principles of Co-operation in the Vernacular language to the villagers. We congratulate Mr. Rajagopalachariar on having given such a lucid and readable Tamil translation of this important book.

குடிசைத் தொழில்: **COTTAGE INDUSTRIES:** By Mr. S. N. Sivasubramanian, B. A., Price 6 as.

This is a free rendering in Tamil of the Report on the Survey of Cottage Industries in the Madras Presidency by Mr. D. Narayana Rao. Since the greatest problem of the agriculturists is what to do during the slack season, Co-operators and others interested in rural reconstruction will find this book very useful as it deals with such of those industries as are suitable as subsidiary occupations for the agriculturists. It gives information regarding the method, tools, availability of raw materials, marketing of finished products etc., of many important industries. The Tamil Nadu Co-operative Federation, Coimbatore has done a great service by making such important reports available to the villagers in their own mother tongue.

கிராம நிகை **RURAL LIFE IN INDIA**, being the vernacular rendering of XIV Chapter of the Report of the Royal Commission, on Agriculture by Mr S. R. Venkataraman, B.A., B.L. of the Servants of India Society: Price 4 as. Published by the Tamil Nadu Co-operative Federation, Coimbatore.

After giving an account of the general features of rural life and bringing rural problems into relief, the booklet investigates the main factors affecting rural prosperity and the welfare of the agricultural population. The obvious relation between agriculture and public health is indicated and the Principle of Public health administration is explained. The relation between nutrition problems and agricultural practice and conditions is given. Such Tamil Publications will be found useful to villagers and propagandists alike.

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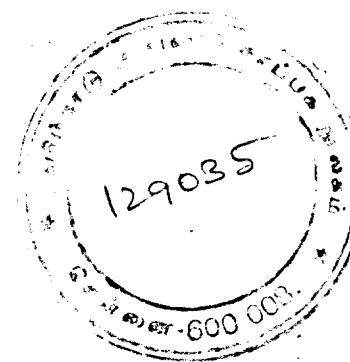
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