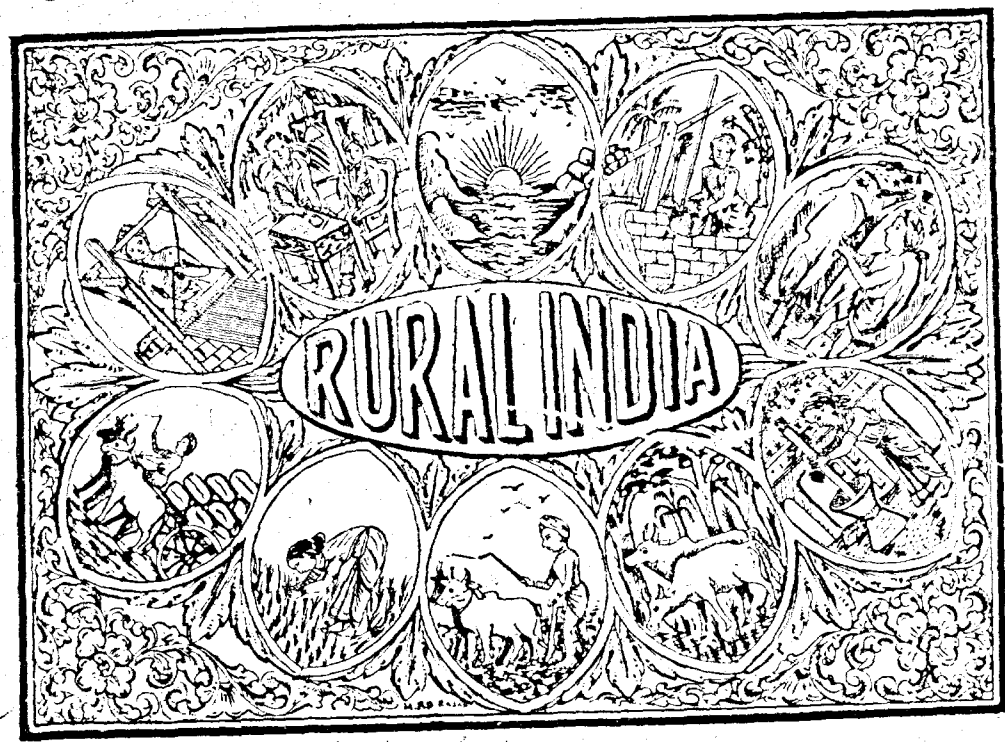
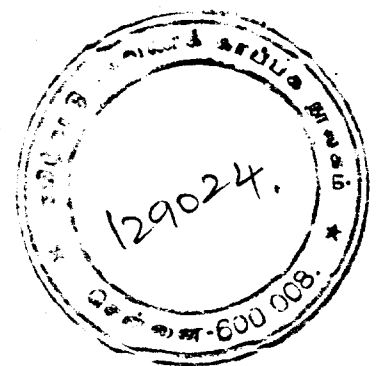


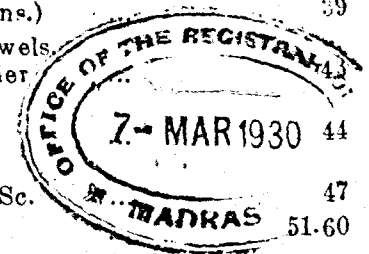
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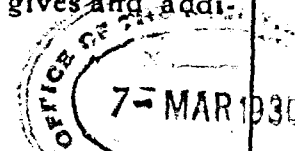
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Vol. V.

February, 1930.

No 2.

COTTAGE INDUSTRIES OF HYDERABAD STATE

General Position.

By G. A. Mahamadi, B. A., F. C. S.,

*Director General of Commerce & Industries;
& Joint Secretary to H. E. H. Nizam's Govt.,*

Hyderabad, Deccan.



BEFORE I DEAL WITH THE SUBJECT PROPER, I should like to say a few words about the general position of the cottage industries and their importance to the country. Cottage Industry really means the manufacture of articles of use on individual or family system of production, with little or no division of work in contrast with the modern European system of production on Factory lines wherein division of work is carried to a very high state of perfection. Before the advent of railways, almost all articles of use here were made in the country according to this indigenous cottage industry system and in some of them such high standard of excellence and efficiency was reached that their products were actually exported to foreign countries on commercial lines and were highly appreciated by them. The conditions are now considerably changed as the result of railways and Steamships which have brought our markets within easy reach of European Factories. Assisted with modern science and huge capital these Factories have been able to flood our markets with cheap articles and the local cottage industries in return received a set-back which was but inevitable. During the War-time India was required to supply the Munition Department but in this respect, she was found lacking lamentably. This prompted the institution of the Indian Industrial Commission and its report is a land-mark in the systematic development of Indian Industries. In every province including Indian States, Industries Departments have now been established and systematic efforts are

being made to develop the local industries. Large size industries run on modern lines may have a field in India but this field is of an uncertain nature and cannot be depended upon unless the keen competition of highly organised foreign factories working on colossal scale and backed up by huge Trusts financing organised sales, is avoided by raising the Tariff walls. This is an opinion which was lately expressed by a great English man who worked for the uplift of Indian Industries for a long time, I mean Sir Alfred Chatterton. Apart from the large size industries which need large capital highly skilled staff and considerable organisation, our social and economic conditions which have made India a cradle of cottage industries, for centuries past, make it imperative for us not to ignore our indigenous system of production altogether, but to investigate its position and its potentiality and to develop the same as far as possible.

Indian society with its castes and subcastes always tended to encourage the individual or family system of production which has continued to this day. We have thus amongst us distinct communities of Weavers, Carpenters, Blacksmiths, Coppermiths, Potters, Tanners, Oilmen, etc., which are serving the society in general in respect of the products of their industries. A few days ago we had a Conference in Hyderabad which was called "The all India Weaver's Conference." This Conference really speaking was only the conference of one caste of weavers, viz., Padmasali. There are Khatri weavers, Musalman Momin weavers and other weaver castes which had nothing to do with this Conference. The Conference showed that the caste possessed within itself persons not following weaving as profession but tied to it by caste considerations and working for the uplift of the community. The President of this Conference was a Law Graduate of Madras University practising at the Bar in Cocanada. He, however, boasted that he was a Padmasali weaver by caste. Number of weavers similarly are doing agricultural work but they count themselves always of weavers caste. Every other craft or profession in this country is thus being followed on caste system and although the economic strain at times compels a man to change his calling, he seldom changes his caste. Apart from this social peculiarity of our country our economic conditions also are such as demand our attention to chalk out some special well considered plan of work for our industrial development. We are mainly an agricultural country and the bulk of our very large population is living in villages and earning its livelihood from agriculture. Agriculture is our largest industry and it is being carried on largely on individual or family system of production. Each village has its own families of land-owners, cultivators, farmers, field workers etc. They produce from the land and live on the land. Each village has also its

own families of craftsmen, such as Potters, Weavers, Carpenters, Blacksmiths, Coppermiths, Goldsmiths, Leather workers, Oil-men etc. The craftsmen for want of custom often take to agriculture as partial occupation, but the agriculturists have seldom anything else to do besides the agriculture. If the crops grow well, the village flourishes in a small way for a time, but if the crops partly or fully fail for want of rains, then the village has absolutely nothing to fall back upon. In view of vastness of the agricultural population, distributed as it is, in villages, and dependent as it is for its living on the returns of agriculture which are proverbially poor, it is but advisable to concentrate the production of the country's requirements in villages rather than in towns, so as to enable the agriculturist thereby to add to his meagre income and thus attain to a higher standard of living. In England, a country of Industrial Trusts, we see such organisations as Rural Industries Bureau established of late under Government auspices for the development of Industries in rural areas. I was reading in the *Pioneer* a few days ago an article quoted from the *Saturday Review* on the revival of the village smithy in England in which it was stated "that five years ago the village blacksmith was in bad way there. Lorries and tractors, the reduction in the number of hunters kept and the high cost of shoeing all combined to threaten many village forges with extinction. The solution was investigated by the Rural Industries Bureau who suggested three possible side lines. (1) Repairs with oxy-acetylene Welding apparatus (2) the making by hand of certain garden and farm tools and some house fittings like latches, iron window frames, etc., and (3) the revival of decorative iron work. The results have been surprising. Over 2,000 smiths have now bought the welding apparatus and are making money by repairing the machines that had been taking away their business. Local smiths in several counties are making tools and house fittings that are not only stronger and better-designed than the machine made articles but also actually cheaper. One country, Hampshire, has established an export trade with Malay State in a cutting implement for rubber tress that is made out of worn out shoe-rasps previously thrown away." The information contained in the above article goes to show how the wind is blowing in Western countries and how ways and means are being found there to develop cottage industries and handicrafts in opposition to large scale power factories so as to give employment to larger number of persons. I may point out here that although by establishing Rural Industries Bureau special impetus is being given to the development of the rural and the home industries in England, these industries were not altogether extinct in that country before. On the other hand they were to be

found there in very large proportion distributed all over the country. While in London I knew a family consisting of a mother and a daughter. Their business was that of dress making. They had rented a good size flat room in the neighbourhood and carried on dress-making in it. Over twenty sewing machines obtained on hire purchase system worked in this room with the same number of working women employed thereon on piece-work system. The dress-making establishment was presided over by the daughter while the mother procured orders and supplied the same in the West end of the city of London. The mother and the daughter conducting this business amongst themselves were able to live a very decent life in a well furnished home rented in the suburbs of London and they were their own masters. By the organised efforts of the Rural Industries Bureau such home Industries will have much wider activities and will have new fields opened to them. The question of giving some more remunerative employment or occupation to our rural population is of much greater economic importance to us and for this reason, cottage industries and handicrafts should occupy quite a prominent place in our programme of industrial development.

At this place I may also say a few words about the fundamentals of industrial development and their bearing on our cottage Industries and crafts. If we analyse the position of industries in the Western countries we find that they not only consist of Factories which are only for making articles in their finished form, but that they are also *intimately associated* with Commerce and Finance which, really speaking, run these Factories and procure consumption of their products in distant countries. There are series of agencies through which these two fundamentals of industrial development are assisting the Western Factories. The Banks, the railways, the Shippers, the Commission Agents, the Canvassers, the travelling salesmen, the middlemen, the retailers—all are working for these factories and bringing their products to the home of the consumer. Our cottage worker and artisan may supplant Factories for the making of articles but commerce and Finance should come to his assistance to procure sale for his manufactures. Complete dissociation of these two fundamentals from our Cottage workers and craftsmen has, in a great way, been responsible for the decline and the present precarious condition of these industries. Our cottage worker is his own capitalist, his own Factory and his own salesman. Sahukar finances him on the same terms on which he finances a private needy man while the bepari (Middleman) handles his articles only if he gets the same credit as he does in handling foreign articles. The Cottage worker has no selling organisation to push the sale of his manufactures in the market. The

products of the local cottage industries therefore have been reduced to a state of rarities, novelties and are to be searched out in the market before they are procured. With his scanty means which barely enables him to tide over a wet day, the cottage worker is ever prone to cheapen his product and thereby procure quicker sale. No regular commerce can therefore be established in the products of his labour which ultimately reflects on his industry and makes him the chief sufferer therein, as he hardly gets living remuneration for his toils. If he were to be ensured a regular living wage for his day's work by some outside agency and relieved of the financing and the selling branches of his industry he may do much better and rise up to any demands of commerce that may be. Of this I may just give an example. While I visited Calicut last year, I found that certain small capitalists over there had set up hand loom factories with fly shuttle sleys getting their cloth woven on piece work system and paying the workers their wages regularly every week. The financing of the cloth-making and the selling of the cloth so made was done independently of this worker. I myself visited one of these establishments. It had a large, commodious but cheaply constructed building wherein about 150 fly shuttle looms were set up. These looms were worked upon by the weaver artisans. In the verandah of the building the women labourers were accommodated to do the winding work. The dyeing, the designing, the labelling, the packing and the selling of the cloth were attended to by the owner of the factory independently of the weavers and the winders. The weaver made from annas 12 to Rs. 1-4-0 for his 9 hours day's work according to the skill and efficiency acquired by him in weaving while the women-winder made over annas 8 per day. A community of over 300 persons including women was thus employed on making an article of use for the country and they all looked very healthy and happy and much cleaner than power-factory workers. The owner of the establishment declared that he was selling the manufactures of his establishment in all parts of India as far as Calcutta and Peshawar through traveling agents and was having good margin of profit for the capital invested by him in the business. With full co-operation of his workers who often possessed marked skill in the designing of patterns for the cloth and who have come to work the fly shuttle with marvellous efficiency he was able to put on the market *ever changing lines* and cope with the demands of commerce for any particular line, when forthcoming. An organisation on the abovementioned lines reducing the artisan's responsibility to the making of the article alone for a set wage and attending to the financing and the commerce of the industry independently of the worker, is in my opinion the only way which can materially promote

the industries of the so-called cottage workers or artizans. In this organisation no worker can have the option to come to the Factory and work or take the materials home and work in his own cottage. Persons responsible to create such organizations should be called "Captains of Cottage Industries." They can come out of our ever growing educated classes and if necessary, they may be assisted financially. For improving the skill and efficiency of the artizans, Government should establish Industrial Schools and make arrangements in these schools to give systematic training to various artizans in their respective line of work and support them with stipend during the period of their training.

Co-operative Societies amongst artizan classes, is in certain quarters suggested as an effective method for developing cottage industries by financing the industry of cottage workers and organizing the sale of its products. In the first place, the rate of interest in co-operate finances is rather too high to be of much assistance to Cottage Industries and ways and means should be found to render money available for Cottage Industries at an easier rate of interest. Beside this the societies cannot command credit more than the combined credit of the members of the society and this is too small to finance the combined business of all members effectively. But this is not all. The main drawback in this organisation is the fact that the society's work is nobody's work and consequently it is often carried on by those who are responsible for it, particularly when it is of the nature of production or distribution, not so much in the interest of the society as mostly in their own personal interest. The artizan's societies, therefore wherever started have invariably failed to show any great progress or prosperity in their trade. In view of this it may be said that unless a band of captains working on their own credit and using their own financial resources is created to guide, control and lead these artizans, assist them in the domains of Finance and commerce, and procure market for their products, there cannot be much hope of progress for their industries. State-aided banks might be established to help these captains with finances on easy terms of interest on the offer of good security for the loan in the form of immoveable property such as lands, buildings etc. It may be pointed out here that easy finances alone will not be of much avail in enabling these captains to do their work of directing and leading the artizans effectively and carrying their products through the country's markets successfully unless they acquire previously some good knowledge and working experience of their business including the maintenance of its account books and adopt modern methods of commerce for the sale of their

products. In other words these captains should be good commercial business-men with special knowledge and experience of their particular trade.

(To be Continued)

CROP PRODUCTION AND RYOTS' PROSPERITY.

By. K. Venkataraman, M. A. (Hons).

Superintendent, Agri. Research Station, Aduturai.



THIS IS A MATTER OF UNIVERSAL RECOGNITION that there is no problem which is so vital to the continued agricultural prosperity of a country, as the question of its crop-production. The growing of better crops, the reaping of heavier harvests, and the realisation of better returns constitute the 'summum bonum' of rural prosperity, and this consummation is devoutly wished for by agriculturists all over the world. It would indeed be no mean contribution to the material wealth of a country if "two blades of grass had been made to grow where only one grew formerly". Crop-production is intimately bound with ryots' prosperity, and it is superfluous to reiterate the truth of this statement in the granary of the south, where the annual paddy-yields determine the ryots' affluence.

Problems of crop-production and crop-improvement have therefore been engaging the increasing attention of agronomists, and the legacy of a vast store of scientific knowledge has been bequeathed to us. A clear recognition of the following facts is necessary to a correct understanding of the various methods employed for effecting improvements in agricultural crops.

It is a truism to say that no two individuals are exactly alike and this aphorism applies with equal force to both members of the plant and animal kingdoms. The examination of a large number of individuals belonging to the same class reveals the fact that there are minor differences distinguishing one individual from another. There are also what may be called racial differences separating one class or race of individuals from another class or race. This phenomenon of variation is of paramount importance and affords the basis for selection. The operation of hereditary factors in the manifestation of individual characters has long been recognised, though in an imperfect manner and popular sayings like "born in the blood and bred in the bone" afford ample testimony to the appreciation of racial divergence and ancestral history. It would indeed be futile, nay ludicrous to attempt

to convert a pigmy into a giant by careful nutrition. 'Nature' certainly counts in addition to 'nurture'.

The principal methods of improving crop are (1) Mass selection, (2) Line selection or Pedigree cultures, (3) Hybridisation, and, (4) Clonal selection.

Mass Selection :—

An examination of paddy plants on a ryot's field will disclose plants of diverse individual characters. Some of these plants would be good and some bad so that the total harvest obtained will be an average of the yields of good, bad and indifferent plants in the same field. If the bad and low-yielding plants should be eliminated and replaced by good ones, the yield from the crop would naturally be enhanced. The method of 'mass-selection' consists simply in picking out the best plants from the main crop and retaining seed from these plants for the next sowing. This method necessarily involves continued selection of the best plants every year, if the improvement already gained is sought to be constantly maintained. Should there be a cessation of selection one season the yield is sure to drop off immediately. The advantage, however, lies in the production of quick results, although the labour involved in the selection of best plants is a recurring factor, every season. This method has been applied with success in the selection of carrots, sugar beets, and maize. It should be noted that the maximum improvement cannot be obtained by this method of 'mass selection'. The plant-breeder should be able to fix upon the best plants possessing all the good points he has in view. Luther Burbank is famous for his achievements by mass-selection, and he is said to have had an unerring power of observation almost amounting to intuition, in fixing upon a dozen excellent plants among thousands of plants in a field.

Pure-line selection or Pedigree cultures :—

The application of this method is based on the principle of genetic purity. Vigorous and promising single plants are selected from an impure field crop, the produce of each single plant being kept separately. The progenies of the different single plants are kept apart and an intensive examination is made of all the plants constituting the off-spring of the previously selected single plants. If parental characters are found to be closely reproduced, a pure strain may be founded with reasonable certainty. The progenies, however, are kept separate and observed a second season to make absolutely sure of their true-breeding nature. When the pure strains or pedigree cultures have been isolated, accurate comparative field-trials are instituted, and extended over a period of at least three years. The strains are tested

one against the other, and that strain which emerges satisfactorily out of the comparison-ordeals is multiplied on a large scale. The seed of the strain can be depended upon to manifest and maintain the desirable characters for which it was first selected. The pedigree culture therefore, involves detection and isolation of pure strains possessed superior-yielding capacity. This method has yielded safe and extremely reliable results. The crop is not likely to deteriorate in quality and may be replaced from the original stock whenever necessary. Only the process is rather protracted and a minimum period of five years must elapse before achieving any final results.

Hybridisation :—

This method of improvement holds out great promise of future possibilities. Every one is familiar with successful attempts made to improve breeds of poultry and cattle by the crossing of local types with superior stock from well-known pedigrees, with a view to impart into the local breeds desirable qualities found in the foreign stock. The same lines of work can be applied with equal success to the problem of improvement in the races of plant. Among paddy plants for instance, there are numerous varieties, the plants of each variety exhibiting definite characters. One variety is late and heavy-yielding, while another may be early-maturing but low-yielding. It may be asked how one variety of paddy can be crossed with another. The occurrence of sexuality in plants was first demonstrated by Camerarius during the end of the seventeenth century and work on crossing of plants has reached at the present day a very high degree of perfection. If we pull apart the green husks of a paddy flower in the young stage, we find some delicate organs exposed to view. There are six slender thread-like structures carrying at the ends elongated knobs called anthers. The anther contains a yellow powdery stuff, made up of what are called pollen grains. These pollen-grains represent the male cells. There is also the ovary or seed-box with the slender style and two brushy stigmatic branches. The ovary contains the eggcells or female cells. Under normal conditions the pollen grains from the anther get deposited on the stigma of the same flower and the fusion of the male and female cells takes place giving rise to an embryo. Crossing is effected by the removal of the anthers before they burst open and shed the pollen grains, and artificially dusting the pollen collected from another plant on to its stigma. The male and female cells fuse and the hybrid seed is formed. If a cross should have been effected between one type of paddy plant having purple leaf-sheaths and another having green leaf-sheaths, the hybrid resembles completely one parent only showing purple colour in the leaf-sheath. The purple colour is then said to be simply dominant to the green colour in the sheath. This

phenomenon illustrates "Mendel's Law of Dominance". Should the hybrid plant be allowed to set seed normally, and guarded against the foreign pollen, it will be seen to produce both plants with purple leaf-sheaths as well as plants with green leaf-sheaths. Again among the plants with purple-sheaths produced by the hybrid, one third of the total number will always breed true producing only similar plants, while others will give rise to both types as the original hybrid did. In some cases, the hybrid is midway between both parents showing that the dominance of one parental character is only partial. When, however, several pairs of contrasting characters are found in both parents, the progeny from the hybrid will disclose plants with entirely new combinations of characters not found individually in either of the parents. This knowledge of the behaviour of various heritable characters is of immense help to the breeder in producing new strains.

The korangu-samba paddy for instance grown in parts of the Tanjore delta is a strain of paddy that is heavy yielding but very susceptible to a fungal disease called 'Paddy Blast'. Another strain of paddy 'Kichili samba' (G. E. D. 24) for instance, is not a good yielder, but appears to be quite immune to fungal disease. To combine the two desirable characters of 'heavy yield' and 'disease-resistance' found in 'korangu samba' and 'kichili samba' respectively, a cross will be made between the two types and the seeds of the hybrid plant carefully sown. The character carriers will segregate variously during the formation of the sexual cells and recombine. Thus we are likely to get plants which will carry the factors for both 'heavy-yield' and 'disease-resistance'. After careful observations, true breeding plants combining the desired characters will be selected and multiplied. It is thus possible to evolve a disease-resistant strain of korangu-samba. The application of this method has enabled Prof. R. H. Biffen at Cambridge to synthesise successfully a strain of English Wheat which is both high yielding and rust-resistant.

Breeding work of this kind is necessarily slow and beset with many difficulties and it may even take ten years for a new strain of paddy to be evolved from hybrid progenies.

Clonal selection:—

The knowledge that plants may be propagated by nonsexual or vegetative parts such as cuttings of sugar-cane, tubers of potatoes, rhizomes of ginger etc. is made use of in the method of 'Clonal selection'. The vegetative propagation is made only from the best and most promising plants and consequently the parental characters are easily maintained. This method has been utilised with great advantage in the improvement of crops such as potatoes and sugarcane.

Having so far dwelt at some length on the methods of crop-improvement, I shall pass on to the practical side of the question and give a brief account of the results achieved so far at the Government Agricultural Research station, Aduturai.

The work at the station is chiefly concerned with the evolution and isolation of high-yielding strains of paddy and the distribution of such improved strains to the ryots of the Cauvery Delta area. As a result of several years of patient work, eight improved strains of paddy are available for distribution to the ryots.

The improved varieties of paddy include three strains of Sirumani (Aduturai Nos. 1, 2 and 8, the last mentioned being particularly early-maturing); two strains of kuruvai (Aduturai Nos. 3 and 4); a superior strain of Nellore samba (Aduturai No. 5), and two strains of ottadan (Aduturai Nos. 6 and 7). Each of these improved strains gives an increased yield of 10 per cent and above, over the respective ryots' crop. Aduturai No. 5 (Nellore samba) in particular gives an increase in yield which is as high as 25 per cent over the ryots' crop of the same variety. These improved and high-yielding strains are spreading widely in the Cauvery delta, and the demand for seeds from the Agricultural Research station, Aduturai, is very greatly in excess of the supply; and this, no doubt, is an unmistakable testimony to the popularity of the strains.

CO-OPERATIVE SOCIETIES AND LOANS ON JEWELS.

By Rao Bahadur K. S. Venkatramier.

I find that in an address presented to the Minister of request made to permit Co-operative Societies to advance loans on jewels, the Minister has replied that there will be difficulty in regard to the valuation and appraisement. The Imperial Bank of India advance money on jewel mortgage loans and each Bank has an appraiser who is paid and who is made responsible for the correct valuation. The Bank does not advance money on precious stones but only on gold jewels. It may be proper to lend to the extent of 60 percent of the appraised value. Indians and especially ladies keep their jewels as reserve security to be used in times of need and the loans are always repaid because the ladies who spare the jewels for mortgage see that the loan is repaid and the jewel redeemed. Hence there can be no insuperable difficulty in granting jewel mortgage loans and there will be no irrecoverable debts, though when the loans are advanced on single or joint personal securities the loans remain uncollected in a large number of cases. It is hoped the Co-operative Department will enable jewel mortgage loans to be given by

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co-operative societies and see to the successful working of the several credit societies. I have been treasurer of the Permanent Fund in Negapatam for several years and have found that jewel mortgage loans are always realized. The several funds in other cities have also been realising such loans without loss.

THE KITCHEN GARDEN. SEEDS AND SOWING—(Concluded.)

(By Viswamitra.)

Side by side with the young seedlings, weeds peculiar to the soil also grow and interfere with their healthy existence. They should be immediately removed, without disturbing the roots of the seedlings. The best method of doing it, is to take a small piece of stick six inches in length. One end should be sharply mended. This sharpened stick may be employed to the soil gently and lightly and the weeds are thus easily removed. Now the seedlings grow with great vigour. If this operation is neglected, sometimes the seedlings are smothered by the weeds, and hence they are stunted.

The question now to be answered is the period of life in the nursery. It is not possible to lay down a general time limit for all vegetables, and this aspect will be dealt with when only vegetable is dealt with individually. Generally from a couple of days to even ten days are taken for germination itself and roughly a period of one month may be allowed in the nursery, that is, until they are of the size, when they can be safely pulled without detriment to their lives.

It should be borne in mind, that the seedlings in pots or boxes are grown under ideal conditions and therefore, the period of transition from the nursery to the plots, is rather a trying one for them. From more or less shaded conditions, they are suddenly planted under direct sun. Therefore all possible care should be taken, to cause them as little adverse conditions as possible. It is presumed, that by the time the seedlings are ready, the plots are also ready for transplanting, as discussed in an earlier issue. Planting should be done late in the afternoon, to avoid the ill-effects of the sun's heat and should never be done in the morning or in the course of the day, unless the day promises to be cloudy. If some rains are received and the plots are sufficiently wet the seedlings may be planted with advantage. Otherwise the beds should be properly watered to allow the seedlings to be easily pushed in and to such a depth, that the plants can have an easy hold in the soil. Care should be taken to see that the fine end of the roots are thrust in perpendicularly, instead of leaving the ends hooked--with the fine end pointing upwards.

The number of plants in each hole and the distance between plant and plant in the same row and the distance between two rows have also to be clearly discussed. In the case of direct sowing of seed in order to avoid gaps by poor germination, two or three seeds are put in each hole. But in the case of planting it is enough, if one plant is put in each hole when the plants are strong and healthy. Otherwise, two plants may be placed in each hole. But there are some delicate seedlings that do not easily recover after transplanting and in such cases, it is always safe to put in two. The distance between plants must be decided by the nature of the plants. When the plants happen to be bushy and consequently occupy a greater air space, as much space as will just allow two adjacent plants movement of the leaves in the air, without the leaves of the one overlapping on the other, should be allowed.

In the case of tender plants even though the advantage of a night is given by having the planting late in the evening they are not able to stand the heat of the succeeding days. Therefore it is safe and desirable that some shade is provided, by planting by its side some bushy branch or other, just to give some protection. This may be allowed to remain for a few days, that is, till such time that the plants have struck forth roots. Then these may be removed.

The next question that arises is, whether sowing or planting should be pure or mixed and if the latter, what should be the plants, that agree as mixtures. In all these cases, the main crops should be the criterion. Its free growth should not be interfered with. Ample space must be allowed for its free and unimpaired growth. The distance at which they are normally planted should be maintained and in order to allow a mixture the normal distance should not be exceeded. But in the interspace such plants, which have a shorter life and which can be removed, before the main crop comes to the ground, may be sown with advantage. This is one method by adopting a mixture. There is also another method by which various vegetables are grown mixed. This is generally adopted when vegetables are grown on a field scale. But in the case of a kitchen garden, except in the case mentioned above it is convenient to have vegetables planted separately to give intensive attention to each class of plants and also to pull off the plants, when they are exhausted. The plots can now be prepared for fresh sowings. Otherwise the plots have to be kept on for the sake of a few plants.

It is also economic not to have the sowings in one instalment. Early and late sowings ensures a continuity in the supply of vegetables, instead of having a sudden breakdown in the supply when the plants are over mature. (Next instalment—Economic lay out of a garden).

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STUDIES IN VILLAGE ECONOMICS GANNI.

By M. V. Jambunathan, M. A., B. Sc.,

I. Preliminary.



THE VILLAGE OF DODDA GANNI, BELONGING TO
the Chennarayapatna Taluk of the Hassan District, is
situated on the northern bank of the river Hemavati, half
a mile or so to the east of the place, where the road from
Chennarayapatna to Hole-Narsipur crosses that river.
Further, it is the meeting place of the Hole-Narsipur and Chennaraya-
patna taluks of the Hassan District, and the Krishnarajpet taluk of
the Mysore District. Five miles to the north-east lies the headquarter
town, viz., Chennarayapatna, with a quaint old fort, round which this
small town has grown up.

The total area of the village, according to the settlement Survey
of 1918, is 969 acres, 6 guntas, which is comprised of the following:-

Table No. 1.

	Government.		Inam.	
	Acres.	Guntas.	Acres.	Guntas.
Wet Lands ...	494	13	22	18
Dry " ...	128	36	29	28
Garden lands ...	27	15	0	7
Total cultivated lands.	650	24	52	13
Fallow ..	7	19		
Village site ...	9	31		
Koppal ..	2	3		
Paths and Lanes.	1	16		
Roads ..	7	3		
Halla etc., ...	26	9		
Channel ...	14	5		
River ...	74	24		
Gomala ...	72	38		
Uncultivable waste	50	21		
Total.	916	33	52	13

The lands are irrigated by a channel, which takes its origin at the
Sri Rama Devara Dam across the river Hemavati, near Mavinkere
about five miles to the west of Hole-Narasipur.

There is no localisation of castes, as is observable in a Madras
Village, the houses belonging to the families of all castes being huddled
together without any order. Even the Adi-karnataka *keri* is not far
removed from the village proper, as one would expect it to be. The

streets are not well formed—in fact there are no streets worth the name,—and cows, buffaloes, bullocks, and goats are all allowed to stand in front of the houses, tethered to a few pegs, and often blocking the lanes. Houses are built everywhere, and in all possible directions, without any idea of uniformity or decency. On the north-eastern corner of the village stand three temples, with dilapidated buildings, each facing a different direction.

The village now lies below the channel level, and measures are being taken to build the village,—rather to extend the village to some other place lying above the channel.

II. Population.

The population of the village in 1871 was 346 which nearly doubled itself by 1911, within a period of forty years. At the end of the next decade, the population had sunk by more than 10%, probably due to the heavy toll of lives due to the influenza of 1918-1919; and now it is gradually coming up to the level of 1911. The following table will bring out these facts clearly.

Table No. 2.

Year.	Males.			Females.			Total.
	Adults	Children	Total	Adults	Children	Total	
1871	...	...	...	...	...	...	346
1881	...	...	147	...	...	154	301
1891	...	...	211	...	...	221	432
1901	...	...	313	...	...	326	639
1911	...	...	330	...	...	334	664
1921	...	...	294	...	...	301	595
1925	165	133	298	199	132	331	629
1927	170	135	305	188	130	318	623

At present there are 358 adults and 265 children, which gives a ratio of 1.35 adults to a child. The total number of families in the village is 112; and this gives an average of 5.65 persons per family. The vokkaligas constitute more than half the population of the village, the Dhobies ranking next. A caste-war distribution of the population of the village is given below.

Table No. 3.

Caste.	No. of families.	No. of persons	No. per family.
Vokkaliga.	51	322	6.3
Dhoby.	14	74	5.3
Adikarnatakas.	13	69	5.3
Brahmin.	9	54	6.0
Lingayat.	5	26	5.2
Barber.	5	15	3.0
Goldsmith.	3	16	5.3
Bestha (Fishermen.)	3	16	5.3
Other Castes.	9	31	3.4
Total	...	112	623

Kanarese is the language spoken in the village; indeed there are only four families in which languages other than Kanarese is spoken, as is shown by the following table:-

Table No. 4.

Language.	Families.	Persons.
Kanarese.	108	605
Hindustani.	3	13
Tamil.	1	5
Total ...	112	623

III. Occupation.

The main occupation of the people is, of course, agriculture. Of the 112 families in the village, 102 are directly engaged in agriculture, seven families belong to non-cultivating owners, thus leaving only three families (consisting of eleven persons) that are not in any way dependent on agriculture for their living. A great many of them, as many as 92 families, own some land or other, though it be only a few guntas; and thus as Prof. Brij Narain says, "the masses indeed are poor, but they are not property-less".

The following table is intended to show the extent to which the villagers are dependent on agriculture for their living.

Table No. 5.

	Wholly dependent on agriculture.	Mainly dependent on agriculture, but follow other trades as subsidiary occupations.						Total.			
		Professionals. Barbers, Dhobies, etc.,	Money lenders, traders.	Priests, etc.,	Village officials.	F.	P.	F.	P.	F.	P.
Non-cultivating owners.	4	19	...	...	...	1	3	2*	10	7	32
Actual cultivating owners.	23	122	8	34	4	37	2	12	1	12	217
Tenants only.	4	17	8	45	...	...	...	...	...	12	62
Partly owners and partly tenants.	39	245	6	22	1	4	...	...	1	9	280
Field labourers, etc.	4	13	1	8	...	...	...	...	...	5	21
Totals.	74	416	23	109	5	41	3	15	4	31	109 612

* A second member of one of these families is a teacher in the adjoining village of Nallur.

Of the three families which are independent of agriculture for their living, one belongs to a trader who deals in leather, the second to a washerman, and the third to the village blacksmith.

The artisans in the village are all paid in kind for their services. The barber, the washerman, the blacksmith, all receive, from every family making use of their services about 25 to 100 seers of paddy per annum, depending upon the size, and status etc., of the family.

The field labourers are generally paid in coin, except at the time of threshing the grain. Men get 3 annas for working in the forenoon (8 A. M.—12 noon) and $1\frac{1}{2}$ annas for the afternoon (3—6 P. M.), while women receive one anna each time. In some cases, particularly when there is a great demand for labour, (e. g.,) at the time of transplantation, it is customary to provide the labourers with *ragi kali* in the morning. At the time of harvest, the labourers get about 5 to 10 seers of grain with free meals for each day's work.

The domestic servants are fed and clothed by their masters; and they generally receive a fair treatment at their master's hands. They are given, in addition, about 2 to 5 kandakas of grain every year. (The cost of a kandaka of grain varies from Rs. 14 to Rs. 20 according to the variety and the season) The present writer is aware of an instance in which a certain landlord, who is also a money-lender, celebrated at his own cost, the marriage of one of his servants, spending nearly Rs. 300 for the occasion. Though his action may be held as an example to be followed by others, it is not typical of the masters in the village.

It will not be out of place here to mention how the services of the village officials are paid for. The *Patel* and the *Shanbhogue* are paid annually, and not every month, as it obtains in the neighbouring province of Madras. In this village the *Patel* gets Rs. 84 per annum, and the *Shanbhogue* Rs. 170, which is more than double the *Patel's* pay. The *kuluvadi*, the village watchman, is not paid any money, but is given some lands free for cultivation. (He has no proprietary right over these lands). These are called *Inam* lands, and are subject to a reduction of the Land Revenue, varying from 50 to 100%. This amount of reduction is, in effect, the annual cash payment for the services to the *kuluvadi*, besides the privilege of the free use of the *Inam* lands.

IV.— Sanitation.

In spite of the fact that they are living in rural areas, the villagers, in general, do not present very healthy faces. Perhaps this is due to the most insanitary condition in which the village is kept. There is no arrangement to collect the drainage water and lead it outside the village. The drainage water, consequently, collects itself and forms into small pools in front of the houses, emitting an unbearable smell.

To add to this, the cattle are allowed to stand in front of the houses, or in the adjoining narrow lanes, as no suitable place, (at the back of the houses) is available for being used as a cattle shed.*

The village is fortunate in being free from epidemics. There is none in the village, capable of rendering any medical assistance when required, not even a 'quack'. The nearest hospital is the Local Fund Dispensary at Chennarayapatna, to which very few people from our village, resort and that only in very serious cases.

The water supply of the village is very satisfactory during the winter months, from July to December, when the channel, flowing in the immediate neighbourhood of the village, is well supplied with water. But in summer it is just the reverse. There is no water in the channel, and the public wells, which are only two in number, get almost dried up, and the villagers experience no little difficulty in getting sufficient water even for drinking and cooking purposes. The deepening of the existing wells, and the sinking of another well or two are some of the urgent needs of the village, which the newly constituted Panchayat may be expected to do, but its funds will be inadequate to meet such needs especially in its infant stage.

F. N. Few houses have any back-yard connected to them, and the villagers, some six or seven years ago, petitioned to the Amildar of Chennarayapatna to kindly make some arrangements and provide some standing room for their cattle. It seems they were told that some plot of land would be acquired and a portion of it made over to any one applying for it, on payment of a fee of Rs. 20. A few of the villages, immediately remitted the amount specified to the Taluk Treasury, but none of them, has been given any land as yet. Seeing that no arrangement was made as promised, they are alleged to have sent a second petition to the Amildar, praying for the refund of their money, which as yet has not been made.

NOTES & COMMENTS

MADRAS FOREST PANCHAYATS. The orders regulating Forest Panchayats are at present scattered over a number of Board's proceedings and Government Orders. With a view to consolidating those instructions, the Board of Revenue submitted sometime ago to Government a Draft Standing Order which is intended to embody all the rules that are to be observed on the subject in future. The Government have appointed a Committee of officials and non-officials with Mr. H. A. B. Vernon, C. I. E., I. C. S., Senior Member of the Board of Revenue in charge of Forest Panchayats, as chairman. The other members of the Committee are Mr. A. Ranganatha Mudaliar, M. L. C., formerly Development Minister, Dewan Bahadur B. Munisawmi Naidu

Garua, B. A., B. L., M. L. C., President, Forest Panchayats Association, Mr. D. N. Strathie, I. C. S., Registrar of Co-operative Societies, Dewan Bahadur A. Appadurai Pillai, M. A., Director of Industries Mr. R. Narasimhachariar, President, Forest Panchayat, Nanmangalam, Chingleput District, and Mr. A. Subba Rao, President, Forest Panchayat, Velgode, Kurnool District. The Forest Panchayat Officer, Mr. R. D. Paul, M. A., is Secretary to the Committee. It is understood that the Committee will meet in Madras on the 26th and 27th February, 1930 to consider the draft. The personnel of the Committee is all that could be desired and under the able and sympathetic guidance of Mr. Vernon, the Chairman, it is to be hoped that the rules that will finally be embodied in the Standing Order will be such as to conduce to the continued progress of the Forest Panchayats. The Committee might well have included such veterans as Diwan Bahadur P. Kesava Pillai, C. I. E., and Diwan Bahadur M. Ramachandra Rao, who served in the Horne Committee of 1912 and who fortunately are available to help the present Committee with their advice.

EMPIRE FORESTRY CONFERENCE. The Third British Empire Forestry Conference, which was held in Western Australia, attended by more than sixty delegates, representative of the various parts of the British Empire including India has come to several important conclusions. On the subject of Forest policy, the Conference stressed the need for laying down and adhering to a definite, and permanent general policy. Among other aspects of Forest policy to which attention was drawn, mention may be made of forest legislation for the protection of water supplies, for the prevention of erosion, for the control of shifting cultivation and for the better management of private forests. It was pointed out that provision should be made for dedication and of afforestation of areas near centres of consumption and to meet agricultural requirements. It was also suggested that the public required to be educated as to the importance of Forests and Forestry.

On the subject of forests in relation to the climate and erosion the Conference was of opinion that whereas it was probable that the presence of forests had some influence on local climate especially through the cooling of winds passing over forests, nevertheless there was not sufficient reason to prove anything definite. It was probable however, that forests were likely to effect more in this direction in tropical than in temperate climates. The damage caused by erosion in all parts of the Empire was forcibly demonstrated. The damage done consists in the erosion of hill sides, the silting up of rivers, the diminution of the perennial flow of streams and the destruction of cultivated lands by the deposition of sand and gravel both by the

action of wind and water. It was shown that while losses from these causes in the past had been enormous, their magnitude being gradually spread over a series of years, often escaped public attention. As a remedy, the preservation of natural vegetation clothing the water sheds was urged.

ART IN THE HOME. A writer describing the Japanese home life in New India states "The Japanese love of beauty is shown in many ways. In the house there are not many pictures, vases and other works of art displayed. You might think that the housewife had only the one picture and vase which you see in an alcove in the wall. But that is not the case. If you visit her in a week's time, you will find another picture hanging in the place and another solid work of art placed on a little stand in front of it. She keeps her beautiful things in a cupboard and brings out only one at a time, for with her great sense of beauty, she feels that a mass of lovely things is distracting and the eye cannot really enjoy the wealth of beauty." How very different and utterly devoid of the artistic sense is the display of pictures in the Indian home. In this respect we have to learn a great deal from the Japanese. The annual national Indian festival known as Dasra or Navarathri is essentially a festival of Indian arts and Indian culture. The idea underlying the celebration of the Navarathri has evidently been forgotten and we find that during the festival a motley collection of pictures Indian and foreign, displayed as in a show room of a picture shop without any idea of taste or design. Every Indian house hold is during the Navarathri season a veritable picture shop. We wish that some one imbued with a sense of the spiritual, artistic and cultural significance of the Navarathri will endeavour to instil into the minds of Indian housewives, its true import and cultivate in them the sense of the beautiful in art and life for which this great national festival stands.

CITY NOISES. The run-down city man or woman is advised by the medical man to try country life and change of air in rural surroundings to recoup. The advice is based on the experience of ages of the healing effects of rural life and surroundings. But how does life in a modern city affect the individual? Dr. Donald A. Laird of Colgate University, U. S. A., has in an exclusive interview accorded to a representative of the Hindu answered the question. "Thunder of trains, grinding of tram cars in their tracks, shrill toots of motor horns, the screech of brakes, lumbering vibration of snorting lorries, piercing din of steel reveters, ramble of motors, clatter of typewriters and adding machines with now and then the dull roar of aeroplanes thrown on this to our ears, is the the city of to-day, a jumble of blasting and disconcerting sounds." The question is does all this noise reduce one's

efficiency. D. Laird says, yes. His experiments on typists have shown that typing speed was 5 per cent greater when the room was only 15 per cent quieter. An expert typist wrote a letter 12 seconds quicker when she was not disturbed by the reverberations of a noise machine which reproduces the sounds heard in an average office. It was also discovered that the typists used up 25 per cent more bodily energy in a noisy room than in a relatively quiet room. Mental work is cut down even more than repetitive manual work by the amount of noise of the average office or industrial plant. Dr. Laird asks "How are we going to throttle demon noise so as to keep him from taking his toll from us in salary, efficiency and personality" and the advice given by him is we should seek quiet places to live so that the hours of freedom from a noisy office may afford us as much relaxation as possible. Thus the beneficial effects of rural surroundings on one's health and wellbeing have been scientifically demonstrated.

PASTURE GRASS. According to Dr. H. E. Woodman, M. A. Ph. D., D. Sc., School of Agriculture, Cambridge University, pasture grass kept short by efficient grazing contains a very high percentage of protein throughout the whole season. Roughly one quartar of the dry substance in such herbage consist of protein, an amount of $2\frac{1}{4}$ times as great as that found in grass which has been allowed to grow unchecked for hay. In respect of digestibility, young leafy pasturage compares favourably with a concentrate like cake. Unlike many farm concentrates, it is capable of supplying all the animal's requirements for vitamins and for bone and milk-forming minerals like lime potash and phosphates. So "the farmer's cheapest and possibly his best concentrate is to be found growing within reach of his household. The use of nitrogenous fertilisers on pastures provides the farmer with a method for converting a cheap form of nitrogen into valuable and highly digestible protein. The processes which occur during the growth of the grass, however, demand that the harvest should be held in check by efficient grazing if its high feeding value is to be retained. In a pasture land like a good Panchayat forest where efforts are made to grow grass for the use of local cattle, it may be possible to have a surplus quantity of grass. The conservation of the surplus produce of the pastures for future feeding was also investigated. The mode of preservation may either be artificial drying followed by pressing into cakes or ensiling the freshly cut grass. The cutting was so regulated that the herbage was always taken in its young leafy condition. Soon after cutting the grass was dried down in steam heated troughs and later the dried product was compressed into cakes by hydraulic presses. These dried grass cakes measured six inches by five inches by one inch and were of such a density that forty cubic feet of the compressed

material weighed one ton. They had kept the green colour of the fresh grass and had a pleasant fragrant smell. They contained eight percent of moisture and twentyfive per cent of protein. When moistened with water they swelled up considerably and disintegrated. Dried grass cake is an almost ideal concentrated food for farm stock being highly digestible and rich in protein, lime, phosphate and vitamins. But the artificial drying of young grass must always remain an industrial or semi-industrial process and for that reason the method of ensilage is likely to make a more direct appeal to the farmer. The time honoured practice of using oil cakes or other protein concentrates as supplementary food for pasturing stock is not in accord with the result of the Cambridge investigation. Such animals should receive as supplementary food, feeding stuffs which are rich in carbohydrates and poor in protein such as maize, wheat, gram, etc.

AGRICULTURAL ECONOMICS. Intensive farming, science applied to the business of agriculture and the introduction of labour saving appliances have evidently their limitations. This aspect of the agricultural problem is engaging attention in America where everything is conceived, attempted and accomplished on a colossal scale. Among the most important forces operating to bring about the present difficulties of the agricultural industry is the large increase in the productive capacity of the average farm worker. He produces more than twice as much on the average, as did his forebears fifty years ago. This increase in productive capacity has been largely due to two things. (1) Invention, production and use of machinery. (2) Tremendous advance in the science of producing crops. And one result of the production of large crops has been agitation by farmers that the Federal Government should do something special in the disposal of surpluses which depress prices and impair the purchasing power of the farmer's dollar. It has even been contended that the Federal Government should now take the responsibility for the result of its teaching of the science of production and do something about the accumulated surpluses. "Surplus Control" is now a live agricultural issue in the programme of the political parties. Over production whether it be from the mills, factories and the work shop or from the farms must have their economic consequences. The result is a declining farm population; workers being replaced by machinery and the same technological unemployment which is to-day so serious in manufacturing industries is present also in agriculture. And the fact that the farm families are moving to the towns and cities has aggravated unemployment in urban cities. The problem is likely to assume rather undesirable directions in this country though not in the near future and economists will do well

to watch the trend of developments elsewhere and safeguard the agricultural industry. The application of the Co-operative method to the agricultural industry by resort to Co-operative selling and purchasing and the introduction of credit and insurance against crop failures may afford the necessary solvents. We invite discussion on these aspects of the agricultural problem.

EDUCATION OF THE INDIAN FARMER. The Hithvada has some interesting suggestions to make on the subject. The first suggestion is for constituting a school master's holding in villages. During the course of the Revenue Settlement, it is suggested that the villagers could be easily persuaded to set apart a holding of about twelve acres of land for the village school master. The rent of this holding should be made payable by the villagers along with the rent of their land, and in proportion to it and the seed for the first year, should also be raised by the villagers by subscriptions and the duty of ploughing and performing other agricultural operations on the holding of the school master should also be performed by the villagers in rotation under the direction of the monegar. The holding should in the first instance be given to a person, resident in the village, who may be willing to take it and perform the duties of the school master. Subordinate Revenue officials might be encouraged by offer of special promotion if they succeed in bringing the school masters' holdings into existence. Landholders should also be shown special consideration if they bring school masters' holdings into existence, find out suitable persons resident in the villages to take up and perform the duties attached to them.

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A weekly newspaper called the "village school master" should be started for the use of the villagers and its annual subscription of Rs 2 should be collected by the school master. He could easily collect the sum of Rs 2 per year and the paper should be under the control of the Government. Taking the number of Indian villages to be seven laks, the annual subscription of the paper will come to nearly 14 laks of rupees per annum. With this income it will be quite easy for Government to secure the services of a first class Journalist as an Editor for the news paper which should contain all the important news of the world including special articles dealing with agriculture and the methods of improving it by ordinary means. The Editor should have the help of translators who would translate the paper into the various languages which are spoken by the villagers and the paper shall be published in all the principal vernaculars of India. On every Sunday, the village

school master should read out before the assembled villagers in the evening all the important items from the newspaper.

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In order to make the office of the village school master attractive, he should be given an arms licence free and should be encouraged to purchase a gun or a rifle. If this privilege is attached to the office of the school master, sons and members belonging to families of the landholders will come forward to serve as village school masters.

THE SRI RAMAKRISHNA STUDENTS' HOME. The Ramakrishna Students' Home was founded in 1905 with the object of creating in the Home an atmosphere of study and culture and of planting in young minds the ideals of sacrifice and service. There is a residential High School attached to the Home and an Industrial School recognised by the Department of industries was started in July, 1925; to provide instruction in (a) carpentry and cabinet making and (b) mechanical foremen and fitters' work. The courses of study in these sections cover a period of four years in each case with an additional year's practical training in a fully equipped workshop. This year the first batch of students will complete the four years' course in each of the two sections. Arrangements have to be made in the Home before the beginning of the next school year for imparting an all round practical training to the boys.

The existing small machine-shed in the Home erected at a cost of about Rs. 10,000 contains only the machinery just sufficient for instructional purposes during the first four year's course. Thus there is great need to immediately have a fully equipped workshop and additional machinery.

The estimated cost of this extension inclusive of the cost of site is Rs. 52,000. Additional machinery and accessories will cost another Rs. 47,000. The running cost which now amounts to about Rs. 8,000 per annum will rise to Rs. 15,000.

Already Rs. 17,000 has been collected by way of donations from the Maharajah of Venkatagiri, from Dewan Bahadur Alladi Krishnaswami Iyer and from the Madras Central Urban Bank Ltd. Generous help by way of grant has also been extended by Government. Lastly, it is hoped that public help would also be forthcoming to complete the work.

It is arranged to celebrate during this month the Jubilee of the foundation of the home, H. E. the Governor presiding. The foundation stone of the New Jubilee Workshop connected with the Industrial Section of the Home will also be laid on the occasion by H. E. the Governor.

A MODEL DAIRY FOR INDIA

At Anand, Bombay Presidency, H. E. Sir Frederick Sykes, Governor of Bombay, inaugurated what he described as an important era in the industrial history of the Presidency.

The occasion was the opening of the new Polson Model Dairy which is designed to revolutionise butter-making in India. The company has installed in its new factory, the latest scientific equipment for making butter under perfect hygienic conditions. This applies not only to the machinery, but also to the control of the workpeople employed. These are required to bathe and put on clean clothes provided by the company before they are allowed to begin work, and this precaution is repeated whenever they leave the factory premises, for however short a period.

The Polson Co. have devised an effective scheme for the supply of pure milk to their dairy. Selected farmers who are unable for want of means to buy milch animals straightaway will be supplied with them by the company on a system of deferred payment. Half the price of the milk sent in by the farmer will be credited to his account against the value of the animal and the balance paid to him in cash until such time as the animal is paid for and becomes the farmer's own property.

Ordinary methods of handling are entirely eliminated, and from the time the milk reaches the dairy until the butter leaves it in sealed tins, made upon the premises, the product is guaranteed to be entirely untouched by hand.

MEDICAL AID IN THE PUNJAB Sir Geoffrey de Montmorency in opening recently the new buildings of the Medical School took the opportunity of surveying the operations which the Ministry of Local Self-Government was in process of conducting against the everpresent menace of pain and sickness, in the Punjab, and referred briefly to their future stages. His Excellency pointed out that the negotiations entered into with local bodies with a view to provincialising medical institutions had been successful and with scarcely any exceptions local bodies had accepted the Government's terms.

A regular scheme has been drawn up for provincialisation within 10 years and a good start had been made. By the end of 1928 fourteen headquarter, 15 tehsil, and one female hospital had become provincialised. The efforts in the direction of providing institutions for medical relief, where such facilities were lacking, had not been wanting either. By the end of 1928, 264 dispensaries had been opened and only 111 remained to be opened to complete the five-years programme. By the end of the period there would be at least one dispensary for every 100

square miles and for every 30,000 of the population. No other Province had been able to provide medical relief on such a scale. The Punjab is leading while other provincial administrations are discussing.

AGRICULTURAL MARKETS. A Bill to provide for the establishment and better regulation of agricultural markets in H. E. H. the Nizam's dominions entitled the Hyderabad Agricultural Markets Bill is now before the Hyderabad State Legislative Council. The Bill provides for the establishment of recognised and open markets for the purchase and sale of cotton and other agricultural produce and for better regulation of such markets. The Bill follows in the main the Bombay Cotton Markets' Act. In view of the recommendations of the Royal Commission on Agriculture it has been so framed that it will be possible to extend it when desired to other agricultural produce beside cotton, but it is not intended in the first instance to go beyond the establishment of cotton markets. The following new features have been introduced into the Bill as recommended by the Royal Commission on Agriculture: Power is taken to provide for settlement of disputes regarding the business of the market by arbitration; again power is taken to prevent dealers from making secret bids and to regulate the provision of warehouses for storage of produce.

"HELLS ON EARTH".—At the inaugural meeting of the Pedestrians Association in London, Dr. A. Salter, M. P., declared and rightly that many villages in England had been turned into little hells on earth by reckless motorists. People who choose seclusion of the villages have not been left alone by the ubiquitous motorist and we learn that in England with such highly organised control of road traffic, 6000 peoples were killed during last year and 200,000 injured in road accidents. Truly was it observed by Lord Cecil who presided "we want fair play and equal rights on the highway." Following the recommendations of the Royal Commission on Transport, legislation is being contemplated to protect the pedestrian. The motor and the motor bus are penetrating into the remotest corners of the country and it will not be long before our pedestrians raise their protest.

HYDERABAD HORSE SHOW.—An annual horse fair is held at Malligudu, a town in the Bidar district of the Nizam's dominions. This year's fair came to a close early in January. This fair which has been held yearly for the last century, originated with a *jatra* or festival connected with a Hindu temple town. H. E. H. the Nizam's Government who have realised the great possibilities of the annual fair have provided a number of prizes for the various classes of animals exhibited for sale at the fair. Dr. Harold H. Mann D. Sc., Agricultural Adviser to the Nizam's Government giving his impressions of the fair,

said that the fair afforded splendid opportunities to the Agricultural Department for demonstrating to thousands of cultivators more profitable methods in agriculture and cattle-breeding. He has made some valuable suggestions on these lines to the authorities. The Agricultural Department did not fail to take advantage of the fair. They made a beginning by holding a small exhibition of agricultural implements and improved seeds. Besides horses about 200 deerni bulls of a very good type were exhibited.

REVIEWS AND NOTICES.

ILLUSTRATION IN CROSS-EXAMINATION.—The Advocacy Series—Vol. I. (Methods of Cross-Examination).

Messrs. P. Ramanatha Iyer, B. A., B. L., and N. S. Ranganadha Iyer, B. A., B. L., are to be congratulated in bringing out their "Advocacy series", the 1st volume of which is under review, under the caption of 'Methods of Cross-Examination.' It must really serve as a boon to the legal Profession of India since there is very little or no literature dealing with the methods of great Indian Advocates. It is greatly to be regretted that the only bequest we have from them is in the form of indefinite and scrappy anecdotes. The authors were therefore perforce driven to cull out the best that is available from the standard British and American treatises which deal with the scientific methods adopted by great western advocates.

The whole art of cross-examination is thus got into the compass of a neat and handy volume so as to be within the reach of all members of the Profession. The importance of the volume may be gauged from the fact that it is not given to every budding advocate to have a leader to guide him at every step; only by a study of the methods of great masters can he equip himself properly. Though each man must form his own methods, yet a knowledge of diverse methods adopted by acknowledged masters will be essential to mould his own genius.

The book consists of 19 chapters aided by an useful index. Besides the chapters on examination-in-chief and Re-Examination, the Methods of Cross-Examination has been beautifully treated under several appropriate heads such as : the Bullying, the severe, the gentle, the silent, the suggestive, the over, the bold, the quick, the random, the quibbling, the dangerous, the prolonged, the dramatic and the humorous cross-Examination. The whole book is replete with the experiences of the great western jurists and advocates such as Cox, Paul Brown, Sergeant Ballantine, Lord Brougham, Charles Russel, Campbell, Haukins, etc., The rules and principles as enunciated by such great

masters instead of being put down categorically, are clothed beautifully in the form of illuminating illustrations and by the citations are all in the choice words of the best and acknowledged writers on the subject.

The volume is neatly got up and moderately priced. It has got an able foreword from Mr. T. R. Venkatarama Sastry, B. A., B. L., It is well worth a place in every Lawyer's shelf.

V. G. Ramachandran, M. A., B. L.

MANUAL OF DAIRY FARMING. by B. K. Ghari, L. Ag. (Bom.); Lecturer, Agricultural College, Cawnpore. (Retd.) MacMillan & Co.

Dairy farming on scientific lines is still in its infancy in this country. Thanks to the efforts made by H. E. the Viceroy, Lord Irwin, the subject has been receiving marked attention in recent years, as evidenced by the feeding experiments now being conducted by the Agricultural Departments, and the establishment of the Imperial Institute of Dairying and Animal husbandry at Bangalore and the Central Cattle Bureau. To this extent, the progress so far achieved little as it has been is encouraging. But there is still a good deal to be done. The literature on the subject of dairying and cattle breeding in India is still poor and any addition to the present output is a hopeful feature. We therefore welcome Mr. Ghari's book which is mainly intended for the benefit of students in Agricultural Colleges. The book is divided into three parts. Part I on Rudiments of Agriculture deals with soil, manure and cultivation. In Part II on cattle Management, the author has dealt with the housing, feeding and general management of cattle and has given much useful information embodying the results of experiments carried out at various centres. In Part III, on milk and its products, (Chapters 8 to 11), the production of milk, care after milking, the adulteration of milk and its detection and the action of bacteria on milk and its products are dealt with. The importance of cleanliness in the production and handling of milk is stressed. Part IV on cattle breeding (Chapters 11 to 13) deals with the principles of breeding and contains short descriptive accounts of the various breeds of cattle found in this country and their breeding. In the concluding chapter of the book, the author has given useful information on dairy economics. Mr. Ghari, with knowledge and experience gained, as a lecturer on dairy farming, has written with ease and definiteness and his book should prove useful not only to students but also to others interested in the subject.

SRI THIAGARAJA—Musician-Saint—Life, works and mission
—by N. Sanjiva Rao, M. A., L. T., Lecturer in English, H. H. Maharaja's College, Pudukotah. With a foreword by K. S. Ramaswami Sastrigal. B. A., B. L., Printed at the Sri Vidya Press, Kumbakonam.

This is a lecture delivered by the author at the Sixth Anniversary of the Sangitha Sabha, Pudukotah, under the Presidency of Mr. K. S. Ramaswami Sastrigal.

Music is an unfathomable speech which leads us to the edge of the Infinite and as a great writer has said it is an art that God has given us in which the voices of all nations may unite their prayers in one harmonious rhythm. And therefore truly has it been said that music is the hand-maid of religion. This ideal was well exemplified in the life of the great musician saint, Sri Thyagaraja, one of the greatest musical artists and saints of India. As the author well says, if music has a language and a power of appeal, Sri Thyagaraja's devotional songs had this in a full measure. The author has succeeded in presenting a realistic picture of this aspect of the saint's life and the irresistible appeal of his kirthanas "that can lift the soul from the swamp of sordid selfish existence to regions of Light and Love, there to live for a time."

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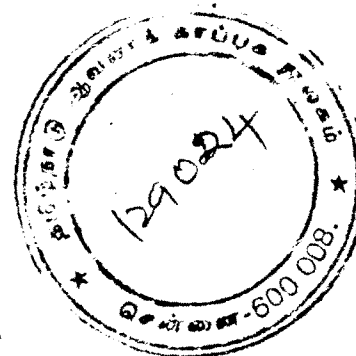
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