## AGRICULTURAL PROPAGANDA.

BY

N. S. KULANDAISWAMI PILLAI.

Deputy Director of Agriculture, Trichinopoly.

Introduction. Of all the provinces in India, Madras is mainly agricultural. The total population of the Madras Presidency is estimated at 48.64 millions in 1935 of which 71 % live by agriculture. An analysis of the population living by agriculture reveals that 43 % form agricultural labourers, 39 % cultivating owners, 12 % cultivating tenants, 3½ % non-cultivating owners and 1½ % non-cultivating tenants.

The total area under cultivation is about 34 million acres which works out to less than 0.75 of an acre per head of population. Thus the pressure of population on the soil is very great. It has increased since 1914—15 when it was estimated to be just under 1 acre per head.

This large population depending on agriculture is scattered over innumerable villages, the majority of which are accessible only to slow moving country carts even in the best of weather conditions. When rains set in, a still greater number become inaccessible to all except pedestrians.

The villagers themselves are poor, uneducated, ignorant, superstitious, heavily indebted and with a low standard of life. The enervating climate, the treacherous seasons, the social and religious customs, the scattered, sub-divided and uneconomic holdings, lack of capital and the poor cattle, all tend to retard the development of agriculture in the country and make it a losing business concern.

Of late the ryot is awakening to a sense of his position. This is the silver lining to the clouded sky; for, this will lead to his redemption in a measurable distance of time.

It is to bring the resources of science to bear upon agricultural problems and spread the knowledge obtained thereby to the ryots and thus better their lot, that agricultural departments were established in India. Prior to 1905 there were no organised attempts at agricultural improvements by Government. Since then they are increasingly recognising their responsibilities in the matter and are taking steps to discharge them.

Greater and greater attention is being paid to agricultural research. Without research, agricultural development will be at a stand-still. When research attains a certain stage, propaganda should be simultaneously carried on to spread that knowledge to the farmers. Propaganda forms therefore a complement to agricultural research; without propaganda, research will be of little use.

In the early days of the department when there were only a few workers and research was just in its infancy, there was not much scope for propaganda. The work of the department as described by Mr. James Mackenna may be summarised as follows:—

"The Problem which the department sets itself is the improvement of Indian agriculture. The basis of all progress is research. The results of research are then tested on a field scale. When the experiment is proved, the stage of demonstration is reached. All the experimental work must be done by the Department and its results offered for application in a cheap and simple way.

It is obvious that if results of a practical value are to be obtained the agricultural worker must have a thorough knowledge of Indian Agriculture and sympathetic feeling towards the people. Above all he must go slow".

He realised that "to influence to any extent the vast agriculture some arrangement must be devised to deal with large bodies of cultivators as it is an economy of time to deal with a group of people rather than to deal with single individuals". He expected this to be carried out through the simultaneous development of the Co-operative movement.

After the lapse of more than 2 decades most of these expectations remain yet to be realised. After all these years of travail, even the credit movement, which is considered to have succeeded most, has not touched more than 6% of the population.

We have now come to a stage when we have some data which will help the farmer if he is made to understand them and induced to take them up. We have tried our best to make the fullest use of the co-operative movement to do our propaganda work. Standing on this same platform nearly a decade ago, I narrated how my attempts to induce members of co-operative credit societies to adopt improved methods of agriculture failed and how I started special co-operative societies with the object of spreading improved methods of agriculture and explained the progrees then made by them. I then expected them to progress considerably better than they have done so far and hoped to start and run successfully more such societies. The unfavourable season for a number of years, the economic depression and above all want of incentive stood in the way of further development along that line.

To overcome these difficulties I started village, firka, taluk and district agricultural associations. Many of these are now moribund. They do not rest on self-help. Hence they do not function if the demonstrator is unable to look after every detail of their working. The intensive drive of mass propaganda inaugurated by our former director, Mr. S. V. Ramamurthy gives the demonstrators no time now to attend to such details of work. I am yet to hear that any similar movement has succeeded anywhere on a large scale in this Presidency.

Under such circumstances the traditional method of tackling individual ryots by the Department is more the rule than the exception. This is very laborious and still is in the nature of ploughing the sands. As one who has himself been a demonstrator, I know the difficulties experienced in carrying on the work along the present lines. The demonstrator with great difficulty has to pitch upon a few

t 43 % rating ten-

ainly

esti-

lture.

which
us the
since

over ly to tions. to all

erstiating s, the d the n the

his is lemp-

ished agrisingsteps

at a nould ners.

few not

ryots in a village to try the improvements recommended by the Department. When he visits the village next he hears that one of them has gone to a neighbouring village, the whereabouts of another are not known, a third is busy otherwise and so on and so forth. A few go on eternally discussing the improvements suggested, but never agree to work out even one of them practically for trial. Hours, days and months are thus spent by the demonstrator without any appreciable effect. I often doubt if even centuries of ill directed efforts like these will ever bring about the desired improvements. The concentration method adopted during recent years which has prevented the demonstrator from wandering aimlessly through out his jurisdiction is just a step further in the right direction; but it will not take us far. Attending 8 to 10 centres involving 40 to 50 villages is a task beyond the capacity of a single demonstrator. In deltaic areas and on the banks of rivers the villages are close together and their total area is small, while in other tracts the villages are far apart and large areas have to be dealt with. This is due to the fact that Government has based the size of villages and taluks on the amount of revenue fetched by them. In such cases it is desirable that, in addition to the demonstrator at the taluk head quarters, every Deputy Tahsildar's division is provided with an additional demonstrator, and each demonstrator is assisted by an adequate staff of maistries. Above all, there should be some organised bodies to help the demonstrator in his propaganda work.

A former Director of Agriculture in France pointed out the difficulty of dealing with individual farmers in the following words:—

"It is impossible for a Government to influence millions of petty peasants; they are individually too isolated, too suspicious, too shy to accept new ideas to undertake experiments in new methods; similarly they are too poor, too powerless to produce the best products to get better of the middlemen, and the best of the markets".

He pointed out that "there must be some organisation which enables Government to act upon a body of men at once and to serve as intermediary between the Government and the individual. An organisation which can be advised, educated, reasoned with, and listened to, and which will discuss together the suggestions of authority and will through its better educated and bolder members—provide intelligence to absorb new ideas, find courage and funds to attempt new methods and combine both for the improvement of products and for the better sale of the same."

Realising as we do the serious drawbacks of dealing with individual ryots it is incumbent upon us to discover fresh avenues which will result in leading us to better success.

A study of the methods successfully adopted by other people placed under similar circumstances may perhaps give us clues for solving our own problems; for human nature is the same all the world over.

The Japanese for example have solved their agricultural problem by imparting education, both general and agricultural, and also by the the of ther few gree and

0. 9.

iable hese tion nonist a ding

ther vith. ages

ddiuate odies

diffi-

ants;
is to

ables
diary
n be
ether
older
ds to
d for

dual will

for the

olem the establishment of various types of agricultural associations. In his note on agriculture in Japan, Sir F. A. Nicholson observes, that "the development of general education has been at the root of much of the national progress and has affected and will in the near future most powerfully affect the progress both of the technique of agriculture and the agriculturist."

Higher Elementary schools with an agricultural bias, supplementary schools to supplement the work of the elementary schools, regular agricultural schools of lower and higher grades and agricultural Colleges lead the boys from one stage to another according to their capacity, wealth etc. There are thousands of such institutions spread throughout the length and breadth of the country and thousands of pupils are trained in them.

Writing about agricultural associations the same author observed—"these are among the most remarkable evidences and are becoming most powerful instruments of agricultural progress in the country. Practically the whole agricultural population of Japan is united in various forms of associations; probably there is no country in the world, not even Germany, where the associations have taken such hold and are beginning to exert such influence".

All these were prior to 1906. During the succeeding three decades the great strides made by this country in developing its agriculture, have converted it from a food importing country to a food exporting country, in spite of the rapid increase in its population.

The Rural Districts of Denmark as late as 1880-90 had been in a bad way and the people were leaving the country parts for the towns. At the present time all authorities bear witness to the general well-being and contentment of rural Denmark. A three fold development was at the root of the progress—(1) economic reforms, (2) machinery for rural development and (3) technical advance on scientific lines. The economic reforms have been conducive to the formation and maintenance of small farms and state laws have been in the interests of the small farmers who now form their country's pride. The machinery for rural development consists of arrangements for rural and agricultural education and co-operation. Both agricultural schools and co-operative societies were started as private ventures. Scientific dairying has been fully developed on modern lines.

Coming nearer home to the premier state of Mysore it may be noted that it passed a village Panchayat Act during 1926 and gave effect to it in 1927. "The Act recognized the backwardness and the diseased state of social conditions in rural areas and felt that unless some external support and schooling were given, the Village Panchayat may not come to possess local foundations at all". Now the Village Panchayats have some obligatory functions like village communication, sanitation and also certain discretionary duties such as vaccination

ryots in a village to try the improvements recommended by the Department. When he visits the village next he hears that one of them has gone to a neighbouring village, the whereabouts of another are not known, a third is busy otherwise and so on and so forth. A few go on eternally discussing the improvements suggested, but never agree to work out even one of them practically for trial. Hours, days and months are thus spent by the demonstrator without any appreciable effect. I often doubt if even centuries of ill directed efforts like these will ever bring about the desired improvements. The concentration method adopted during recent years which has prevented the demonstrator from wandering aimlessly through-out his jurisdiction is just a step further in the right direction; but it will not take us far. Attending 8 to 10 centres involving 40 to 50 villages is a task beyond the capacity of a single demonstrator. In deltaic areas and on the banks of rivers the villages are close together and their total area is small, while in other tracts the villages are far apart and large areas have to be dealt with. This is due to the fact that Government has based the size of villages and taluks on the amount of revenue fetched by them. In such cases it is desirable that, in addition to the demonstrator at the taluk head quarters, every Deputy Tahsildar's division is provided with an additional demonstrator, and each demonstrator is assisted by an adequate staff of maistries. Above all, there should be some organised bodies to help the demonstrator in his propaganda work.

A former Director of Agriculture in France pointed out the difficulty of dealing with individual farmers in the following words:—

"It is impossible for a Government to influence millions of petty peasants; they are individually too isolated, too suspicious, too shy to accept new ideas to undertake experiments in new methods; similarly they are too poor, too powerless to produce the best products to get better of the middlemen, and the best of the markets".

He pointed out that "there must be some organisation which enables Government to act upon a body of men at once and to serve as intermediary between the Government and the individual. An organisation which can be advised, educated, reasoned with and listened to, and which will discuss together the suggestions of authority and will through its better educated and bolder members—provide intelligence to absorb new ideas, find courage and funds to attempt new methods and combine both for the improvement of products and for the better sale of the same."

Realising as we do the serious drawbacks of dealing with individual ryots it is incumbent upon us to discover fresh avenues which will result in leading us to better success.

A study of the methods successfully adopted by other people placed under similar circumstances may perhaps give us clues for solving our own problems; for human nature is the same all the world over.

The Japanese for example have solved their agricultural problem by imparting education, both general and agricultural, and also by the the e of ther few gree and

hese tion nonist a ding

s the ther with. lages cases head

head addiluate odies

diffi-

sants;
eas to
erless
of the

nables ediary an be gether bolder nds to and for

vidual 1 will

people es for ll the

oblem by the establishment of various types of agricultural associations. In his note on agriculture in Japan, Sir F. A. Nicholson observes, that "the development of general education has been at the root of much of the national progress and has affected and will in the near future most powerfully affect the progress both of the technique of agriculture and the agriculturist."

Higher Elementary schools with an agricultural bias, supplementary schools to supplement the work of the elementary schools, regular agricultural schools of lower and higher grades and agricultural Colleges lead the boys from one stage to another according to their capacity, wealth etc. There are thousands of such institutions spread throughout the length and breadth of the country and thousands of pupils are trained in them.

Writing about agricultural associations the same author observed—"these are among the most remarkable evidences and are becoming most powerful instruments of agricultural progress in the country. Practically the whole agricultural population of Japan is united in various forms of associations; probably there is no country in the world, not even Germany, where the associations have taken such hold and are beginning to exert such influence".

All these were prior to 1906. During the succeeding three decades the great strides made by this country in developing its agriculture, have converted it from a food importing country to a food exporting country, in spite of the rapid increase in its population.

The Rural Districts of Denmark as late as 1880—90 had been in a bad way and the people were leaving the country parts for the towns. At the present time all authorities bear witness to the general well-being and contentment of rural Denmark. A three fold development was at the root of the progress—(1) economic reforms, (2) machinery for rural development and (3) technical advance on scientific lines. The economic reforms have been conducive to the formation and maintenance of small farms and state laws have been in the interests of the small farmers who now form their country's pride. The machinery for rural development consists of arrangements for rural and agricultural education and co-operation. Both agricultural schools and co-operative societies were started as private ventures. Scientific dairying has been fully developed on modern lines.

Coming nearer home to the premier state of Mysore it may be noted that it passed a village Panchayat Act during 1926 and gave effect to it in 1927. "The Act recognized the backwardness and the diseased state of social conditions in rural areas and felt that unless some external support and schooling were given, the Village Panchayat may not come to possess local foundations at all". Now the Village Panchayats have some obligatory functions like village communication, sanitation and also certain discretionary duties such as vaccination

economic improvement and delegated duties including the control of the village-forests, tanks, and local religious institutions. The responsibility of supervising the working of the Panchayats is vested in the executive head of the district who is assisted by Inspectors of Panchayats, and the whole system is co-ordinated and controlled by the Registrar of Panchayats.

From a recent notification of the Government of Mysore which appeared in the Hindu of May 12th, it is found that an intensive programme of Rural Re-construction is being taken up through the Village Panchayats. More than 11,000 Village Panchayats have been constituted to administer local affairs in rural areas. The progress achieved during the 9 years the act has worked, is remarkable. More than 30 per cent of the Panchayats are said to function very efficiently.

The Government Order states that "it is felt, however, that the time has arrived to make more intensive efforts in at least some selected villages, of each district so that these villages may eventually serve as examples of good Panchayat administration which less advanced ones may be induced to follow".

"At the same time it is desirable that the Development Departments concerned with rural welfare should also concentrate on propaganda and administration work in the selected villages so far as they can be done without prejudice to their normal activities. This will not only help the officers of these departments to aim at and achieve speedy and tangible results in definite areas, but will also enlarge the scope of the work of the Panchayats".

With the above object in view, the Government have issued the following instructions:—

"(1) In each Revenue sub-division about 8 or 10 villages should be selected for special attention by the officers of the Revenue and other Departments namely Education, Health, Agriculture, Industries and Commerce and Co-operation; (2) only those villages need be selected in which Panchayats possess adequate income and are working fairly satisfactorily: (3) the items of work to be adopted should be clear in each case with reference to the needs of the locality, the facilities already existing therein and the funds available for the purpose.

The development of selected villages will be a special responsibility of the head of the district, subject to the instructions of the Revenue Commissioner and the Government and the advice of the Development Departments concerned. In order to assist the Deputy Commissioner in the work, an advisory committee consisting of the Revenue Subdivisional Officer (as organiser and convenor) and the local officer of the several development departments in the district may be constituted. The members of the Committee will arrange to tour the villages once a quarter and review the progress of work made and settle the lines of future work.

which ensive h the been

ogress More ently. it the

some tually h less

epartropathey will hieve

e the d the

ald be other s and ted in fairly ar in ilities

bility venue ment ioner Suber of

uted. once ies of

The subjects for special study in the selected villages will be among others (a) raising the standard of Village Panchayats administration (b) propaganda of better farming methods including the supply of good seed (c) rural credit and (d) marketing of commercial crops ".

I have quoted this at some length as I want to suggest the adoption of a similar method, modified if necessary to suit our conditions, to gain our ends.

The object of the Department should be to gradually shift the work of Agricultural Development from the shoulders of Government to those of the people themselves, recognising that it is not that which is done for the people but that which is done by the people that is truly beneficial and that real progress can come only from within; this transference of work is impossible unless there are popular bodies to take up the work.

These popular bodies may be Agricultural Associations as in the case of Japan, Co-operative Societies as in the case of Denmark or Village Panchavats as contemplated in Mysore. As the former two have not succeeded so far in spite of the best attempts of the Department, statutory bodies like the Village Panchayats may be brought into existence in large numbers throughout the length and breadth of the country.

We have our own Village Panchavats in the Madras Presidency but fresh life should be infused into them and they should be established in every village as quickly as possible. Their duties and responsibilities should be widened according to their capacity to bear the burden. At present their duties are confined to improve the Village synitation, health and education. It would appear that no serious attempt has been made to introduce Agricultural improvements in the functions of the Village Panchayats. Unless the material prosperity of a village is improved, the realisation of other improvements, sanitation, and health is bound to be very slow. The primary source for the material prosperity is increased out-turn from land, and this can be obtained through the adoption of improved methods of agriculture. Therefore the rapid spread of agricultural improvements should be the statutory obligation of Village Panchayats.

The time seems to be propitious. There is a very large mass of educated unemployed who can be pressed into the service of these Panchayats on nominal salaries. Knowing as we do the competition existing among them even for posts of attendars there need not be any apprehension with regard to securing their talents at a price the country can afford to pay at present for the purpose. The cheap and healthy village life and the opportunity of being pioneers in the line will induce them to work whole-heartedly any scheme launched by Government to gain the end in view.

To secure the Co-operation of the villagers themselves in the working of any scheme that may be launched, some element of compulsion may be necessary.

As one Indian Economist observes "a truth of supreme importance which all should bear in mind at the present moment is that no Government in India can give any effective help for the betterment of rural conditions by measures which do not contemplate the co-operation of villagers themselves. Another truth of equal importance is that at present the individualistic spirit which has basked under the British flag for decades together will not permit even the out-of-theway villager to heartily co-operate with Government agencies in rebuilding rural structures."

An enlightened Government must force at some stage the unwilling patient to swallow the (bitter) pill. In India co-operation by the people in rural economic development must be made compulsory by law.

"In numerous directions we want improvements. Government alone cannot hope to bring them about; people by themselves, have no means, no enlightenment, no eagerness for the common good. To bring about consolidation of farms, redemption of agricultural land from oppressive debt, freedom from unemployment and scarcity of labour and many other economic reforms, the British Indian Legislatures and the authorities in Indian States must have recourse to compulsion as the timely expedient; there is no other method of belling the cat.

We have now a sympathetic agricultural Viceroy who is all for action. The Central Government's rural grants have been increased and we expect it to become a regular feature in years yet to come. The whole of thinking India is interested in rural development. Our educational system and programme are about to be reorganised. It is said that the Central Government is in consultation with the Local Governments about the appointment of an expert committee to go into the whole question of educational reform. It is hoped that realising the position and importance of agriculture to the country, a definite bias will be given to agriculture at every stage in the curriculum; and not be content with having rural education, general and agricultural education, technical.

We are about to enter the stage of Provincial Autonomy with prospects of having Federation at the top of it within a few years. Without the reform of the man at the plough brought about by the initiative and co-operation of Village Panchayats and liberal support of the Government, the new era may yet see us far away from the millenium which it is expected to usher in.

Soils, rainfall, and agricultural practices vary widely from district to district and often between different places in the same district. In

in the of com-

ortance that no ment of -operaance is der the -of-the-

willing by the pulsory

cies in

rnment nave no d. To al land city of Indian ecourse thod of

all for creased ne. The ur edu-. It is Local to go ed that ountry, curriral and

y with years. by the support m the

district ct. In

order to increase the opportunities for research, to enable science to solve the peculiar agricultural problems of each district and to act as the local store house of all agricultural development and propaganda, it is essential that there should be one or more of Agricultural Farms in each district. Such farms may be run wherever practicable by the local Village Panchayats, Co-operative Societies or Agricultural Associations.

The possibilities of carrying home the latest developments in agriculture to the minds of young and old through movies and talkies should be explored and utilised.

In carrying on Agricultural propaganda one cannot afford to neglect the new vista of development opened up by broadcasting. Western countries true to their traditions have already made rapid strides in this line. Already some of our sister provinces like the Punjab are leading in this matter. When the Village Panchayats come to function all over the Presidency broadcasting will have to be increasingly resorted to, to educate the ryot.

## SORGHUM FOR POPPING.

BY G. N. RANGASWAMI AYYANGAR, B. A., I. A. S. Millets Specialist, Agricultural Research Institute,

and and

M. A. SANKARA AYYAR, B. A., B. Sc. Ag., Assistant, Millets Breeding Station, Coimbatore.

Sorghum, cholam (Tam) or jonna (Tel.), is one of the staple food grains of the poor and backward classes in the presidency. One of the ways in which sorghum grain can be used as a food or delicacy both by the poor and by the rich is by converting it into pops. Pops (or puffed grains) are obtained by subjecting sorghum grains to sudden heat.

Popping is done by putting small quantities of grain on a hot pan kept over a steady fire. For popping large quantities mud pots are generally used, while for small quantities, small iron pans are found to be suitable. To get uniformly good pops the grains should be a layer thick at the bottom of the pan. To ensure the proper heating of all the grains they should be briskly stirred. A small brush made out of the midribs of the coconut leaf serves this purpose well.

As the grain gets heated by contact with the hot pan it swells slightly and a longitudinal crack is developed on the bulging endosperm of the grain. This crack widens, and irregular cracks are formed cross-wise and the white endosperm is thus exposed. The grain expands into a chalky white puff, which is usually hemispherical in shape with bits of the everted seed coat sticking to its bottom. A pop may be likened to a tiny cauliflower in general appearance. When the cracking is not regular, the pops assume various shapes; some expand