

low-priced foot-wear which is within the means of India's millions could be produced from crepe-rubber sheets and canvas both of which are produced in India. We trust that rubber growers in India and Ceylon will take a bold step in the matter and refuse to live at the mercy of the manufacturer overseas.

## AGRICULTURAL EDUCATION—THE NEED OF RURAL INDIA

BY RAO SAHIB S. V. KANAKASABHAI PILLAI

*Retired Assistant Engineer, Mannargudi*

With the illiterate and the ignorant, knowing is through seeing and hearing.  
With all, the true ways of learning are by doing.  
Practice makes one perfect in his art.

**Introduction.** I feel highly honoured to be called to present a paper on a great subject, which is life and death to the great mass of rural population. I would crave your indulgence for my shortcomings but I assure you that I am ready to learn from your remarks. We must all put our shoulders to the wheel so that the almost immovable car of our Indian rural masses may start moving. I am confident, once it commences to move, then no one can stop its progress.

**The cry of "Back to Village."** We hear that our villages must improve if we, as a nation, shall not die. The cry of "Back to village," who has not heard in season and out of season? But what have we done except for a few Rural Reconstruction centres here and there, far and few between. I propose here to present a few thoughts on the spread of Agricultural knowledge and practices among the rural masses to promote their economic uplift.

**Awaken the individual rather than provide his needs.** The uplift of the rural masses consists in (1) awakening and lifting the man himself, equipping him with more knowledge and inspiring him to greater responsibility and higher character and (2) relieving him from wants and aiding him with more facilities. The latter is only a temporary help while the former is a permanent acquisition to the individual and as such the former should receive greater attention. For example, feeding a starving man is only a relief for the time being; but if he is given sufficient knowledge and a steady habit we help him stand on his legs for all time. If a physically fit beggar is continuously fed, we only ruin him and others of his type for life. In Henry Ford's workshops the lame, the cripple and even the blind are taught to do something to earn their livelihood. Thus if we are to really uplift the rural masses, we ought to help them to help themselves; they should be helped to think for themselves of their real needs, to dream

\* Paper read at the 22nd Agricultural College Day and Conference—October 1933.

as to how they can better themselves and to act to the extent they can. Where their needs are beyond their capacity, state and public help should indeed be forthcoming.

**A Determined Will, the one thing we lack.** What is essential is a determined will on the part of the State and the leaders of the nation to equip the masses as indicated above and until then the State has to bear the responsibility for "spoon feeding" them, also the leaders of the nation have the duty not only to awaken the people but also to press on the State the amount and urgency of the needs of the country. Japan has by the order of the State, removed illiteracy in the course of a quarter of a century and grown into a great industrial and military nation within our memory. China has, by the action of its leaders liquidated 80% of her illiteracy in less than half a century, in spite of her many handicaps; before our very eyes, we see what Soviet Russia is doing with her 5 and 10 year plans for her rustics who were until recently thought to be the most ignorant among European nations. How far they have advanced in cultural, vocational and industrial education is amazing even the western world. On the other hand what has been done in this ancient *punya* (sacred) land? The last few census reports prove that even our literacy, not to speak of education and industry, is unable to keep pace with the growth of population. What has become of that "watchword of hope" which His Majesty the King Emperor himself gave in 1911, in reply to the address presented by the Calcutta University :—

"It is my wish that there may be spread over the land a net-work of schools and colleges, from which will go forth loyal and manly and useful citizens, able to hold their own in industries and agriculture and all the vocations in life. And it is my wish too, that the homes of my Indian subjects may be brightened and their labour sweetened by the spread of knowledge with all that follows in its train, a higher level of thought, of comfort, and of health. It is through education that my wish will be fulfilled, and the cause of education in India will ever be very close to my heart."

It is pitiable that this noble and pious wish is more a dead letter. Can any other reason there be, but the lack of a determined will on the part of Government and the leaders of the nation, for this state of affairs?

**How our resources are frittered away.** Probably large sums of money have been spent, on buildings, lands, machinery, but not on the individuals. This institution itself is a good example and I know it is the same with the new College of Engineering at Guindy. I can admire and appreciate the high architectural effects on the inmates and the name it brings from foreign visitors for our land and the British Empire. But if there be only the fixed will as in Japan or Russia, miracles would have been worked! When the Mickado's rescript,

"It is designed henceforth that education shall be so diffused that there may not be a village with an ignorant family or a family with an ignorant member."

was promulgated, the Government did not start building schools and furnishing them but held the classes in the verandabs of houses, as was our old *pial* schools. While Japan achieved her ruler's wish, our King Emperor's words are yet to be acted upon. I am only illustrating my point and not blaming any body. Convenience and comfort are indeed good but holding on to our objective without sliding or faltering is the only sure and sincere way to achieve. Otherwise, we shall wander and squander away our resources in the by-ways without ever reaching our goal.

**Agricultural Graduates failing to lead as Agriculturists.** The agricultural education given in this college has indeed been highly scientific; and very valuable research work has been done in this Institute which can hold its own in the West or the East. The short duration sugarcane bred at Coimbatore is a bowing of nature before the agricultural scientist, and of which we specially can well be proud. This is neither the time nor the place to narrate the varied valuable achievements of this great college. Under the prospects for students trained in this college, it is stated:—

"In the case of these who return to farm their own lands, the knowledge of farm work, both theoretical and practical which they have obtained will undoubtedly enable them to make larger profits than before. For those who do not own sufficient land for this, there are opportunities as Managers or Agents to Zamindars, Planters and Estate owners, while such minor branches of Agriculture as Dairying, Poultry-keeping or Fruit-growing often prove profitable."

My enquiry is how many have thus turned back to their own or others' lands, venturing to make a living or fortune by testing their knowledge at plough's end. My information is that practically all are seeking Government jobs and failing which are swelling the ranks of the unemployed. Who and what are to blame? I admit it is more a misfit of motives than a misfit of education. The mentality of our men, old and young is mostly responsible for this state of affairs.

**Educative Value of the Agricultural Department.** In the field of education apart from instruction, the Agricultural Department has indeed many a farm in different localities. They are mostly, if not all, research stations and as such they have been useful to supply seeds of new strains of paddy and other crops. True, these are all excellent. But the average agriculturist enquires "Have you made a profitable crop for me, to follow your example?" The villager bluntly points his finger at the Agricultural Department and says Government can sow gold and reap silver with Government's finance which he cannot afford to do. Agriculture cannot be academic if it should benefit the country and the people. Probably some farms, or some crops in the farms might have worked at a profit but it is not sufficiently known. All will be glad to learn if such profitable crops have been raised.

**The Suspicion of the Villager at anything new.** If a thing, is not known, probably the department cannot be wholly blamed. They are

trying their wits' ends, to see how best to reach the people, with their conferences, exhibitions, demonstrations, leaflets and almanacs. Leaflets, are freely distributed; almanacs are priced an anna each and yet how many care to get these leaflets and almanacs or read them. As we recently ran an Agricultural course of education for the village youths at our Adult Education Centre (Koumara Gurukulam) at Mannargudi we have some experience of the ryots' mentality. They feel that no Agricultural knowledge is needed in this land which is practising this art from time immemorial and which has taught it to other lands. Any attempt to speak about manure, plough, etc., is considered a device for advertising their sales for personal profit. Of course, thoughtful mirasdars do not think so, but they are few and far between. It is the ryots who form the bulk of agriculturists and they seldom budge an inch.

**The Example of Denmark Adult Schools.** While the bulk of the people are thus suspicious and irresponsive what education will avail them is indeed a problem. Probably individual and collective examples and profitable demonstrations with facts and figures may go a long way to help the spread of knowledge. We may probably point to the example of Denmark which will support this point. In that little country there are 22 Agricultural Schools with 2897 students. The schools are all privately owned but receive State grants. Here there is both practical training and the theoretical instruction and the courses are for periods less than a year. The students are practical farmers and farmers' sons. When the people engaged in Agriculture either as proprietors or working managers are keen in their business and desire to learn things, then such schools thrive.

**The proposed Agricultural Colony at Mannargudi.** What will benefit our villager is a net-work of such practical schools for adults for short terms where the educated unemployed and young villagers can labour and earn their livelihood while under training. Government aid will be necessary in the earlier stages. As Agriculture in India can never be as profitable as in Denmark, progress of these schools must indeed be slow. As the dignity of labour is yet to be understood, there is a great bias to get over. The proposed Agricultural Colony is an attempt for a training school of this type.

**The need to train the labourers as well as the landlord.** The training should be cheap and open a way for middle class villagers, but it will not be sufficient. The real person who does the work is the cooly and until he realizes the value of the improved farming, whatever it be, any amount of goading from the master will not produce results. The lack of education and training for the cooly is a great block on the way of our economic betterment though the same helps the master to keep him as a good drudge and a slave. We have to decide for ourselves, whether we want industrious fools whom we may

deceive and exploit with low wages and long hours or intelligent and businesslike labourers with square wages and hours. The days of the former are tolled and with the advancing democracy our security rests in uplifting the labourers. *New India* gave the following statistics regarding the capacity of labourers in different countries:—

China ...	1	England ...	18
India ...	1½	Canada ...	20
Germany ...	12	United States	30

No greater eye opener is needed than the above figures. An agricultural country like ours can never compete with an industrial country of the west; yet if our economic interest is to be served, we should help our coolies to do better. What else can help them in this direction, than education and practical training?

**Central Elementary Schools with an Agricultural Bias.** I am aware that the Government Agricultural farms at different stations train maistries and coolies to a certain extent. The provision thus made is only for 38 at a time for the whole Province. Even these are job hunters. Except for a few who may come from neighbouring villages, does any one avail himself of the training? This can never serve the object in any appreciable manner. The only way to bring up the rural masses to a due understanding of their uplift is to combine Elementary education with Agricultural education. Then it is possible to reach a large mass of rural population. We may leave the three R's to the pial schools. The knowledge of the three R's may remove rank illiteracy but elementary education is something better. It will include certain sanitary, cultural, vocational, social aspects of life. For a certain group of villagers say for a radius of 12 miles, a central Elementary school with an agricultural bias should be run with a small farm which will pay its way from its earnings. The pupils who will be about 12 to 18 years of age may work in the field for certain hours regularly and have their noon meals, if not full boarding and lodging, at the farm. A small fee may be charged for training. While an institution of the Colony type sketched in the previous para may attract fairly upper middle class adults, this elementary School can draw lower middle class and labouring class youths.

The idea is not altogether a dream or a speculation. The American Arcot Mission runs a school of this type at Katpadi and there is a Mission Boarding School for girls near Madura Town rendering similar service. It is a beautiful sight to see these girls transplanting in their lands, milking their cows and attending to their class lessons. There is no need to purchase land as land may be leased. If only our richer and learned classes realise that "Service to man is worship of God", money will not lack in the land. There is no use expecting any Government to do every thing, while we fold our hands; Government can be expected to aid, if we start in right earnest. This

principle is admitted by the Government too, as they are insisting on garden work being taken in schools. But what is thus attempted in schools is nothing more than children's play and it cannot yield any appreciable useful result.

**Experiences of Ages not to be lost in the Pride of the Present.**

The above proposals may be thrown out by the sceptics as being ambitious but what the foreign missions are capable of, we should be able to do, and the present awakening of the country is a hopeful sign. But even the sceptics should be able to do much simpler things; one such way I will offer now, and let there be no excuse from any quarter. There is already in the country plenty of experience of ages, buried up in the literature of this ancient land. Are we making any use of them? The tendency of the modern is to forget the past in the pride of the present and begin everything anew. This is a great danger to our progress and a great loss to our equipment. Hear the clarion call of Swami Vivekananda:—

"Children of India, I am here to speak to you today about some practical things and my object in reminding you about the glories of the past is simply this. Many times have I been told that working into the past only degenerates and leads to nothing, and that we should look to the future. That is true. But out of the past is built the future; look back, therefore as far as you can; look forward, march forward, and make India brighter, greater, much higher than she ever was."

Let us learn what lessons are locked up in the literature of our land, in Sanskrit and Tamil. They may not have been acquired in the modern way and expressed in the modern formulae; if the modern scientists worked in an artificial laboratory and tested their methods by delicate instruments, the ancient savants learnt their lessons in Nature's laboratory under realistic conditions tested by ages of time.

With the decadence of ancient languages like Sanskrit this experience of the past is being lost, to the country, though it is an easier and cheaper method to reach the heart of the village folk. Telling them "it is in your own books" will always reach the heart of villagers and secure their trust and action. A warning is needed here. This real and reliable knowledge is indeed got so much mixed up with fantastic speculations that an eagle's eye is needed to sift the grain from the chaff. But that cannot be an excuse for throwing the child with the cradle. Many of these are in vogue as proverbs; some are known and in use, many are forgotten. Mr. Benson, lately of the Agricultural Department, is one who has devoted his thought to collect and utilise them. But since his days, this has not received sufficient attention. Particular attention may be given to broad-cast them in leaflets. They are often laconic with limited ideas. But there are more detailed thoughts spread over many a larger volume like the *Puranas* and as far as I can see no attempt has been made to collect them.

Let me give an example or two :

### Symptoms of rains and the Coming floods.

1. ஆற்று வெள்ளம் காண வரத் தேரற்றுநே துரி—மலை  
யாள மின்னல் சுழமின்னல் சூழமின்னல் ;  
நேற்றும் இன்றும கொம்பு சுற்றிக் காற்றடிக்குது—கேணி  
நீர்ப்படும் சொறித்தவளைக் கூப்பிடுது ;  
சேற்று நண்டு சேற்றைக்கீள்வி ஏற்றடைக்குது—மகழ்  
சேடி ஒரு கோடிவாயை பாடி ஆடுது ;  
போற்று திருமாலழகர் ஏற்றமாம் பண்ணைச் சேரி  
புள்ளிப்பள்ளர் ஆடிப்பாடித் துள்ளி கொள்ளுமே,  
--மு.சு.கூடற்பள்ளர்

Which may be translated as:—

See the signs! Expect the river in floods to-morrow!  
Lightnings envelope in Malayala and Ela lands ;  
Yesterday and to-day storms twisting the tree branches ;  
The well toad bedecked with eruptions croaks ;  
The crab in the mud banks up her hole, with bits of clay ;  
Hoping for the rain, the lark dances in crores.  
Pray to the beautiful Vishnu and dance !  
Oh! Pallas of the prosperous farm !

### Sowing less seeds and Transplanting singly

விக்கைதர்துறைத்து கலக்கக்கொறித்து விரிகடல்சூழ்  
இக்கைக நாற்றைத் தவித்தவி ஊனறி—இளப்பயரின்  
நடுவே சிறுகநீரை ஈடுக்கால் சூத்துப்பருத்துக்  
கூசிர்பல நீண்டு குலுங்கிடுமே.

Sow the seeds wide, reducing the quantity ;  
From such a nursery transplant singly ;  
Irrigate this tender crop gently with little water ;  
Then will it yield a bumper crop full of many long sheaves.

The former is an extract from a country ballad known as " Mukku-darpallu " but the source of the latter is not known. How very graphic and touching they are ! The modern meteorologists have yet to discover such natural signs of weather. The latter puts the modern agricultural experts' case for improved seedlings and transplantation in a nut shell.

**Living Word and Living Example, needed above all.** Other ways and means for spreading knowledge may be thought out. But this will suffice for the present. All the attempts by the Agricultural Colleges, Schools, the Department and other agencies can only put knowledge into the rural minds. But the mind without the heart is a body without a soul. The spirit of the villager has to be aroused, his emotion and enthusiasm awakened. Enthusiasm is contagious and it can be

stirred only by "Living Word" and "Living Example". Thus we need above all in the villages men who will be an embodiment of knowledge, inspiration and example—persons who can put heart and soul into the despairing rural population. Such patriotic souls, who can pour knowledge as sacrifice at the altar of the Motherland is the greatest need of the hour in India, during those days of renaissance and reconstruction. May they come forth in sufficient number and great speed!

## THE BREEDING OF THE THICK TYPE OF CANES FOR INDIA\*

BY N. L. DUTT, M. Sc., & M. K. KRISHNASWAMI, M. A.  
*Imperial Sugarcane Breeding Station, Coimbatore.*

So far as their distribution in India is concerned, the thick or tropical type of canes are grown chiefly in the Madras and Bombay Presidencies, as also in Burma, parts of Bengal, Assam and in the North-West Frontier Province. Besides their cultivation in the above mentioned parts, these canes are grown for chewing purposes in the United Provinces, the Punjab and Bihar. According to the Sugar Committee of 1921, the area under the thick canes, in the United Provinces alone is estimated to be 75,000 acres.

As is well known, the yield from the thick type of canes (*Siccharum officinarum* L.) is considerably more than that of the indigenous North Indian canes (*S. Barberi* Jesw.). In the Madras Presidency, the yield is about 28 tons per acre and in the Bombay Presidency the yields are fairly high and compare favourably with those obtained in Java. The drawback, however, is the high cost of production which is from 7 to 12 annas a maund in Madras and about 12 annas a maund of cane in Bombay, a price which is much higher than in Bihar where it is between 4 and 5 annas per maund. The aim therefore, has been to produce canes of the thick type which should be hardy and whose cost of production would be less. It is proposed to deal in this brief and preliminary note the manner in which the Imperial Sugarcane Station, Coimbatore, is trying to solve this aspect of the Indian Sugar Industry.

The breeding of the thick type of canes was taken up at Coimbatore in 1926 when a separate area of 28 acres was acquired for this purpose. It may be mentioned that in the earlier years (i.e. 1912 to 1914) of the Coimbatore station, 17 seedlings of the thick type were produced, as the thick canes happened to be the only ones flowering at that time. The work on the breeding of this type of canes has also been in progress at Hebbal under the Mysore Department of Agriculture, as a result of which the varieties H. M. 320 and H. M. 544 are being grown in the Mysore State as also in certain localities beyond the borders of the State.

\* Paper read at the 22nd Agricultural College Day and Conference, Coimbatore—October 1933.