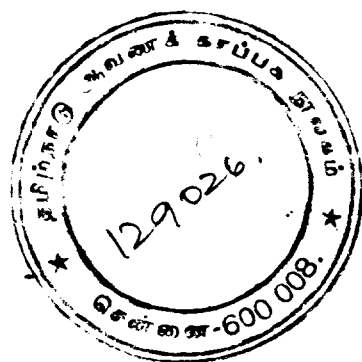
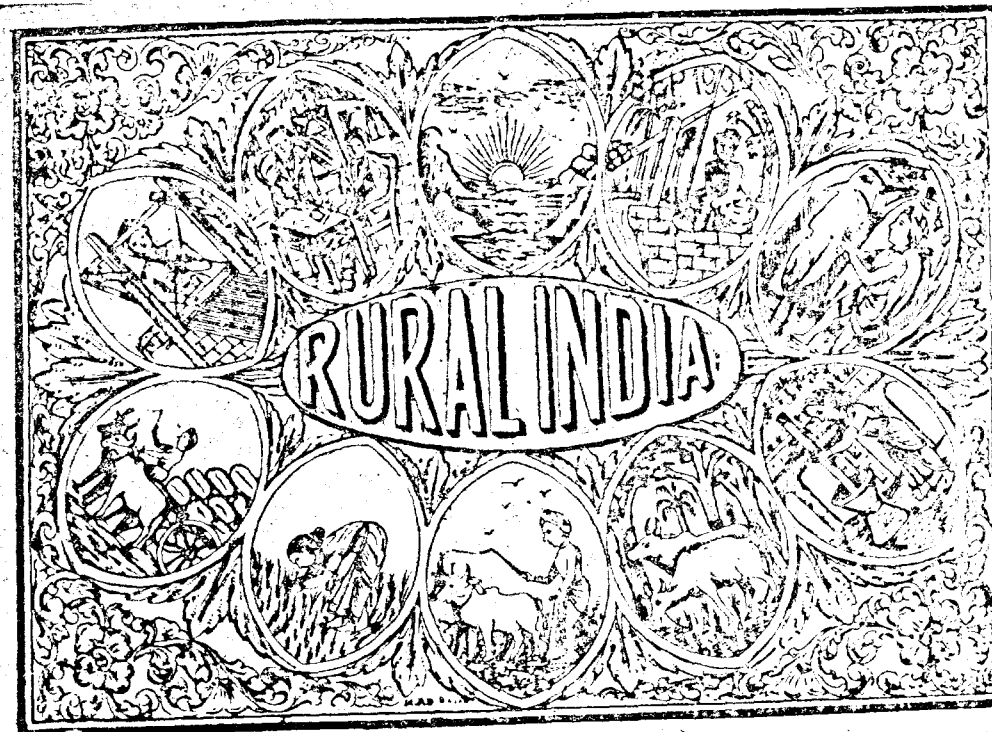




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Office : Mylapore: Madras.

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RURAL INDIA

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Vol. V.

July, 1930.

No. 7.

SOME USEFUL LESSONS FROM THE AGRICULTURAL RESEARCH STATION, ADUTURAI "

By K. Venkataraman, M. A.,

Superintendent, Agricultural Research Station, Aduturai.

1. Best manner of raising 'kuruva' seed-beds and the best time for sowing 'kuruva'

(a) NURSERY METHODS.



URUVAI IS A SHORT DURATION CROP OF PADDY
which takes about three months to mature from sowing
to harvest. Generally in the Tanjore delta, kuruva-
nurseries are dry ploughed and the seeds sown in
'puzhuthi' (dry seed beds) soon after freshes are recei-
ved in the river. It was considered worth-while investigating whether
wet seed-beds (Sethunathu) prepared after regular puddling could be
adopted in place of the dry seed beds. Accordingly, Kuruva seedlings
of two Aduturai kuruva strains, Aduturai Nos. 3 and 4, raised at the
same time by the two different nursery methods were planted out, side
by side for comparison in equally-dimensioned strips. The harvested
yields from the similar plot units were carefully recorded, and the
statement given below indicates the superiority of seedlings raised in
'dry nurseries.'

TABLE NO. I

Crop	Nature of nursery.	Grain yield in Decagrams of 4 strips each measuring 4' by 40'	Percentage.
Aduturai No. 3	Wet	2,046	100
do	Dry	2,437	119
Aduturai No. 4	Wet	1,964	100
do	Dry	2,371	121

The adoption of dry nurseries for kuruva crops, appears therefore
to be well-founded and advantageous.

(b) BEST TIME FOR SOWING KURUVAI.

Kuruvai seeds are normally sown in the month of June, with the advent of freshes in the river. It was obviously a matter of interest to find out whether such sowings could be delayed without detriment to yield, and if so to ascertain what was the best time for sowing. Trials were conducted at the Agricultural Research station, Aduturai, for two seasons continuously to test the effect on yield of deferred fortnightly sowings of kuruvai, commencing from the normal time of sowing. The trials were conducted with two Aduturai kuruvai strains Nos. 3 and 4 and the general indication of the results for both the years has endorsed the wisdom of early sowings for 'kuruvai'. The tables given below show clearly that delayed sowings with 'kuruvai' involve diminished yields.

TABLE NO. I.

Effect of deferred sowings upon yield of kuruvai
(Aduturai strains Nos. 3 and 4)
1926—1927.

No. of sowing and crop.	Date of sowing.	Total yield in Decagrams of 4 strips each 4' by 40'	Percentages.
I Aduturai No. 3	13-7-26	1,724	100
II do	25-7-26	1,029	60
III do	9-8-26	751	44
IV †	†	†	†
V do	8-9-26	448	26
VI do	23-9-26	408	24
VII do	8-10-26	231	13
VIII do	23-10-26	67	4
I Aduturai No. 4	9-7-26	1,617	100
II do	25-7-26	1,279	79
III do	9-8-26	950	59
IV †	†	†	†
V do	8-9-26	752	47
VI do	23-9-26	705	44
VII do	8-10-26	571	35
VIII do	23-10-26	204	13

† IV sowing on 21-8-26 did not germinate and was discarded.

TABLE NO. II.

Effect of deferred sowings on yield of kuruvai
(Aduturai Nos. 3 and 4)
1927—1928 season.

No. of sowing and crop.	Date of sowing.	Total yield in Decagrams 4 strips each 4' by 40'	Percentages.
I Aduturai No. 3	2-7-27	1,517	100.0
II do	16-7-27	1,739	114.6
III do	30-7-27	982†	64.7†
IV do	†	†	†
V do	27-8-27	1,112	73.3
VI do	10-9-27	674	44.4
I Aduturai No. 4	2-7-27	1,715	100.0
II do	16-7-27	1,559	90.9
III do	30-7-27	1,128	65.8
IV do	†	†	†
V do	27-8-27	1,103	64.3
VI do	10-9-27	899	52.4

2. Delayed transplantation of pulled out seedlings :—

It is not often possible for ryots to transplant seedlings immediately after pulling them out from seedbeds. Heavy rain, long distance to be carried, and scarcity of labour are a few of the limiting factors. It is therefore a matter of concern to the ryot to know for how long pulled out seedlings may be safely kept prior to planting without the yield being adversely affected.

In 1926—27 an experiment was laid out in lines (with six inches between plants and one foot between lines) using seedlings of Aduturai No. 2 pulled out on a particular day and planted in six successive batches (i. e.) those planted the same day, the second day, third day, fourth day, fifth day and sixth day. The results (vide table No. III) disclosed that the transplanted seedlings did not establish themselves satisfactorily if planted later than the third or fourth day, but that the tillering capacity and yield of the established plants did not vary much upto the fifth day.

† Seedlings damaged by rats and crabs, gaps not refilled.

‡ Sowing on 13th August 1927 produced diseased seedlings, hence discarded.

TABLE No. III.

1926—1927 trials.

Seedlings when planted.	Percentage of establishment.	Average tillering capacity. (average of 60 plants.)	Yield of 100 plants in Decagrams.
Planted same day	95 %	11.8 tillers	141
„ second day	95 %	10.8 „	145
„ third day	93 %	10.8 „	144
„ fourth day	91 %	10.5 „	145
„ fifth day	85 %	10.8 „	153
„ sixth day	48 %	9.3 „	129

In 1927—28, the trial was repeated on a field scale, planting in bulk with seedlings of Adaturai No. 2 again as such a test would give more reliable data for basing any general conclusion upon. Accordingly the testing was conducted in field-scale sub-plots of 3.06 cents each, with four replications of treatment and the figures given in table No. IV disclose that there is no apparent detriment to yield in keeping the seedlings upto the fifth day.

TABLE No. IV.

Effect of delayed transplantation on yield.

(1927—28 trials)

Crop — Adaturai No. 2 bulk. Sown 20—7—1927.

Seedlings pulled out on 27—8—1927.

Total yield of four similar plots of Adaturai No. 2 each measuring 46 feet by 26 feet (3.06 cents) planted.

	Same day		Second day		Third day		Fourth day		Fifth day	
	Grain	Straw.	Grain	Straw.	Grain	Straw.	Grain	Straw.	Grain	Straw.
In lbs.	394	924	393	916	396	986	401	901	403	943
Percent- age	100	100	100	99	101	107	102	98	102	102

It is therefore quite safe to keep pulled-out seedlings when compelled to do so upto five days before actually transplanting them. Only care should be taken in keeping pulled out seedlings to ensure that their roots are well under the soil, without being exposed to the sun.

COOPERATIVE IRRIGATION IN INDIA.

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



IT IS AN EXTRAORDINARILLY CURIOUS FACT that a country like India, predominantly agricultural as it is, should have failed to concentrate its energy in improving its irrigational facilities. Irrigation, as is well known is the very bed rock of rural economics and welfare.

With the enormous water resources at our command it is lamentable that we have not made the best use of them. No doubt, we have our ancient water ways and the latter day irrigational developments engineered by the British Government. But that takes us only to the fringe of the question. For it will be seen that there yet remain many acres of land in every village which if blessed with proper water supply will yield thrice its present turnover. It is not every village that is blessed with a river or a water channel. There are innumerable dry tracts in South India where the ryots are so poor that proper wells could not be dug out. And in places where there are wells, water is at too low a depth (especially in summer) that the need for a pumping installation is keenly felt.

It was opined that with the advent of the Cooperative movement the ryot will see the dawn of a plentiful era. But 'Cooperation' as at present practised sought only to give him credit facilities as if that was the only sovereign remedy for his economic ills. Cooperative credit though essential to a poverty ridden India, yet it must be admitted that too much emphasis has been laid on that. The need for applying cooperative effort in starting agricultural societies, store societies and Irrigation societies, is increasingly felt now a days.

It is quite usual for the South Indian Ryot to exhibit supreme indifference in the matter of irrigation. The spirit of comradeship and joint effort is often found lacking.

To foster joint action the message of cooperation must be brought home to the ryot. "All for each and each for all" must be his daily motto in every activity of his.

From a study of American cooperation it will be noticed that in no other industry in the United States is there so large an effort at cooperation as in Irrigation. For of its total irrigated area of 14 million of acres, no less than one third is under Cooperative enterprise. That accounts for America's economic prosperity.

Why then should India not copy the American example? It must be admitted, however, that India too had waken up from its traditional sleep and has experimented at this in Bengal and the United Provinces.

Bengal is the richer on account of its Irrigation societies. For all efforts at agricultural improvement will be fruitless if facilities for irrigating the land are not forthcoming. Indian rural and agricultural economics is at too low an ebb to ignore this aspect.

The experiment has been tried in Bengal and found successful. Our plea is that her sister Provinces especially South India must emulate her example. Let us therefore sketch out the Bengal scheme. In Bengal cooperative Irrigation societies have made considerable progress since its advent in 1916 at Khelar in Midnapore District. At the end of 1925-26, they numbered 350 in Bengal with a total membership of 12092. They have done good work in Bankura and Birbhum Districts where they now control an irrigable area of over 23000 acres. The organisation of these Societies is said to have changed the outlook of the people and to have strengthened their economic position.

A working idea of one such Irrigation society will be of very great educative value to the South Indian Ryot. Most of the Societies in Bengal have for their objects the construction of new sources of irrigation and the improvement of those already in existence. They attempt at either the construction of dams across perennial streams with a view to hold up water from the streams and utilise it by means of irrigation channels or at reclaiming old silted-up banks and bunds. The latter class of societies are much less expensive than the first and are said to be more popular in Bengal. Embankment societies to protect low lying acres and to prevent salt water from damaging the crops have also made a beginning in Bengal. It is said that with expert help and guidance the growth of these societies is assured.

The objects of such societies have been outlined in their bylaws:—

1. To irrigate lands
2. To dig, cut, maintain reservoirs canals, water courses, bunds or any other work to facilitate the irrigation of such lands.
3. To hire or purchase modern scientific appliances for the irrigation of such lands etc.

An irrigation society started with the above objects will be one of everlasting benefit to the ryots on payment of a nominal fee. The main features of the society are:—

1. The limited liability of members, the liability being fixed at a certain multiple of the normal value of their shares with a view to offer the creditors adequate security.
2. Fixing the number of shares of each member in proportion to the extent of the land to be benefited by the irrigation work.
3. Execution of Irrigation schemes by means borrowings in the

event of the inability of the members to pay full value of shares all at once and recovery of shares subsequently in instalments.

4. Provision for proper maintenance of completed irrigation works by a levy of water rate.

From the above it will be seen that it is quite possible to organise water supply societies in suitable tracts for the pumping of water from rivers, streams and large shallow lakes and supplying the same to agriculturists who are members of the society. Supply to non-members is also possible; only the collection of dues will offer technical difficulties. Similar organisations will also be feasible in the case of pumping installations attached to wells with a large supply of water, specially tube wells, in tracts where such wells can be sunk with advantage. In places bereft of proper wells, a number of wells may be dug up by cooperative effort with least expense on the part of one individual ryot.

It is not possible for an individual agriculturist to undertake the cost of a pumping installation or to embark on big irrigation schemes. Collective effort and collective credit as is afforded by co-operative societies can alone solve the problem. Expert agricultural Engineers are needed to guide the ryots. The appointment in Bengal of an Agricultural Engineer (whole-time) and the institution of a central co-operative irrigation Bank with its branches in several villages to finance such irrigation schemes are steps in the right direction.

The above suggestions if acted upon in our own Province, will bring an era of prosperity to the poor ryot. By himself the Ryot is so unimaginative and often lazy. It is the co-operative movement in our Province that must take up the cause. The ryot must not only be given credit but must be shown how best to use it for his own good. It is the earnest prayer of the writer that non-official co-operative pioneers will take the lead and press for the formation of irrigation societies all over South India on the model.

CITIES AND VILLAGES.

By Rabindranath Tagore.



VILLAGES ARE LIKE WOMEN. IN THEIR KEEPING is the cradle of the race. They are nearer to nature than towns; and are, therefore, in closer touch with the fountain of life. They have the atmosphere which possesses a natural power of healing. It is the function of the village, like that of woman, to provide people with their elemental needs, with food and joy, with the simple poetry of life, and with those

ceremonies of beauty, which the village spontaneously produces and in which she finds delight. But when constant strain is put upon her through the extortionate claim of ambition, when her resources are exploited through the excessive stimulus of temptation, then she becomes poor in life, her mind becomes dull and uncreative.

Modern cities are constantly growing bigger, only because no central spirit of Unity exercises vital control over their growth of dimension. There can be no end to their addition of hugeness, because their object is not to modulate human relationships into some beauty of truth, but to gain convenience.

When in the Samskrit poem *Maghaduta*, we follow the path of the cloud-messenger, and in imagination, pass over the old-world towns mentioned in it, with their beautiful names, we feel that the poet in reciting them was giving voice to his hungering delight in some remembrance; we instinctively know that these towns expressed more than anything else the love and hope of man, treasuring some of the splendor of his soul in their houses and temples, with their auspicious daily accomplished by women, and even in the picturesque bartering that went on in their market-places. But modern cities merely give opportunities, not ideals.

Cities there must be in man's civilization, just as in higher organisms there must be organized centres of life, such as the brain, heart or stomach. These never overwhelm the living wholeness of the body; on the contrary, by a perfect federation of their functions, they maintain its richness. But a tumor, round which the blood is congested, is the enemy of the whole body upon which it feeds as it swells. Our modern cities, in the same way, feed upon the whole social organism that runs through the villages; they continually drain away the life-stuff of the community, and slough off a huge amount of dead matter, while assuming a lurid counterfeit of prosperity.

Thus, unlike a living heart, these cities imprison and kill the blood, and create poison-centres filled with the accumulations of death. When a very large body of men comes together for the sake of some material purpose, then it is as a congestion and not a congregation. When men are close together and yet develop no intimate bond of human relationship, there ensues moral putrefaction. Wherever in the world, the modern civilization is spreading its dominion the life-principle of society, which is the principle of personal relationship, is injured at the root.

- All this is the result of an almost complete substitution of true civilization by what the West calls "Progress". I am never against progress, but when, for its sake, civilization is ready to sell its soul

then I choose to remain primitive in my material possession, hoping to achieve my civilization in the realm of the Spirit.

People, as a whole, do and must live in the village, for it is their natural habitation. But the professions depend upon their special appliances and environment, and, therefore, barricade themselves with particular purposes, shutting out the greater part of universal Nature which is the cradle of life. The city, in all civilizations, represents this professionalism—some concentrated purpose of the people. That is to say, people have their home in the village and their offices in the city.

Will all know that the office is for serving and enriching the home and not for banishing it into insignificance. But we also know that when, goaded by greed, the gambling spirit gets hold of man, he is willing to rob his home of all its life and joy and to pour them into the hungry jaws of the office. For a time such a man may prosper; but his prosperity is gained at the cost of happiness.

The professions, because they get all power into their hands, begin to believe that people live to maintain them. Thus we often see a lawyer thrives by taking advantage of the weakness of his clients, their helpless dread of loss, their dishonest love of gain. The proportion between the help rendered and its reward demanded loses its legitimate limit, when it is not guided by any standard of social ethics.

Such a moral perversion has come to its extreme length to-day in the relationship of the city and the village. The city, which is the professional aspect of society, has gradually come to believe that the village is its legitimate field for exploitation; that the village must, at the cost of its own life, maintain the city in all its brilliance of luxuries and excesses; that its wealth must be magnified even though that should involve the bankruptcy of happiness.

True happiness is not at all expensive, because it depends upon that natural spring of beauty and life, which is harmony of relationship. Ambition pursues its path of self-seeking by breaking this bond of harmony, cutting gaps, creating dissension. It feels no hesitation in trampling under foot the harvest field, which is for all, in order to snatch away in haste the object of its craving.

We forget that it is only the spirit of creation, evolving out of its own inner abundance, that adds to our true wealth; and that the spirit of production but consumes our resources in the process of building and filling its storehouses.

When our wants are moderate, the rations we claim do not exhaust the common store of Nature, and the pace of their restoration does not hopelessly fall behind that of our consumption of them. This modera-

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tion, moreover, leaves us leisure to cultivate happiness, the happiness which is the artist-soul of the human world, creating beauty of form and rhythm of life.

I often imagine that the moon, being smaller in size than the earth begat life on her soil earlier, than was possible on that of her companion. Once, she too had her constant festival of colour, music, movement; her storehouse was perpetually replenished with food for her children who were already there and who were to come. Then, in course of time, some race was born to her, gifted with a furious energy of intelligence, which began greedily to devour its surroundings. It produced beings, who, because of the excess of their animal spirit coupled with intellect, lacked the imagination to realize that the mere process of addition did not create fulfilment; that acquisition, because of its pigness, did not produce happiness; that movement did not constitute progress, merely because of its velocity; that progress could have meaning only in relation to some ideal of completeness. Through machinery of tremendous power, they made such an addition to their natural capacity for gathering and holding, that their career of plunder outstripped Nature's power of recuperation. Their profitmakers created wants which were unnatural, and dug big holes in the stored capital of Nature, forcibly to extract provision for them. When they had reduced the limited store of material, they waged furious wars among their different sections for the special allotment of the lion's share. In their scramble for the right of self-indulgence they laughed at moral law, and took it to be a sign of racial superiority to be ruthless in the satisfaction of their desires. They exhausted the water, cut down the trees, reduced the surface of the planet into a desert riddled with pits. They made its interior, a rifled pocket, emptied of its valuables. At last one day, like a fruit whose pulp has been completely eaten by insects which it sheltered, the moon became a lifeless shell, a universal grave for the voracious creatures who had consumed the world to which they were born.

My imaginary selenites behaved exactly in the way that human beings are behaving on this earth, fast exhausting the stores of sustenance; not because they must live their normal life, but because they strain their capacity to live to a pitch of monstrous excess.

The reckless wastage of humanity, which ambition produces, is best seen in villages, where the light of life is being dimmed, the joy of existence dulled, the natural threads of social communion snapped every day. It should be our mission to restore the full circulation of life's blood into these maltreated limbs of society; to bring to the villages health and knowledge; wealth of space in which to live;

wealth of time in which to work and to rest and to enjoy; respect, which will give them dignity; sympathy, which will make them realize their kinship with the world of men, and not merely their subservient position.

Cities have their functions of maintaining wealth and knowledge in concentrated forms of opulence; but this also should not be for their own sake; they should be centres of irrigation; they should gather in order to distribute; they should not magnify themselves, but should enrich the entire Commonwealth. They should be like lamp-posts, and the light they support must transcend their own limits. (NI)

NOTES AND COMMENTS.

MR. K. T. PAUL B. A., O. B. E. We are glad to note that Mr. K. T. Paul is standing as a candidate for election to the Legislative Council by the University constituency. He is one of the few educated Indians who has devoted himself whole-heartedly to the uplift of the rural folk and by his steady work among villagers has been instrumental in effecting improvements in various directions. He is not technically a politician but has a keen appreciation of the duty of the educated Indians to the masses and his work in this direction is beyond praise. We have every confidence that the University will be discharging its duty by electing him to the legislature as its representative.

A USEFUL WATER LIFT. Our readers may be aware of the well known Ramachandra Water lift. Owing to circumstances with the recital of which we are not concerned here, the lift has not been on the market for some time. Recently one has been installed in the Ramakrishna Students' Home, Mylapore, and we had the pleasure of seeing the lift at work. The school boys work the lift after school hours every afternoon. Nearly an acre of land has been grown with plantains, cocoanuts and vegetables. The impression left on our mind was that if the lift could be regularly worked for seven hours a day, nearly 4 acres of plantains could be grown. We understand that the Government of Madras have been recently approached with a view to officially testing the lift and recommending it for adoption for well irrigation. A pair of good bullocks are now able to lift working in the ordinary mhots, about 1600 gallons per hour, from a depth of 20 feet. The Ramachandra Lift with a single bullock or buffalo would be able to lift about 3000 gallons per hour from the same depth. This high efficiency of the lift must compare favourably with small power oil engines. Engineering experts who recently tested the working capacity of the lift have, it is understood, stated that the mode

of applying the animal power is natural, humane and an ideal one. The cattle working the usual water lifts (kavalai) are liable to suffer from yoke-galls which is one of the causes for the deterioration of the Indian cattle. Nearly 24 millions of acres out of 33 million acres of arable lands in this Presidency are dry lands yielding poor and precarious crops. Cheap well irrigation will lead to extension of rich garden cultivation and the forced unemployment of the agriculturists will to a great extent be minimised and the economic condition of the farmer distinctly bettered.

FOREST PANCHAYATS. It has been represented to the Government that it is desirable that the compounding fees collected in respect of offences committed within forest panchayat areas and charged by panchayats should be handed over to the panchayats concerned. It has also been suggested that the fines collected in respect of forest offences relating to the area in charge of a forest panchayat and reported by it should be paid to the panchayat. Government have now passed orders on the subject. They consider it desirable to provide forest panchayats with some stronger incentive than there has been hitherto to detect offences and to interest themselves in the improvement of the areas in their management; and with this object in view the Government have decided, with effect from April 1 last, to make an annual grant to each panchayat equal to one half of the compounding fees and one-half, of the fines collected in respect of offences reported by the panchayat and relating to the area of which it is in charge. The sums so paid to the panchayat will be added to its other receipts and may be spent by it on any object on which it is authorised to spend funds at its disposal, subject to the control of the Collector and to any conditions governing such expenditure. But these grants are liable to be withdrawn by an order of the Collector at any time from any panchayat, if it is found that they have been mispent or misappropriated:

The first payment to the panchayat on this account will be made in the first quarter of next year on the basis of the actuals of this year.

A NEW TYPE OF SCHOOL. Mr. Henry Ford the American millionaire and manufacturer has been planning to spend a million dollars for education in his characteristically original method. In Sudbury, Massachusetts, Mr. Ford is experimenting with 31 boys, twelve to seventeen years old, of different national and racial stocks in a novel school, free from academic traditions. The boys eat and sleep and study in a comfortable old house which stands on a three thousand acre farm and woodland. They work at dairying, orcharding sheep and chicken raising. In the farm grist-mill they learn how to

grind their own flour and corn-meal, and in a general store they sell the apples and quinces and other fruits their trees have borne. A most interesting feature of this novel school is that the boys actually receive pay for their work. For a day of six and a half hours they receive two dollars, part of which they pay back in Board and the rest they budget for clothes, amusements and other expenses. The boys rise at six o'clock and after breakfast at 7-15 the school work commences at 8-30 but only a third of the boys go into the class rooms for the book studies. The others scatter to their various tasks on the farm or in shops which form a major portion of their education. The types of jobs are rotated so that every boy gets the chance during the four year course to become familiar with the basic processes and machines of modern farm and domestic life. English, history, (particularly history of industry) and civics are taught with courses in algebra, geometry and shop mathematics dealing with pulleys and water-wheels. There is a course in general science including Physics and Chemistry. Lessons on the piano and stringed instruments are provided for those desiring them.

THE VILLAGE PANCHAYAT BULLETIN. We are sorry to note that this useful periodical which was started in three languages English, Tamil and Telegu, when Rai Bahadur N. Gopalaswami Ayyangar was the Registrar-General of Panchayats has been stopped. Articles on rural Health and sanitation and education and on veterinary matters written by experts in a popular style used to be a regular feature of the Bulletin, which we always perused with interest. That the Bulletin has been supplying a useful need in Panchayat villages and has been educating the village folk in matters affecting their common weal cannot be denied. We wish that Mr. T. G. Rutherford the present Registrar-General and the Government will see their way to revive the Journal.

SIR P. C. RAY IN MADRAS. The address delivered at the Gokhale Hall the other day by Sir P. C. Ray, on the occasion of opening the Swadeshi Exhibition is full of valuable suggestions which Indians, particularly of this presidency will do well to ponder over. Dr. Ray referred to what he correctly characterised as the disease with which our educated young men are infected, and which stands in the way of industrial progress. The college-bred young men are content to be petty clerks on starvation allowances instead of engaging themselves in useful industrial or other remunerative enterprises which offer a wide field for their activities. Even such of them as are genuinely disappointed with the present condition of unemployment and would gladly engage in profitable industrial occupations are not content to

begin at the bottom as the greatest captains of industry have invariably done. The tanning industry in India, particularly in this presidency offers a wide and profitable field. The "Half-tanned leather" is produced by illiterate chamars who have only hereditary traditional skill. If, however, our science graduates who compete for miserably paid berths would look ahead and acquire the requisite technical knowledge those half-tanned hides and skins could be exported in a perfectly finished condition and additional crores of rupees earned.

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Take again the ground nut industry. From this presidency alone, 14 crores worth of oil seeds (chiefly ground-nut) is sent abroad out of India's total export of $26\frac{1}{2}$ crores of oil seeds. The total weight of the oil-seed exported comes to twelve lakhs of tons. If it is remembered that nearly two-thirds of the weight represents oil cake which is a valuable cattle-food as also manure, the loss to the country is incalculable. Further the oil extracted from the seed in foreign lands for example, Holland, Belgium, etc., when hydrogenated comes back to us as vegetable ghee which we have to buy at a far higher price.

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Here is a sure means of solving unemployment. But unfortunately as pointed out by Sir P. C. Ray, the remedies so far attempted for solving the problem have been in the direction of multiplying Universities the only effect of which is to increase the army of the educated unemployed. While such is the economic position of the people, the craze for fashion and luxury which is infecting our young people is like "The tubercle bacilli corroding our vitality". The enormous sums thoughtlessly wasted on luxuries and foreign manufactured tinsel can well be invested in food, the lack of which is a far more potent cause of epidemic and malnutritional diseases which claim millions of victims.

ELECTRICITY IN RURAL AREAS. The infinite possibilities of electric power playing a great and important part in the development of rural areas are perhaps not adequately recognised. For purpose of irrigation, for running cottage industries and for a variety of purposes including lighting and domestic purposes electric power will come into vogue in the future as fortunately our country is richly endowed by nature for developing electric power to any extent. A report recently received from Canada which like India is favoured with hills and water-falls, shows that compared with other countries, Canada stands second only to the United States, in Turbine Horse-power installation and second in Turbine Horse-power installation per thousand of population, Norway alone being higher. On a per

capita basis, Canada has five times the installation of the United States. It is stated that there is now scarcely a village in Canada which does not enjoy the advantages of electric power. In British Columbia, for each hundred of the population, 18 families are using electricity for lighting their homes; for all Canada, the average is 14.5. This means, reckoning 4.63 persons to a household, that over two-thirds of the homes of Canada, rural and urban included, are using electricity for lighting and other domestic purposes. The report does not show to what extent electric power is utilised for farm work and for cottage industries.

SUGAR-CANE. What may prove an achievement of first class importance in the cultivation of sugar cane is in process of experimentation and early fruition, thanks to the enterprise of the sugar-cane expert of the Government of India, Rao Bahadur T. S. Venkataraman. Sugar-cane is a year's crop. Mr. Venkataraman, it is understood, has been able to evolve a new variety of sugar-cane which will mature in six months. The new cane is a hybrid of cane and cholam. The potentialities of this new variety of cane which may be described as a revolution in the cultivation of sugar-cane are immense. In the first place it will be possible to increase the area under sugar-cane and render India self sufficient while the reduction in the period of maturity, by six months will reduce the cost of cultivation by 50 per cent. This is not a negligible factor. The results of the experiments will be watched with great interest.

"MY BRAINS AND OTHER PEOPLES' MONEY". In these significant words, a well-known English authority defined banking. The bulk of the population in India is dependant on agriculture. But unfortunately the agriculturist is never free from debts. For the successful cultivation of his lands, he needs capital at every stage of his operation, from the preparation of the lands, from sowing to the marketing of the crops after harvest. In other words, he wants money at reasonable rates of interest i.e. adequate banking facilities as has been amply shown in the evidence before the banking enquiry committees. It is essential for the development of banking that a substantial portion of the community should have acquired the habit of thrift and possess money which can be made available for the operations of a banker, and that they are willing to give a certain confidence and to repose a certain trust in the person who desires to develop the banking habit with the money. As well pointed out by Sir B. N. Mitra, Ex-member of H. E. Viceroy's Executive Council and President, Indian Central Banking Enquiry Committee in the inaugu-

ral address to the members of the Woman's Intermediate College Union, Bangalore, here is a wide and urgent field for social work among the villagers by our educated young men and young women. It is the want of education that stands in the way of the development of our peasantry and is the root cause of all our present ills. It will be a most patriotic task open to the educated youths of this country to carry on the task of learning to the remotest villages and dispel from the minds of the agriculturist who forms the back bone of the country, the mist of ignorance that prejudicially affects them in every direction today. Being illiterate the cultivator is not able to keep account of his transactions and many of them do not know whether they are carrying on their operations at a profit or loss. Some cultivators take advances from money lenders to help them not only through their agricultural operations but also to meet their unproductive expenditure with the result that they are often obliged to agree to deliver the crop, even the paddy straw, at a prescribed rate to the money lender at the time of harvest and the agriculturist's lack of staying power compels him to dispose of his produce at a most inconvenient time and at most unfavourable rates. These are some of the most serious handicaps with which the Indian farmer is faced. He has also to contend against some of the evils of the present system of marketing and Sir B. N. Mitra did well to refer to the question of providing the agriculturist with storage accomodation. The establishment of ware.houses where the agriculturist can store the produce would give him some breathing time and place him in a stronger position vis-a-vis the broker or the middle man in the matter of the disposal of his produce. If the produce has to be stored for a longer time he would take what are called warehouse receipts on the pledge of which pending sale he could get advances from banks. All this means the country needs a number of educated men and women who will devote themselves whole heartedly in social work in villages, in educating the people, in organising and running cooperative societies not only for providing credit but also for undertaking the sale and marketing of the agricultural produce. We are not tired of repeating that educated young men and women have come from the villages and they owe a debt to the villages. They should remember that India lives in her villages and cottages and to the extent to which our educated young men and women try to get into grips with the real problem of the masses, to that extent they would have taken and a firm lasting step for the promotion of the welfare of India, for rural India, is real India.

REVIEWS AND NOTICES.

Remaking of village India and Socrates in an Indian village.
(Oxford University Press).

In these two publications are detailed the experiments in rural uplift work made in Gurgaon, a backward district of the Panjab by Mr. F. L. Brayne, late Deputy Commissioner of the District, assisted by his wife. The first volume contains notes recorded by Mr. Brayne and the second purports to record the conversations he has had with ryots bringing home to them the need for rural improvement. In this work he has pressed into service official and non-official agencies. The remedies he suggests for improvement of villages are broadly classed by him under the following heads:—(1) Improve the farming. (2) Clean the village. (3) Make the houses (4) Take precautions against epidemics. (5) Stop waste (6) Humanise the women. (7) Sweeten and beautify the home. Mr. Brayne attaches great importance to the education of the girls alongside the boys in rural and domestic economy and making them equal partners in the home. He considers that the hope of rural India lies with the village women, and that given some practical schooling and training they would revolutionise village life. While this is true, it would not be an easy task to persuade the female children of the agricultural families to take to school easily, as they are required to assist their parents in grazing cattle, cleaning the cattle sheds, taking food to workers in the fields etc. But still the ideal must be kept up and carried out though slowly into practice. Another essential factor for the uplift of villages is in Mr. Brayne's opinion an all round village school master. To this end, he would make the village teacher not simply one who could impart a knowledge of the three R's; he should be a centre of light and culture in the village in whom people have confidence and to whom they could look up for help and guidance in all their difficulties. This is the proper function of the teacher in village life and he must practise what he preaches, his gospel being labour and service. He must be as willing to set about cleaning the village or adjusting the plough as he must be to teach in the school room. We entirely agree that if ever the rural reconstruction is to become an accomplished fact, the village school teacher must be of the type described by Mr. Brayne, and the need for replacing the present-day village school masters by men of the type described by Mr. Brayne is none too urgent. He must in addition have a good grounding in co-operation and agriculture and it is to the evolving of this class of school masters that Government have got to devote attention if their interest in rural reconstruction be genuine as we believe it is. Mr. Brayne

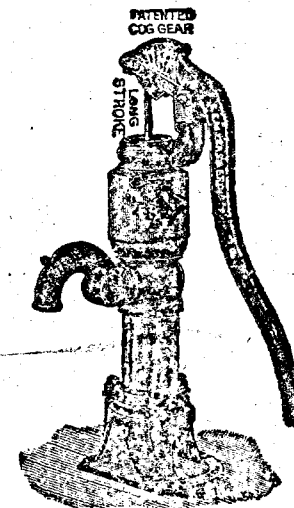
observes that the rural education imparted in the village school must be such as to induce the village boys to take a lively and sympathetic interest in the village and its problems and not think of emigrating to towns to augment the over stocked ranks of the unemployed. We doubt whether the exodus to the towns can be stopped unless agriculture becomes an economically paying occupation and the rural lad is weaned of the desire to live the luxurious and wasteful life of a town-bred man. Mr. Brayne's work has attracted the attention of the Royal Commission on Agriculture and the excellent volumes under review are a valuable contribution to village reconstruction literature and they deserve to be in the hands of those engaged in rural uplift work.

Baroda and its Libraries by Newton Mohun Dutt, Curator of State Libraries, Baroda, with an introduction by Rao Bahadur V. T. Krishnama Charya B.A. B.L., C.I.E., Dewan of Baroda. Published by the Baroda Central Library—1928.

The library movement in Baroda is part of a carefully devised programme of mass education inaugurated and developed by H. H. the Maharaja. It dates from 1910 when Mr. W. A. Bordon who was an Instructor of the first library school in Columbia University, U. S. A., was appointed as Organiser and Director. The State Library Department comprises two sections (1) the Central Library and (2) the Country Section. The former includes a free and open access lending and reference library with a newspaper reading room. The central library has over 109,000 volumes and is perhaps the third largest library in India. The Country Section comprises two branches (a) Travelling library branch and (b) the Visual Instruction branch. The travelling libraries consist of boxes of books which are despatched free of charge to any library school or other institution in the State, even the freight both ways being borne by the department. About 12,300 volumes are circulated in this manner every year. The most important function of the 'Country Section' is the subsidising and control of the town and village libraries. 45 towns and 678 of the villages have been provided with free libraries with an aggregate collection of 494,654 volumes and a circulation of 307,350 volumes amongst 60,789 readers. On the walls of some of the village libraries are displayed all the interesting information and statistics about the village such as number and extent of farms, details of agricultural stock and the like. This interesting feature of the library department in Baroda may well be copied by village libraries in British India. The Visual Instruction Branch of the 'Country Section' sends out an operator and a lecturer to tour in the Districts giving cinematograph and magic lantern demonstrations for the benefit of the illiterate masses. Perhaps the most gratifying feature of the movement is the place the library fills in the life of the village and we have perused with great interest the useful handbook compiled by Mr. Newton Dutt who has been connected with the library movement in Baroda for over 15 years and to his earnestness and enthusiasm the success of the movement in the State is in no small measure due.

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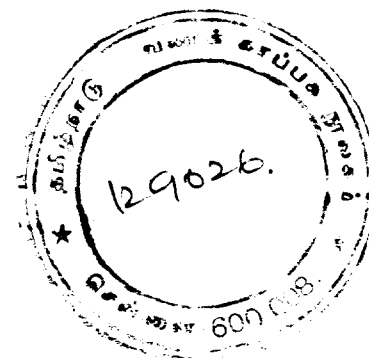
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Published by Mr. A. Rajagopal Reddi, President, Forest Panchayatdars' Union Ltd.
Madras. Printed AT THE MAGAZINE PRESS, CHINGLEPUT.



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