SARVODAYA
&
ELECTRICITY

BY
M. VINAIK

With a foreword by
Dr. J. C. KUMARAPPA

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PREFACE

I am glad to place before the public a collection of articles on Electricity. By their widespread propaganda, the government and vested interests have confused the public about the use of electricity. Electricity, today, is a tool in the hands of a few 'haves' to exploit the dumb millions. The Sarvodaya workers have to educate the masses and make them understand the true facts. These articles, I hope, will place before the public a few of the relevant facts on the subject.

I am greatly indebted to Dr. Kumarappa for having so kindly gone through this manuscript and given a foreword to this booklet in the midst of his multifarious activities.

Gandhiniketan Ashram,
T. Kallupatti (Dt Madurai)
21st Sept. 1956.

M. VINAIK.

Preface to the Second Edition

It is gratifying to note the first edition of this book has already sold out. In this edition, I have tried to include all the latest facts and figures available on the subject and have thoroughly revised the subject-matter.

These chapters have been written as separate articles at various times and hence there is bound to be some unavoidable repetition for which I crave the indulgence of the readers.

Rayavaram,
Tiruchy Dt.
2nd Oct. 1959.

M. VINAIK.

FOREWORD

That Electric, coal or mineral oil power yields a cheaper horse power than manual or cattle motive-power is a fallacy of modern economics which is at the root of great maladjustment, as the prices of these are fixed artificially. In the last few months there have been a series of articles on 'Sarvodaya and Electricity' in which Sri M. Vinaik has taken considerable pains to show how the price per unit of electricity is artificially fixed and how the bulk of the expenditure in the production of electricity benefits the town-dwellers and industrialists. The rural population barely gets 7·6% of the electricity produced, while industrial power accounts for 64·2%. The cost of producing elctricity largely comes from Government funds and as such this is an injustice to the rural population. Besides, he also brings out the following facts for an 8-hour day:

Motive Power.	Power Used	Production.
1. 10 Pair of bullocks.	10 H. P.	Grind 50 mds. of Wheat.
2. 100 women	10 H. P.	Grind 37½ mds. of wheat.
3. 1 Electric Chakki	10 H. P. (35 units)	Grind 26 2/3 mds. of wheat.

This shows that the electric machine consumes more H. P. to grind the same amount of wheat in 8 hours or in other words is the least efficient of the three methods. Yet generally an electric machine is considered to be cheaper. The reason for this is because the price of electricity is fixed arbitrarily. We may illustrate this by an example.

A father leaves a hidden treasure-trove of gold worth about Rs. 200/. His son spends about Rs. 7 in labour charges in digging it out and further spends Rs. 15 as goldsmith's wages for converting that gold into a necklace. So the cost to the son of producing the necklace is only Rs. 22. Would the son be wise to sell that necklace for any thing over Rs. 22, while the total cost of gold treasure and expenses is Rs. 222? Similarly, coal, oil and electricity are products from nature and it is wrong and unjust to value them purely on the basis of cost of extraction. The proper way of evaluating the cost will be in comparison to the most efficient method of production, which in our experiments have proved to be human power, which in its turn should be calculated on the cost of living per family on a resonable level per day which we may put down as Rs. 4.

Therefore, calculating on this basis, the power used by a 10 H. P. electric engine working for a day should be valued as follows :—

Cost per Unit $\frac{100 \text{ women} \times \text{Rs. } 4}{(35 \text{ units} \times 37\frac{1}{2}) \div 26\frac{2}{3}}$ or Rs. 8—2—0 per unit, while at Madurai, industrial electric unit is sold at about Re. 0—1—0 per unit.

This shows that the Government is under-selling a unit by Rs. 8—1—0. If we look upon all the natural resources as patrimony of the people in general there is an injustice done to the general masses when a subsidy of Rs. 8—1—0 per unit is bestowed on the industrialists. This is like the son in the illustration given above selling his gold necklace worth Rs. 222 for Rs. 22. This is an enormous exploitation in a country teeming with millions of unemployed and under-employed. Social Justice calls for valuing our products on the basis of the cost of maintaining an efficient producer. All centralized industries, which obtain motive power from oil, coal or electricity are in reality heavily subsidized by the low prices at which sources of power or the power itself is supplied. This unseen exploitation, mainly helped by the Government, cannot be tolerated in a real democracy. This type of industrialization is unpardonable when over 1,640 crores of man-days are allowed to run waste through unemployment.

Again from the point of view of Social Justice, Sri Vinaik points out in a chapter that a man's wages should be about Rs. 3—13—0 per day. If human labour is to be supported, electricity should be charged at

Rs. 6—6—0 per unit. From this approach also we find our economic system is heavily weighted in favour of the Capitalist Is it any wonder that Britain and France try to hang on to the Suez Canal for dear life? Their whole economy is based on ousting human labour from the so-called 'underdeveloped countries' by substituting subsidised power resources to make their manufactures cheap.

This does not mean total exclusion of power resources. We must use these but in a collective way so as to give the benefit to everyone and not only to single enterprisers. For instance, if the Government use coal, even without a price on the railways, and cut down third class fares, it will be perfectly justifiable. Therefore natural resources of power should be restricted to only socialised industries or be charged on the basis of human labour.

I trust this pamphlet will help to throw light on one of the darkest spots in our industrial organisation.

T. Kallupatti,
Via-Tirumangalam, S. Rly.
30th September, 1956.

J. C. KUMARAPPA

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CHAPTER I

Common Man and Electricity

[The order of the day has been to make the comfortable residents of the cities still more comfortable. Government at present is city-centred.]

J. C. Kumarappa

Electricity is making great headway in our country. The Five Year Plan has laid much emphasis on its use. Approximately 400 crore K. W. Hours of Electricity is generated annually and the average consumption is in the neighbourhood of 340 crore K. W. Hours. Proportion of consumption* for various purposes is roughly as under:—

1. Domestic consumption	(A) Heat & Power	1.1 per cent
	(B) Lights & Fans	8.8 ,,
2. Commercial Power	(A) Heat & Power	1.8 ,,
	(B) Lights & Fans	4.8 ,,
3. Industrial Power	(A) Low Voltage	11.8 ,,
	(B) High Voltage	52.4 ,,
4. Street Lighting	... ...	1.4 ,,
5. Tramways	... ...	1.2 ,,
6. Electric Railways	... ...	6.6 ,,
7. Irrigation and Agriculture	...	3.2 ,,
8. Public Water-works and Sewage	...	5.0 ,,
9. Military Engineering Supply	...	1.9 ,,

* Government Statistical Abstract for 1946.

This shows that about 52.4 per cent of total energy generated is for the consumption of large-scale industrial undertaking situated mostly in cities. From the above list it may also become evident that the majority of uses made of electricity is for the convenience of the cities and city-dwellers. Item No. 1-B - Domestic consumption for lights and fans, 8.8% and No. 7. Irrigation and Agricultural use 3·2%, totalling to 12% can be said to be for combined rural and urban use. Of the former only a small proportion can be counted for purely rural domestic connections as they are offered only where the transmission lines are passing overhead. Connections for remote villages are hardly available. For calculation's sake, let us take even half of item No. 1-B as entirely for rural use. That comes to 4·4 plus 3.2 is equal to 7·6% of the total electrical energy produced which is used in villages. With this poor record can we ever dream of complete rural electrification? Is this not the reason why Gandhiji said while declaring open the Khadi and Village Industries Exhibition at Haripura, "Rural - mindedness and etectric illuminations go ill together."?

People sometimes argue that electricity is a national product and that a larger use of electricity will not harm our national economy. This is a wrong notion. Let us take for instance the Damodar Valley Project. There is a Government of India publication giving details of this Project. It says, "In the unified Development Scheme, however, all these benefits will be acquired at an outlay of Rs. 47.9 crores. Allowing for an increase of 15% in view of the uncertainity of the

future trend of costs and prices, the final estimate works out to Rs. 55 crores. Of this amount Rs. 28 crores have been allocated to power generation, Rs. 13 crores to irrigation and Rs. 14 crores to flood control."

"Tentative estimates indicate that the annual operating expenses of the scheme will be roughly 316 lakhs. Power generation will cost Rs. 210 lakhs, Irrigation Rs. 52 lakhs and flood control Rs. 54 lakhs."

"Power sold at moderate rates may yield an annual revenue of Rs. 260 lakhs. Income from power alone will thus pay for the entire operational expenses of the scheme. The expenditure on irrigation will be completely covered, if water is sold to the cultivator at a modest annual charge of Rs. 8 - per acre. The expenses on flood control alone remain unrealised."

"The Project will irrigate 10,00,000 acres of land in Bengal and Bihar....."

"The total capacity of all hydro-electric stations put together will be about 2,00,000 Kilowatts. As the amount of power will vary in different periods of the year a thermal electric station with an installed capacity of 1,50,000 kilowatts will also be built."

At this stage it will be worthwhile referring to the Bhagirath Pamphlet No 1 "Major Water and Power Projects of India", issued by the Central Water and Power Commission, dated June, 1957.

According to this pamphlet the main portion of the work in this project is completed excepting some arrears of work in Panchet Hill Dam and Durgapur Barrage

Projects which too are expected to be completed by 1958. The total outlay on the Damodar Valley Project has finally cost the Government a sum of Rs. 86·09 crores. Out of this amount power generation alone has consumed Rs. 28·24 crores, Irrigation Rs 22·86 crores, and Flood Control Projects Rs. 34·99 crores.

The above facts of the Damodar Valley Project apply to one-tenth of our entire proposed projects under the Second Five Year Plan. A detailed list of the various projects as given in the above-mentioned pamphlet is as under. These projects can be roughly divided into three main groups: 1. Combined Irrigation and Power Projects; 2. Mere Irrigation Projects; and 3. Mere Power Projects.

Name of Project (*a*)	Irrigation Area in lakhs of Acres (*b*)	Power production in Kw. (*c*)	Cost in crore of Rs. (*d*)
1. Combined Irrigation and Power Projects:			
Tungabhadra	8·30	99·000	60·00
Bhakra Nangal	36·00	562 000	173·54
Mayurakshi	7·20	4·000	16·10
Bhadra	2·30	33·200	24·42
Hirakud	6·72	123·000	70·78
Total:	60 52	821·200	344·84

(a)	(b)	(c)	(d)
2. Mere Irrigation Projects :			
Durgapur Barrage	10 26	...	22·86
Koth Barrage	11·00	...	25 59
Koshi	13·97	...	44·60
Nagarjuna Sagar	20 99	...	88·18
Maha Nadi	18·67	...	14·92
Kangsbati	8·00	...	25·25
Kakarpara	6·52	...	11·65
Lower Bhavani	2·07	...	9·51
Kadama	5 30	...	14·04
Tawa	5·89	...	18·34
Total :	102 67	...	274·94
3. Mere Power Projects :			
Machkund	...	69 000	26 32
Tilaiya Dam	...	4·000	3·66
Konar Dam (Proposed)	....	40·000	9 94
Maithon Dam	...	20 000	16·74
Panchet Hill	...	40 000	18 25
Bokaro Power House	...	150 000	14·64
Rihand	....	250·000	45·26
Chambal	..	92·000	22 44
Koyna	...	240·000	42·76
Periyar	...	105·000	6·75
Kunda	...	180 000	35 44
Sharavat	...	178 000	22 97
Korba	...	90 000	12·34
Yamuna	...	171 000	19·59
Total :	...	1629 000	297·10
Grand Totals :	163·19	2450·200	916·88

From the above statements let us calculate what will be the total outlay of capital on Power Production Projects. From the Second group we find 102·67 lakhs of acres of irrigation schemes cost nearly Rs. 271·94 crores In the same proportion, if we are to allocate funds separately for the 60·52 lakhs of acres of irrigation provided in group no. 1, they will come to $\frac{271\cdot94}{102\cdot67} \times 60\cdot52 = 162\cdot07$ crores. Now diminishing this amount from the total outlay of Rs. 344·84 crores will leave Rs 182·77 crores. Adding this sum to the total of group no. 3 will aggregate to Rs. 479·87 or can be roughly said to be Rs. 480 Crores. This is approximately the total capital that will be spent for the production of power.

It is a well-known fact that about 4/5th of the machinery and materials required for this power generation and transmission are imported from foreign countries. Hence, these projects will help the Government of India in exporting 384 crores of rupees of national wealth. If it can be contended that our national economy will not be affected by pumping out this huge amount, then we are perfectly free to have no compunction in using electricity. Are we patriotic enough to oppose this great drain on our national resources?

Another point that becomes evident from the above given sets of figures is that large portions of our national wealth are being prostituted for the benefit of a very small portion of our population,

Out of 480 crores of capital outlay, the villagers who constitute nearly 80% of our population will derive a benefit of 7·6% or say 36·48 crores. On the other hand

the town-dwellers who constitute only 20% of our population are exploiting the national resources to the extent of 443·52 crores of rupees. That is to say, out of a rupee spent by the Government the share in the benefit to the villager is Rs 0—1—3 only while the town-dwellers get Rs. 0—14—9 and to make up for it, opportunity of employment of the former is taken away. It is worthwhile quoting here what Mahatma Gandhi had opined on the subject: **Every body admits in theory that since India lives in her villages, the village must be the State's first and foremost concern. But when it comes to the abolition of privileges, posessed by the towns at the cost of the villages and its inescapable corollary that public money should be spent on the villages in the same proportion in which it was collected from the villages, even the most well-intentioned wobble and take refuge in sophistries and plausible excuses which the philosophy of 'Progress' readily provides.** (*From Mahatma Gandhi-The Last Phase-Vol II Page 549 - 550.*)

CHAPTER II

Gandhiji and Electricity

Gandhiji had taught us non-violence and our Constitution wants to establish a non-exploitative commonwealth. Does electric power production lead us anywhere near our goal?

In spite of the naked facts I had cited previously, it is strange that people who moved closely with Gandhiji have not studied his various utterances. I will restrict myself here to only a couple of quotations from the writings of Gandhiji :

"The American friend mentioned Mr. Ford's favourite plan of decentralisation of industry by the use of electric power conveyed on wires to the remotest corner, instead of coal and steam, as a possible remedy, and drew up the picture of hundreds and thousands of small, neat, smokeless villages, dotted with factories, run by village committees. Assuming all that to be possible, he finally asked Gandhiji, "How far will it meet your objection?' "My objection won't be met by that,' replied Gandhiji, "because while it is true that you will be producing things in innumerable areas, the power will come from one selected centre. That, in the end, I think would be found to be disastrous. It would place such limitless power in one human agency that I dread to think of it. The consequences, for instance, of such a control of power would be that I would be dependent on

that power for light, water, even air and so on. That, I think, would be terrible." (Harijan'—2—11—1934 in an article entitled, 'Mass production versus Production of the Masses'.) Gandhiji was averse to centralisation of any kind and the above quotation illustrates his fundamental objection to this malady. Here is another quotation on the subject of electricity by Gandhiji.

Question: But what about the great inventions? You would have nothing to do with electricity?

Answer: "Who said so? If we would have electricity in every village home, I should not mind villagers plying their implements and tools with the help of electricity. But then the village communities or the State would own power houses, just as they have their grazing pastures. But where there is no electricity and no machinery what are idle hands to do? Will you give them work or would you have their owners cut down for want of work?" (Reported by Sri Mahadev Desai in 'Harijan' of 22—6—1935 under the caption 'In Defence of Machinery.')

It becomes abundantly clear from these quotations that Gandhiji was never in favour of using electricity which is at present mostly a product of centralised ndustries. He had no objection if electricity was made available uniformly to all the villages and made capable of being generated by the village communities themselves. The present-day electricity production is nowhere near his ideal and hence the notion that Gandhiji conceded the use of electricity is completely unwarranted.

His advice to people at the time of opening the Haripura Exhibition namely, "Rural-mindedness and electric illuminations go ill together", is therefore his considered opinion on the subject.

Here are a few paragraphs from Sri Pyarelal's latest books - Toward New Horizons. "Being myself very much taken up with the idea of the electrification of the villages, I tried several times during our last detention in Poona to canvass Gandhiji's support for electrification. If electricity could be made equally available in every cottage, Gandhiji had said before, in theory atleast there would be no objection to the village industries being run by electricity. 'But then the village communities or the State would own power-houses, just as they have their grazing pastures'. Agriculture stood on a different footing. For reasons already explained and more to follow power - driven machinery can have very little use, if any, in agriculture under the economy of permanence. It seems, however that Gandhiji regarded the proviso which he had attached to his assent as a "Counsel of perfection". I never could get him to enthuse over the idea of electrification. He attached the utmost importance to the conditions with which he had hedged his assent, he said, and was afraid that they would conveniently be ignored by the enthusiasts for electricity. Perhaps he also felt that once electricity obtained a foothold in the villages, it would be difficult, if not impossible, to confine its use within any pre-set limit. For instance, if electricity was used for lighting and cooking, why not for irrigation, for grinding corn, for husking rice, or for

pressing oil from the oil seeds? Again, could electrification of five hundred thousand villages of India be achieved with out bringing in all-round heavy industrialisation and without the whole economy of the self-contained village being affected? The utmost that with all my pleadings I could get him to concede was that it was for those who had faith in electrification to remove his misgivings and demonstrate that the electrification of the villages could be effected without the weakest going to the wall. So far as he was concerned he had more than enough to do, he said with the things that he had already on hand." (page 44)

"If, after all human and cattle labour has been fully utilised, something more remains to be done, it would be open to the people to use mechanical power to the extent that they felt necessary. Suppose, for instance, a village community or a group of villages wanted to build a road, a dam, or a reservoir, or to do contour bunding for soil conservation, it would be open to them to consider whether or what machinery or labour-saving devices they would use to set free labour needed for the completion of the works in question. The essential condition is that the people themselves should decide.

"The natural order of preference in this set up would be to utilise in the first place the energy of the wind, the water, the tides and the sunshine. Imported electric or fuel power would be used only in the last resort. Thus they would freely use sewage gas prepared from human and animal waste, if this could be economically done in the villages, and solar cookers, solar batteries,

wind mills and water mills, provided they served to supplement and did not displace human and cattle labour, or tend to increase the dependence of the village on the town." (Page 45)

CHAPTER · III

Cheapness by Subsidy

Electricity is one of the largest sources of motive power for many large-scale factories.

All that is sought to be realised by the sale of electricity is only the operating expenses. The capital that is sunk along with the interest on it is a dead loss to the public. We cannot tell whether the salaries and other incidental charges of the high-paid officials, who are engaged in this scheme, are reckoned in the total cost and in the day-to-day expenses. If this is done, then the price of every unit of electricity should be more to the consumer.

Thus the price at which electricity is sold to the consumer is not even its cost but is only a token charge, the real burden falling on the tax-payer and not borne by the users of power.

The direct consequence of such supply of cheap power is the displacement of human labour. To solve this on a permanent footing, power supply should be made to equal human labour. In such a case there can be no competition between these two sources and government will get considerable revenue for their nation - building activities such as Health and Education. This will also mean, in the long run, that exploitative, selfish, private enterprise will gradually vanish from the field leaving the public sector uncontested.

A one-horse power Motor working for 8 hours consumes nearly 6 units of electric energy. 10 men are calculated to approximate one H. P. Therefore, the cost of 10 men working for 8 hours should be made equal to the cost of 6 units of electricity. This brings us to the question of what should be the normal wages of a man to maintain him and his family at a resonable level of working condition.

The Agricultural Labour Enquiry Committee of the Government that conducted a detailed survey of the rural parts recently has found out that the calorie and protein requirements obtained by the agriculturists are less by 40% of their normal requirements. This only means, the agriculturists are all half-starved. In other words for the work they turn out they are paid only half-wages. Half-starved labourers cannot put in their best efforts and hence our national efficiency sinks day by day. If the situation is to be saved, we have to adopt a radical method. We should take the responsibility of providing them with a good, nourishing, balanced diet as set out by the Food Research Laboratories, Coonoor. A well-balanced diet, according to their formula, will cost at least Rs. 25/- per month per head. Adding to this, clothing, house-rent and other miscellaneous charges, we come to Rs. 38/- per month per head. The bread winner of the family has the responsibility of supporting not only himself but also his wife, children and aged parents. Generally, the wives of agriculturists also work and supplement their family income. In some cases grown-up children also work and earn something as wages. These two items of income together will

meet only a very small fraction of the above item of expense. Hence it is necessary to pay each worker at least thrice his basic requirements. This will work out to Rs 114/- per month which means Rs 3—13—0 per day.

Therefore, 6 units of electricity will be $10 \times 3\text{-}13\text{-}0$ or Rs. 38—2—0. If this method of charging for electricity on an unexploitative rate is adopted, then there can be no question of any competition between a centralised factory product and home-made goods.

At present the factories are getting power at nearly one anna per unit. That is, by spending a bare six annas, they can get 10 man-power to work for 8 hours. If the labour charges of a home made product come to Rs. 38—2—0, the labour charges of its mill-made counterpart will be only six annas. From this it will be clear why the factory product seems cheaper. In the matter of power alone they are benefited to the extent of nearly 85 times. In view of these facts, the price of factory-made goods can still go down as their motive power is supplied at 85 times cheaper than it should be. But this fair charge is not deliberately made as that will undermine the profits of the factory owners. This is how capitalists become fabulously rich day by day and village and cottage industries, dependent on human labour are crushed out of existence.

CHAPTER IV

The use of Electric Power.

The use of electric power is becoming widespread. Its consumption may be roughly divided into three categories :-

1. House-hold : For heating, lighting, fan, refrigeration, water-lifting, laundrying and such other house-hold uses.

2. Small Industries To supply power for irrigation, paddy - husking, grinding, oil-pressing, beating pulp for paper, tailoring, dry-cleaning and various other industries.

3. Big Industries : Power supply to all centralized units of industries.

The first category does not greatly affect the problem of village industries. The second and the third ones are definitely opposed to the very existence and growth of villagism, village self-sufficiency, village industries, village art and village culture. Therefore, when our planners are planning to produce more electricity and make it available in increased volume to the latter two categories of industries, naturally the growth of village industries will be seriously impeded and the village units will sooner or later have to disintegrate and perish.

In the big industries group, there are a few industries, which are essential for the growth and well-being of village industries — for example, the manufacture of iron and steel, chemicals, dyes, cement, heavy machines etc. As these are 'key industries', they should be state-owned and worked on a service basis and not for profits. If these types of industries get electricity in large volume, it will ultimately be to the well-being of the nation.

In the private sector, centralized big industrial units such as, flour-mills, rice-mills, oil-expellers and the smaller industrial units do not cater to a large percentage of our population and therefore, they are not of any great advantage to the nation as a whole, but are merely profit-earning to a group who own these units. Further, what is worse, they also destroy the nutritive elements of the products they process.

Spinning mills and weaving mills are definitely unemployment creators and they are working profitably at public cost as they obtain power at cheap rates and ruin their village counter-parts.

Against these industrial undertakings, village industries are made to compete under a great handicap in the present set-up by power supplied at cheap rates as we have already shown in the previous chapters.

Consumers go in for increased use of electricity in the first category, for personal comforts and conveniences, rather than for any monetary gain, while in the second and third categories, they do so merely for monetary gain. This seeking for monetary gain naturally leads to the displacement of labour and thereby increases unemployment in the country.

The village industries are just the contrary to this set-up. They want to use more and more of human and bullock power which are abundantly available in our villages, and employ, if possible, all of them to produce the immediate day-to-day needs of the country. Therefore, the difference between these two types of organisations lies mainly in the monetary considerations in the use of power. Prof. Rajkrishna has rightly observed in his booklet, 'Human Values and Technological Changes,'— **"To make money cost the sole and decisive test for choosing a mode of production is to avoid the real issue. A community may thereby secure cheapness in terms of money, but only at a prohibitive social and psychological price. Money costs are not the only costs, and money values not the only values which a society should strive to realise."** The dirt cheap rate at which electricity is distributed is an anomaly created by the Government and favours a small group of 'haves' and further exploits the already poor 'have-nots'. This is an injustice which the Government ought to study deeply and set right at the earliest moment.

Generation of electricity requires crores of rupees which is spent from State funds. When State funds are utilised, it is natural to except the advantages of electricity will accrue to every one of the masses or at least to a very large part of them. But the way distribution of electricity takes place now is far from achieving this. From the Government of India's statistics we gather that 92 . 4% of electricity generated goes to cater to the needs and luxuries of the town-dwellers, who constitute merely

a-fifth of the population of this country. Then the price of electricity is arbitrarily fixed and distributed very cheaply to those who are better situated in society. while fixing the price of electricity the large amount of national capital that has been sunk into its generation is not taken into account properly.

Again when electric energy begins to compete with human energy, people suffer unemployment and poverty and starvation overtakes them. Hence, in our country, under these circumstances, when fixing the price of electricity this fact should be borne in mind. Power, artificialy made cheap, should not be allowed to compete with human labour.

This will mean that electricity will have to be charged at least 16 times the present rates. Those to whom the use of electricity for industrial purposes is absolutely necessary and are efficient otherwise, will pay its due price which will enlarge government revenues, which can be utilised for the common good of the masses. To realise a socialistic pattern of society the anomalies and left-overs of capitalistic economy should be pruned without delay.

CHAPTER V

Creating Unemployment

Sri G. L. Nanda, the Union Minister for Irrigation and Power referred to rural electrification and said in the Rajya Sabha that he was not personally satisfied with the rate of progress. There were certain difficulties in the way of rapid electrification of the rural areas which were being tackled gradually. The main difficulty was that the villages were scattered and providing electricity to them was not paying proposition. Several conferences had been held on this subject and it becomes obvious that rural electrification could not pay and had to be subsidised. Some proposals had been made and a few of them taken up with State Governments It was found desirable that each State should make its own system of urban electrification self-supporting and if there were any profits made in this, they should be diverted to rural electrification.

Sri Nanda has admitted the insurmountable difficulty in supplying electricity to rural parts. We do agree that the supply of electricity to every village or even to a large majority of the villages of India is almost an impossibility.

We quote below a paragraph that appeared in the Hindu' Supplement dated September 1, 1958-

" ..... The progress of rural electrification is very slow and at the present rate it may be over 50 years before at least a half of the total number of villages in

the country have the benefits of electricity. The main reason is that rural electrification is not remunerative. Rural schemes are found to be not self-sufficient even after 5 to 10 years of operation. The per capita income in rural areas is low. Electricity has, at present, limited applications confined mostly to lighting, fans and pumps. Load density is low and connected loads small. Thus there is low per capita consumption and consequently poor financial results. In addition, the capital cost of rural schemes is high as the villages in most cases are far away from grid lines. Investment for consumers in rural districts is larger than in urban areas. In short, the capital cost of rural electrification schemes is high and the returns are low. The percentage return is not adequate to make the extension remunerative and encourage rapid rural electrification as all the electricity departments work on commercial lines subsidy in some form is essential."

"Rural electrification programmes cannot be prosecuted with the strict standard of remuneration. Subsidies from the Government of India are imperative if any worthwhile progress is to be achieved. The Government of India must provide ample funds free of interest for the initial period of 5 years as Central assistance to States for rural electrification schemes."

Electrification can pay only where there are a large number of bulk-consumers. Centralized industries in the urban areas collect their resources, set up industries and exploit to the fullest extent the advantages that accrue from cheap supply, much to the detriment of our rural

population. This method does not alleviate the problem of widespread rural unemployment, without solving which we cannot ever hope to improve their purchasing power.

The protagonists of rural electrification programme aim at an incongruent utopia of their own and a typical quotation from their pen is as under: "Power looms enable a higher wage to the worker and cheaper price for the consumer. However, the initial capital cost of power looms is beyond the means of the average worker and some type of government assistance is necessary for this crucial village industry."

In other words, they mean it is not merely enough for the government to distribute electricity at a very cheap price, but it is also necessary for the government to come to the aid of rural industrialists with a substantial portion of their capital costs as well. We wonder whether these two concessions alone will suffice to stabilise rural industrialisation programmes? Who can say that at a future date there may not raise a demand for the government to come to the help of rural industrialists with sumptuous amounts to corner stock? Even to-day we find, a number of subsidies being doled out by the government for the various village and cottage industries products in order that they may stand against their well organised counterparts in the market Like this, there will be innumerable forms of government help that will be required to pursue those programme to their logical conclusion which will be almost impossible for any government to cope with. Further the ultimate

aim of the protagonists of rural electrification programme is as under:— "In rural areas, electricity may also be used for rice and flour mills, power looms, cotton ginning, sugarcane crushing, pottery, metal works, soap-making tailoring and other village handicrafts. Electricity works out cheaper than manual labour in all these industries. For instance, a unit of electricity costing about two annas is capable of doing 100 lbs. of rice-hulling, 30-35 lbs. of sugar-cane crushing and making 60-70 lbs. of flour."

We have been repeatedly pointing out that the supply of cheap power to the private sector is one of the main causes for the complete routing of village industries, fall in the standard of living of the villagers and their purchasing power. If the situation is to be saved, we should charge electricity at as high a rate as village labour would demand for doing the same amount of work. This would mean charging at least sixteen times the present domestic consumption rates. Will the government be prepared to face the industrialists with this proposition?

CHAPTER VI

An Alternative Source of Power

The Giri Committee Report on Agricultural Labour discloses that there are 82 clear working days still available for each family to be gainfully occupied. Let us take each family as representing 4 working units. The total man-hours that become available are thus 5 crores x 4 x 82, which is 1,640 crore man-days in a year. This tremendous labour power is at present completely running waste without any well planned scheme for tapping it for useful nation-building work. The unemployment of this labour force is not only degenerating, but is a great strain on their economic activities. Each family, it is stated, is running into a debt. If every year the debt is to be incurred then it becomes irredeemable. Ways and means are necessarily to be devised and that right soon, to fully occupy this huge unpardonable national waste of labour.

Unlike other motive forces, this labour force is widely scattered in the innumerable villages of this country. They cannot be brought together to tend any of the large scale factories that may figure in our Plans. The leisure time that is avilable is not also a continuous stretch. It is available off and on interspersed in the course of twelve months. Moreover the people of various parts of this country have varying periods of leisure. Therefore it is that large scale factories are of no use in solving this problem of unemployment in our country.

Hence the solution has to be found through the medium of village industries

Let us consider below the potentiality of this labour force. In case the Government encourage these unemployed villagers to take to the production of khadi, they can all produce 820 crore square-yards of khadi, which will be just double the production of all the large-scale textile mills in the country put together.

If they are to take up paddy-husking, they can all dehusk nearly 16 times the total production of paddy in our country. Like this we can equate this tremendous labour force with many other industrial products

If it is to be expressed in terms of electric energy, it is equal to 984 crore kw. hours, which will be nearly half of the total electricity production in the whole of this country under the Second Five Year Plan.

If this much of energy is ever to be produced by way of hydro-electric system nearly 500 crores of rupees will be required as capital outlay. The present labour force is now available without the Government having to invest even a pie anywhere.

"The wealth of a country lies primarily in the capabilities of its people A land which abounds in natural resources, but whose population is sluggish and backward will be poor compared with a land whose natural resources are inferior, but whose inhabitants are full of vitality. Anything which adds to the efficiency of labour increases the national dividend; anything which impairs efficiency diminishes national dividend. It follows,

therefore, that no community can afford to allow its members, through no fault of their own, to lose their power of producing wealth. Nor ought we to forget the humanitarian aspect of the problem or the fact that the fear of destitution hinders the co-operation of labour in the work of production." *

Again to quote Prof. Rajkrishna from his booklet, 'Human Values and Technological Change'; Tempting though it is, we cannot regard technology as an impersonal autonomous, remorseless force and helplessly watch it torment, stunt and devour mankind. It is a creation of human mind; and the human mind should be able to control and refashion what it has created unless it chooses to denigrate itself and lose its confidence in itself. Man must respond positively to the challenge thrown to him by the figments of his own mind."

In the course of their planning, the Government, it is hoped will look into this huge waste of our human resources and hasten to their help and also incidentally organise their developmental schemes for the prosperity of their country.

Mahatma Gandhi wrote in 'Young India', of 13th November, 1924, " But I must make one thing clear. The supreme consideration is man. The mechine should not tent to make atrophied the limbs of man The individual is the one sureme consideration."

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* Mr. Lipson in 'Increased Production', Oxford University Press.

CHAPTER VII

WEALTH — PRODUCTION and DISTRIBUTION

The movement of Khadi and Village Industries was not an end in itself. It was only a means to an end, the end being the establishment of an ideal socialist State, where there will be no exploitation, where every one will have equal opportunities for getting at the various resources of the nation. The present day malady of the world is unequal distribution of wealth under the existing capitalistic regime To counter-act the evils of the system, the Khadi movement was started and one of its main functions is equal distribution of wealth as far as practicable. The essence of the problem of wealth distribution as applied to Indian villages, is stated with beautiful clarity by Sri C. Rajagopalachariar in a speech at Poona, reported in 'Young India' of May 24, 1928. He said in part: "You cannot distribute wealth equally after producing it. You won't succeed in getting men to agree to it. But you can so produce weath as to secure equitable distribution before producing it. That is Khadi....."

Here is another quotation from a booklet, 'Gandhian Economy' by. Dr. Kumarappa:—

> "This must be done in a form in which it will distribute wealth, and will work in a satisfactory

manner. Our problem is to give employment to 400 millions of people in such a way that every one would get his own primary need satisfied. That means, our method of work has to be such as will distribute walth in the process of producing wealth.

If distribution and production do not go together or take place simultaneously, they would often lead to accumulation of wealth on the one side and poverty and misery on the other."

Those of us who are wedded to the cause of Sarvodaya should have a clear understanding of the various implications of the problems created by electric power. Electric power, as at present generated and supplied, is in no way conducive to the spread of sarvodaya. Hence it behoves us to steer clear of the traps of capitalistic exploitation. Our dealings should be such that they set the correct models to the people at large to follow. If, in our haste, we overlook even an insignificant item of the fundamental principles of Sarvodaya ; then the people too, would follow the lead; and the country will be soon heading to a goal which will be quite the opposite of our ideals. Therefore, we, the Sarvodaya workers, should be fully alive to the various responsibilities that rest on us, and be aware of the possibilities for good or evil of the means we employ.

CHAPTER VIII

Human Power & Electricity

"Today Machinery merely helps a few to ride on the back of millions. The impetus behind it all is not the philanthropy to save labour, but greed. It is against the constitution of things that I am fighting with all my might."

(*Mahatma Gandhi in 'Young India'-13—11—'24*)

In our country there is an abundance of human labour. Industries should be carried on, as far as possible alongside agriculture in the villages during the time when there is no work in the fields. The main motive power that is available to all the villages is bullock power. Therefore, our main concern should be the use and propagation of such of the cottage industries as will afford the maximum of employment to human and bullock power and yet be efficient. On this count, there is need to reconsider the position of power-driven chakki and the encouragement given to it in the form of cheap motive power.

It is an indisputable fact that the electric and oil power driven chakkis are able to stand against their indigenous bullock- and hand-driven counterparts, no because of their mechanical efficiency, but because of the unseen State subsidy. Mechanically the electric power-driven chakkis, are even inefficient. For example a pair

of bullocks can exert a pressure of nearly 1 H. P. and grind nearly 5 maunds of wheat in 8 hours, while an electric driven chakki fitted with a 10 H. P. motor can grind $26\frac{2}{3}$ maunds of wheat in 8 hours. This shows that the power-driven flour chakki is only 53% as efficient as the bullock-driven one.

An impression has been spread that the hand-chakki is a primitive implement and is very inefficient. This notion is completely unwarranted by facts. A man can apply a force of 15 lbs. in continuous work at a velocity of 220 feet per minute. Hence the power of man is 15×220 is equal to 3,300 foot-pounds per minute or one-tenth of a horse-power. One woman grinds in an improved hand-chakki 15 seers of wheat in 8 hours. Calculating the output of this chakki for 10 H. P. energy will come to $15 \times 10 \times 10$ equal to 1500 seers, equal to $37\frac{1}{2}$ maunds, while 10 H P. electric energy gives out only $26\frac{2}{3}$ maunds of flour. Therefore it is only 71.1% efficient.

In spite of this mechanical inefficiency, how are the power-driven chakkis able to compete and oust the bullock and hand-driven ones out of existence?

Power is generated through a number of multi-purpose projects by sinking a large amount ef nations wealth. The power thus generated is sold to the machine-owners at cheap and nominal rates arbitrarily fixed to the advantage of the machine users. It is only with the help of this cheap State subsidised power, that the power driven chakkis are able to compete with indigenous industries. As stated above, a bullock-driven

chakki grinds 5 maunds in a day of 8 hours while a power-driven one fitted with 10 H P. motor can grind nearly $26\frac{2}{3}$ maunds in 8 hours. The electric power consumed for grinding this quantity is nearly $35\frac{5}{9}$ units at the rate of one unit of power for every $\frac{3}{4}$ maund of flour. This will cost Rs. 6—10—6 at the rate of annas 0—3—0 per unit. (The price of annas 0—3—0 is the rate at Wardha and is rather high. Power is made available at even cheaper rates in many other places. At Madurai it is 9 pies per unit.)

At this rate, the cost of electric power that will be required for grinding 5 maunds of wheat will come to Rs. 1—4—0. If the same quantity has got to be ground in a bullock-driven contrivance the following are the expenses, Feeding charges for the bullocks for a day is about Rs. 2—0—0 and wages for one labourer to drive the bullocks is Rs. 1—8—0. The total expenses will be Rs. 3—8—0. If the same quantity of 5 mds. is to be ground by hand-chakki then paying at the rate of 0—12—0 per every 15 seers of flour will come to Rs 10/- This shows clearly how the power chakki is given a favourable position in our present-day arrangements. This order needs to be reversed if we aim at a rational utilisation of the bullock and human resources available in the country on a just basis. Power-driven chakkis drain our national resources on the one side and on the other the bullock and human labour is left unemployed due to this unfair advantage and competition. Has the country the wherewithal to meet this double drain? If our answer is in the negative, then we have to stop this drain and reorganise the system rationally.

Of late, the problem of unemployment is spreading. The National Planners are painfully conscious of this fact. But the methods they suggest do in no way ameliorate the situation, but on the other hand aggravate it. All power-driven machines create unemployment is a fact known even to the man on the street, but the subtle way in which a strong lever is placed in the hands of the machine owner is not so obvious. If we play fair and restrict the use of such machines, we shall certainly increase the scope for employment. Can we not follow this simple plan? We do not ask the Government to legislate and ban the consumption of electric or oil power altogether. But electric or oil power should not be supplied so cheaply as to compete with human and bullock powers and crush them. Can the Government not adopt means to solve this problem of unemployment rationally and effectively?

There is always a lame argument ready with the modernists. Progress in varied spheres, they contend, create enough opportunities for employment. The bottom of this contention is knocked out by a recent statement made by Sri Sriman Narayan Agarwal, a member of the Planning Commission. He said, "According to available statistics, the various schemes under the Plan had been able to provide additional employment only to about 2.5 million people so far, as against the revised target of 6.5 million for the Plan. At the present rate therefore, it would hardly be possible to achieve even the revised target brought down from 8 million. Every year there was a net addition of about 1.5 milion people to the labour force of the country. These facts led to the

inevitable conclusion that fuller employment could be achieved only by the use of labour-intensive methods through the organisation of a network of small, village and cottage industries." (Reported in the 'Hindu' dated 23rd August, 1958,)

CHAPTER IX

AGRICULTURE and ELECTRIC PUMPS

Ours is a cow-centred economy. Hindu scriptures assign the cow the highest of honour as the holy mother, not only because she yields the most nutritive food stuff—milk, but also because she provides bullocks, the chief source of motive power.

Agriculture, the main occupation of a vast majority of our people, wholly depends upon bullocks for its motive power. Agriculture, we all know, is not a full time occupation and hence there is a necessity for suitable village industries as part-time occupations. Many of these industries also depend on bullock power.

Irrigation is one of the chief limbs of agriculture. When the whole country depends on bullock-power for agricultural opertions, naturally irrigation ought also to depend on bullock power. Discarding bullock power for irrigation purposes is not consistent with self-sufficient villages. Exception there can be in the case of mountainous regions, where cows and bullocks are rare, where the level of sub-soil water is very low and where wells connot be dug, where deep boring alone is the remedy for getting at sub-soil water and in such like cases. But the general rule should be bullock driven water lifts. There are many types of water lifts existing in the country.

A thorough study of the various lifts is an absolute necessity. At Sabarmati, the 'Ramachandra Water Lift', was tried out years ago. Later in Maganwadi we tried a new type of double *mhote*. The Nahan Foundry from Nahan has brought out very recently 'Sarovar' water pump to be worked by a single bullock. In Rajasthan, we hear, a new type of bullock-driven water lift has been designed. All these need be brought together and their efficiency and merits studied.

Some people profess humanitarianism and recommend that bullocks should not be yoked to persian wheels or ghanis where they are made to go round and round endlessly. If this type of humanitarianism is to be adopted, then the bullocks should be completely freed from all industries which will imply that we need not have any more Go-Seva If Go-seva is considered a part and parcel of agriculture, then the idea of having electric pumps in public institutions, which strive to give the lead to the people to follow, is misplaced. Did not Dr. Kumarappa once say that even feeding the milch cows with oil cake turned out by mills, undermines the very fundamentals of Go-Seva? Go-Seva does not merely mean drinking good, unadulterated cow's milk, but it also means finding full-time useful occupations for her progeny—the bullocks. In our country oil presses are worked by bullocks and this is one of the most important subsidiary occupation of our villagers. If oil cakes pressed out by these bullock presses are not purchased and fed to the cows, the bullocks will lose their jobs and become unemployed. We must not patronise mill cake as the mills compete with our ghanis. This ultimately will be a

great problem for the Go-Sevaks. Therefore it is that every Go-Sevak should be wide awake to the many implications of the methods he adopts.

The previous articles clearly bring out the fact that ruthless exploitation is carried on under the guise of producing electricity. So before using electricity we should ask our-selves whether we want to join the side of the exploiters.

Electric water pumps steal other man's water as well. Any one who has seen the rural parts of some of the northern districts of Madras State will testify to this fact. Electric water pumps made their appearance here probably 15 or 18 years ago and spread very rapidly. The result now is many of the wells in which the pumps were not set up are all dry to-day.

This means the sub-soil water level has gone down and the deep wells get all the water with their pumps.

Electric water-pumps set up an unequal competition and pervert the minds of the owners to unscrupulous exploitation for selfish ends.

Hence, great caution and foresight is necessary before the Sarvodaya workers take steps to act. Every act of theirs is watched carefully and eagerly by the general public and this is sure to have its repercussions. Let us have enough stamina to lead the public in the right direction.

CHAPTER X

Electricity and Development

I give below a few of the points that are raised in and out of season in support of the spread of electricity as also in the name of National Development. They are:

1. Improved tools are a necessity.
2. The cultivator's standard of living must be raised.
3. The strenuous working time of the cultivators should be reduced from the present 9 or 10 hours to 4 or 5 hours.
4. They should use cattle power for agriculture and use machine and electricity for industries and irrigation.
5. Utilisation of all available cattle wealth is a sheer impossibility - no means to feed the cattle.
6. Electricity is spreading and hence we should be prepared to face the challenge.
7. Lastly we should begin experimenting on the lines of electrically operated cottage industries suited for every home.

Now let us analyse and answer, as far as possible, the points raised

1. Improved tools:

Regarding improved tools, no one has any objection to them. In fact, every one is honestly trying one's level best to invent or to buy improved tools. The tools

should be capable of being operated either by human or bullock power which is readily and uniformly available at hand in every nook and corner of this country.

2. Raising the Standard of living :

Every one is in complete agreement with the point that the cultivator's standard of life must be raised. This point should, in fact, from the very basis of our National Plan. Ours is a country of cultivators and cultivators are the very back-bone of our national economy. Also they form the biggest majority of our population and hence their uplift should be the main target of our National Government. Raising the standard of living of this vast majority of the masses will ensure raising the general standard of living of our nation in the real sense of the term.

3. Shortening the workingtime :

Thirdy, strenuous working time has also to be brought down to the lowest minimum possible. Here, we should see that the strenuous work is distributed equitably amongst the masses of this country. It should not be allocated only to one group of people as it is now, and the other group be the mere on-lookers or mental workers or exploiters. Mental workers too should take part fully in a minimum of hours of strenuous work necessary for the uplift of the nation.

At this point it is worth while going into the details of the number of man-hours work necessary for our nation to produce all her primary requirements.

Our nation consists of nearly 8 crores of families with an average of 5 members in each. Each family on

an average has nearly 3 working units. Therefore, the total labour strength of our country at the rate of 6 hours per unit will come to nearly: 8 crores x 3 units x 6 hours x 300 working days which is 43,200 crore man-hours per annum.

Cattle wealth:

We have nearly 20 crores of cattle which is said to be too large a number for our nation. Let us calculate here the barest minimum of cattle wealth we should possess. Each family should have a cow on an average for its milk requirements. This means 8 crores of cows. Our rural families - which are nearly $\frac{3}{4}$ of our total number- should own at least a pair of bullocks on an average for the combined agricultural and agro-industrial purposes for 3 families put together. This will mean :

$\frac{\text{6 crores x 2 bullocks}}{\text{3 families}}$ which means 4 crores of bullocks.

Add to this calves and spare animals about 3 crores This makes a total of 15 crores of cattle.

The 4 crores of bullock are capable of contributing 8 hours of work every day and this will amount to 4 crores x 8 hours x 300 days which is 9,600 crore bullock hours. One bullock hour is equal to 5 man hours and therefore 9,600 crore bullock hours equal 48,000 crore man-hours. With this vast resources on hand, let us now proceed to calculate the energy required for producing the various items of our fundamental needs.

Food Production:

Food production becomes the first and the foremost responsibility. Essential statistics are lacking in this

all important sphere. Let us base our calculations on whatever material we have readily available on hand. The Giri Committe's report on Agricultural Labour has clearly laid down that 5 crores of families look to agriculture for their livelihood and they are employed for barely 7 months in a year. Agriculture, in our country to-day does not merely mean food production, but includes the cultivation of all sorts of luxury goods as tobacco, tea, coffee, sugarcane, groundnut and many other things. The production of all these give the agricultural families only 7 months of employment. There is ample scope for realignment of agricultural production with top priority for food products in order to make the nation completely self-sufficient. Even granting that all the time and energy that is at present spent on agriculture becomes necessary also under the changed circumstances, we may require : 5 crores x 3 units x 8 hours x 210 days which is 25,200 crore man-hours and the 4 crores of bullocks will contribute : 4 crores x 8 hours x 210 days which is 6,720 crore bullock hours and multiplied by 5 comes to 33, 600 man-hours. Thus the total makes 58,000 man-hours.

Cloth Productions :

For production of cloth at the rate of say 15 sq. yards per head per annum will come to 600 crore sq yards. Roughly 16 man-hours make one sq-yard of cloth and therefore 9,600 crore man-hours will produce all the cloth requirement of this country.

Processing of cereals :

Next in importance comes the processing of cereals. Our annual requirement of cereals will be in the neigh-

bourhood of 6½ crore tons. This will require approximately 6,500 crore-man-hours.

Totals:

Agricultural operations;	58,800	crore man-hours.
Cloth Production:	9,600	,, ,,
Processing of Cereals:	6,500	,, ,,
Total.	74,900	,, ,,

It now becomes clear that there is ample time left for attending to the other items of village industries as oil-pressing, gur-making etc. Besides the 6 hours of strenuous work people are capable of putting in a few hours of light work as kitchen gardening, bee-keeping, artistic handicrafts etc.

Therefore, there need be no doubt left regarding the availability of labour power in our country. At present the labour force becomes shy and shirks responsibility simply because there is no incentive left in attending to these industries which is solely due to the poor monetery returns; as also the competition set up by the cheap electricity that is making headway with the active connivance of the government.

4. No-need for electricity for Village Industries:

The facts placed above prove beyond doubt that there is at present no need to resort to electricity for village industries. Our objection to electricity is its appalling cheapness brought about artificially by the Government by its high financial policies. This cheapness of electricity is mainly the reason for the large scale destruc-

tion and total disappearance of many of the useful village industries. If only this cheapness in electricity is eliminated or in other words, if electricity is made as costly as human energy, then there is no doubt that many of the indigenous industries will spring up overnight all over the country in as large a number as imaginable.

5. Feeding of our cattle wealth :

The problem of feeding the cattle wealth is not so difficult as is made out. When food crops increase, naturally fodder out put also increases correspondingly. If agriculture is to be efficient there should be enough rain and this can be ensured only with a planned afforestation programme. This will further add to the fodder production of the country. Thus, there is no ground to fear that we shall be short of fodder for the cattle population.

6. Spreading of *Electricity* - a political stunt :

Electricity is spreading and that even on unscientific grounds and lop-sidedly. This spreading is not helpful to the country in anyway. In a democratic government the people may decide in favour of a very high rate for each unit of electricity for private enterprise. In such a contingency, village industries using human and bullock power alone can stand up and flourish.

The rate at which electricity is spreading is extremely slow. According to the Government statistics, on an average every year nearly 500 new villages get electricity. At this rate we can rest assured that electricity is not going to become universal in all the 5½ lakh villages in this country even after centuries of herculean plan-

ning. Also rural electrification does not pay. It is only the urban electrification that pays. This again imposes another check on the universalisation of electricity. Until and unless electricity becomes uniformly available in all the villages, there is always going to be lop-sided development. The villagers that get electricity will try to use their resources to the fullest and exploit the less fortunate brethren in the neighbouring villages economically, socially and politically. That is exactly what is happening at present all over the country and this mal-adjustment should be ended without any further delay. This mal-adjustment is always in favour of the partymen in power and hence assumes a political colour as well.

7. No experimenting with electric power now:

Under the above circumstances, we feel, experimenting with electricity becomes an unwanted and a premature demand. The problem of very poor returns from agriculture for the production of food crops and better returns from commercial crops only proves the artificiality of the whole set-up. Prices of our agricultural products can be fixed scientifically. Human and bullock power are the two main sources that produce these products. In that case, can't we have a labour-based price structure? Why should we depend upon price fluctuations in other parts of the globe for such of these products? With such a labour-based price structure can't we afford enough incentive to our agriculturists to put in their best efforts in this field? Thus, when our country is made self-sufficient by a scientific price policy the agro-industries also will get enough impetus and thus more work than what has been calculated above will easily become practicable.

CHAPTER XI

Constructive Workers and Electricity.

A few of the outstanding Gandhian Constructive workers from the Khadi and Village Industries Board under the Ministry of Industries and Commerce in order to plan and execute ways and means of helping the existing village industries so as to reduce the problem of poverty and unemployment in the country, met in a conference in Poona in November, 1954 and discussed some of the basic problems connected with Village Industries. The decision they arrived at does not give a clear lead to the country. The oft-discussed question of the use of electricity became more delicate in the conference, causing greater confusion. It is necessary to rethink the whole issue to enable us to come to a proper understanding about this fundamental question.

1. Electricity is an energy which can substitute the power of a man or an animal. Therefore any work a man or an animal can do can be easily done by electric energy. The problem before the country to-day is finding full time employment for all our people.

Each one of the unemployed in the country represents a unit of energy which can easily be put to any of the nation-building activities. When so many units of

energy are going waste in rural parts, what necessity is there for resorting to electricity, which is demonstrably a more expensive source of power?

2. We have all along been contending that the generation and distribution of electricity is creating a great upheaval in the country. Electricity that is produced with the help of public servants and public funds should belong to the nation as a whole and this should not be a source of exploitation for a few. Unfortunately, our present Government is not worried about this and they are actively encouraging and indulging in extending this injustice.

The other day the Planning Minister at an important meeting in Delhi, dialating on the importance of rural electrification stated that he was fully conscious of the fact that at present about only one per cent of the total number of villages had electricity. At the beginning of the plan-period, the number of villages with electric supply stood at 3,075; it has now reached a figure of 4,500. Since the present rate of progress was very slow, it would take a long time to cover the entire country. It was, therefore, proposed to recommend that a large amount should be allotted to rural electrification in the second plan!

From this statement it may be clear, however much the Government may accelerate the programme, it may take many Five-Year periods to electrify all the villages. Until such time as electricity is made uniformly available in all the nooks and corners of the country, the Government should safeguard the position of the unemployed human and animal-power.

3. It is well recognised that electricity, wherever it has made its appearance. has only displaced human and animal power in rural parts. With these practical experiences before us how are we to expect people to use electricity in a manner that will not displace human and animal power? Or at least, what are the fields in which electricity can be used in the way suggested? It is not satisfactory to leave things in this very fluid and unsettled state.

4. The basic reason why electricity is able to displace human and animal power is its appalling cheap price, arbitrarily fixed without any consideration of its financial and social implications. If our Government accept that maintaining human beings in a strong and healthy state is its first concern, then it becomes its prime responsibility to see that electricity is not supplied for any of the industrial undertakings at such cheap rates, at which it can *displace* human power. Supplying electricity at cheap rates and at the same time telling the people not to use it for displacing human labour is farcical If human labour is not to be displaced then electricity should be charged as much as would cost if human labour were employed. According to our approximate calculations, we feel the charge for electricity should be about sixteen times as much as the present rate to eliminate its power of displacing human labour.

There is no indication as to whether these problems had been discussed in detail at that conference. If they had been, then proper conclusions have not been put forward. With this background, that conference should not suggest the use of electricity for village industries. Let us, constructive workers, also not confuse the public on vexed basic questions like these.

CHAPTER XII

Village Industries and Electricity

In February 1942, the All-India Village Industries Association, which was founded and guided by Gandhiji resolved to recognise paper pulp made with the use of electric power. This resolution has created certain unwarranted misunderstandings in certain quarters. If the full implications of the resolution are understood clearly there would have been no ground for any mistaken notion. However, the following paragraph of Dr. Kumarappa, the then Secretary of the Association will make matters clear :-

> "The Board of Management at its last meeting decided to allow shops certified by the Association to sell hand-lifted paper from pulp produced by power, provided such pulp was obtained from a ***recognised producer*** under the ***control*** of the Association. This being the first occasion on which a partly-machine processed article comes within the field of the association some friends are at a loss to understand the grounds on which the Board took this step. It is, therefore, proposed to explain the general principles under which we may resort to machine power. Machine power can only be used like a physician uses doses of poison with extreme care and in rare cases. Under such restricted regime machines have a great part to play, in economic production.

Making paper from waste paper is only rehashing and is not real paper-making, for which we need to resort to original materials like grass, straw, rags, jute, sunn hemp, bamboo etc. The first two are easily reduced, but the others are hard to deal with and when reduced to pulp by hand yield paper of very much inferior quality.

Hence in extremely rare cases where the life and expansion of an industry calls for aid from machines in one or other processes which cannot be performed by hand, where the fullest advantage of the raw material available can be taken only by the use of machinery, where processes involved are so heavy that it would be cruel to use man-power where the capital and equipment needed for the due carrying out of the process is beyond the means available to the artisans, where it is possible to render the needed help by resorting to the use of machinery under safeguards to make sure that no exploitation is possible and the aid is given on a service basis, there can be no objection to machine-power being used." *

This is sufficiently clear that even in the case of this resolution it is not a free passport to each and every kind of power pulp. The power pulp making unit should be a recognised institution running on non-exploitative lines. As if this is not sufficient, Dr. Kumarappa has subsequently cleared the matter further beyond any ray of doubt.

* *Gram Udyog Patrika* — March, 1942 under the caption "When Machine Power?"

"We are informed that it is proposed to distribute pulp prepared at the Bhadravathi Paper mills to handmade paper centres to give the industry a momentum and set it on its feet. The All-India Village Industries Association has contemplated power-pulp-making, but before we can say that the Bhadravathi Paper Mills can fit into our picture we have to satisfy ourselves that the financial and economic position of the paper mills is on a par with the paper-lifting centres and that the two units form a homogenous whole, i. e., that there are no profits made by the mill other than what is distributed to the paper lifters, that it is working on a service basis, and that the salary scale in the paper mills is on the same basis as the salary scale in the paper-lifting centres. If these conditions are not guaranteed the pulp produced by power under the enviornment of exploitation cannot form the basis of the raw materials for a cottage industry. Under such conditions the so called cottage industry becomes an adjunct or even an integral part of the factory which state is to be deplored.

To make cottage Industries adjuncts of large scale industries is to give material wealth the place of worship and the man the role of a means of producing it. Is this not worse than putting the cart before the horse?" *

* *Gram Udyog Patrika* — July, 1942 under the caption, "The Senior Partner".

Appendix I

SUMMARY

Chapter I

a. Production of Electricity is a national undertaking.

b. Electricity is not evenly distributed.

c. Distribution is more in favour of the urban population.

d. Hence, places a long lever in the hands of the urban population to further exploit the less fortunate village population.

e. Total outlay on power production project is approximately 480 crores.

Chapter II

a. Gandhiji opposed the use of electricity for village industries as it is a product of centralised industry.

b. Gandhiji had no objection to electricity if only it is produced and distributed locally.

c. At present electricity is a centralised product and no one aims at Gandhiji's ideal of local and universal production and distribution.

Chapter III

a. The price of electricity is arbitrarily fixed and is not in accordance to strict business principles.

b. Human power and electric power compared.

c. Why is electricity cheap?

d. Eliminating the spirit of competition.

Chapter IV

a. Three categories of uses: Household, small industries and big industries.

b. Consumer industries and key industries.

c. Key industries are to be nationalised and they can use electricity even if the supply is at a cheaper rate.

d. But for consumer industries, the rate of electric power should be on par with human power in order to avoid competition.

Chapter V

a. Rural electrification is very slow.

b. It is not paying. Needs State subsidy.

c. Therefore universal rural electrification is an impossibility.

d. Under the circumstances, the urban population that gets electricity is placed at an advantageous position.

e. The State itself should not perpetuate partiality.

Chapter VI

a. Agricultural labour families waste annually 1,640 crore man-days.

b. They can produce many of the things they require for themselves.

c. Wastage of human energy should be avoidedif the nation is to get on the path of prosperity.

d. Unemployment is the greatest waste.

Chapter VII

a. Khadi means equitable distribution of wealth by proper adjustment of production.

b. Distribution and production should take place simultaneously.

c. Use of electric power concentrates production at one end and hinders equitable distribution of national resources.

Chapter VIII

a. Machinery and power instill and develop greed in men.

b. Power-driven machinery is not inherently efficient.

c. In fact they are far too inefficient technologically.

d. The apparent efficiency of power-driven machine is due to the unseen subsidies that they get with the active connivance of the government that leans more towards Capitalism and is being lured away by the glamour of industrialisation.

e. 'Progress in varied spheres create more opportunities for employment' is a myth that cannot stand the light of statistical scrutiny.

Chapter IX

a. Human and bullock power should be utilised fully.

b. Research should be carried on continuously in this field.

c. Taking to power-driven machines and their products undermines the whole basis of our nation's economy.

Chapter X

a. Total cattle and human power available to-day.

b. The demands of agriculture and agro-industries.

c. No need arises for mechanical power for any of the agro-industries.

d. The spread of electricity is an empty cry.

e. Scientific price structure for agricultural and agro-industrial products will encourage national production.

Chapter XI

a. Constructive workers are divided in their opinion about power and power-driven machinery.

b. The Khadi Board discussed this subject over again and came to an unsound conclusion.

Chapter XII

a. The Village Industries Association allowed the use of power for certain operations connected with some of the village industries.

b. The preliminaries that are to be looked into if power is to be utilised.

BOOKS By Dr. J. C. KUMARAPPA

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1.	Why the Village Movement? ...	3— 0—0
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4.	Gandhian way of life ...	0—12—0
5.	Public Finance and Our Poverty ...	1— 8—0
6.	Report on the Financial Obligation between Great Britain and India, (with Kumarappa as convenor) 1931	(out of print)
7.	Clive to Keynes ...	0—12—0
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37.	Stone Walls and Iron Bars	...	0— 8—0

By OTHERS

38.	The Economics of Peace: The Cause and the Man (S. K. George and G. Ramachandran)	...	10— 0—0
39.	J. C. Kumarappa and His Quest for World Peace (M. Vinaik)	...	1— 8—0
40.	Sarvodaya & Electricity		0—12—0

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