A Land and Water Policy for India—I

SHEKHAR SINGH

THE belief that our natural resources can be taken for granted, that a concern for Nature and for the environment is sentimental and elitist, is too widespread to be ignored. This, coupled with an apathy for what might happen fifty, or thirty, or twenty years later has brought about a situation where irreversible damage to our ecological systems is daily condoned, justified and perpetrated: all in the name of development and progress.

The defenders of wild life and Nature are mostly professionals and academics — zoologists, botanists, ecologists, environmentalists and lovers of birds, animals, flowers and trees — and it has become easy to label them as unrealistic, narrow in outlook, and even conservative and regressive.

It is, therefore, heartening to see a bureaucrat (the bureaucracy having had more than its share of the 'ecologically blind') stand up and speak out against our current policies or, more accurately, our current lack of policy.

B.B. Vohra starts off well, in his *A Policy for Land and Water* (Sardar Patel Memorial Lectures, 1980; see *Mainstream*, January 3 and 10, 1981), opening with an indictment: "A surprisingly large number of our planners, politicians, policy-makers and economists still believe that there is nothing very much wrong with the manner in which we have managed our land resources all these years. This complacency is born out of sheer ignorance and a genuine unfamiliarity with the subject..."

Vohra's thesis, in the main and as I understand it, goes something like this.

A third of India's potential agricultural land and three-fourths of the non-agricultural land is lying practically useless. Besides, three-fifths of our total agricultural land is degraded and, on the whole, three-quarters of all the land under agriculture and forest needs urgent care. Such a state of affairs is partly due to poverty and over-population in our country and partly because of complacency, ignorance and lack of policy and organisation at the highest levels.

The two main threats to land are water-logging and the resultant salinity, on the one hand, and soil erosion on the other. These are "the only two major ills that land suffers from." Water-logging and salinity occur either because embankments, without adequate provision for cross drainage, hold up water or because canals, through excess application of water and through seepage, flood the land.

Soil erosion seems to have two causes: wind action and water action. In general, the over-exploitation of land, through excessive felling, grazing and cultivation, contributes to soil erosion. Denudation of forest or grass cover starts a vicious circle, as uncovered land tends to lose its topsoil and land without topsoil tends to remain uncovered.

Proper management of land resources involves getting the best produce from existing good land, preventing more land from being degraded and reclaiming damaged land. First priority should be given to increased productivity and to the prevention of degradation of more land. Reclamation of degraded land should be the next priority.

Of the good land in India (about 56 million hectares), 20 mh are under canal and tank irrigation, another 20 mh are serviced by ground water and 16 mh are unirrigated. The first priority must be to take up the 10 mh of good canal and tank irrigated land that is threatened with water-logging. Proper canal lining, effective field channels for regulating the application of water, and the provision of surface and sub-surface drainage are the three urgently needed measures for protecting land irrigated through canals.

To implement such preventive measures one needs 'detailed planning', 'careful execution', 'huge financial outlays' and a 'consolidation of holdings and redrawing of field boundaries.' "This is why anti-water-logging operations make so little progress and why the blessing of canal irrigation is turning into a curse over large areas." However, in the absence of these preventives, "as much irrigation land is going out of production in the world every year...as is being brought under new irrigation." *(ibid)*.

Overuse of lands being serviced by groundwater must be prevented, and adequate power provided for the running of tube-wells. The lands not yet irrigated (16 mh), must soon be brought into the fold. Though many of them would be covered by the 415 major and medium irrigation schemes pending completion, the rest must, as far as possible, be provided with groundwater. Groundwater is preferable to cannals and tanks, it being, among other things, cheaper, quicker, more economical and mainly under the farmer's individual control, so that he can regulate the application of water according to his needs and is not "at the mercy of huge and sometimes corrupt bureaucracies."

In fact, the Government should give up the idea of taking up projects for new irrigation canals, especially grandiose ones like the 'garland canal', and should consolidate the work already undertaken.

The conversion of agricultural land into forests and the growth of vegetation on uncovered land, either through planned planting or by leaving the land alone so that it could itself regenerate its cover are two general solutions to the problem of erosion.

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The construction of wind-breakers, in certain types of terrain, is also an effective measure against wind erosion. However, these methods can only be successful through the use of proper legal authority in cooperation with the people, who would have to be educated about the value of these measures, and alternatives would have to be found to satisfy the genuine needs of these people for fodder and fuel.

Of the remaining 87 mh of degraded land, the unsuitable land (calculated to be about 43 mh), must be reverted to non agricultural use. In this category fall the lands that have either shallow soil, steep slope or are inaccessible to water. These lands should either be planted with forest or with some vegetation. The remaining 44 mh of degraded but potentially good land should be reclaimed and added to the existing 56 mh of good agricultural land to make a total of 100 mh of good agricultural land. This "major change in the land use pattern should, however, cause no concern, for it will result in an increase rather than a decrease in the agricultural potential of the country." (*ibid*).

Of the non-agricultural land (166 mh), 35 mh is under good forests and much of the remaining would be covered by schemes taken up for the care and development of catchment areas—another issue that warrants top priority. The remaining areas must also be treated, though with a lower priority.

To achieve this, a certain 'reorientation of Forest Departments' is necessary. The Forest Departments have "by and large, been much too friendly towards financially and politically powerful contractors responsible for illegal fellings" (*ibid*).

In all, these measures should not take more than 20 years to implement and should cost upward of Rs. 50,000 crores. There should be, at the national level, a Central Land Commission with authority over all activities relevant to land management. This commission should be part of the Ministry of Land Management: the new name suggested for the present Ministry of Irrigation. All funds earmarked for these activities should be placed under one major budget head for Land Management, and a National Land Development Bank should be created to finance various concerned projects.

In order to implement specific projects there should be suitable multi-disciplinary area development authorities. "It would also be necessary to ensure that such authorities are not hampered in their work by the lack of adequate legal and executive powers. These authorities must therefore be vested with suitable summary powers in the interests of the land so that its improvement and where necessary its physical reshaping may take place as quickly as possible." (*ibid*).

Though the Government should take up most of this work, in some of the areas "it would be useful to allow private initiative and the profit motive to play a role..." There should be involvement of voluntary agencies with this work, especially as watchdogs to ensure that the Government delivers the goods, and for educating the public in matters relating to the soil and removing 'resource illiteracy'.

DESPITE the title, Vohra's lectures seem to deal only with a policy for land, the water ingredient being invariably ignored. Perhaps a justification for this is found in the second lecture: "Since for all productive purpose; the soil is useless in the absence of water and vice versa, the problems of land and water management constitute a single indivisible whole. *However, we must look at these problems only from the point of view of the land* because while the land is a continuing and non-renewable resource, water is gifted to us afresh every year by a bountiful Nature. It also needs to be remembered that while land resources can and do suffer heavy damage at the hands of water, the *reverse is not possible.* Therefore, there is and can be no such thing as water management *per se.* Indeed, the only purpose which the management of water can have is to subserve the interests of the land." (emphasis added).

Vohra's argument, then, seems to be that: (a) For productive purposes, water and land are mutually dependent. However, as (b) water, unlike land, is an annually renewable resource, *and* (c) water cannot be damaged by land (as land can be by water), *therefore* (d) the problems of land and water management must be looked at *only* from the point of view of the land (the *only* purpose of water management is to serve the interest of the land).

Vohra's logic seems difficult to grasp. It is not clear to me how, for example, the conclusion (d) in the above argument follows from the premises (a), (b) and (c). Admittedly, as water and land are both essential for agriculture, land being useless without water, any respectable policy regarding land as an agricultural resource must also deal with the problems related to the supply of adequate and suitable water. However, judging by this criterion, the policy Vohra is propagating has at least the following problems.

1. Vohra's belief that land cannot damage water, even if we think of water only as an agricultural input, seems to be mistaken. To quote Prof J.P. Mrowka, "...the quality of water changes greatly, owing to storage in, and transmission through, the soil. For example...undesirable elements, such as pesticides, may be added to the water within the soil." (*Source book on the Environment*, 1978).

Actually, there are *at least* three ways in which water can be polluted (or, damaged) through contact with the land: 'pollution' being understood to be "a change in condition (energy or material level) which disturbs the self-regulatory capacity on an environmental system toward or beyond its operating limits". (Prof. Herman S. Forest, "Pollution of Streams and Smaller Lakes", *Ecology and Pollution*, 1972). The first two of these Vohra himself mentions, though in a different context.

Water can pick up, from the land, a lot of mud and this can make it unfit for agricultural use, especially since all mud is not soil and thus beneficial to plant life. Similarly, salts present in the soil can dissolve in water, making it unusable. Vohra, however, does not mention pollutants like pesticides and other chemicals, which run off the land and into streams and waterways: "(Pollution from the soil)

includes compounds such as nitrates and organic herbicides and pesticides which have their origin in agricultural operations." (Prof. Raul Cardenas, "Water Pollution" *ibid*). The pesticides, while protecting some crops, are harmful to others. They also get assimilated by vegetables and other agricultural, products, making these products unfit for consumption.[1]

Though the proposed policy does mention some of the ways in which the problem of siltation and salinity can be handled, nothing is said about protecting water from land-borne chemicals and pesticides.[2]

2. But land is not the only pollutant of water. There are *at least* three other sources of pollution: three other ways in which water is 'damaged', becoming increasingly unsuitable for agricultural use. Industrial waste, human waste and atmospheric pollution are all threats to the purity of water.

Industrial waste, considering its toxic and chemical nature, is an especially grave hazard to agriculture.[3] However, in spite of this, the financial and political power of the industrialists, coupled with high costs of pollution-control methods, ensure that very little progress is made towards checking and minimising this danger. Apart from the dumping of waste in water, industries also do their bit in polluting the atmosphere On the face of it, this might seem to have no relevance to water. It is, however, now known that certain types of pollutants in the atmosphere, besides negatively affecting rainfall patterns, can be picked up by water, while it is in passage, as rain, through the atmosphere. In many countries, including the USA, this process has resulted in the phenomenon of 'acid rain'. Industrialists apart, even the Government seems apathetic to the threat of atmospheric pollution. The Indraprastha Power House, in New Delhi, a billowing example of this.

Vohra's 'policy', in not providing for these various and grave threats to water, shows itself to be inadequate. The annual renewability of water might be a bounty of nature, but even with a renewable resource like water, one has to ensure that it is available *where it is needed, in usable form*, at the *right time* and in the *required quantity*. We have already seen how atmospheric pollution can interfere with this renewability: polluting the water even before it reaches the earth. What, then, is the use of this annual renewability if, much before the water can be put to any of its constructive uses (generally speaking, agricultural, industrial and municipal), it has been damaged and polluted in one of the several ways possible?

It seems clear that any policy concerned with the productivity of land must, if it is to be effective, incorporate measures to ensure that water is adequately protected from pollution. A policy purely 'from the point of view of the land' will certainly not do: especially if it is land 'chauvinistic' in the way that Vohra's 'policy' seems to be.

BUT far more serious, in its immediate implications, seems to be Vohra's proposal of reverting 43 million hectares (30.1 per cent) of the total agricultural land (calculated by him to be 143 mh) to non-agricultural use. Vohra argues that these 43 mh of land are relatively unsuited for cultivation, having 'shallow soil', 'steep slope' or 'little access to water'. The result of reverting this land would, he feels, be an increase rather than a decrease in the production of foodgrains for "good agricultural land in a climate like ours should be able to yield at least two crops a year so that even with 100 mh under cultivation the gross cropped area would be at least 200 mh. By contrast, though we have 143 mh under agriculture today, our gross cropped area is only 172 mh." (*A Policy for Land and Water*).

It seems quite certain that this reversion of nearly a third of our cultivated land would have serious repercussions. Whatever the ownership patterns, invariably this poor land would be supporting the small and marginal farmer or the landless labourer. To begin with, a very large proportion of this unsuitable land would be owned by the small and marginal farmers[4] who would, on its reversion, lose most or all of their land, many of them becoming landless. The remaining unsuitable land, if any, would be a part of the lands owned by the big farmers. This land would have, almost totally, been either leased out to small and marginal farmers[5] or operated with the help of hired agricultural labour. The reversion of this remaining land would dislocate both the small and marginal farmers who partly or totally tilled the land they leased in from the big farmers, and the landless labourers would no longer be required[6].

Converting these implications into numbers is not easy, mainly because no accurate figures

TABLE[7]

Area operated, area, households and population expected to be dislocated by implementing Vohra's policy

	A *NSS 26th round*	*B* *Raj's estimates*[8]	*C* *Sanyal's estimates*[9]
1. Area operated (million hectares)	125.68	148.06	148.06
2. Area to be reverted mh (30.1%)	37.83	44.57	44.57
3. Household to be dislocated (millions)	41.67	39.41	42.53
4. Population to be dislocated (millions)	222.03	217.15	236.34

Note: Considering statistics of land ownership, as collected by the NSS in its 26th round, the figures against item 1, 2, 3 and 4 would be 119.64, 36.01, 56.42 and 290.25 respectively.

ROOTS OF BACKWARDNESS

Dr K.N. Panikkar's article titled "Roots of Cultural Backwardness" (*Mainstream*, November 7, 1981) was based on the author's lecture at a seminar organised by the Students' Union of Calicut University.

seem to be available either of size of individual holdings in terms of quality of land, or of proportion of land leased out or cultivated by wage labour in terms of land quality. Vohra, also, does not indicate where he gets his statistics from, even admitting some to be guesses. However, using whatever statistics are available, and working with the assumptions outlined above, the quantum of dislocation would appear to be as in the Table. (p. 17).

Taking the average of the figures given in the chart we come to the figures of 225 million as the number of people who would be dislocated, *given the population figures of 1971.* In 1981, with the 24.75 per cent increase in population during the last ten years, this figures would not be less than 280 million[10].

Perhaps such a massive dislocation could have been prevented if we had implemented at least some of the proposed land reforms, making the distribution of agricultural land somewhat more equitable, both in terms of quality and quantity. But, as things stand, the distribution is very inequitable and if the implications I have outlined are to be avoided, Vohra must come forward with some practical suggestions on how to *first* implement what he calls the 'long-delayed' land reforms. His suggestion, albeit tentative, that land reforms be carried out in a summary fashion, perhaps by giving summary powers to the concerned authorities, is not impressive. What makes him think that the same authorities who have so far been protecting the interests of the rich landlords would not use these newly acquired summary powers to the same end?□

(To be continued)

NOTES

1. It is estimated that even after application of certain pesticides, like DDT, has stopped, it would take nearly fifty years for traces of DDT to disappear from fish and from various other animals. (Source: *The Limits to Growth*, Donella H. Meadows, etc., 1972). "Persistent chemicals may exhibit the phenomenon called *bioaccumulation*, which means that the chemicals may concentrate in living tissue in amounts greater than in the surrounding environment." *Environmental Ethics*, Albert J. Fritsch, etc., 1980.

2. This is all the more serious considering the current policy of the Government. A recent news item reports that pesticide consumption is proposed to be stepped up in India. "The Union Agriculture Ministry has fixed targets of pesticides consumption during 1981-82 at nearly 63,900 tonnes. This is about 8,000 tonnes more than...1980-81." (*Times of India*, New Delhi, June 13, 1981).

3. "...what happens if man is exposed to very low concentration of chemicals over a period of 20 or 30 years? The answer is still not known but it is clear that many such chemicals give very good grounds for concern. Besides their acute toxicity, chemicals can cause genetic mutations, can be carcinogenic or teratogenic." *The State of the Environment*. 1978, United Nations Environment Programme, p.3. For a recent discussion also see 'Impact of pesticidal Pollution in the Environment,' R.L. Kalra and R.P. Chwala, *Journal of the BNHS*, Vol. 78:1.

4. Though no general statistics are available, this seems obvious if we consider the land relations that have existed, and continue to exist, in our rural areas. Also, even where a small or marginal farmer started off with owning a piece of good-quality land, the over-tilling that would have been essential for him to make both ends meet, and the lack of expensive inputs and precautions would ensure that very soon his land would become degraded, losing most of its productive top-soil.

5. It is usually relatively poor land which is leased out, for not only does the rich landlord want to himself cultivate and look after his good land but he also finds that by leasing out the poor land he gets better returns than he could by using hired labour. The small and marginal farmer to whom the land is leased out has to work day in and day out to get enough from the land to pay the rent and sustain his growing family. Hired labour, on the other hand, would have, in most cases, much less motivation to do more than the minimum required of them.

6. The reversion of a third of the land, especially as this is poor land which requires more labour to even produce a mediocre crop, would suddenly result in an acute shortage of the land available for leasing out and in a phenomenal increase in the labour force. This would mean a rise in the 'rent' of leased-out land and a lowering of the wages of labour. If wage labour became cheap enough, it would become unprofitable to lease out land and, as such, the number of landless labourers would increase and those either owing land or operating leased in land would become fewer.

7. Vohra's statistics regarding total land area are much nearer those of Raj than those of the NSS. However, though I have used different data bases, I have used the same ratio (30.1 per cent) for all, calculated on the basis of Vohra's statistics. Unlike the NSS, Raj does not give the average household size for each class of holdings, but only the overall average. I have, as such, had to use this while computing the figures for item 4 for both Raj and Sanyal. Sanyal gives no figure for average family size, but considering he is using Raj's data, Raj's figures should apply.

8. K.N. Raj, 'Trends in Rural Unemployment in India: An Analysis with Reference to Conceptual and Measurement Problems', *Economic and Political Weekly*, Special number, August 1976. The figure in column B^1 is taken from Table I, and the figures in B^2, B^3 and B^4 are computed on the basis of this data and Vohra's ratio.

9. S.K. Sanyal, "Trends in Rural Employment in India — Comments", *Economic and Political Weekly*, January 29, 1977.

10. In coming to this figure I have assumed, as already stated, that this unsuitable land would be either owned or operated by the small and marginal farmers. I have also not yet considered the re-employment of these dislocated persons in some of the new avenues of employment that Vohra sees his policy as providing. This figure, then, is the 'gross', so to speak, not the 'net'.●

A Land and Water Policy for India—II

SHEKHAR SINGH

But suppose we accept the dislocation of millions of farmers as inevitable to the implementation of the policy, is this necessarily disastrous? After all, one of the alleged indexes of development is the smallness of the proportion of population engaged in agriculture. The USA is considered a developed nation at least partly because only four per cent of its population is engaged in agriculture, and it is for ever held against the USSR that over twenty per cent of *its* population is still engaged in agriculture. So, if decreasing participation of the population in agriculture is seen as an indication of development (either as a cause or as an effect), Vohra's policy would, at least on paper, suddenly develop India'

Again, there are ideologies, and points of view, that consider the movement of people away from agriculture and into other activities, like industry, a progressive step. Why, then, should we not look at the dislocation of millions of farmers with joy and hope?

Before we try and answer this question, let us consider the alternative forms of employment plausibly available to these millions of erstwhile farmers.

Vohra, as far as I can discover, offers the following alternatives : "...labour required for works connected with land shaping, land levelling, terracing, bunding, afforestation, soil conservation, and the construction of irrigation channels and drains." And again, "in activities based on multi-cropping, animal husbandry, dairying, horticulture, pisciculture and forestry"

Out of industry, agriculture, the profession and trade, Vohra mainly envisages the absorption of these dislocated masses into agriculture, whether as non-agricultural labour or as participants in various agricultural activities.

The first of Vohra's alternatives, namely rural labour, would, if it did so at all, only offer marginal relief, considering that there is already, in absolute terms, a large existing surplus of labour. Besides, Vohra's policy of concentrating on groundwater, and consequently tube-wells, for irrigation would also drastically reduce the demand for wage-labour — the tubewells being more or less individualistic units constructed with the help of family labour in the relatively freer periods of the year. One must also consider that, mostly, the displacement would take place in areas other than those where rural labour is required: such are the regional imbalances in our country today. For example, large amounts of land might be reverted to non-agricultural use in Bihar and Orissa, while the demand for rural labour might be in Punjab or Haryana[11], where no surplus labour might be available. This would create a very large class of migrant, almost nomadic, labour with all the attendant problems.[12]

Even if the Rs 50,000 crores that Vohra hopes to spend in implementing his policy were *all* spent on wages, they would only support about 36 million workers at the brink of poverty[13] However, it would be impossible to spend all these Rs 50,000 crores on wages, for quite a lot of this money would have to go for materials, establishment and other such 'necessities'. Also, this would still leave a surplus of 244 million, from our original figure of 280 million, to be accommodated,[14] not taking into consideration those who are already unemployed.

Vohra also envisages the participation of these dislocated farmers in agricultural activities, presumably as agricultural labour and, wherever possible, as entrepreneurs and as owners of their own establishments. Vohra's optimism regarding the employment potential of agriculture seems to be based on his belief that one outcome of implementing his policy would be a significant enhancement in the quantum of agricultural production. However, this resultant increase in production' might not to be as certain as it appears. For one thing, there is the whole debate regarding farm size and productivity. It has been asserted that large farms are not quite as productive as small ones, and this is important considering that one inevitable outcome of Vohra's policy would be to further concentrate the holdings of agricultural land.

Though many diverse, and often contradictory, reasons have been given in support of this farm-size productivity hypothesis, even without going into the merits of the argument it appears obvious that quality of land, adequate supply of water and of other inputs like fertiliser and agricultural machinery, though necessary conditions, are not sufficient for increase in agricultural production. Very often large farmers find it more profitable, for various reasons, to grow only one crop a year and to use the remaining time and their capital in other types of commercial activities.[15] As such, better irrigation facilities, concentration of the Government's resources on highly productive land and the reversion of relatively unsuitable land to non-agricultural uses might very well decrease the overall agricultural production, and also the potential of the agricultural sector to absorb the millions of displaced farmers.

Secondly, there is also a debate regarding the assertion that productivity in farms operated by family labour is higher than in those operated by hired labour. Considering that one outcome of Vohra's policy would be to make a large number of small and marginal farmers landless, thereby significantly increasing the potential labour force, and decreasing

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self-operated land area, this debate is also of relevance and its merits could influence the calculations regarding the expected increase in agricultural production.

In brief, these two factors could, and in my opinion would, inhibit the expected increase in agricultural production and the resultant increase in employment, and must be fully considered before a policy like Vohra's is implemented.

Prof Bhaduri, in a recently published paper (*Cambridge Journal of Economics*, 1981, 5) distinguishes between what he calls 'productive investment' and 'unproductive investment'. According to Bhaduri, investment is considered productive, in agriculture, when it enhances the level of output; and unproductive when it changes the 'distribution of output in favour of the investing class at a more or less constant (or even declining) level of output, so that the investors gain even though the overall agricultural, output may not have increased' *(ibid)*. There is, to my mind, this serious danger that the Rs 50,000 crores Vohra wants the Government to invest in implementing his policy would, by Bhaduri's definition, be 'unproductive investment', except that the benefits would accrue not to the Government but to the big farmers and the rich landlords.

Some of the modern agricultural technologies also have the effect of reducing the amount of labour required per unit of output or investment. Where improved technology, like HYV, is used to intensify crop yield, especially through the use of fertilisers, there is a decline in the use of labour in relation to output. However, if technology is used to intensify cropping, leading to two or more crops in the same plot of land, then labour use goes up along with productivity.[16]

The tendency, however, for reasons discussed earlier, is very often to intensify yield, thereby cutting down on the cost of labour and on the time required for agricultural activities; and releasing capital for short-term investments in other sectors. This results in greater unemployment, even when productivity is static or on the increase.

Similarly, there is a tendency among big farmers for capital intensive agriculture; as the farm-size grows, it becomes increasingly profitable to displace labour by machinery. This mechanisation, in its turn, leads to greater productivity at cheaper rates, to greater profits, and this to further mechanisation, almost totally displacing labour.

In short, not only are there many factors which inhibit enhanced productivity, but also factors which would, even if there was an increase in agricultural production, ensure that the capacity for the agricultural sector to absorb these millions of erstwhile small and marginal farmers was severely limited.

Vohra's last alternative, namely participation, but not as labour, in agricultural activities—'agriculture' being defined here in its wider sense—also seems to have various problems. For one thing, most of the displaced farmers would be of the small and marginal variety with no capital to invest in the various activities Vohra has listed. Also, a Government which is investing Rs. 50,000 crores in implementing Vohra's policy would not have much money left to provide extensive credit facilities—even if one forgets the serious problems that our experience has shown rural credit schemes to be plagued by. Though it could be argued that the increased productivity of the newly-organised land would generate the necessary surplus funds, even if all went perfectly it would take a significant length of time before the first effects of this enhanced production were felt, if they were ever felt, in terms of money flowing back into the system. The small and marginal farmers of India could hardly survive this period.

The capacity of Indian agriculture to absorb such a large number of people would be highly doubtful, especially considering the trends towards mechanisation, the regional disparity in terms of production and demand for labour, the general lack of capital and the extistence of monopoly markets: all this seen in the context of the social relations that exist at present. It might also be considered regressive to force farmers, and owners of land, however small their holdings, to become rural labourers. There is, I think, at least some merit in a point of view that holds it desirable "to give a small plot of land — and with it dignity and a fresh outlook on life, as well as a minor independent source of income — to members of the now landless underclass in the villages." (Gunnar Myrdal, *The Challenge of World Poverty*, 1970).

It is often claimed that capital intensification of agriculture and the resultant increase in agricultural productivity causes an increase in industrial production and capacity, and that those displaced from agriculture are thus absorbed by industry. This, however, seems to me a dubious argument in the context of India. As things are today, it is more than likely that the rural elite and the big farmers would get richer and go in more and more for mechanised agriculture, thereby helping their industrialist friends to produce and sell more, even find markets abroad when domestic markets are saturated. But the industrialist, like the agriculturist, would also go in for greater capital intensification and employ less and less people. The developmental and productive merry-go-round would certainly gather momentum, but on it would be a very small percentage of India's population. We would then, even more convincingly, have a situation where every commodity would be in surplus, but a large majority of the population would have no money to buy even necessities. The famous 'trickle-down effect' would, of course, be in operation, but all the while the disparity between the rich and the poor would be growing. Besides, considering the numbers involved, even the most optimistic rate of 'trickle-down' would hardly sustain an overwhelming percentage of our population at even starvation level.

Even if one considers a movement from land to industry as progressive, in the context of Vohra's policy this would be practicable only if the Government was, on the one hand, capable of clamping down on the private sector, and insisting that increased capacity would be sanctioned on the condition that it brought about a proportionate

increase in employment. On the other hand, if the public sector was to share any of the burden, it would have to be developed in the future with a view to labour intensification. Only if at least these two conditions were satisfied would there be a possibility of the labour displaced from agriculture being absorbed in industry. But this is obviously a tall order.

The two alternatives, then, seem either to implement land reforms whereby existing land is held in a more equitable pattern. This, along with the setting up of farm co-operatives and co operatives for inputs and for marketing of produce, could ensure that reversion of poor land to non-agricultural uses would not dislocate a large number of people and would achieve higher productivity and more efficient yield.

Alternatively, if the existing land relations cannot be disrupted, or if it is considered desirable to move people from agriculture to industry, then an industrial policy has to be implemented which ensures that capital intensification at the cost of employment is not allowed, and that markets are protected so that control of commodity production does not vest in a few hands.[17]

If Vohra's policy is to be taken seriously, and one hopes that it could be, it not only must indicate which of these two alternatives it prefers (or state, in detail, a third one),[18] but also how it envisages implementing the pre-conditions relevant to each alternative. Any effect to implement such a policy without first providing for alternate areas of employment may very plausibly lead to widespread unemployment and misery, perhaps culminating in a sudden and drastic change of the existing social order brought about by a people who have, finally, been pushed too far.□ (*Concluded*)

NOTES

11. This is, in fact, is already happening. For statistics relating to relative productivity of land in different states of India, see 'An Economic Enquiry into the Long-term Prospects of Balanced Agricultural Growth in India', P.K. Joshi and T. Haque, *Indian Journal of Agricultural Economics*, Vol. XXX V, 4. For problems related to migrant labour see 'Migration and Modes of Exploitation', Guy Standing, *The Journal of Peasant Studies*, 8:2, January 1981.

12. I have not touched upon the problems related to regional imbalances in agricultural production and development, which would seem to be an outcome of Vohra's policy'. See, for example, 'Towards a Theory of Rural Development: "At one stroke the problems of rural development, which was a comprehensive concept based on people, was transformed into a project for agricultural production, taking on a purely technological and managerial character. It was assumed that once production was assured, wherever it was most economical and by whoever was most efficient, distribution could always be managed to ensure equity and 'social justice'. The strategy rationalised and legitimised the withdrawal of the over-extended state machinery from areas which were difficult...to the comfortable sanctuary of well-endowed areas, 'progressive' farmers and technical questions. The retreat was thought to be an advance...It soon became apparent, however, that the facts were otherwise. The revolution was confined to particular areas and crops, and mainly to larger farmers who could mobilise the resources necessary for the purchase-input intensive technology." — Wahidul Haque, Niranjan Mehta, Anisur Rahman and Ponna Wignaraja, *Development Dialogue*, 1977: 2.

13. I have taken the poverty line figure of Rs. 3500 per annum per family of five. However, I have worked out an annual wage of Rs. 700 per worker, which assumes that every member of the family is a worker.

14. I am not, at the moment, taking into consideration the multiplier factor.

15. According to Ranjit Sau: "A year may be conceptually divided into three periods. The big farmer cultivates land in period 1. After the harvest, small and middle farmers sell their output at a low price; the big farmer therefore finds it profitable to buy up the grain at that price, to be sold later in the year at a substantial margin of profit. It is well known that despite the Government's procurement operations in foodgrains, private traders still handle about two-thirds of the marketed surplus. And an overwhelming bulk of the sales of output by small and middle farmers takes place within the village itself. Thus in period 2 the big farmer invests his money in purchase of the last season's crop. Cultivation of his land now could be profitable, but not as much as trading in grains. At any rate, money having flowed into the hands of small and middle farmers, the big farmer seizes the opportunity of selling urban industrial goods to them. So in period 3 he engages in another kind of trading, namely, sale of goods from the town in the rural market. The three different modes of extracting profit are resorted to by him in three periods consecutively. As for the fourth one, namely, usury, it could be a year-round exercise for him with seasonal ups and downs. The criterion of relative profitability thus induces the big farmer to leave his land idle in periods 2 and 3. The small and middle farmers cannot afford to do that, because they do not have enough money to invest in trading; they have no other alternative but cultivation of land."—'Land Utilisation: A Note', *Economic and Political Weekly*, September 4, 1976.

16. According to C H. Hanumantha Rao: "Land-augmenting or land-saving technologies may broadly be classified into two types : those which raise the yield of any particular crop per unit of land and those which increase total output per unit of land from all the crops grown over a rotational period, say, a year through the increase in cropping intensity. Owing to the complementarity between cropped area and labour, some of the land-saving techniques of the former type such as HYV are labour-saving as well. Where crop yields are raised substantially through the intensive application of fertilisers, there may be some increase in the use of labour for operations such as interculturing and harvesting but the amount of labour used per unit of output is reduced significantly. Increase in output through increase in cropping intensity, on the other hand, raises employment of labour almost proportionately to the increase in capital or output. The former type of techniques suit capital-abundant and labour-scarce economies even if they are not land-scarce and the latter are better suited to the capital-scarce and labour-abundant regions especially in their initial stages of development when the bulk of the growing labour force has to be absorbed within the agricultural sector."—'Factor, Endowments, Technology and Farm Employment', *Review of Agriculture, EPW*, September 1976.

17. An interesting study of non-farm employment possibilities in rural areas can be found in 'Farm and Non-Farm Employment in Rural Areas', V.S. Vyas and George Mathai, *EPW* Annual Number, February, 1978.

18. Vohra has himself mentioned, though in passing, the possibilities in energy-agriculture. Perhaps some of the agriculturally poor land could be converted into energy-agriculture plantations, though the details need to be worked out. ●

RURAL CO-OPERATIVES

The co-operative movement should enter into the life of the peasant in as many ways as possible and, together with the panchayat, must be the main bulwark of our rural structure...

I would prefer relatively small co-operatives comprising one or two or three villages. It seems essential to me that a co-operative should not be controlled from above, not too officialised, but should represent the spirit of self-reliance and self-growth of the people. Also there should be an intimacy about its members, otherwise it becomes impersonal and difficult for the villagers to consider as something of their own.

Jawaharlal Nehru (1957)