

Fourteenth Convocation held on April 2, 1980

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I am happy to be here on this day when so many of you are being awarded degrees by this University. Earning a University Degree implies mastering the information communicated in class room lectures. The day on which you are being given symbols of recognition of this power of assimilation of academic information is, therefore, hardly an occasion for inflecting yet another lecture on you. However, traditionally, convocations have become occasions for sharing the thoughts of the elder generation with the young graduates on problems of interest to them. Having accepted the gracious invitation of the University to speak on this occasion, I shall also follow the path of this tradition.

The first and foremost problem which agitates the mind of every young University student in our country is the prospect for getting gainful employment at the end of the academic career. The problem of growing unemployment both for unskilled and skilled persons is only too well known to you. Famine of work is becoming more serious than shortage of food. In fact, the inadequate and inappropriate utilisation of the human resource is a major cause of poverty in many developing nations. This was emphasised by Prof., Theodore W. Schultz in a lecture entitled "The Economics of being Poor" which he delivered at Stockholm on December 10, 1979, on the occasion of receiving the Nobel Prize in Economics. Prof. schultz underlined the fact that "most observers over-rate the economic importance of land and greatly under-rate the importance of the quality of human agents". He further went on to quote Alfred Marshall who once said "Knowledge is the most powerful engine of production; it enables us to subdue nature and satisfy our wants".

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Unfortunately in our country the growth in opportunities for University education does not seem to have concurrently led to a reduction in unemployment rate. Nor has it led to the more scientific and careful husbanding and utilisation of our natural living and non-living resources. Discipline centred structuring of research and educational programmes on the one hand and walls of isolation around each Government Department on the other, have led to a situation where our basic natural endowments of land and water and flora and fauna are facing serious depreciation due to lack of integrated attention. The National Commission on Floods, which submitted its report recently, has pointed out how the lack of a systems approach to planning and development has led in several cases to man-made floods. They have, therefore, recommended that flood and erosion problems should not be considered in isolation nor on an ad-hoc basis but should be dealt with in all their aspects in an integrated manner. This will call for mechanisms of horizontal coordination which we unfortunately lack at present. Whether it is in an academic institution or in an administrative department, hierarchical models involving vertical control have been preferred and perfected in our country.

The problem of unemployment has been aggravated both by a rapid growth in population as well as by adopting programme designs which do not set in motion self-replicating and self-propelling movements of economic activity. The D N A model of organisation of genetic material involving opportunities for replication, recombination, specific as well as coordinated action and mutation is yet to be translated into project formulation and implementation models. Our success in tackling these problems would greatly depend upon our ability to promote at all levels beads of horizontal and vertical coordination which would enable us to look at a problem in its totality and not just in a manner portrayed in the story of "Blind men and the elephant". The greatest advances took place in plant and animal breeding when selection criteria were shifted from individual to population performance. We

need a similar shift in emphasis in all areas of human endeavour.

Prof. A. Sen has repeatedly emphasised the fact that if productivity per individual is used as a criterion of employment, then the unemployment rate in India will be much higher than what is suggested purely by statistical figures on employment. We know that the problem of employment generation is complex and varied and that there is no single or simple solution to tackle this problem. However there is no experience in our country in the matter of providing immediate relief to the poorest sections of our community through direct Government intervention. It is generally known that unemployment in India is predominantly rural and while the unemployment rate may not very high, the sheer magnitude of the problem is staggering. Also, an examination of the State-wise incidence of unemployment shows that about three-fourths of the total unemployment in the country is concentrated in 7 States -Andhra Pradesh, Bihar, Kerala, Maharashtra, Tamil Nadu, Uttar Pradesh and West Bengal. Most of these States do not fall in the arid zone. There are also inter-state variations in the overall level as well as seasonal variations in the unemployment rate while formulating employment programmes for different States, the qualitative features of the problem occurring therein have to be kept in view. What is of concern in this context is the historically unique fact that the share of agriculture in the work force has not diminished at all, notwithstanding the impressive growth of manufacturing and infrastructure sectors: it was 72 per cent in 1911 and nearly 74 per cent in 1971. Between 1961 and 1976 investment increased in the modern factory sector by 139 % and output by 161% but employment increased only by 71%. Therefore employment per unit of gross output decreased by 34% and employment per unit of capital declined by 28%. Looking ahead, the projections for 1983 indicate that even with a 7 per cent rate of growth of industrial production, the organised non-agricultural sector would absorb about one-fifth of the increase in the labour force, which would mean that out of a net addition to the labour force of about 6.7 million per year, as much as 5.3 million would have to be absorbed in

the unorganised agricultural and non-agricultural sectors of the economy.

The task of enhancing the income of the unorganised rural sector is complex, because employment in these sectors can mean nothing more than dependence on a variety of low income agricultural and non-agricultural activities carried on in households or small farms or workshops. This sector has not only a severe capital shortage, but is also starved of technical and managerial back-up. Yet it has to bear the brunt of a fast rising work force. Also, over 60 per cent of the total working population in the unorganised sector of the economy are self-employed in farm and non-farm activities as owners and unpaid helpers. The problems of self-employed are different from those employed in the organised sector where employment is comparatively secure and improvement of economic conditions can be brought about through well-organised means. During this decade, the agricultural and informal sectors would be the mainstay for siphoning off the additional labour force. Therefore, a solution to the problem of unemployment / under-employment has to be found within the rural sector itself. Within the unorganised sector, agriculture and allied activities account for nearly 77 per cent of total employment. As I mentioned earlier, this share has remained unchanged since 1961. Available empirical evidence shows that within the unorganised sector, since employment opportunities in the non-agricultural activities have not been expanding, the labour force growth continues to press on the already crowded agricultural sector. The employment strategy for tackling the situation obtaining in the economy would, therefore, have to derive basically from a high rate of economic growth which is based upon an appreciation of the organic link between agriculture and rest of the economy. In this context, a carefully designed plan for rural infrastructure build up based on scientific resource utilisation strategies should help to absorb labour in the rural areas and also increase agricultural productivity. In this task our Universities have an important role to play.

At least during the eighties, we need a twin approach to the problem

consisting of a vigorous programme of economic growth and a specific public interventionist policy package for placing adequate purchasing power in the hands of the target groups. The special works programmes in turn could generate the requisite effective demand for sustaining the high rate of growth. It is in this context that programmes such as the Food for work programme, the Employment Guarantee Scheme in Maharashtra, the Operation Flood II Programme and the Beneficiary-oriented Programmes such as the SFDA, MFAL and the DPAP, have a significant role to perform in tackling the serious problems of unemployment/ under-employment prevailing in the unorganised sector. The extent to which a coordinated implementation of such programmes can have a dent on the twin problems of poverty and unemployment can be seen from the fact that as much as 1.4 million person-years (of 273 days a year) of additional employment had been created under the Food for Work Programme during 1978-79 with a utilisation of 1.25 million tonnes of food grains. In fact, during 1979-80, the allocation of 3.5 million tonnes of food grains (including the special drought provision of 2 million tonnes) under this programme would help to generate additional employment to the tune of 5 to 5.5 million person years (i.e. 140 to 150 crore mandays). Even if utilisation should fall short of this allocation, the normal and special drought programmes together may be expected to create 2.5 to 3 million person-years of additional employment. With its three-pronged thrust on generation of additional employment, creation of durable community assets and upgradation of nutritional status of the poor, the Food for work Programme, which ties up food and work, is a unique experiment which has shown remarkable success notwithstanding the leakages highlighted in an evaluation carried out by the Planning Commission, which need to be plugged, and holds out promise for the future as an immediate method of ensuring that no one goes to bed hungry.

Such special programmes of employment could help in speeding up arrangements for drinking water supply, raising of energy plantations, land reclamation projects, soil conservation, afforestation, desilting of

rivers and works relating to village infrastructure, such as link roads, irrigation channels, land levelling, drainage, deepening of wells and similar activities. Besides these durable physical assets, the programmes can also include social infrastructure projects which would contribute to better sanitation and public hygiene, protected water supply and the like leading to a better quality of life and hence higher productivity of labour. The projects under the special employment programmes should reinforce normal developmental activity and should be such as would enhance the employment of the beneficiaries and result in continuing employment to the extent possible. They should help to stabilise prices of essential commodities and prevent the fall of wages below a minimum level.

In this context, detailed micro-planning with community block as the unit can be useful for identifying technically sound and economically feasible programmes and project for realising the development potential and for dealing with the residual problem of unemployment in the different region of the country. There is also particular need in such projects to pay special attention to women. Prof. A. Mitra has done a great service by drawing attention to the problem of declining sex ratio (i.e. a significant drop in the population of women as compared to men, although the ratio at birth between males and females is 50:50. Data relating to States which have a female/male sex ratio lower than the All-India average are given below:

**STATES WHICH HAVE BEEN WELL BELOW THE
AVERAGE FOR ALL INDIA IN SEX RATIO (F/M)***

Year	Assam	West Bengal	Rajas- than	Uttar Pradesh	Punjab incl. Haryana	Jammu & Kashmir
1921	908	905	896	909	821	870
1931	886	890	907	904	830	865
1941	886	852	906	907	850	869
1951	877	865	921	910	858	873
1961	876	878	908	909	864	878
1971	923	891	911	879	864	878

* No. of females per 1000 males

Several reasons such as greater neglect of female children, premature child bearing, hard work and generally adverse living condition seem to be responsible for this situation. The position can be improved only by specific programmes of employment generation, extension and education.

North Bengal has already earned a national reputation for the excellent quality of its horticultural products particularly pineapple. Because of the prevailing low level of purchasing power and high energy costs, we find that when production of such products goes, there are serious problem of marketing. Our current methods of processing also involve a high rate of energy consumption. In fact in the case of several processed products the energy consumed for processing and packaging may be even higher than the energy used in the production of the product which is contained in the package. We obviously cannot afford such a wasteful path-way of energy consumption. We will have to develop simple low cost delivery systems such as making pineapple concentrates in Jalpaiguri, Siliguri and other areas and reconstituting the juice in the major centres of consumption and distributing them through vending machines. Unfortunately very little thought is being given in our country at the block level to problems of energy conservation and management.

At least in agriculture which is the largest solar energy harvesting enterprise in the world, there need be no limits to growth provided we place limits on wastes. Scientific re-cycling and bio-conversion techniques have opened up altogether new possibilities of productivity improvement both in agriculture and aquaculture. In our villages, organic wastes are required for alternative uses particularly fuel. Hence we need an integrated energy supply system in each village based on the effective use of all forms of energy, such as solar and wind energy, bio-gas and energy plantations consisting of quick-growing fuel trees. The following table would illustrate the kind of exercise which an inter disciplinary "Energy Management Group" set up under the auspices of this University can undertake with a view to guiding the local population on meeting the energy needs of the area:

Renewable Inanimate Source	enter	Application re-	plan
	quiring energy	Solar	wind
Hydro			
Biomass			
Water Heating	*	*	*
Water pumping	*	*	(a)
Domestic	*	*	(b) Animal
*	*	*	(c) irrigation *
*	*		*
Water purification for drinking			Linuting
*	*	*	
Crop procession			(a)
mechanical	*	*	(b) heat
*	*		(c) cold storage *
Industry			(a) heat at
60°-150°C	*	*	(b) mechanical
*	*		

The staff and students of the University should also promote the establishment of "Waste Exchange Centres" in our villages and towns. These "Waste Exchange Centres" could provide an organised mechanism for the purchase of all organic and inorganic wastes. Such centres could help to segregate the different kinds of wastes and utilise them in suitable "wealth from waste" conversion programmes. A beginning could be made with the use of water hyacinth in a big way as manure and animal feed and as a source of biogas and paper pulp. It is this kind of involvement of the University community that will really help to build bridges between the academic world and the harsh realities and pressing needs of the rural life.

If our Universities do not spearhead a movement for the improvement of the quality of human agents, we would continue to face a situation like that described by Dr. Astroffin Chekhov's play

“UNCLE VANYA” :

“We have the same swamps and mosquitoes; the same disease and want; the typhoid, the diphtheria. We are confronted by the digression of our country, brought on by the fierce struggle for existence of the human race. It is the consequence of starving, shivering, sick humanity that, to save its children, it instinctively snatches at everything that can warm it and still its hunger. So it destroys everything it can lay its hands on, without a thought for the morrow. And almost everything has gone, and nothing has been created to take its place.”

This is why Albert Einstein, whose birth centenary was celebrated last year, once mentioned:

“Concern for man himself and its fate must always form the chief interest of all technical endeavours in order that the creation of our minds shall be a blessing and not a curse.”

I hope all of us can keep this message as the motto for our lives. I also hope that you will have abundant opportunities for experiencing a sense of fulfilment in your personal and professional life. At no time in human history have so few who have had the good fortune of having had university education enjoyed the privilege of being in a positions to wipe the tears from the eyes of so many human beings. It is the challenge of this task that should provide stimulus and driving force for your future life. I once again congratulate you all on your accomplishments. Happiness will always be with you if you follow the message conveyed by Rabindranath Tagore in the following prayer:

“When the heart is hard and parched up, come upon me with a shower of mercy.

When grace is lost from life, come with a burst of song.

When Tumultuous work raises its din on all sides shutting me out from beyond, come to me, my Lord of silence, with thy peace and

rest.

When my beggarly hearts sits crouched, shut up in a corner, break open the door, my king and come with the ceremony of a king.

When desire blinds the mind with delusion and dust, O thou holy one, thou wakeful, come with thy light and thy thunder.”

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