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PRESIDENTIAL ADDRESS
SUMMARIES OF GROUP DISCUSSION

PRESIDENTIAL ADDRESS*

AGRICULTURAL GROWTH AND
ECONOMIC RESEARCH

By

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I am grateful to the fellow members of the Indian Society of Agricultural Economics for asking me to preside over the twenty-seventh session of its annual conference. In expressing my gratitude, I am not trying to discharge a mere formality. I am aware of my limitations, and doubt if at all I justify the honour conferred on me. In advance, I crave your indulgence of any inability on my part to come up to your expectations.

In this Society we have been observing the 'consensus' approach for choosing the Conference President since much earlier than it came to be adopted elsewhere. So, when last year the Society's President proposed my name for this Chair I set about thinking why his choice fell on me. Perhaps it happened like this. He knew that I once belonged to the noble profession of teaching and in that position enjoyed the right of watching the Government from without; that I elected to put myself in the reverse gear about a year before Independence ; that three years ago on coming into close association with him, when he had agreed to be the founder-Chairman of the Agricultural Prices Commission, I had begun to feel that I had returned to the point from which I had started my career; and that I still continue to be in the same environments though my companions have changed. Therefore, I imagine that in offering me the present opportunity he probably wanted to reward a truant come back half-way home. Well, whatever his reasons, Prof. M. L. Dantwala is a real gem among the agricultural economists of the country, respected for his learning and suavity. It was therefore a pleasure for me to bow in all humility to the wishes of our leader.

It is a happy augury that for the second year in succession our Society is holding its annual session under the auspices of an Agricultural University, and that for the third time in the last four years an Agricultural Economics Research Centre is associated with playing the host. Our meeting today at the Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur, has been made possible by the kind courtesy of the University authorities and the keen interest taken by its Vice-Chancellor, Dr. J. S. Patel. To him and to his colleagues I offer my heartfelt thanks.

We miss today the architect and builder of this Society, Shri Manilal B. Nanavati, who passed away five months ago on July 29, 1967 at the age of 91.

* Presidential Address delivered on the occasion of the 27th Annual Conference of the Indian Society of Agricultural Economics held under the auspices of the Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur (Madhya Pradesh) on 21st December, 1967.

He did more than any other single individual to put agricultural economics on the map of organised teaching and systematic research in India. He had a name as an administrator; but his concern for the masses brought the economist in him to the forefront. He was a rare civil servant who came to hold the belief long before India won her Independence that measures to mitigate the misery of the masses must be based on a prior identification of the rural problems. This belief became a passion with him. It led him, while in the service of Baroda State, to launch studies to diagnose the malady from which the agriculturists suffered; and these studies paved the way for his successful experiment with co-operative banking in Kodinar. It urged him later, as Deputy Governor of the Reserve Bank of India, to re-organize the Agricultural Credit Department in the Bank so as to separate research from execution of rural credit policies. It impelled him, when he retired from the Bank in 1941 at the age of 64, to take in his hands the reigns of this Society—which was then only two years old—and develop it into a forum for economic thinkers to discuss their ideas about revitalising the rural economy. He nursed the Society with his experience and intelligence and must have had a feeling of fulfilment when he saw it grow well into adulthood within his lifetime. He was convinced that agricultural economics deserved a high academic status and therefore pursued vigorously with the authorities the question of establishing Chairs in agricultural economics at the Universities. The University of Bombay was the first to respond as far back as 1945. The written works of this grand old man and his devotion to the cause of teaching and research in agricultural economics will continue to inspire us for long. I pay my respectful homage to his memory.

It is customary for the President to select a theme for an occasion like this. I thought it would be appropriate if I could do my bit to carry forward a little the message of Shri Manilal B. Nanavati. He however had a very broad vision; my sights are comparatively much narrower. I will therefore be able to present to you nothing more than some loud thinking. But though my cat's paws be mean, I can, I hope, depend on you to take them in good stead.

The most striking landmark in the economic history of Independent India is the war on stagnation that it has been fighting. But in no country has the struggle for economic freedom been won in one single stroke. It has had its advances and retreats. If at one time a country felt that it was approaching a millennium, at another it found itself thrust into the anterior; like the phoenix it rose again and surged forward. Thus the attainment of an ascending secular trend of economic growth calls for persistent and calculated steps taken with patience and faith. But who is it that prescribes these steps, advises caution, and gives hope in moments of despair? Who, in other words, guides the strategy of converting a failure into fortune? It is the economist. It is his privilege to reveal the obstructions impeding human welfare, to stand out against measures that thwart progress, and to counsel the policy-maker with his objective and independent judgment. The economist has enjoyed this prerogative in all socio-economic systems and at all times. When the exercise in planning was first begun in this country, there was a great search for the economist. The Union Government even set up an Economists Brain Trust to prod and prompt the initial plan, to lay down social and economic goals, to determine sectoral priorities, to allocate scarce resources. It was realized very early that a mere bunch of schemes did not make a plan; that integrated and intertwined to look one whole, they did. This task required deft hands which the economist provided.

Fortunately, many of the stalwarts in the profession who helped to put planning on its feet in India are still with us; we can go to them for guidance and inspiration. Of late, however, some of them have been displaying despondency. They are not alone. To them can be added a number of others, no less despirited. They are apparently overwhelmed by what looks to them as the supremacy in current affairs of the non-economic over the cold economic logic. But the economic laws are known to assert and re-assert themselves, otherwise economics would not be a universal science. That gives the economist hope, so that even at the risk of temporary isolation, he does not, as he should not, exhibit lack of courage to speak out the plain truth as he sees it.

This unenviable role of the economist is the gift of his apparatus, the training of his mind and his systematic thinking. His studies and research keep him equipped with the crucible to analyse the problems afflicting the economy. His verdict on the nature and content of a problem therefore carries the hallmark. What makes up his mind is his background and knowledge, his faculty to perceive the cause and effect relationships, and his ability to take a composite as distinguished from compartmental view. In his advice, he is as careful of the parts as of the whole, as conscious of the future as of the present. It is for all these qualities of his that the economist is valued.

Research, as I said, is the principal asset of the economist. Diagnostic and problem-oriented studies are an essential pre-requisite to agricultural progress. They help in recognizing the true nature of the problems, and this is the first step towards evolving remedial measures. But research is a journey that knows no end, for the rate of reproduction of problems requiring study is high. A viable agriculture calls for change. Change however is a process; it is composed of several links. Each link in the chain deserves attention so that progress does not clog and moves from good to better. Research has thus to be taken up as much for giving the initial push to agricultural growth and rural uplift as for maintaining and accelerating it. So viewed, economic research is the living source of advancement whether one thinks of the past, the present or the future. The time, energy and resources spent on it can never prove to be a waste.

There are a number of problems confronting agriculture and the people today. It would be egotistic on my part to try to recount them. But the most outstanding of them is that of conquering hunger, of ensuring freedom from want to the multitudes inhabiting this country. The food problem of India is characterized as one of under-production, excess consumption, over-population or mal-distribution, depending on the particular facet that one wishes to emphasize. The last aspect is often stressed the most. The argument is advanced that the average per capita net production of cereals in a normal year in the country—whatever that figure—is reasonably adequate from caloric standards. What is therefore required, according to this view, is that the Government should buy up the entire produce and distribute it in such a manner that every citizen of the country gets the average quantity. The prescription is perhaps as simple to make as it is difficult to dispense. On the other extreme is the suggestion that let there be unhindered movement of foodgrains between one part of the country and another and let the free market forces bring about equitable distribution. Here the stress is on the word 'free' and the assumptions are that the foodgrain

markets in India are fully integrated, that the social cost of rationing through prices is not heavy, and that the propensities of farmers, traders and consumers will display no fault of the kind that interrupts the flow of supplies from food-producers to food-eaters.

It is for the research workers to examine the logic and implications of these alternatives. In between the two extremes, however, several solutions have been practised in the last quarter of a century. Yet the malady continues. Therefore, it would appear that while improved distribution can lessen the agony it cannot relieve us of it, for the root cause of the problem is more basic. In the 13 years ending 1964-65 (leaving out of consideration the subsequent two years of drought), while domestic production of cereals grew at a compound rate of 2.8 per cent per annum, population rose at 2.2 per cent so that the former was leading by 0.6 per cent. Thus there was no decline in per capita production of cereals; on the contrary there was an increase, albeit small. But as a consequence of economic development, per capita incomes also rose; and taking into account the effect of this factor and of growth in urbanisation, the aggregate demand for foodgrains was found to increase faster than domestic production by less than half a per cent per annum. The national food shortage over this time span was therefore associated with development. This phenomenon has also been experienced in many other developing countries.

But national averages are known to hide more than what they reveal. The growth rates for cereals output and population were not uniform over the different States during the 13 years under reference. In six States (Assam, West Bengal, Gujarat, Rajasthan, Uttar Pradesh and Madhya Pradesh), covering 48 per cent of the country's area, the spectre of population outstripping the cereals production was clearly visible. The gap would widen if the effect of rising incomes on demand for cereals were taken into account. Among the other States, considering also the income elasticity, a similar apparition was found to be at work in another four (Kerala, Bihar, Orissa and Maharashtra), and growth in production excelled that in demand in only four (Madras, Punjab, Andhra Pradesh and Mysore). Clearly, the food problem required to be tackled much more vigorously on the production front in most of the States than happened to be the case upto 1964-65.

In this context, the launching of the high-yielding varieties programme for cereals in 1966-67 would not seem to have come a day too soon. It is a different thing that the initiation of the programme coincided with wide-spread failure of rains. Despite this, the all-India production of bajra and maize in this year exceeded that in any of the last five years; and for maize this was true of even the severely drought-stricken State of Bihar. The programme is catching on. In several parts of the country, the partners in the silent revolution in Indian agriculture are almost bursting with enthusiasm. Time was when the extension agent chased the farmer; now, the farmer is chasing him. The farmer is yearning for only one thing—supply of adequate inputs. It is to meet this demand that public resources have to be stretched out to the utmost. But so long as water and fertilizer availability continue to be inadequate, there is the likelihood that the growth rates for hybrid millets and maize might steal a march over those for rice and wheat. The water and fertilizer requirements for coarse grains are

comparatively less, and they are also drought-resistant. Therefore the food basket of the future might have a relatively larger proportion of millets and maize than at present. And until high-yielding strains or new varieties of pulses are grown, the food basket might have less of pulses. We should, however, have the hope that technology will soon take care of the vegetable proteins.

Technological progress is likely to release a whole series of changes in the socio-economic structure of India's rural life. Multiple cropping, modern input mix and new cultural practices would call for larger labour use and intensity of employment. Seasonal shortage of labour may in time become acute, raise wage issues and generate social tensions unless care is taken to foresee and prevent them. Labour saving devices may come to be adopted, leading ultimately to mechanization of agriculture and forcing a part of agricultural labour to seek jobs outside. Land utilization might alter aiming at maximization of farm incomes, without necessarily ensuring the required volume of production of individual commodities. Farm organization may change. What is happening to the surpluses of the relatively smaller farmers today, with the bigger farmers turning out to be the buyers of these surpluses, might start happening to land in a subtle way. It is the experience of several countries that where the curve for land distribution is highly skewed, the large body of farmers with small-sized holdings fall back for survival upon the support of the more affluent. The widening gulf between farmers enjoying rich fruits of irrigation and new inputs and farmers whose lands are denied even the rudiments of these endowments might result in vocal demands from the latter for similar facilities. The infra-structure—marketing, storage and transport facilities—may not prove equal to the risen task unless adequately improved. The whole urban-rural relations may change in directions not necessarily advantageous to agriculture, at least initially. The pendulum may have a swing later. There are many other problems that would arise in the wake of agricultural growth. Some are already around the corner. It is for the student of agricultural economics to keep abreast of them and warn the agricultural policy-maker of the emerging issues.

Money incomes in the agricultural sector have recorded an impressive increase in recent years. A relevant indicator is provided by the data on national product from agriculture, animal husbandry and ancillary activities, net of inputs and depreciation. The data show that during the 13 years ending 1964-65, the net income from agriculture at current prices rose at a compound rate of 6.3 per cent per annum. During the same period the accretion to money income in the non-agricultural sector was only a shade better, being 6.4 per cent. At constant (1960-61) prices, the growth rate worked out to 2.4 per cent for agriculture while it was 4.9 or double for non-agriculture. Thus the rate of increase for real income was much higher for non-agriculture, with almost the same rate for money incomes for the two sectors.

The money illusion however requires to be further investigated. It is really a question of the movements of the terms of trade, corrected for agricultural taxation and public outlay in the rural areas. To the extent the trend of agricultural income is found to be rising, it offers a vast field for research to the agricultural economist and the rural sociologist. The taxation authorities may see in it a source for resource mobilization. The economist might like to get an idea of the

spatial and temporal shifts in income between the agricultural and non-agricultural sectors of our economy, and estimate their likely effect on the course of industrial output. He might be interested further in similar changes in the income structure of the innovating and the traditional farmers, the market-conscious and the subsistence farmers, and the different size-groups. But the most rewarding will be the study of the use-pattern of increments to rural income. To what extent are they being utilized for productive or investment purposes—for capital formation, for plough-back into agriculture, for permanent improvements to land, for debt repayments? Have they encouraged the savings habit and increased the savings pool? How far are they being spent on raising the standard of living? What changes are they bringing about in age-old customs and social values? These and other allied aspects when explored should provide useful material for gauging the likely implications of the various changes for future agricultural policies.

Improvement in production is important for raising agricultural income. But prices are crucial to intensifying production. Price mechanism plays a functional role in the allocation of resources and achievement of output goals. This is unexceptionable. But on this principle, argument is sometimes built up against public regulation of agricultural prices: it is held that regulation keeps the prices depressed and therefore discourages agricultural development. However, a close study of the relative increases in prices and production of the regulated and unregulated commodities in India suggests that this view needs considerable modification. During the 7 years ending 1964-65 the terms of trade between the wholesale prices of pulses (which were largely free) and cereals (which were relatively more controlled) were throughout in favour of pulses, having shifted to their advantage by 1964-65 by nearly 45 per cent since 1957-58. But while cereals—accompanied by an input supply programme of some order—registered positive growth rates for area (0.5), production (2.3) and productivity (1.8) during this period, similar growth rates for pulses—for which no input package had been evolved—were distinctly negative (being—0.4,—2.3 and —2.0, respectively). The relative price position being in their favour, pulses could have wrested at least some area from cereals; but, as it happened, they lost some fertile land and more of productivity. During the same period, the compound growth rates for production of groundnut (3.2), all oilseeds (2.8), and tobacco (3.2), that is crops for which prices were not controlled and for which the input supply programme was small if any, were lower than those for cotton (5.6) and sugarcane (4.0) for which prices were relatively more administered but for which input provision was larger.

The relatively higher supply elasticities in the case of crops whose prices have been regulated in India do not necessarily throw their weight in favour of regulation as such. The operation of the market mechanism is certainly important in the context of economic development. But regulation is undertaken partly for providing correctives to the wavering market forces and partly on welfare grounds. If regulation of prices is accompanied by supply of production requisites, regulation by itself need not depress productivity or output. But even when inputs are offered, the burden of their utilization falls on the level of the administered price. The administered price has therefore to be such as would encourage the flow of resources to the concerned crop. There is no doubt that the farmer's incentive to augment production has to be maintained.

Several studies bearing on supply response to relative changes in product prices based on Indian data are available. Generally, they are based on distant data relevant to traditional agriculture or relate to small selected areas, so that the conclusions emerging from them do not admit of ready applicability to technologically dynamic agriculture. Even otherwise, the conclusions of these studies are conflicting, except that to some extent they establish rigidity in the supply elasticity of subsistence crops. The question that these studies leave more or less unanswered is whether a positive aggregate response to changes in agricultural prices has been attained in the past. They do give an indication that under certain conditions acreage under a crop responds favourably to relative price changes; the studies do not show that the same is true as often of productivity. This is understandable. For, without the prescription and availability of a package of improved inputs all that prices favourable to a particular crop can do is to attract acreage to it from other crops; they can hardly influence productivity. This is amply borne out by the battle for acreages that jute and paddy have been fighting in eastern India. But in an economy in which the production of every crop has to be increased, what is more important is to improve the per acre yields all round and, where feasible, encourage double or multiple cropping. Research studies on the contribution of prices to productivity therefore assume importance. It is equally necessary to organize studies on aggregate supply response to relative price changes, and the composition of the new production mix where the response is positive. These studies should also give an indication of the difference in supply response in areas where agriculture is still tradition-bound and areas where it has been relatively modernized.

Another aspect that deserves to be studied is the impact of changes in product prices on the farmer's cost of cultivation and cost of living. Some of this impact will be direct, depending on how the value of home-grown produce is imputed for purposes of self-consumption or for payment of wages in kind or for assessing the value of seed and cattle feed. There will be some indirect—secondary and tertiary—effects also. And the experience of the deficit, self-sufficient and surplus farmers may not be alike. These studies would throw much needed and valuable light on the net gain to the farmers from a given change in output prices, and on the wage-cost spiral in agriculture. There is similarly need for studying the impact of changes in prices of primary commodities on the rest of the economy, including industrial costs and production, exports, balance of payments, savings and investment. After all, these are the ultimate determinants of the larger social welfare.

The significance of management in agricultural development is no less than that of prices or inputs. The farmer, as a manager, can so adjust his land use pattern that with the given resources he maximizes his output and hence income. In this context, farm management research acquires considerable meaning. The data yielded by it are useful to the individual farmers desiring to improve their farm operations. They also help in determining the relative merits of alternative agricultural policies, and in the formulation of development projects. In short, where cost-benefit calculations in agriculture are involved farm management studies provide the basic information.

A number of such studies, covering diverse agricultural practices in typical soil-climate-crop complexes in India, are available. They throw light on the

structure of farms, farm economy as a whole, and input-output relationships. These studies should now travel from the stage of answering 'what is' to 'what should be.' Beyond discussing the agricultural production process within the boundaries of the individual farm, they should attempt to locate at the farm and village levels the enterprise combinations, the levels of capital and labour input, the kind of land use and crop rotations which would step up the overall outturn. These studies should focalize the information which would provide the basis for securing structural changes in production methods. They should furnish information on the nature and extent of incentives required for attaining a desired level of production, or on production possibilities given the cost-price constraints. Production functions based on the input-output relationships under traditional farming would be of no avail in estimating such relationships under the technologically-oriented farming. I would avoid the temptation of entering the field of methodology. Suffice it to say that if a Cobb-Douglas function was being fitted till now, it was not always on technical grounds but more because of the simplicity of the calculating procedure. Quantitative research in agricultural economics has undergone a complete change and more powerful calculation methods, like linear programming, have been introduced. Now that India has attained the computer-age, it should not be difficult for her to have resort to these tools of analysis.

I have taken rather long to mention a few problems. There are any number of others, more challenging, perhaps more puzzling. They all require to be studied as they arise, so as to comprehend from time to time the true nature of the malady which vexes our economy, and guide the policy-maker in deciding on the appropriate manoeuvre to provide relief to the community. I consider this to be the precise role of economic research.

Fortunately, we have not to start on a clean slate. Apart from individuals, universities and colleges, there are several institutions which have been engaged in problem-oriented research. In this connection, we value most the contribution of our own Society. The Society has been undertaking, financing and co-ordinating research in problems of the rural economy; it has also been organizing periodical conferences, seminars and training programmes. It is not my intention to go over the entire field of its activities, a succinct description of which is already incorporated in *Retrospect 1939-1967* brought out by the Society in July, 1967. There is one point, however, which is of significant import for the future of research in India. A large proportion of those who have come under the banner of the Society are young; they are eager to contribute at the intellectual level to the solution of the country's economic problems. The number of these thinkers is by no means large considering the size of the problems to be studied. They are scattered thinly; and except for rare occasions, they get little opportunities of association with environments conducive to furthering their technical skill and professional competence. Something needs to be done to sustain their zeal and motivation, so that they brighten the future of research in India.

At the Union Government level, the establishment of the Directorate of Economics & Statistics in the Ministry of Food & Agriculture in 1947 marked the beginning of organized work in the field of agricultural economics. Acting on the principle that research flourishes best in an atmosphere of academic freedom,

the Directorate has set up and financed, beginning from 1954-55, nine centres for conducting research in agricultural economics and 25 in farm management, all in the universities and other institutes. A corollary to this arrangement has been the creation of research talent in these centres which can be counted among the best in the country. But, of late, the question of retaining and preserving this rare national asset has assumed considerable importance.

In the universities, agricultural economics as a subject of post-graduate teaching and research developed as a segment of humanities or social sciences. Apart from general universities, it entered the portals of some agricultural colleges also. The coming into existence of agricultural universities in recent years is however a landmark in the progress of teaching and research in agricultural economics in India. The idea was first conceived in the Report of the University Education (Dr. Radhakrishnan) Commission, 1948. This report recommended the creation of rural universities, offering facilities for instruction and research in agricultural sciences and in agricultural economics. No other recommendation could have given greater recognition to the importance of education and research in modernizing agriculture. In 1954, the Government of India and the Government of the United States developed a project under the Indo-U. S. Technical Co-operation Agreement for assistance in agricultural education, research and extension in India. It was later agreed that a few Land Grant Universities of the U.S.A. would assist some of our agricultural colleges with staff, fellowships and equipment. By 1959, the Indian Agricultural Research Institute had initiated post-graduate teaching. Two Indo-U. S. teams reported—in 1955 and 1960—on the re-organization of agricultural education and research. The first agricultural university in India was established in July, 1960 at Pantnagar in Uttar Pradesh. Besides the IARI, there are 8 agricultural universities now, located in as many States. (Since the reorganization of Punjab on November 1, 1966, the University at Ludhiana caters to Punjab, Haryana and part of Himachal Pradesh.) In course of time, each State will have an agricultural university. Of the 36 post-graduate agricultural colleges and institutes in India, 22 provide facilities for teaching in agricultural economics.

The agricultural universities are being extended financial assistance by the Indian Council of Agricultural Research. The Council is striving to ensure their development on lines which *inter alia* seek to integrate research and extension with teaching, and provide for strong polarisation around the agricultural sciences.

The agricultural universities offer a promising potential for propagation of research in problems of agricultural economics. The presence of specialists in agricultural sciences and extension on the same campus as the agricultural economist should provide the latter with ample opportunities for meaningful discussions. His confrontation with farmers who come to these campuses with problems, say, of cost-reduction or income-maximization, or with trainees who are in search of the economic argument for selling a package to the farmers, would bring home to him the intricacies of economic issues attending the growth process. His association with extension teams would similarly widen his horizon. And his knowledge of the field would impart a proper perspective to his research studies. He should be able to supply the agricultural scientists with information useful for evolving economically feasible varieties and cultural practices. His

close identification of the local problems should enhance the utility of his studies to the planners and policy-makers. After all, national programmes of agricultural reconstruction are implemented at the field level, and it should certainly make for better performance if micro-studies were to animate the macro-programmes of development. The agricultural economist would be the person to provide economic interpretation of the results of agricultural research.

Thus agricultural universities are the new institutions where research in problems of agricultural economics can be made to flourish. This would require conscious efforts, without which, I am afraid, the mould into which teaching and research in agricultural economics might be cast may leave much to be desired. These universities are in the formative stages at the moment; it would therefore be worthwhile for a body of thinkers to examine and suggest the lines of organization and content of teaching in agricultural economics. Barring two universities (Pantnagar and Ludhiana) where separate Colleges of Basic Sciences and Humanities exist at present, giving equality of status to agricultural economics with agricultural sciences, economics is at present an appendage to the Colleges of Agriculture. The growth of agricultural economics might get stunted in the latter. Another important consideration is that marketing and co-operation should not be taken to exhaust the whole of agricultural economics. A student of agricultural economics has to learn the Theory of Economics first—the child cannot be separated from the mother. And study of production economics, farm management and farm planning would be incomplete without a good grounding in statistics and sociology. So long as the agricultural universities are not staffed adequately to cope up with such a programme of teaching, the solution would seem to lie in an inter-institutional arrangement whereby the agricultural universities could draw on the specialists in the general universities. It is not my intention to lay down any code for these universities to follow : that would be too presumptuous on my part. I however visualize these institutions to be the only one of their kind where inter-disciplinary co-operation—between the agricultural scientist and the agricultural economist—can be easily secured; and this is a factor which raises hopes and possibilities of these institutions becoming the growth centres for research in agricultural economics in the years to come. It is therefore imperative that they are provided with a sound base on which to build the super-structure of research.

Long is the list of institutions, official and non-official, which are doing a good amount of useful research work. It is not possible to speak about all of them. The University Grants Commission has, however, taken a welcome step in recent years in organizing centres for advanced studies. It is heartening that the Commission has recognized the Gokhale Institute of Politics and Economics, Poona, as such a centre for agricultural economics.

With all the progress made so far in promoting facilities for research in problems of agricultural economics, the number of research workers in India is small relatively to the expanding demand for studies and investigations. But they are a 'critical mass,' too precious a human resource to be allowed to experience any defeat of their expectations, for that would hasten them slowly to decay. Their expectations—financial or of congeniality of atmosphere—are none materially different from those of others who strive to make a decent living. It is unfor-

fortunate that many of these economic thinkers have to work in situations where recognition is not commensurate with performance. It is worse still if they have to work in comparative isolation where opportunities are little for worthwhile intellectual discourse. What stimulates research brains most is constant dialogue and communication with those imbued with creative faculties. Talent inspires talent. There is, therefore, need for arrangements whereunder the researchers will be in communion with men of calibre.

Calibre is an accumulation of knowledge and wisdom coupled with sound application. It is an intellectual endowment which in a good measure comes with age. Under Indian conditions of employment and work opportunities on the other hand, calibre is supposed to go off with age. In many countries, even where the research worker is not so rare as in India, ways exist of enabling him when he ceases to be in service to continue with his love. In India, even the distinguished worker is forgotten as soon as he lays down reins of his office. His intellectual vitality is taken as written off, just when it might be at its zenith. Until he suffers from intellectual fatigue, depriving him of intellectual nourishment is a national waste. There is no institution in the country today, which would pride itself in honouring him, in providing him with facilities for conducting research and transmitting the best in him to the relatively young. The same applies to those who, though not so old, yet possessing the analytical acumen, wish to seek a quiet corner to prove their talent; and also to those who, desirous of sharpening their intellect, long to sit with men of learning.

Many are worried over the problem of 'brain drain.' But the root cause of it lies in the almost total absence of a national institution which could provide research facilities and training opportunities comparable to those available in the foreign countries to which Indian scholars are first attracted, before getting tempted to continue to stay abroad. This is only a part of the story. Such of the 'foreign returned' as do not develop acquaintance with the peculiar socio-economic structure governing Indian agriculture and rural life feel frustrated, if the conclusions of their studies based on economic theories and analytical tools not adapted to the Indian situation are accepted with reservation. And because of the non-existence of possibilities to add an Indian layer to their foreign skill, they quite often await the beckon of a job from the country of their training or remain ill-equipped for any fruitful research on Indian rural problems. This is however not to say that Indian scholars should not be sent to centres of world fame. That would mean intellectual chauvinism, and denying the utility of fellowships and visiting professorships offered by foreign countries. What is emphasized is that availing of such facilities abroad does not do away with the need for organizing similar facilities in India, where training in economic theory and modern techniques of analysis would be imparted in the context of Indian locale, environment and data. Once that is done, the gravitational pull of the Indian academics will revert to India, and prospects will open out for many promising young men to become outstanding contributors to knowledge. This will be the greatest propeller to growth of economic research in India.

I had been meandering all this while. Let me now come to the main point. All will agree that varied are the economic and human problems of agricultural development—of production, prices, income distribution, reorganization of agri-

culture, and so on. I feel that the need for economic research to inform decisions aiming at resolving these problems was never greater than today. I am therefore led to believe that there should be more frequent and intimate dialogue between the research worker and the policy-maker. But the research worker is no magician; in order that he provides the right perspective he should have the facilities required for continuous research. A lot has been done in this direction, but much more still remains to be done. It has to be seen that agricultural economics as an academic discipline rises to full stature, that the status of research and research worker is raised to the level it deserves and that the research worker is afforded facilities for first-class training in modern methods of quantitative analysis. All this requires institutional approach, although individual geniuses will always continue to break new grounds.

I therefore feel that the time has now come when a strong Institute for Research in Agricultural Economics should be organized. The Institute should be a professional body, assured academic freedom and objectivity of approach. Several patterns of such organization are known. It can be established by the Indian Society of Agricultural Economics with a Government grant supplemented by public or other donations. Alternatively, it may be organized, like the Indian Agricultural Research Institute or the Institute of Agricultural Research Statistics, under the auspices of the Indian Council of Agricultural Research. In the organizational pattern of the Institute, the Council may provide for a living liaison with the Society.

The Council has been reorganized recently. Research in agriculture, which was formerly the responsibility of several separate organizations, has now been brought together in it. The control and direction of research has been placed under a Director General who is a professional agricultural scientist. To be able to discharge its responsibility of catering to research in agriculture and allied sciences, the Council has brought into existence several full-fledged institutes, some of which have even been declared as institutes of national importance. In setting up a similar organization for agricultural economics, the Council will be taking a step which is not only right but also due. It is not necessary for me to narrate the valuable contribution to research made by, say, the Institute of Agricultural Research Statistics. Its technique of crop estimation surveys is envied by many countries. But for its unique teaching and training programmes, a distinguished community of agricultural statisticians in the country would not have been created. The Council has however not neglected agricultural economics altogether. For over a dozen years now, it has been trying to promote research in this field through extending financial assistance to projects received from agricultural economists and accepted by a special advisory committee. In the initial stages, this is probably all that the Council could do. But the position has now changed significantly, with all research bearing on agriculture having been centred in the Council.

The Institute of my conception will be fully equipped with facilities for undertaking research on socio-economic aspects of agrarian problems, not forgetting the agro-technological ones. A distinctive feature of its activities will be the training it will impart in research methodology and modern tools of quantitative analysis. The aim will be to develop the Institute to a standard comparable to

the best in any part of the world. It will make its existence felt by no other means than reputation for research and high standard of training. It will therefore be manned by top ranking economic thinkers. Meritorious contribution to research will be the sole consideration for selecting its staff. Pursuit of excellence will require the setting up of arrangements whereby persons with name in the profession—in the general and agricultural universities, UGC centres for advanced studies and individuals—will give at least some of their time to the Institute, as distinguished members of staff, as experts, as seminar leaders and as research guides. Such inter-institutional co-operation is the only method of making the best use of the limited talent we have in the country today. Eminent foreigners will be most welcome to be seconded to the Institute; invigorating discussions with them will provide the challenge that develops research. The trainees will be drawn from economic organizations of the Union and State Governments, from research institutes and universities; only they will have to be sufficiently qualified and possessing a keen aptitude for research. Coming out of the Institute with its stamp of quality, they will identify themselves with the *alma mater* of their training. That will be the termination of at least one starting point of 'brain drain.' And when they will not find themselves at a disadvantage *vis-a-vis* the 'foreign returned,' they will regain their lost confidence and self-esteem. Many more will then look to the Institute for stimulation, and that will add to the Indian stock of talent. Apart from providing training, the Institute will devise other ways of permeating and sustaining the research spirit among those intellectually gifted. Research and discussion programmes will be so organized that the 'multiplier effect' of the limited number of creative thinkers is maximized.

The existing agricultural economics research centres sponsored by the Union and State Governments could be affiliated with the Institute. On affiliation, they will be run entirely with the Institute's support. Their autonomy will continue unimpaired; nay, it will improve. It will be open to the Institute to add to the number of such centres, to cater to regional specialization. The centres will be active partners in the research activities of the Institute. There will be a two-way traffic between the Institute and the centres. The Institute will provide prospects to the staff members of the centres and the centres to that of the Institute.

The emphasis in the research studies organized by the Institute will no doubt be on applied aspects. It is however obvious that to conduct the studies properly, the Institute will have to deepen and widen the theoretical base of research. The Institute will also be available to the authorities connected with policy-making for consultation on major economic issues on which it will be in a position to offer advice in the background of its studies and investigations. The process will enable the Institute to acquire a deeper appreciation of the problems confronting the policy-makers and will also strengthen the latter's understanding of the complex economic issues afflicting rural life. Realism will unfold itself both ways.

It is common knowledge that in many countries, even where agriculture is not as large a contributor to national economy as in India, first rate institutes of the type I have proposed exist; they do a considerable volume of national research work and operational and analytical studies, with which distinguished agricultural economists are closely associated; they promote systematic thinking

and produce future leaders of research; they provide consultancy services of the highest quality to those who take decision on policies and programmes for agricultural development and rural welfare; they nourish and enrich technological research; and through their studies they educate public opinion—which is the main pillar for orderly governance in any country. This is also my vision of the Institute for India. I must dispel any fears that the Institute will eclipse any of the other research institutions. Research bodies survive on the quality of their output. Frankly, I am motivated by no other desire than the good of the science and the scientist, and providing greater research support to policy-making. I do not know in how many hearts my proposal will find an echo, but I have no doubt that if Shri Manilal B. Nanavati were with us today, his would have been one.



The advertisement is enclosed in a rectangular border. On the left side, there are four circular illustrations:

- Top-left: A person operating a hand-operated agricultural machine, possibly a thresher or mill.
- Top-right: A tractor with a front-end loader.
- Bottom-left: A large industrial machine, likely a power loom or textile mill.
- Bottom-right: A large sack of grain with the Marathi word 'खते' (Khat) written on it, and several stacks of Indian currency notes.

 In the center of the advertisement is the circular logo of The Bank of Maharashtra, featuring a tree and the letters 'M B' inside, with the Marathi text 'महाराष्ट्र बँक लि.' around the perimeter.

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