

PROFESSOR RADHAKRISHNA MEMORIAL LECTURE

**PROFESSOR R. RADHAKRISHNA AND HIS WORK—
A MONUMENTAL CONTRIBUTION TO UNDERSTANDING
POVERTY, INEQUALITY AND WELL-BEING**

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Visakhapatnam**

28 January 2023

**PROFESSOR R. RADHAKRISHNA AND HIS WORK-
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(Prof. Radhakrishna Memorial Lecture)**

S.R. Hashim

It is a touching privilege for me to deliver the first Prof. Radhakrishna Memorial Lecture on the occasion of the first anniversary of his passing away. For this occasion, I could not think of any subject other than Radhakrishna himself and his work. It may not be possible to do full justice to Radhakrishna's Life-time work in the space available for a lecture. All the same, it will be a matter of great consolation to me to pay my tribute to Radhakrishna as a longtime friend and as a person as I knew him and also dwell upon certain features of the converging focus of his work focusing on poverty, inequality and well-being.

It is just in the fitness of things that this event is organized by the Institute of Development Studies Andhra Pradesh. IDSAP has been the latest successful example of institution building by Prof. Radhakrishna. Establishing a research institute at Visakhapatnam was very close to his heart from a long time. He had mentioned it to me as early as in late nineties when he was the Vice-Chancellor of Andhra University. Since then, I visited the University a number of times, and I am particularly happy to be here today in this city which Radhakrishna regarded his hometown.

For some time before his passing away, we, Prof. Rahul Mukherjee, Prof. Brajaraja Mishra and I, were busy preparing an edited volume in honour of Prof. Radhakrishna (Hashim, et.al., 2022). The book was able to attract

contributions from some of the most eminent economists and policy makers in India and abroad, all in the name of Prof. Radhakrishna as he was so well regarded in the academic world. We had hoped to present the book to Prof. Radhakrishna in person. But alas, the book came out shortly after his death. I had paid my tributes to Prof. Radhakrishna in the Introduction Chapter of the book. I would like, here, to reproduce a part of it. ‘It is a happy occasion to recall my long association with him going back well over half a century since we were together at Gokhale Institute of Policies and Economics working on our doctoral theses under the inspiring guidance of Prof. P.N. Mathur. Radhakrishna was a shining star of the weekly workshops which Prof. Mathur used to conduct. Simple, courteous, kind and with a great sense of benign humour, Radhakrishna was enviably popular among teachers and students, all. He has preserved and enriched those qualities through times.’ Radhakrishna was a great scholar and a teacher of excellent qualities. He was truly a ‘Guru’ in the noble Indian tradition. He mentored his students and kept track of their progress throughout. He mentored even his friends and colleagues. This spirit flowed over to the building up of institutions and strengthening of the existing institutions with which he got associated. He made foundational contributions to the Department of Economics of Central University of Hyderabad and Centre for Economics and Social Studies (CESS). He left his deep imprints on ICSSR as its Member Secretary, Andhra University as its Vice-Chancellor, IGIDR as its Director-General and National Statistical Commission as its Chairman.

Radhakrishna started his research work in mid-sixties with the econometric estimation of consumer demand functions. Consumer demand functions were usually estimated for a particular commodity or commodity group. Radhakrishna undertook a theoretically more consistent work of joint estimations of the complete demand system, involving the use of more

advanced econometric method involving non-linear optimization algorithms. The research involved developing a method of deriving price and income effects from family budget data, establishing a basis of commodity aggregation and deriving of quadratic type indifference surfaces. In an essay on Progress in Applied Econometrics in India, Prof. K.L. Krishna observed: “The econometric community of students and teachers will enjoy studying the most comprehensive exercise for India. It must have inspired many serious research students since its publication in the 1990s”, (K.L. Krishna 2022). Professor Y.K. Alagh, a senior colleague and a long-time associate of Radhakrishna, wrote, “His work on complete demand system and income distribution was globally recognized. Not resting on his oars, he was to enter the jungles of economic policy arguing after painstaking field research over years that poverty lay in social structure and not in the evil of drinking,” (Y.K. Alagh, 2020).

Demand projection was one of the primary aims of these exercises. Other uses of the exercise were constructing the true cost of living index and deriving nutrient consumption function. In Radhakrishna’s own words, “Econometric models built to deliberate consumer behaviour assume overwhelming importance in planned economic growth. They have come to be regarded as indispensable tool in the preparation of the Plans. These models are highly useful in making demand forecasts and in studying the effect of individual price movements on forecasting and their knowledge is a must if manipulations of price structure are to become an important instrument of planning” (Radhakrishna, 1976).

The phrases like, ‘manipulation of price structure as an important instrument of planning’ may sound strange or even preposterous to the post-1990 generation of economists. But let us situate it in the economic

environment of sixties and seventies and the premises on which the economic system worked. The country had to struggle hard after Independence to overcome the ravages of the long colonial rule and the two World Wars. There was extreme poverty and widely prevalent hunger. Planning was adopted for a quick transformation of the economy. The plan strategy, which took shape from the Second Five Year Plan (1956) onward, aimed at rapid industrialization, learning lessons from the quick industrialization of Soviet Union. The strategy called for large capital formation and forcing saving by curbing consumption in the initial stages.

This was sought to be achieved by regulating supplies and controlling (manipulating) prices. The strategy was formalized in the form of a mathematical model by Prof. Mahalanobis. The operative model for working out the Plan production targets was based on (a) a macro-model for fixing the growth target on the basis of saving, investment and capital-output ratio, (b) a detailed Leontief Input-Output table and (c) the final demand vector using demand forecasting models. Radhakrishna's work was relevant to the third ingredient of the model. All the ingredients of the model needed research-based refinements. This had enthused a large number of scholars to work on refinement and enlargement of input-output table for India, on refinement of capital-output relations, including my own work, (Hashim & Dadi, 1973) and on the analysis of consumer behaviour. The premises of the Mahalanobis model had been questioned even then (Vakil and Brahmanand, 1956). More vigorous criticism of the Plan strategies, however came much later with hindsight, mostly after seeing the success of reforms 1991.

The rigorous econometrics of consumer behaviour developed by Radhakrishna led to study of differential impact of price changes on

different income/expenditure classes, differences in rural and urban consumer behaviour, effect of food grains price rise, sectoral biases in wage goods inflations, etc. Rise in foodgrain prices reduced the demand for all items consumed by lower and middle-income group of rural and urban areas. In contrast, it led to an expansion in demand for all items other than foodgrains by the rural higher income groups. The urban higher income group slightly reduced the consumption of foodgrains, and expansion in demand for some of the products of modern sector. There was a sectoral bias in the wage goods inflation. Cereal (group of commodities) took a major share of the marginal budgets of lower income group – both urban and rural. The marginal budget of high expenditure groups was striking in its heavy weightage given to non-food items. Production may often be more than what the market clears at a price that covers the cost of production. Paradoxically, this phenomenon might co-exist with low level of intake by low-income strata. In the post-liberalisation era (Radhakrishna, 1999) when the food production and supply had considerably increased, foodgrain stocks had been accumulated, the point of concern about the poor remained. There was levelling of cereal and calories intake by the poor, though the income of the poor had shown moderate improvement and relative price of cereal had moved favourably. A shift in the taste was one explanation, but the other explanation, according to Radhakrishna, was the weakening link between food production and food entitlement, especially in the post green revolution period. Food grains production had become highly commercialized and self-produced consumptions by the poor farmers had declined. This is an important observation to note.

In one of the early studies of distributional aspects of calorie consumption (Radhakrishna, 1964), Prof. Radhakrishna observed that the food problem would appear to be mostly a result of (income) distribution, and the

solutions to it would not merely lie in producing more food. Cereal price had strong influence on calorie intake. Public Distribution System which was initially for urban areas only must, therefore, be extended to rural areas to meet the cereal deficiency of vast population. Even if expenditure inequality was reduced significantly, bottom deciles suffered from calorie deficiency. Hence redistribution of income needed to be supplemented by direct transfer of cereals to the lower deciles of income/expenditure for achieving food security. In a number of papers, generally on agricultural prices, demand patterns and income distributions. Radhakrishna emphasized again and again that the burden of price rise fell more heavily on the poor. Again, in a paper on 'Effects of Growth, Relative Price and Preferences on Food and Nutrition' (Radhakrishna and Ravi, 1992), based on the result of LES estimated from the NSS data for nine time periods during 1972-1989, he reported the puzzle: though the cereal expenditure elasticity was positive and significant, cereal consumption did not increase with total expenditure. Growth and relative prices both had positive impact on cereal prices, yet they could not outweigh the adverse effect on 'nutrient intake', i.e. cereal intake.

In a study of distributional effect of inflation over the periods 1951-1974 (a period of high inflation which accelerated from 1963 onwards), based on the construction of price indices for the decile classes, rural and urban, he reported that the poorest 10 percent were the hardest hit and urban poor suffered more than the rural poor. Vulnerable sections of the population, i.e. tribals, S.C. people, landless, artisans, cultivators and casual unorganized workers in the towns had the worst of it. He re-asserted the point in further writings that the welfare implications of cereal price rise, were very regressive. This led to widening inequalities.

In a case study of Andhra Pradesh, making interdistrict welfare comparison, utilizing consumer expenditure data of 1977-78, Radhakrishna examined whether the ranking based on per capita expenditure reflected the ranking based on a method incorporating distributional judgements (Bergson-Samuelson-Atkinson framework). Conclusion was that the per capita expenditure served well as an indicator of welfare and its ranking of districts broadly conformed to the welfare ranking incorporating distributional judgements.

After economic reforms of 1991, the growth scenario in India changed significantly. A significant reduction in poverty was reported due to growth in per capita expenditure. But widening inequality became a matter of concern. It was also found that an inflation rate higher than 6-7 percent hurt the poor very much. It was the cereal price that aggravated the inequality.

An FAO commissioned study in which Radhakrishna participated, concluded that even under the most optimistic conditions, 180 million people dependent on agriculture would remain below the poverty line in the year 2000. (Ali, et.al.1980). A more significant statement was, and which still remains valid, that the problem of poverty could not be solved within agriculture which could not provide enough employment and income. Further studies concluded that in periods of upswing in grain productions, stocks accumulated even before the food deficiencies were met. Agricultural growth by itself could not improve income distribution. Barring a few states, food security levels were extremely low. PDS did make an improvement in the situation.

The 'shift in taste', according to Radhakrishna aggravated the calorie deficiency of the lowest 30 per cent of expenditure strata of the population

and weakened the relationship between income and calorie consumption. What is notable is a statement made by Radhakrishna that 'ICMR norms should be used with caution since its concepts of balanced diet was based on past prices and its recommended food basket is sensitive to price', (Radhakrishna, 1992). Noting that the slow growth of rural non-farm sector failed to create sufficient jobs to employ the large surplus agriculture labour, RK found it necessary that the poverty alleviation programmes should go beyond their present minimal concerns of providing protective nets. There should be a substantial investment in human resource development for enhancing people's inherent earning capacity. Along with this, these should be attempted to create more economic space for the poor by equipping them with assets and skills for livelihood outside agriculture. RK had also noted in one of his papers that the nature of desirable diet from a nutritional perspective still remained unsettled, as did the extent to which malnutrition was due to an inadequate diet or to the general conditions of life (Radhakrishna, 1999). Yet he said that high incidence of food security at the household level remained a key concern due to diets deficient in food energy as well as micro nutrients. Consumption basket of the poor was getting diversified. Given these trends substantial expansion of incomes of the poor as well as reduction in gender inequality was required for tackling the chronic food insecurity.

RK was also concerned with high incidence of malnutrition. Apart from inadequate food consumption, the other important causes of malnutrition were high incidence of gastro-intestinal and respiratory infections and faulty breast-feeding practices. He also believed that economic growth, left to itself, might not have a dramatic impact on nutritional status in the near future, although it provided greater opportunities for public intervention. He found that half of the pre-school children, and close to half of adult

population suffered from chronic energy deficiency in rural areas, despite significant increases in real per capita expenditure.

RK also studied the efficacy of Integrated Child Development Services (ICDS) programme and acknowledged the positive role played by the programme in the reduction of infant and maternal mortality rates and in the reduction of percentage of malnourished children (3-6 years) and also its achievements in the immunisation programme. These services needed to be unsealed and strengthened.

The non-performance of the Plan strategy inherent in the Mahalanobis model had become quite apparent by the decade of seventies in the face of high inflation, persisting poverty and unemployment. The draft Sixth Five-Year Plan, therefore, placed high emphasis on removing unemployment and underemployment, raising appreciably the living standards of the poorest, and providing public goods to meet basic needs. This, according to the plan, would largely be achieved by choosing a product mix which was more labour intensive and promoting smaller production units and making them more productive. Radhakrishna and Atul Sarma pointed out that the Sixth Plan did not get away from the Planning Commission's supply model with all its attendant loopholes and failures in the past. (Radhakrishna et al, 1978). The model failed to regulate the income distribution and failed to evolve appropriate policies to manage demand. They also raised a more basic question, about the effectiveness of a centralised macro planning framework for solving the problems of a developing country.

With the partial economic reforms undertaken in early eighties, the decade of eighties had ended on a happier note of India experiencing an increased

rate of economic growth. It was pointed out that under the prevailing structural conditions, high growth sharpened dualism, creating a bigger gulf between the well off and the poor. After 1991 reforms, growth further accelerated achieving a peak around the year 2008-09. The experience of higher growth was not, however so favourable for the poor and the unemployed. RK raised the question whether the growth per se would improve the level of living of the poorer groups and integrate them with the development process. Much depended, he believed, upon the structures of growth. If the effective demand was located away from wage income and into the non-wage income of upper strata, the growth would be susceptible to greater risks of uncertainty, since the consumption pattern of the upper strata changed fast. Growth would be more favourable if it was skewed in favour of the poor, he believed.

Reviewing the post-reform growth experience, RK noted that the higher growth had aggravated inter-state inequality, worsened rural urban disparity, and also inter-rural and intra-rural disparity. States with poor growth performed particularly poorly on poverty reduction. RK also warned that slow expansion of productive employment and worsening inequalities might lead to social discord in the long run. While growth was necessary for poverty reduction, it might not trickle down in the absence of policies directly aimed at the poor. Land reform investment in the physical infrastructure and in human development (health and education) and investment in small and medium enterprises were necessary conditions for spreading the growth benefits. Improvement in agricultural productivity continued to be important.

Returning to the state of poverty and its other manifestations in the post-millennium situation, RK pointed out that the poverty remained

disproportionately high among the scheduled castes and scheduled tribes. The geographical landscape of rural poverty had been changing. While all members in a poor household suffered, women and children suffered disproportionately more. There was prevalence of malnutrition even when poverty was eradicated. incidence of malnutrition was more widely spread than the incidence of poverty. Experience of Kerala offered lessons to learn. Human Development, health and education contributed to eradication of poverty. Health and education created better livelihood opportunities and also were factors in more effective and vigilant governance. RK believed that more promising way to go ahead was to leave the implementation of poverty alleviation programmes to local self-governing institutions. He believed that the growth of rural non-farm sector was very important for creating more employment in rural areas.

Radhakrishna, Rao and Reddy estimated chronic poverty in India for the year 1999-2000 (Radhakrishnan, et al, 2007). Since household consumption data was available for a reference period of usually one month, it was not possible to identify chronically poor defined as those living in poverty for a longer duration (say 5 years or so) directly from this data. In order to overcome this problem, they proposed two alternative criteria for identifying the chronically poor households, i.e., a) a poor household with at least one stunted child, and b) a poor household with a woman suffering from chronic energy deficiency. They pooled two sets of data for this purpose -the NSS data and the NFHS data. The prevalence of chronic poverty in India was estimated to be 13.84% based on the first criterion and 8.96% based on the second one. They believed that the first alternative was preferable because stunting was the result of long run nutrition deficiency. They concluded that Income was still the most important variable. The elasticity of chronic poverty with respect to income was -3.2% for rural and -2.9% for urban households.

A study of the state of poverty and malnutrition (Radhakrishna et al, 2010) emphasised that malnutrition, a constituent of multidimensional poverty, along with income poverty, provided a more complete view of poverty than either.

While India has succeeded in reducing income poverty considerably, it has not been very successful in reducing malnutrition. Both measures together give much larger numbers than either individually. The implication is that malnutrition is prevalent even in those households which are above the income poverty line. It is also notable that the incidence of child monetary poverty is higher than the incidence of overall monetary poverty due to larger proportion of children in poor households.

The income growth has not brought about much improvement in the fulfilment of basic needs. About half of the population especially children and women belonging to the vulnerable groups suffer from various forms of malnutrition including micronutrient deficiency, and a large number of them suffer from severe malnutrition.

Adopting Atkinson Social Welfare approach for the measurement of people's economic welfare, using the NSS data, (Radhakrishna, et.al., 2013) it was reported that the well-being of India improved significantly more over the period 1993-2010, than over the period 1983-1997. Top 30% and middle 40% group in urban and top 30% in rural areas gained the most. Overall intra and inter group inequalities increased in both the periods, but there was marked increase in the post-reform period. The states which were already poor marked a sluggish growth in all measures and there was a very high incidence of multidimensional poverty and prevalence of child labour.

In a paper reviewing ‘happiness’ and ‘well-being’ indicators among a number of countries (Radhakrishna, 2016) RK concluded that India fared badly among countries. Growth in the post-reform period was not inclusive. The uneven growth across states accounted for their differentiated performance in poverty reduction. Growth by-passed most of the states.

Thanks to Radhskrishan’s work, our understanding of poverty, growth and related issues is now much more extensive and nuanced. RK was not given to exaggeration or rhetorical expressions. Whatever he said was based on indepth quantitative analysis applying best of the econometric methods. His conclusions were straight and simple and statements were subdued – amounting sometimes even to understatements. We can see his deep concern for the poor and the downtrodden throughout his lifetime work.

Radhakrishna’s work needs to be taken forward and the puzzles and the questions raised by him need to be further explored.

Radhakrishna expressed, repeatedly, the concern about the declining trend in the calorie intake among the people of poorer income strata even when their incomes were rising. This, he believed, contributed to the nutritional deficiency among them. The main reason for this, he thought, was a ‘change in taste’ over time brought about perhaps by compulsions of modern living and imitation of lifestyle of higher income groups. The consumption basket of even the poor was diversifying to include more of low calorie intensive food and more of non-food items. This was happening in spite of the fact that the elasticity of calorie intake with respect to income was positive. This is what he called a ‘puzzle’. The elasticity was obtained from cross-section observations, while the trend in declining calorie intake was observed overtime. The reason for this disconnect needs to be

empirically and theoretically explored. Something was happening over time. RK thought there was a change of taste over time. However, RK had also observed that the nature of a desirable diet from a nutritional perspective still remained unsettled, as did the extent to which malnutrition was due to an inadequate diet or to the general conditions of life. 'Nutrition', indeed, is a scantily researched field. Prof. P.V. Sukhatme, an eminent nutrition scientist, who also was a member of Lakdawala Committee on Poverty (1993) held the view (in a rejoinder to the Committee's work) that it was not the quantity of calorie intake but the efficiency with which the body utilized that intake mattered for nutrition. As to the question as to why children remained small in spite of food intervention, the answer according to Prof. Sukhatme, was to be found in the interaction between the child and his surrounding. Prof. Sukhatme wrote, emphatically, "we do not need food but along with food we also need potable water, adequate disposal of excreta, good sanitation and personal hygiene to reduce prevalence of morbidity before initiating feeding programmes." (Lakdawala Committee, 1993). May be, with the passage of time, there is improvement in the overall surroundings and the prevalence of morbidity. With changes in work habits consequent upon mechanization and automation, energy need of the body have further declined. It may also be noted in this context that the ICMR calorie intake norms are not based on any nutritional research, but they are simply observed averages over a vast strata of people. ICMR have over time reduced the prescribed norms to some extent. What Sukhatme says may go a long way in explaining malnutrition and its prevalence even in population above poverty line.

In defining the poverty line consumption basket, the Rangarajan Expert Group was of the considered view that it should contain i) a food component that addressed the capability to be adequately nourished (i.e.,

that included the average requirement of calories as well as proteins and fats), ii) some normative level of consumption expenditure for essential non-food items (i.e., education, clothing, conveyance and house rent) and iii) a residential set of behaviourally determined non-food expenditure (Rangarajan and Dev, 2022) Rangarajan's was a welcome recognition of the need to go beyond calorie norm in defining the poverty line. This is yet to be recognized officially. The need for expanding the concept of poverty line beyond calorie and food needs to be explored further.

There is yet another point to consider. Economic theory relies upon consumer's behaviour and freedom of choice. That choice is constrained only by income and prices. Where do we fit in the nutritional norm in this frame?

It may be interesting to recall, in this context, a debate in the decade of seventies after Dandekar and Rath (1971) published their book "Poverty in India." The debate was on a point whether poverty was defined with reference to a 'calorie norm' or with reference to a 'minimum income norm'. Even though the income (expenditure) levels and calorie intakes were highly correlated, there was a section of population which was above the income poverty line, but below the calorie norm, and vice-versa. The proportion of those above poverty line and below calorie norm was increasing overtime. Lakdawala Committee (1993) had tabulated the numbers. In 1977-78 (Rural) there was 12.47% of the population which was above poverty line but below calorie norm. This proportion increased to 29.29% in 1983 and 36.37% in 1987-88. The debate was settled among the economists with the agreement that poverty was measured with reference to an 'income level' (i.e., the poverty line) and arriving at this income level the calorie norm was used only as an 'anchor' with reference to which the poverty line basket of consumption was decided. Given the

minimum necessary income to keep an household above the poverty line, how an household spent that income was the choice of the household (assertion of freedom of choice). If a person spent all his income on alcohol consumption and starved himself of food, yet if had the minimum necessary income, he would be counted above the poverty line. Our concern was providing the 'enabling income'.

There is yet another dimension to be explored in the context of debate on defining poverty. In defining poverty could we get out of the 'calorie' or 'nutrition' syndrome. With economic growth and rising income, some of which does trickle down even to the lowest income strata of the population, most of the people will have enough income to keep themselves above the minimum calorie requirements or more broadly are the minimum nutritional needs. Will the poverty have been wiped out in that situation? I am afraid the answer is 'no'. Poverty will take new forms, and in a way it has already started happening. Poverty should more appropriately be defined in terms of 'vulnerabilities' like insecurity of livelihoods, insecurity of shelter, insecurity of obtaining the minimum required health and education. Urbanization is growing fast. Urbanization in developed countries is 80-90 percent. Developing countries are proceeding in that direction ultimately, only urban areas will offer livelihoods. But a foothold in the urban areas is becoming prohibitively difficult for the poor. Cost of housing is rising and with more formalities and alert urban governances, access to even informal shelter (slums) is shrinking. Shelterless in urban areas are the really poor and destitutes. Sometimes, work in urban area provides temporary shelter. But in period of crisis (like corona lockdown) the poor loose shelter and job both. This is vulnerability.

The technological growth which has spurred the economic growth has raised the cost of relatively more human-intensive services like health and

education. Even a minimum provision of health services and education are getting out of reach of the poor. The jobs that are being generated increasingly require more skills and education. These are the vulnerabilities.

A very worrisome manifestation of poverty has been child labour and withdrawal of children from school. Many households are able to manage to get necessary food and clothing but only at the cost of children's education, thus perpetuating poverty from generation to generation. This too is a vulnerability.

We need research as to how to identify vulnerabilities and how to develop indicators of 'vulnerabilities' to identify the poor in the context of a changing world. There may even be a need to create new data systems to focus on such vulnerabilities.

Radhakrishna often expressed a concern in his writings that widening inequalities and increasing distress of the poor might lead to social discord which might destabilize the economy and disrupt the growth momentum. Indian poor, though, have a history of suffering their miseries in silence, by and large. There is a real danger, however, of disruption of economy and growth momentum arises out of extreme inequality and poverty. This danger arising out of the working of the economic system itself. RK has in his writings pointed out to widening inequalities in income distribution. Research on income distribution in India and in many other countries is based on data on consumption expenditure which is taken as a proxy for income. Since income distribution would be much more skewed than consumption distribution, inequalities are much higher than what is revealed. Inequalities have been increasing overtime. Higher the pace of growth, faster is the rise in inequalities – this has been a world-wide

experience. Technological change is the main cause. Technological change has made (and is making) capital more productive relative to labour. Technological growth, therefore, is increasingly more labour saving. This phenomenon is also reflected in declining share of labour in GDP. Labour share in GDP remained more or less the same with little fluctuations over a long time. From 1980 onwards it started declining globally. From around 1988-89, labour share in GDP in India which had remained around 50% for a long time, started declining steeply and reached around 30% in 2010-11. The trend continues. Accompanying changes in labour market institutions and policies have made even organized sector jobs insecure. There is rise in open unemployment and increase in low wage informal employment. Employment security and labour protection have declined.

Highly unequal distribution of income ultimately creates deficiency of aggregate demand leading to recession. Recession causes a disruption in growth and has a highly destabilizing effect. This is already seen globally in shortening cycles of growth and depression. Growth and technological development are important for civilizational development. Hence, in order to maintain the pace of growth, interventions are required on the part of the state. It sounds like a paradox that in order to sustain the growth induced by liberalization and globalization, it may become necessary to resort to the Keynesian remedy of government spending. The most growth promoting expenditure by the government would be expenditure on education and health, i.e. investment in human development.

There may arise need even for direct transfer of income to poor. During the corona epidemic period, even the USA took resort to massive transfer of cash to all people below median income level. This helped to avoid an economic recession. However, the general lack of demand has become a constant worry, globally. The cycle of growth and recession has become

shorter. The idea of even a 'basic minimum income' is being debated, and has been partially experimented with in some of the developed countries.

There is need to research these questions in all seriousness. Let us carry forward legendary work of Radhakrishna Garu.

Note

Prof. R. Radhakrishna had published widely in reputed journals and books. Fortunately for us, almost all his publications (barring the Reports of Committees and Commissions Chaired by him) have been brought out in five books published by *Academic Foundation, New Delhi* (2019). All the five books have been relied upon in preparing this Lecture but without making specific references. Specific references (in the Reference section), however, have been made when RK's words are quoted, and those references refer to the book or journal where the article was originally published. The five books are:

1. Essays on the Econometrics of Consumer Behaviour
2. Essays on the Econometrics of Inflation, Consumptions and Welfare
3. Essays on Agriculture, Food Security and Nutrition
4. Essays on Growth, Poverty and Wellbeing
5. Essays on Indian Economy.

The books are not numbered. But I have listed them as above broadly following the chronological order of his writings.

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About IDSAP

The Institute for Development Studies Andhra Pradesh is a leading institution for Economic and Social Studies focusing on Andhra Pradesh from national and global perspectives. It is an Autonomous, supported and funded by Government of Andhra Pradesh. It undertakes development research, teaching, capacity building and policy advocacy. It serves as a Think Tank of Government of Andhra Pradesh and Government of India. It is registered under Andhra Pradesh Society Act 2001 vide Reg.No.101/2019. Centre for Tribal Studies has also been established as a part of IDSAP.

The vision of Development Studies is to build an inclusive society, ensuring that the people of Andhra Pradesh are free from hunger, poverty and injustice. It envisaged that IDS would emerge as a centre of excellence engaged in cutting edge policy research and creation of evidence-based knowledge for shaping social progress.

It conducts research on network mode involving eminent experts drawn from state, national and international centers of excellence to work towards social progress. It builds data base and documentation on Andhra Pradesh Economy accessible to researchers. Its faculty is a mix of core residential faculty, adjunct faculty, visiting faculty and affiliates drawn from other centers of excellence. The residential faculty is a mix of established senior scholars and potential and motivated young scholars.

Research Agenda

MACROECONOMIC CONTOURS

Research relates to GDP growth, Sectoral growth, Employment, Exports, Trade, Infrastructure, Institutions, policy environment, reforms and Governance.

PUBLIC FINANCE

Research relates to State's Revenue, Expenditure, Budget Deficit, Debt, Capacity to raise funds, Capacity to absorb funds for development, Capacity to negotiate.

SECTORAL DEVELOPMENT

Research relates to Agricultural sector, Industrial sector and Service sector, with special attention to Information Technology and Digitization.

Sectoral research also relates, Rural sector and Urban sector.

EMERGING SOCIAL CONCERNS

Research relates to Education, Health, Food security, Poverty, Housing, Economic, Social and Regional Inequality, Gender discrimination, Social Protection and public provisioning

COVID-19 PANDEMIC

Detection, Treatment, Control, Immunization and Management – Economic Impact

ENVIRONMENT

Sustainable Agriculture, Land, Water, Forest -Conservation, Climate change and disaster management.

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