

Professor V M Dandekar: A Virtuoso Agricultural Economist

R S Deshpande
Former Director
Institute for Social and Economic Change
Bangalore
E Mail: rs.kalbandi@gmail.com

When one recalls personality of Prof VM Dandekar, we remember the short stature, firebrand but outstandingly intelligent personality with those distinctive piercing pair of eyes and sharp cutting arguments. His immaculate logic felled many a giants and even the top brass of economics feared to argue with him. Professor Dandekar personified a strength of a huge rock confronting powerful currents singularly and against the worn-out tenets. He would lace his arguments with razor-sharp logic and demolish the mainstream thinking mercilessly, with flawlessly cogently organised thought process. He had that strength and courage of shredding into pieces the argument of a Noble laureate like Theodore Schultz and with equal ease teach a lesson or two to the then doyen of economics Prof K N Raj. Prof Dandekar derived a great pleasure in demolishing every hollow edifices. One remembers his strongly worded argument against the then Central Government Minister YB Chavan, right in his presence in Maharashtra, or his support for the cow slaughter, taking on the NSSO initial survey arguments with Prof Mahalnobis and finally proving that NSSO Poona Schedules were far better than those prepared at the prestigious Indian Statistical Institute, Kolkata (Dandekar, in Gipe 1952). He argued strongly against the powerful RSS Chief M S Golwalkar, without any fear of retaliation and did not hesitate to tear the RSS chief's arguments. His devastating review of an article in EPW written by K N Raj on "*Investment in Livestock in Agrarian Economies: An Analysis of Some Issues Concerning 'Sacred Cows' and 'Surplus Cattle'*" was titled as "*Cow-Dung Models*" (EPW, Vol 4, No 31, 2nd Aug 1969), that must have given Goosebumps to Professor Raj then. These arguments are worth reading as a methodology to logically criticize a flawed hypothesis and provide a better counter-thesis. His another famous destruction was the C H Hanumantha Rao's article entitled "*India's 'Surplus' Cattle: Some Empirical Results*", Prof Dandekar wrecked it by giving a title under the title "*Sacred Cows and More Sacred Production Function*" (EPW, Vol 5, No.12, 21st March 1970), on the counts of serious methodological and statistical flaws, which a Professor of IEG should not have committed. He reviewed a book on 'Bovine Economy' (EPW, Vol.23 No.50, 10th Dec 1988) and titled the review as Bovine Economics. Wrote very sharply against the practice of untouchability prevailing in rural Maharashtra even decades after independence. He would not spare any one going illogically, in any

gathering of intellectuals and his sheer presence used to send shudders down the spine of artificially cultured academics. This is just to introduce you the personality of Prof Dandekar, who used to cause quivers to many stalwarts, but always appreciated sincere young and budding academics. Professor Dandekar was also an academician whose positive contributions were very powerful and spanned across many fields of social sciences from intricate statistics to drought – irrigation – agricultural administration - land reforms - Sraffa System and many more. I shall try to touch upon only a few in this short lecture.

Meeting with the Giant

I am here today to introduce to you the young economists of tomorrow and others in the gathering the colossus named Professor VM Dandekar, as virtuoso agricultural economist. I cannot be as erudite as Professor Nilkanth Rath (see Rath, 1995), who was his long term colleague, about the works of Professor Dandekar, but I tried my best to capture this colossus through my lenses. Note that Professor Dandekar had no formal training under any University portals in agricultural economics as a subject but still he dominated the subject for decades. Actually, he was a trained statistician from Pune University and refused to go to London for a PhD in statistics (Got down the Boat), just because the Indians were not equally treated on the boat. His writings in agricultural economy are close to almost hundred excellent research papers and a book binging together many issues. The arguments he had put forward had certainly shaken the academic fraternity during those years. Unquestionably, he was not an ivory tower 'tricks using scholar and understood rural India threadbare by personally participating. In fact he nurtured cattle and milked the cow, sold milk to understand the basics. I shall be introducing this gathering to only a few aspects about writings and thinking process of Prof VM Dandekar confined mainly to agricultural economics.

First time when I met him, it was during my visit to Gokhale Institute of Politics and Economics (GIPE), as a student looking out for a possibility of joining a PhD programme with GIPE. I reached GIPE on the evening prior to the last date of submission of application, but the then Registrar GIPE (Dr Apte), flatly refused to accept my application, even though I argued that I shall defend my proposal in front of the experts. That refusal sent me to Aurangabad to register for PhD with Marathwada University. The travesty of justice was that, I was leading the GIPE as its Registrar during its most crucial phase of becoming 'Deemed to be a University'. During those early student days of my visit to Gokhale Institute, I was recognised as a student coming from the backward region of Marathwada, therefore, naturally a greenhorn. I was shy, while meeting with the faculty members or discussing with them observing their obvious uneasiness in talking to me, which they cultivated for a boy coming from the backward

region. They personified themselves as extraordinary individuals and thus me standing in front of them was something I should not have dreamt for, or at least that impression they gave me. On the second day, I was going through the library looking for books on Crop Insurance and I saw Prof Dandekar in the same lane. He called me in his sharp voice and asked me where I belong to? After explaining what I am trying to do, he handed me over two huge books dealing with Crop Insurance. He spoke a bit and wished me best luck of-course in Marathi. I was overwhelmed and that was the starting point of my interaction with the genius named Prof Dandekar. In the process of life, I went back to Aurangabad to register for my PhD under the UGC scholarship with Prof MV Nadkarni and chose to work on 'Yield Uncertainty in Maharashtra Agriculture'. Actually, I was also not a student of agricultural economics and hence Prof Nadkarni asked me to read right from the basic textbooks on agricultural economics. I drifted away into an autobiographical note, I am sorry for that but that was emotional and inevitable. I am here to introduce you the work of Prof Dandekar as agricultural economist as an adroit genius

Initial Footprints

Tracing the footprints of a giant academician like Professor Dandekar is quite a difficult task due to three reasons. First, his shifting stands from one area of interest to another was so fast that he wrote on many areas with enviable authority. Second, the depth of his thoughts and razor-sharp arguments resounded in the academic circles and could not be set aside. Third, it was quite difficult to put his thinking in the usual ideologically stylised silos, as he always argued on a controversial platform. He would take an arguments against Golwalkar (RSS Ideologue) harshly and support cow slaughter and at the same time demolish the socialistic bogie equally trenchantly. He had acquired the ease of a swan to traverse through the maze of subjects (statistics, economics, astrology, mathematics, teaching methods and many) and issues He was always ready like the dexterity of a tiger to tear into the unfounded arguments. His writings were piercing critique but at the same time had inimitable constructive and absolutely fresh ideas that no economists during his times could deny. He contributed to many debates on: NSSO, National Income, Agrarian Structure, Rural Credit, Land Reforms, Rural Employment, Poverty in India, Sampling, Probability Distributions, Livestock Economy, Monetary Policy, Planning in India, Regional Development and the list will be unending. In short, here was an academic leviathan, who had astuteness of an intellect beyond a commoner's imagination. I will be touching only a few aspects of his contributions and especially those having bearing on agrarian economy both due to my intellectual incapability and the san of this lecture.

Prof Dandekar being a brilliant statistician started his academic journey with a paper in Bulletin of the International Statistical Institute in 1951. This paper was dealing with the measurement of non-market productive activities. It created a milestones in that area of research and then he co-authored with Professor Irawati Karve a monograph on "Anthropometric Measurements", using the best possible sampling frame and techniques of measurement. In the early fifties as the National Sample Survey Organisation (NSSO) was getting established. It was along with Prof D R Gadgil, one of the founders of NSSO, he participated in the debate on 'Poona Schedules' with Indian Statistical Institute, Kolkata. He effectively and logically proved the utility of 'Poona Schedule' that came out as a small monograph of GIPE. After that he largely focused on a few surveys at village levels and his sharp observation in the reports of these surveys, shows the keen understanding of village society and culture. He wrote a monumental monograph with M B Jagtap on Maharashtra's Rural Social System in Marathi in 1957. Among his writings in the core discipline of statistics, the article on "*Certain Modified forms of Binomial and Poisson Distributions*" published in *Sankhya* (Dandekar, 1955), provides new forms of the two often used probability distributions. He applied these distributions to the Fertility data of women between 1941 and 1945, collected during field survey. Further he also wrote another paper dealing with "Statistics in Social Welfare Field" that was commissioned by the Ministry of Information and Broadcasting, dealing with a totally new field (Dandekar, 1956,a).

The year 1956, marked a turning point in the academic forays of Professor Dandekar especially after the extensive field work in rural Maharashtra. He turned more towards analytical issues pertaining to rural India. He wrote a piece on Economic Policy and Theory in the Indian Economic Journal in 1956, arguing about the hiatus between economic theory and policy framing. Sharply, he advocates "*Existence of extra-economic factors such as sociological, political and psychological governing human behaviour and functioning of human society must be admitted and left to be studied by other social science disciplines.*" (Dandekar, 1956-b, p 192). That was underscoring the monolithic nature of social sciences towards welfare and policy. Around this time he began to work on India's food economy and unemployment connecting the two issues through a paper on 'Rural Unemployment' and National Food Reserves' that demonstrate his in-depth views (Dandekar, 1957). The issue of rural unemployment frequently peeps out of his writings (Dandekar, 1962) , even during the later phase. Unemployment, according to him was a major issue that needs to be tackled and the rest economic priorities will fall in place. In one of the earliest writings in 1962, (*Utilization of Rural Manpower, The Economic Weekly, February 1962*). He elaborated on this theme also in the GIPE journal *Artha Vijnana*, he wrote about "Employment and Unemployment of Adult Rural Population (March 1962,a). In this work he writes "*As regards the employment of adult male population, it was found that nearly half of*

it was engaged in farm work, about a quarter in non-farm work and the remaining were either voluntarily or involuntarily unemployed” (Dandekar, 1962, P 89). The myth of zero marginal productivity in rural areas is an allegory and unemployment in rural areas emerges voluntarily as also as an outcome of economic neglect. The argument he continued in his criticism on Theodore Schultz. Utilising the rural manpower in productive manner to build the country, was always on his mind. This he suggested as early as in early sixties, thinking about employment guarantee for labour that he emphasised in the poverty study later. Those were the years of acute unemployment along with chronic food shortages and supply controlled by the state through rationing. The suggestion on utilisation of food surpluses in the work he did for FAO in 1956, includes the idea of assured daily employment at subsistence wages. All these point out that he was pioneer of the idea of employment programme (Introduced as EGS in Maharashtra (starting with 28th March 1972) and MNREGS at the Country level (Started from 7th September 2005 and began a year later)). Realising the issue of rural unemployment that sprouted out of his work on the refractory agrarian structure, perpetuated all over the years in the Ryotwari region of central India. Prof Dandekar analysed agrarian structure especially focusing on the pervasive tenancy system. His survey report on functioning of the Bombay Tenancy Act, brings forth the limitations of the act, he brought out the ineffectiveness and possibility of reverse tenancy in the State. Based on this understanding, he presented a paper proposing far-reaching tenancy reforms to inject corrections in the agrarian structure at a Berlin conference. These were the years when the country was seized with the preparations for the first Rural Credit Survey. His participation in the first round influenced his thinking on the chronic agrarian issues prevailing in the state. This influenced Prof Dandekar’s writings on land reforms and he subsequently he undertook a study for the Planning Commission (Probably the only work he did for Planning Commission) (Dandekar, 1962,b), wherein, his approach was quite different than the mainstream Nehruvian ideas about land reforms. Prof Dandekar demonstrated a complete understanding of India’s rural agrarian structure and the semi-feudal nature of the villages as opposed to the arm-chair economists who wrote on land reforms during those years. The resounding warning he gave was about fully banning of tenancy and indicated rather an indirect state control by fixing the rent. Very skilfully he brought forth the nuances in the landholding structure and difficulties confronted that find the deep roots in the culture of any village on the Deccan Plains. The reverse tenancy and the hidden tenancy situations were indicated far ahead of these emerging into reality decades later. Probably, he was very clear about the imminent failures of imposing ceiling from above and artificial control on the land market.

Today, we know that the State of Maharashtra had very proudly declared “Land to the Tiller”, thereby promising land to be owned **only by the actual tiller**. Today, the situation is diagonally opposite.

Almost all the politicians elected or contested own huge patches of land and cultivate through unrecorded tenants. Maharashtra had recorded 41.9 million cultivators in 2001 Population Census and that number came down to 35 million in 2011, indicating 5.9 million cultivators leaving cultivation as their profession during this decade. This can be inferred from the Population Census data. Interestingly, the Agricultural Census of Maharashtra reported 138.35 million operational holdings, pointing that average size of holding should be 4.55 hectares but Agricultural Census reported that as 1.15 hectares. This would mean 103.35 million land holders do not cultivate their lands personally. Today Maharashtra has many landowners (not cultivators) holding far more than the Ceiling limits and hordes of subservient army of unrecorded tenants. That shows, hidden tenancy is highly prevalent in the State which Professor Dandekar foresaw it during sixties. During that time he worked on Land Reforms, Land Tenure, and agrarian Reorganisation (Dandekar, 1963,1964 ,a and 1964,b). The views were provocative as usual and he did not believe in the process followed while implementing land reforms. Going against the usual current of Indian mediocre academicians, he vehemently argued that the policy of “Land to the Tiller” will fail miserably and many times made fun of the “Tiller’s Day” falling on the 1st April 1957 (April 1 referred as fool’s day), and thereafter every year. Today, in Maharashtra almost every elected representative in both houses own substantial land even beyond the ceiling limits and do not cultivate even though they write their name as self-cultivator. While writing on tenancy abolition he argued that as the small land holders rarely rent out land (during those years), it will be better to exclude them from the act and that will save a lot of time. But instead of listening to the suggestion, the Govt of Maharashtra went on the originally designed policy and it took long time to complete the task and that led to many distortions in the agrarian structure. The act made land tribunals as a powerful body deciding which had the local politicians as the members of the tribunal. That proved to be the floodgate of corruption and cause of collapse of Land Reforms. The powerful arguments put forth about the hollowness of tenancy reforms proved correct and the reforms culminated into proliferation of “Hidden Unrecorded Tenancy and Reverse tenancy”. That vindicates his acumen in understanding of the land culture of India and his criticism then was not taken seriously by the policy makers and the experts on Land Reforms.

National Sample Survey Organisation

It is well-known that the first National Income Committee included Prof V K R V Rao, Prof D R Gadgil along with Prof P C Mahalanobis and after the initial deliberations it was decided to establish National Sample Survey Organisation (NSSO) with the help of Indian Statistical Institute Kolkata, to collect large scale pan India data. Prof Mahalanobis being the founder of Indian Statistical Institute in Calcutta was

given the responsibility of designing the first round of NSSO. This round got into a debate between Prof D R Gadgil and Prof Mahalanobis, and it is known as the Debate on Poona Schedules. The arguments were handled by Prof Dandekar on behalf of Prof Gadgil and by Prof Bhattacharya on behalf of ISI Kolkata. It is also known that finally Prof Mahalanobis had to concede the points that Prof Dandekar made. The book on this debate was published by Gokhale Institute of Politics and Economics that includes those sharp points along with the last letter from ISI. It is interesting to read the razor-sharp arguments of Prof Dandekar in this debate. From then onwards, he mostly stayed away from the NSSO or the data from NSSO till the time he undertook the monumental work on Poverty in India with Prof Nilkantha Rath.

Agriculture Prices: Contentious Issue Simplified

Historically, prices of agricultural commodities is a contentious issue and that came under serious discussion during late fifties. Prof Dandekar substantially wrote on many facets of agricultural economy including agricultural commodity prices. He was not a trained agricultural economists like many stalwarts in academics of his times but his work in agricultural economics established many a milestones in the subject. Agricultural prices was one of the important issue that he dealt with beginning with his Economic Weekly article in 1958 (Dandekar 1958), and then in the Indian Journal of Agricultural Economics analysing 'Prices Production and Marketable Surplus' in Indian context (Dandekar, 1964). He actually wrote a critique of Mathur Ezekiel hypothesis and Khatkhate's arguments and in the same vein emphasised that price responsiveness is closely associated with size of holding. Initially, he was focused on stabilisation issue of prices and subsequently shifted to working on prices as an incentive to increase production. He wrote in his EPW paper criticising Dantwala's approach of restrictive movement of grains. He opined that *"In order to achieve a certain degree of stability in the prices of foodgrains, we need to reorganise the foodgrains market so that, firstly, the whole country would be effectively integrated into a single market in food- grains, and secondly, there would emerge a structure of market prices by normal market processes which are competitive and public"* (Dandekar, 1968, EPW, P.457). Proposing Foodgrains Marketing Boards which will take care of grain marketing, which was an innovative idea certainly better than APMC and far ahead of the establishment of Wheat board of Canada. The proposed District Grain Boards were to have greater power Professor Dandekar wrote that *"There will be no restrictions on their mutual trade. They may sell any foodgrains, in any quantities, at any prices and to any one among themselves. They will be free to conduct this trade by the normal processes of the market, such as competitive negotiations and inviting sealed tenders for supply of certain quantities of grains, etc, among themselves. All deals*

settled between them will be promptly publicised giving particulars of quantities, quality and prices at the selling points. It is through this process that the whole country will be efficiently integrated into a single food grains market and a structure of market prices will emerge by the normal processes of the market which are public and are subject to a degree of social control and public audit." (Dandekar EPW 1968, p 457). This seems to be written with futuristic context and reveals that Professor Dandekar was far ahead of his time and thinking, it is most relevant today. This paper provoked a good amount of discussion on price front and agriculture prices became central point of discussion during those times. This thinking was ahead of his times and has become a focal point of debates now. Following the debate in early sixties between the two stalwarts, Government of India was compelled to establish Food-grains Prices Committee in 1964 under the Chairmanship of Shri L K Jha to look into the entire issue of agricultural prices and markets. The Committee recommended establishment of Agricultural Prices Commission (APC), which finally ended up as Commission on Agricultural Costs and Prices (CACAP), with Prof Dantwala as its first Chairman. The FCI and the APC were set up to help administer food security in the country but ended up in piling stocks on one side and price uncertainty on the other. The FCI is the agency to purchase food-grains at the Minimum Support Price(MSP) and to stock and distribute these to the consumers through the Public Distribution System (PDS) which consists of as many as 463,000 of fair price shops spread all over the country. The main function of the APC (renamed as Commission for Agricultural costs and Prices in 1985) is to advise the Government on price policy for agricultural commodities. In an earlier paper of 1964, also countered the arguments of Mathur and Ezekiel that farmers are not price responsive in his paper in the Silver Jubilee issue of the Indian Journal of Agricultural Economics (July-Dec 1964). Almost at the same time Professor Raj Krishna wrote about the price response models establishing that farmers are price responsive. Actually Prof Dandekar's paper on Minimum Support Prices for Food Grains published in *Arthavijanana* (Dandekar, 1965) provided clear guidelines for the policy and programme, wherein he hinted a definite lifetime for the new support prices regime. He wrote that *"An essential condition of the price support that can be offered on the kind of short-term considerations as we have described above, is that the support operation must not lead to a permanent accumulation of stocks with the agency responsible for the operation and must also not involve the agency into financial losses in its buying and selling operations"* (Dandekar 1965,P 276). This has happened in the case of Food Corporation of India which sat on huge stocks and wasted thousands of tonnes of foodgrains. His views on price policy and the support prices were ahead of his time recommending the Maximum Ceiling Price that would control ill effects of MSP. The situation he recommended was closer to what is called today affordable and remunerative prices along with free market. No one seem to have paid attention to those subtle warnings and the State dependence was perpetuated. In his comment on Prof Dantwala's paper on

Agriculture Price Policy in Economic and Political Weekly, Dandekar clearly suggested market reforms. It is well recognised that Indian agricultural market is widely differentiated and not integrated. This was the major reason for the price differentials and thereby market imperfections. Recently an attempt is initiated to introduce National Agricultural Market or e-Nam to establish a national market grid. But that was not the idea about which Dandekar argued.

Blistering Critique of Transforming Traditional Agriculture by Schultz

Professor Theodore Schultz published a monumental book during 1964 entitled "Transforming Traditional Agriculture" which created ripples in the field of agricultural economics. The book attracted attention of many for various reasons specifically pertaining to the policies suggested by Prof Theodore Schultz, but more so on the fault lines that went through the pages of the book. Those were the days when academicians of Indian origin had the courage and conviction to take head-on the issues analysed in Indian context by western economists unlike meek heard-like admirers today. Now a days that courage is conspicuously missing and not many dare to challenge the writings of the Western Economists about India, especially when they are celebrated entities. Prof Dandekar was made of a different metal that would not swallow illogical arguments dished out in academic field. He fired the first deluge titled "*Transforming Traditional Agriculture: A Conceptual Foray and Missing Variables*" in the book titled "*Subsistence Agriculture and Economic Development*" edited by Clifton R Whanon (Dandekar, 1966,a). Followed by this he presented the same with a sharpened and blistering attack on the book in EPW (Dandekar, 1966, b&c). Dandekar's paper created ripples among agricultural economists World over as he had challenged the very structure of the book of an international Nobel Prize winning giant in agricultural economics. That was the courage Dandekar demonstrated writing very sharply that Prof Theodore Schultz bases his concept of traditional agriculture on the fact that any economy characterised as traditional, does not grow or remains stagnant. Such economy is satisfied with low level equilibrium like Guatemala or Senapur (examples taken by Prof Schultz to prove his hypotheses). Dandekar sharply reacted that the central argument cannot be accepted as any rational argument with such flimsy data and analytically speaking about the conditions, he that such conditions happen, if and only if, abnormally the demand for reproducible means of production in an economy remains constant over a sufficiently long time. Again proving that Prof Schultz's arguments were hollow and do not apply to any of the traditional economies in developing world and certainly not for India. Professor Dandekar had seen village inside-out and endured sufficiently in-depth field work and therefore, his understanding of the village and the farmer was quite intricate as against many of the Western Agricultural economists. He did not hesitate to show mirror to such hollow arguments put forth by arm-chair economists. He further said that if

traditional agriculture remains stagnant then the new mathematical techniques of farm planning and farm budgeting have nothing to offer to the farmers, thereby meaning that the Western development of agricultural economics is completely futile.

Professor Dandekar questioned Prof Theodore Schultz's main theme saying that: *"why is it inconceivable that in relation to the existing stock of reproducible means of production, which in terms of the equilibrium concept has long ceased to grow, the burden of population may be so large that even the most efficient allocation and use of these factors does not permit any useful employment of the whole labour force or at any rate does not produce enough for the subsistence of the whole population"* (Dandekar, 1966, P.27)? Professor Schultz does not ask himself these questions. Instead he proceeds to dispute and refute what he calls the "Doctrine of Labour of Zero Value". A most difficult proposition to answer and catching Prof Theodore Schultz into a tight spot. He further writes that *"The central point of his criticism of Professor Schultz's concept of traditional agriculture that he has missed the consequences of population growth and it is only through this has been able to postulate traditional agriculture as a state of long-term equilibrium. I have argued that if we take into account the consequences of population growth the characteristic condition of traditional agriculture turns out to be not a state of stable equilibrium but a state of continuous deterioration. I should now make it clear that the consequences of population growth are not confined below-subsistence sector. They are equally operative in the other sector. Therefore the deterioration proceeds in both the sectors. Nevertheless, it is analytically convenient to keep distinct the processes operative in the two sectors"* (Dandekar, 1966-b, P-807). Actually the central point of producer Professor Dandekar's criticism of the book on "Transforming Traditional Agriculture" (Dandekar 1966 a & b), was more focused on the sharp point that Prof Schultz missed totally the consequences of population growth and with that huge mistake, he went on postulating traditional agriculture as a state of low level equilibrium. Other critics of Prof Schultz namely Prof Balogh and Prof Sen pointed out other issues relating to the choice of Guatemala and Senapur studies which were not available anywhere in the literature during those days, when Internet was not available. Finally, Professor Dandekar writes in his enigmatic style that *"In my opinion the treatment of empirical evidence by Schultz in his book under discussion is shockingly unscientific and in my opinion does not deserve serious scientific attention. I therefore decided to ignore it completely"* (Dandekar, 1966-b P 806). That depicts the courage and the sharp insights he demonstrated in any of his writings. There was no challenge to his criticism from Professor Schultz, even though Prof Mishra and Prof Tara Shukla tried unsuccessfully to defend against the colossus named Professor Dandekar.

He revisited the issue of “Transforming Traditional Agriculture” in the very first chapter of his book on Indian Economy 1947 – 92 (Dandekar, 1994). Here he takes readers far beyond the earlier arguments on Prof Theodore Schultz in EPW. Any student of Indian agriculture economics must read this chapter as well as the other chapters in the book as it reviews the entire scenario right from the beginning till 1992 and dealing with many nuances and different phases of Indian agriculture. In one of the chapters, he deals with the land revenue system as emerged in Indian rural scenario and agrarian relations as a result of various settlements. His controversial views on tenancy legislations and abolition of intermediaries provided totally a fresh look at the basic roots of continued retrogression in agriculture. The two sector models which became a fashion to look at and taught in agriculture economics classes are brought forth in order to emphasise that Indian villages behave differently both in economic and social logical patterns. In this context he quoted Dr BR Ambedkar at length from the debate on following the Hindu model of the state. He quotes Dr Ambedkar that *“I am therefore surprised that those who condemn provincialism and communalism should come forward as champions of the village. (Thereby meaning that villages are den of these vices sic). What is the village but the sink of localism, a den of ignorance, narrowmindedness, and communalism? (Quoted from Constituent Assembly Debates 1948, p-38-39; in Dandekar, 1994, P56).”* This book by Professor Dandekar is a monumental work in Indian agriculture and deals with some of the important facets of agriculture he analysed earlier with fresh commentary.

The Cow Dung Models and the Sacred Cows

Prof Dandekar loved passionately to swim against the high tides, and succeeded tearing apart the tides through his sharp logical frame of arguments that were put forth by stalwarts. His thinking was inventive and completely out of box but at the same time laced with penetrating logic and smashing blows. We have seen how he frayed Prof Theodore Schultz’s arguments into pieces and he was not soft on the Indian academicians, who argued illogically. One of the best example is how he revisited a very interesting paper by Professor K N Raj that appeared in Indian Economic Review titled “Investment in Livestock in Agrarian Economies: An Analysis of Some Issues Concerning "Sacred Cows" and "Surplus Cattle". Prof K N Raj, one of the revered academicians had postulated two models namely ‘Poor country model’ and a ‘Rich country model’ taking livestock economics in India and USA. In this article, Professor K N Raj compared the cattle economy and investment in the livestock in two completely non comparable situations and even a dumb can see the illogical frame (Dandekar, 1962, d). Prof Dandekar hit at the root of the entire argument making the two models non-compatible and hence dumped them as ‘Cow Dung Models’. He wrote that even a glance at the statistics on livestock in India and a deeper understanding of Indian village economy, livestock are maintained in a totally

different manner here as against those maintained in USA. Therefore, the so called model is absolutely baseless. He writes "A glance at the livestock data for India and the United States would show that the (aggregate) size and pattern of the livestock held in these countries in the early sixties relatively to their population and cropped area are not very different from what one should expect on the reasoning outlined" (Dandekar, 1969, P1267), and further proves that maintaining of the livestock in the two countries is governed by different economic principles. India has 21.0 per cent bovine animals per 100 human population and 32.4 per cent bovine animals per 100 hectares of arable and cropped land. Further, he writes "In point of fact, there is no resemblance, even by accident, between Raj's 'Poor-country model' and the Indian situation. It was by assuming a relatively high feed requirement of livestock that the model led to a large cattle population; and it was by assuming that the cow was the only milch animal that the model gave a proportion of 30 per cent cows in the cattle population. These assumptions are fragile so far as the Indian situation is concerned, he wrote demolishing the very core of the paper written by Prof K N Raj. Finally in his piercing style Prof Dandekar concludes "*There is only one assumption of this model which is relevant: No slaughter of calves and less than 5 per cent slaughter of adult stock. Let him follow the consequences of this single assumption. Let the cattle population growing under this assumption be given the fodder and feed resources that the country has and let it be brought in contact with the human population which must compete for survival. If possible, let the superior rival milch animal, buffalo, be brought into the picture. Raj will inevitably meet the Indian cattle population with all its characteristic features. If he fails, it is time for him to shift to the Gavardhan Peeth of the Shankaracharya of Puri*" (Dandekar, 1969,-P-1271). This was really a piercing comment. Professor Dandekar clearly and openly supported cow slaughter for the purpose of culling out unwanted animals. He faced the circumstances from the antagonists and cow worshipers continuously and for a long time. But it was not Prof Dandekar who will budge such pressure of any kind and bend his arguments. In the same vein and relating to the cattle economy, Professor Dandekar did a devastating critique on an article by Prof CH Hanumantha Rao on "India's 'Surplus' Cattle: Some Empirical Results." He titled it as "Sacred Cattle and More Sacred Production Function". The central argument of this scathing criticism of a leading (and the young) agricultural economist was to deal with production function analysis. Prof Dandekar's viewpoint was confronting the central argument of Prof Hanumantha Rao's article that "*If a significant female cattle population is surplus or redundant then one should expect the elasticity of output (i e, breeding efficiency, milk and dung) response for an animal with respect to the feed and other inputs to be more than unity. Elasticities significantly less than unity could mean that the existing number is less than the number desired by the farmers on economic grounds*"(Dandekar, 1970, P-527) Challenging the basic understanding of the production function and marginal productivity is Prof Dandekar argued that the formulation function employed

by Prof Hanumantha Rao was not correct as well as relevant. The marginal productivities have been interpreted as elasticities and output elasticities are irrelevant to answer the question under the central discussion of the paper. He commented that *“the production functions presented by Hanumantha Rao are per animal, which means that one of the most Important factors of production, namely, the number of animals, has been held constant. In the circumstances, constant returns to scale are impossible and even the sum of the elasticities in the Cobb-Douglas production function would not be close to unity. It follows that the elasticity for any one factor such as feed cannot be anywhere near unity and that the larger the number of factors included in the production function, the smaller will be each single coefficient”* and further *“Even if they were relevant, the choice of the Cobb-Douglas function is inappropriate firstly because it can rarely yield elasticities greater than unity and secondly because it assumes the elasticities to be constant”*. (Dandekar, 1970, P-530). Probably improper specification is a basic mistake an econometrician should not commit. He suggested that choice of a linear production function would be inappropriate because it assumes marginal productivities to be constant. Prof Dandekar being a statistician of high reputation could not have been challenged on this count.

Agricultural Administration, Research and Education

Agricultural Administration has been one of the important areas that he liked and wrote about that during late eighties and early nineties. This work was not published earlier but finally when he brought together some of his important writings (rather ideas), in a book titled *“The Indian Economy – 1947-92, Volume 1: Agriculture”* (Dandekar, 1994). It is in this volume that he has taken a full review of what happened in Indian Agricultural Administration right from independence onwards. It is a very methodical and descriptive account of many important stages that Indian agriculture has gone through. Starting with the British initiatives and after taking the base ideas from the Famine Commission 1901, he brought out very clearly that the British Government announced its intention to promote establishment of agricultural colleges and courses leading to 3 years degree during 1905. The Imperial and Provincial agricultural departments were opened up and by 1919. The Department of agriculture was formed in 1881-82. An Agricultural School was started at Saidapet in Madras province. Followed by these, an Inspector General of agriculture was appointed in 1901 and colleges of agriculture as also research started in Pune, Kanpur, Sabour, Nagpur and Lyllapur (Pak) by 1905. The first irrigation Commission Report and the Reports of the Royal Commission on Agriculture (RCA)(Linlithgow Commission, 1926-1928), Imperial Commission on Agricultural Research were strong attempts to convince the natives as also their leaders in to believing that British Government was

farmer-friendly and that agriculture as the major economic activity would be the priority of the British Government. The RCA proposed an Imperial Council of Agricultural Research and opined firmly that a central organisation was to play a significant role in the field of agricultural research. RCA recommendations were taken up for implementation with an inaugural meeting held on 21-22 June 1929, thereby consolidating the Central government's role in deciding priorities in agriculture. These administrative steps did not recognise the regional and provincial needs nor did they have any Federal structure. In 1944, the advisory board of the Imperial Council of Agricultural Research submitted a Memorandum pleading for a Federal character of the Council Dandekar (1994: 135 & 203). He goes through the pages of history covering Royal Commission on Agriculture, Imperial Council of Agricultural Research 1928, Grow More Food Campaign, 1942, and then he traces the efforts of Government of India after independence. Professor Dandekar was not in favour of 'planning from above' but still he visited the efforts of the planning commission. He brought out the nuances in Agricultural and Administration Committee 1958 and the Ford Foundation team's visit for agriculture production improvement in 1959. This Study Team on Agricultural Administration in 1967, was one of the major milestones in India's agricultural Administration. Thereafter, after discussing the National commission on agriculture and various schemes under the plans as well as major points in ICAR review committee, he traced the issues confronting the sector. He summed it up as two corollaries: first the vast and enlightened programme of adult education oriented to promote necessary scientific attitudes among farmers is essential and the programmes so far have been too much administrative and too little educative. Second he emphasised the creation of opportunities for technically and scientifically oriented personal to perform technical and scientific functions. He underscored the point that decision making about the farm and the crops is entirely in the hands of millions of farmers and it is difficult for Administration to turn them around to make them accept what 'Administration' wants. Certainly, the Government over last decades achieved this with the "Carrot and Accept" policy by providing various schemes and making the farmers accept the changes.

Policy Contributions

Professor Dandekar was not just a critical economist but also contributed significantly towards policy making have been sporadic. In fact, he strongly believed that some of the policies should be more democratic and stemming from the grassroots. Economics as differentiated system, was a research paper that should be studied by all those who think economics is to be only read through western texts. (Dandekar, 1987)By taking the review of land reforms and analysing the land tenure system in rural India in the initial years, Professor Dandekar suggested quite a few things in land market

operations. He was in favour of continuing with recorded 'Tenancy' and always emphasised that it should be recorded in the village records. If this was accepted as a suggestion in those years, then we would not have seen the proliferation of "Unrecorded Tenancy" that puts the tenants in an exploitative situation. While writing on motivating the farmers for increasing agricultural production, in a paper presented at an FAO conference, he was absolutely clear and emphatic that the farmers would be incentivised only through proper marketing structure and assurance of prices which comes true even today. His understanding of the irrigation sector was unparalleled and the major suggestion about eight monthly control on irrigation was one of the best policy interventions so also his recommendations on the shift to "Paisewari" from the age-old Village Accountant operated "Annawari" system (Dandekar, 1986). In his presidential address on Planning in Indian Agriculture, he had suggested that Panchayati Raj system can be utilised, empowerment of the agricultural extension personnel, as well as farmers training and handholding of farmers. These components he advocated as essential building blocks for proper agricultural planning.

His contribution to understanding of regional disparities as a Chairperson for the Committee on Regional Disparities is one of the most important policy steps in Maharashtra. The methodology of the report was afterwards copied by many other states. It is known that the work of the Committee was also not a smooth sailing, despite him being the Chairperson of the Committee. There were two notes of dissent, specifically about the methodology and the concept of region. He did not pursue this thread further but the recommendations were implemented by Government of Maharashtra and in the changed circumstances, Govt of Maharashtra appointed another Committee under Dr Vijay Kelkar to revisit the regional disparity issue.

In the last chapter of the book on Indian Economy he visited future agricultural policy in which he in a guarded way appreciated the land reforms but showed displeasure about minimal contribution of this policy towards agricultural production. He wrote that *"Future agricultural policy must therefore address itself to the question of ceilings on land holding and the lease market in land. Hence the first item on the agenda of future agricultural policy should be the existing ceilings on land holdings and tenancy laws; they should be removed altogether or should be relaxed in stages. The ceilings on the land holding should be relaxed upwards and small or marginal farmers who wish to lease out their lands may be given a limited reverse protection, say, a period of five years in which they may return to their land and resume it for personal cultivation, as was suggested in the first five year plan (Dandekar, 1994, page 373).* He appended that this would lead to capitalist farming and inevitable exploitation of labour. But if capital is generated within agriculture, then it would benefit the sector. He was not very

favourable to Minimum Wages Act, and suggested that future agricultural policy should aim at the drawing sizable agriculture labour, out of the current operations of cultivation. His suggestion would have created a massive employment program in rural areas in order to generate economic development. Regarding the agriculture prices Prof Dandekar had specific views and he wrote *“Administrative prices is only another name for politically determined prices and that is what the agricultural prices have been in the past four decades, the APC and the CACP providing an academic and object you facade since 1965”* (Dandekar, 1994, page 381). His suggestion is a marketing reforms and administered prices are also of great importance and during those days he wrote *“An essential feature of domestic market is that the whole country should be effectively integrated into a single market and that there should emerge a structure of market prices normal market processes which are competitive and public. This requires a marketing apparatus which is effectively autonomous and decentralised in its marketing functions and one in which a large enough number of buyers and sellers are involved”* (Dandekar, 1994, page 381). Further he suggested that *“Zonal restrictions, considered essential for procurement of foodgrains in the surplus states and protection of the deficit states, have prevented the integration of the whole country into a single market, so essential for diversify and more evenly distributed agricultural development”* (Dandekar, 1994, page 381). He believed that it would be possible to explore creating a marketing apparatus which is effectively decentralised and autonomous in the marketing functions. An advocate of stable and assured prices, he advocated to examine whether the regulated agricultural markets can achieve some price stability at least in the short run. This has not happened and the markets even though regulated could not smoothen the fluctuations. Interestingly, he underscores that declaration of support prices does not require cost of production data and this can be done through market intelligence alone, saving huge cost on administration. Finally emphasising that agricultural trade is an essential component for agricultural development in the country, he concluded that we not only require foreign exchange and foreign capital but also the process of management of these components. Therefore agricultural trade must focus on getting net foreign earnings specifically through engagement in trade.

Conclusion

To conclude, I designed this lecture not only to bring forth the personality of Professor Dandekar but beyond that to bring forth the necessity of learning sharp logical and critical aptitude in learning and practicing economics. Learning of economics should not be simply confined to the imaginary constraints forced on to the teachers and students by the Syllabus and the Board of Studies, but to feel free to think beyond the texts provided. Such innovative thinking is an essential component in Social Sciences. Professor Dandekar was a multifaceted versatile personality, with unparalleled

intelligence and razor sharp logic. He was piercing in his reactions but quite in-depth in his understanding of the society bottom up. His viewpoints were quite revolutionary and he did not mend his viewpoints once these were made public. He did not have to do that ever, he was statistician par excellence but more than that he was an economist in his own right and agricultural economies of the best calibre in India. I had many occasions to interact with him on many issues including crop insurance and agricultural instability. His work on crop insurance was heralded as one of the best policy instruments after it was dumped by Dharm Narayan Committee as infeasible in India, however, it failed on the threshold of implementation, as it protected only the crop credit borrowed by the farmers who ensured under the scheme (Dandekar, 1976). Today the crop insurance (PM-FBY), follows many new methodologies and new techniques but in ultimate analysis fails to protect the farmers at the time of distress. Had Prof Dandekar been alive today, he would have sharply taken to task many of the policies which are hollow in nature and specifically intended to do make political capital and pull votes around them. He would have gone hammer and tongs on the policies trying to please some sections of the society and not touch the root causes of the maladies. He always attempted to hit at the root in order to get at the best results out of his arguments. We miss Prof Dandekar in the melee of many mediocre breaking into new domain of knowledge.

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