



Agriculture Development Strategy

Some Missing Links

AME is devoted to promoting ecological agriculture as a means to livelihood improvements and environmental stability

R. Dwarakinath and Arun Balamatti



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Preface

Agricultural development in the country, since Independence, has witnessed three distinct phases the pre-green revolution period, the green revolution period and the post-green revolution period. The major objective of the green revolution was achieving the national food security. The development focus, therefore, was exclusively on crops and yields. Gratifyingly, the goal was attained. But then, in the following years, the crop yields began falling and the production costs began mounting. Farming often became un-remunerative. Thus, a deep-going review of the development strategy has become an urgent necessity.

There is a gradual realization that agriculture is much more than mere crop production. Nurturing the natural resources of soil, water and bio diversity, under a given climatic situation, is being recognized as a matter that requires more attention than given so far. Also, as earning a money income becomes a dominant need, farmers have to become better managers of farming as a business, as well as market operations. Mean time, another critical issue has emerged. That is, while elite farmers are capable of looking after themselves, the middle level farmers require greater development attention. Hence, building the capacities of farmers in managerial aspects becomes a matter of utmost importance.

This paper, while highlighting the gains from the green revolution technologies, seeks to focus on the ways and means by which a regeneration of the upward movement in agriculture could be achieved. Here, it is seen that in addition to better utilization of available technology, attention is needed for better conservation and utilization of the natural farm resources, better attention to environmental issues, and better management of market operations. Further, it is seen that the future responsibility for agriculture development is really a shared responsibility of the local bodies, NGOs, CBOs and farmers groups with the government.

The paper is developed based on a radio discussion between Dr. R. Dwarakinath and Dr. Arun Balamatti, held on Gnyana Vani, IGNOU FM Channel, Bangalore on the 15th Dec 2006, at Bangalore.

AME Foundation, as a development agency, with its commitment to agriculture development, working particularly with middle level farmers in dry land farming, finds this paper very relevant, and therefore has brought it out as a paper in Policy Advocacy Series.

**In our endeavour,
creating conditions for development is one thing,
and enabling farmers to make use of those conditions
is another thing. This is yet to enlighten our policy.**

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*Everything we do has a purpose.
For us, who are engaged in development,
this purpose has to be expressed in terms of attainable goals.
It helps in formulating workable strategies, made up of doable activities.
At the start of such a process, it is necessary that we have a clear picture of
the perspectives, specifics and insights that are relevant to the purpose.
Here is a visioning effort pertaining to our agricultural development*

This paper is developed based on a radio discussion between Dr. R. Dwarakinath and Dr. Arun Balamatti, held on Gnyana Vani, IGNOU FM Channel, on the 15th Dec 2006, at Bangalore. The special feature of this discussion is that it deals with the ground level perceptions all the time, a factor often missing in the macro perspectives. On to the introductions.

Arun Balamatti: Hello listeners, it is a privilege to be on this programme today. I am Arun Balamatti, the Executive Director of AME Foundation, an NGO based in Bangalore. Agriculture Man Ecology Foundation (AMEF) is actually born out of a Netherlands supported agricultural project in India from 1986. Today it is an Indian NGO, supported by FAO in promoting livelihood improvements in dry farming on the Deccan Plateau. We are working in the states of Andhra Pradesh, Karnataka and Tamil Nadu. We work particularly with the dry land farmers, helping them in improving their farming. Today, I am happy that we have with us, Dr. Dwarakinath, a distinguished agricultural expert. It is a great privilege for me to be in this discussion with Dr. Dwarakinath. I would like Dr. Dwarakinath to introduce himself.

R. Dwarakinath: Hello listeners, I am R. Dwarakinath, formerly the Vice Chancellor of the Agriculture University in Karnataka and the State Director of Agriculture. I also served for a while with FAO in Indonesia. Coming back to India in 1987, I have been working with non-governmental agencies, most of the time. I also served as the Chairman of the Karnataka Agriculture Commission. Thus, I think I have some experience, which I would like to share with those who have some use for this kind of experience. I am happy to be with you today to discuss some issues about agriculture development, along with some insights that are relevant to present day situation.

Arun: *Thank you Sir! I take this opportunity for widening our horizon and sharpening our focus in agricultural development. I would like to share some thoughts and then raise some questions bothering us today. We could not have had a better person than you to answer them. Let me start with a very basic question.*

Sir, you have been closely watching agricultural development in this country for fifty years now. How do you see where we stand today in terms of agricultural development in this country?

Dwarakinath : I should say that understanding the history of agriculture is important in order to see the significance of things that are happening today, and to identify things that need to be attended in the future. In 1950s, soon after the Independence, we as a country went through a serious food crisis. During those days, to improve agricultural production, we did not have the high profile agriculture technology which we got later during the green revolution. Therefore, in the early days, we went through the “Grow More Food” campaign where we attempted to mobilise the local resources in terms of increasing irrigation facilities, supporting farmers to dig wells and use water pumps to irrigate crops, and make use of improved crop varieties that the research stations had brought out by then. This kind of campaign went on for nearly 5-6 years, but made only a marginal impact in so far as the total food production was concerned.

Then later, to our good fortune, the green revolution technology in terms of high yielding varieties and hybrids, as well as high-grade fertilizers, came on the scene. They became accessible to the lead farmers. And these farmers, at that time thought to be so ignorant that they would not be able to use this new agriculture technology properly, were in fact able to use this technology quite successfully. The whole world was appreciative of the fact that these illiterate farmers of India were able to effectively make use of the modern technology in so short a time. For nearly two decades there after, using this technology, we

In the past, the terms - agriculture and farming were almost synonymous. But, today, farming denotes the production activity in the agriculture sector, while agriculture denotes the entire range of activities in the sector, including farming and its support activities.

were able to solve the national food problem. This is the phase that is still green in the memory of all those associated with agriculture development in the country at that time. It is commonly known as the Green Revolution.

Now, many people think that such a green revolution could be repeated once again. But subsequent to the green revolution, we went through another phase. There is a lesson for us to learn, here also. That is, in the wake of the green revolution, certain ill effects or negative effects of this revolution have become evident. They are called as the second generation problems of green revolution. Mostly on account of mono cropping coupled with over-use of fertilizers and pesticides, serious pest-disease problems, serious soil degradation problems and serious pollution problems have begun to emerge. That is why, in 1990s, we started seeing a decline in crop yields in many areas. Then, we began realizing the limitations of the green revolution.

So you can really see three phases of agricultural development in the country, since Independence, as the pre-green revolution period, green revolution period and the post-green revolution period. After these three phases, we are again in trouble. For, the growth rate in agriculture is not as high as it is required, for a faster economic growth.

Really, there are three major problems affecting agricultural development in the country. To me, the shrinking land-man ratio is the foremost one. The problem is rooted in our fast growing population, with its mounting aspirations, while our land resources remain un-expanding. It has not been possible for the industry, or any other segment of the economy, to absorb the surplus rural population. Also, the skill sets of our rural people do not fit the needs of our present day industry, since it is no more labour intensive, but has become technology intensive and capital intensive. Further, our natural farm resources,

particularly in dry farming, have suffered a lot of degradation.

The second problem is that the green revolution has benefited only the better-endowed farmlands and resourceful farmers. It has bypassed the dry farming areas and the resource poor farmers. As a result, we find that the entire farm sector is not producing upto its potential and making its optimum contribution, while in terms of poverty alleviation the new technology is not serving all our farmers.

The third problem is the market constraint. Over the last six decades, Indian farmers have moved from subsistence farming to surplus farming; then as money economy entered rural life, into market farming; and now into commercial farming. In this transformation, while the elite farmers made quick adjustments by grasping the changes and acquiring the needed management abilities and resources, the

**Over the years, the farming occupation has changed enormously.
The “family farming” aimed at subsistence, became “surplus farming” availing the green revolution technology, to meet the national food needs.
With the money economy entering rural life, “market farming” became a necessity to earn some cash incomes.
Then, “commercial farming” arrived with globalisation and WTO, where farming has to be conducted as a business.**

bulk of the middle level farmers have lagged behind. Now, our development approaches have to be re-designed taking these serious constraints into account.

Arun: *These days we hear a lot about a second green revolution, and ever green revolution. Does that mean that the first green revolution will be of no further help? If it is behind us, how do we see the future?*

Dwarakinath: I think at this stage the second green revolution is mostly a desire, a strong desire on the part of the people who talk about this revolution. I do not see any kind of biological material coming into the agricultural sector in terms of hybrids and high yielding varieties, except the genetically modified varieties. However, they are still far away from our reach, except in cases like BT cotton, Sunflower and some vegetables. But, apart from this, there is nothing much that we can see as the early signs of another green revolution.

But a second green revolution can really become a possibility, if we were to give due attention to certain critical issues, which we very much neglected in the past. Management of natural farm resources is a case in this respect. In our anxiety to produce more, we concentrated much of our attention on **crops and yields**, all the time, neglecting conservation and development of the natural resources that make up the production base in farming. By natural resources I mean, in a given climatic situation, soil, water and bio diversity factors that are accessible to the farmer. In the short term many of these are non-renewable resources. During the green revolution period, and years later, we really did not give enough attention to the management of these natural farm resources. Now, if we care to give proper attention to better management of these scarce resources, I think we can see a tangible spurt and stability in our farm productivity, as a sign of the second green revolution.

A little beyond this, there could be another opportunity for further growth. If we can nurture our soils, and **enrich the biological life** in the soils, in such a manner that it not only provides more plant nutrients, but also generates other growth factors. Then, we can perhaps see one more phase of green revolution. We hear a lot about this on organic farming platforms. This is an effort that we can certainly make. Both of these possibilities put together, namely better management of the natural farm resources, and enhancing the biological life in the soil, will possibly make a second revolution a reality.

Arun: *We are happy that the green revolution has lifted us out of the serious food problem. But, we are also facing its serious after-effects like the degradation of the natural resources. You are talking about many kinds of degeneration. In this background, do you really believe that a second green revolution is possible, because we now have only degraded natural farm resources? Can we have a revolution, or can we have only a marginal improvement in our agriculture?*

Dwarakinath: I would say a substantial improvement is possible for the reason that to a considerable extent re-building the natural resources on the farm is possible, even now. Also, the farm people managing these natural resources are quite capable. They have been able to master the highly complex agricultural technology in the past. In terms of farmers' ability to grasp and utilize the new knowledge, there can be little doubt. If they are adequately sensitized about the fact that our natural resources are getting rapidly degraded, and show them the way to handle the task differently, things will begin to happen. The most important factor is that their management capacity has to be upgraded to suit the present day requirements. This has to happen in terms of their knowledge and skills. As they come to recognize the resource degradations and the situational changes that have taken place so far, I am sure they will begin to take some steps in response.

Our farming today is no more a subsistence pursuit, but an economic activity, and has become forever integrated with the larger global economy. At least the elite farmers will begin to move immediately, setting a trend in motion. With the help of far-sighted change agencies, the middle level farmers could be gradually brought into the process. This way, I think we can see a substantial second green revolution set

**Let us remember: Farming is what the farmer does.
What he does depends upon what he knows;
what he believes out of that; and
what he is able to do out of what he believes. Hence,
durable changes in farming can come only by widening his
horizon, deepening his insights and building his abilities.
There is no other way in a democratic system.**

in motion. Moreover, the efficiency with which the available technology is being utilized is estimated to be at around 50-60 per cent. We still have considerable untapped potential here, to work with.

Arun: *Then what exactly should be our focus now? Should we look towards the wealth creators, the better-off farmers, for bringing about another revolution? Or, is it the neglected segment of farmers, the livelihood makers that should get the attention, at least now, for the second green revolution?*

Dwarakinath: In fact, attention to both of the segments is necessary. Because our farming communities include the elite farmers, the wealth creators, who form about two to five per cent, and the bulk of the other farmers who are there for making a living, seen as the middle level farmers. They too are really an intelligent and capable lot. But, the livelihood makers do not have the same kind of opportunities, and do

not behave as innovators or as risk takers. Since they are essentially resource-poor and are too pre-occupied in earning their daily living, they do not have time to be information-seekers, or change-makers. But, they will closely watch the elite farmers and try to imitate them. Sometimes, by making mistakes in imitation, they pay a heavy price.

Let me emphasise the point, once again. The creamy layer or the elite farmers have proved that they can survive even in fast changing circumstances. They are the wealth creators in agriculture, and deserve all the development support. But, nearly 70 per cent of our farmers are resource poor, and are there essentially to make a living. They are less capable of coping with the changes around them, and

Farming communities are not homogenous. We have elite farmers, who have the social status, economic ability, political clout and wide contacts, and are better managers of whatever they do. We also have the non-elite, middle level farmers, who are resource-poor, localites and risk shy. Often, they are also poor in management. They need a helping hand to cope with the changes occurring on and around the farms.

cannot find their way, on their own. Infact, they are not only resource poor, but also limited in their technical abilities and management competencies. Unless the development agencies give special attention to them, they will become the “social welfare” burden to the society and a drag on the economy. Most of them have the needed innate abilities, but need some help in coping with the changing circumstances.

In recent days, there is very little horizontal flow of new knowledge between the farmers, since we see the emergence of vested interests among the elites. As such, the natural flow of knowledge from top to bottom, or horizontally, does not take place today, as freely as it did in the past. When it is a matter of profit making, the elite farmers are reluctant to share their secrets of success. Hence, there is a need for the development agencies to deliberately intervene in an act of “hand holding” in the case of middle level

The task ahead may be stated like this: Providing full support to elite farmers to keep them progressing; and providing more focused support to non-elite farmers in terms of capacity building to bring them into the mainstream.

farmers. As the middle level farmers begin seeking improvements, the development agencies should enter to widen their perceptions, and build their capacity to change. In other words, what I am trying to say is that it is not enough that the wealth creators alone are enabled in using the new opportunities; it is also the middle level farmers that should be

enabled to accept and utilize them. It is our social welfare obligation. The “trickle down” theory having been discarded long back, we have to make new efforts to reach the un-reached.

Arun: *Yes, it is agreed that now there is a greater need for more focused attention to help the second line farmers. You have been saying that we have to intervene and help middle level farmers. But we as agencies working with farmers would also look to the research and development agencies, in this regard. What role do you see for the research and development agencies, here?*

Dwarakinath : I think I have had opportunities of participating in many deliberations in various circles for the last 10-15 years, focusing attention on what requires to be done at the present moment to lift agriculture once again to a higher level of productivity. I think here most of us loose sight of the fact that the work that is required to be done today is mainly with the middle level farmers. In this regard, we will have to

take a closer look at what circumstantial changes have occurred in the country during the last 50 years. For instance, our farming population has grown beyond 300 per cent. Our rural population is something like 78 crores now, of which more than 60 crores are in farming.

Consequently, the proportion of cultivated land, per capita, is coming down steeply. At the same time, the farm resource base is getting degraded rapidly. Further, the fast expanding media reach and rising educational levels have pushed the rural aspirations to the sky. As a result, the rural society is becoming not only sensitive and vibrant, but also restive at times. Also, the process of absorption of the surplus rural population into other segments of the economy is not happening quite as expected. All this means that the productivity of land, which is the main asset of the majority, has to be swiftly increased. For

There is a significant change in the situation we deal with. Agricultural development has become a shared responsibility today farmers as producers and government as the enabler. It is no more the sole responsibility of the farmers, nor that of the government.

this to occur, it is the bulk of our farmers, not merely the elite farmers, who have to become more efficient in using both their natural farm resources and the new production opportunities. As such, focused attention to the middle level farmers, who are lagging behind, becomes

critically important. The implication of all this is that the elite farmers must be given the help to keep them moving ahead, and non-elites must be given more help for them to gain in pace and join the main stream.

In this background, how do we see the role of the research and development agencies? Research is a continuous process it must go on, devoting attention to the emerging problems in the entire farm sector. Development system, mainly the extension agency, seems to have lost ground in growing with the times. In the meantime, we see that only the elite farmers are able to utilize the available opportunities with a degree of efficiency. The rest of the farmers have so far gained only limited access to this technology, or have adopted it rather inefficiently. Hence the need for renewed efforts to reach and enable the middle level farmers to gain a greater efficiency in farming.

From this viewpoint, the public extension agency alone will not be able to handle the present day agriculture development task. Also, when you take a closer look at the democratic system we have adopted, and the way it has survived in this country, while many other democracies around us have failed, we see some welcome opportunity to handle the present day development task more purposefully. In a democracy you can see people, on their own, taking initiative, in many cases. We also see that people are realizing that the government is not able to do every thing for them. There are many things that people themselves can do, and they alone can do.

SHGs are a marvelous example of this kind. Here, the members belong to the bottom segment of the rural society, mainly the wage-earning group. Many of them may not have two meals a day. These people have come together to meet their immediate needs, by putting their meagre savings together. In the process, they have come to realize their own strength, and have gained in their self-confidence. Therefore, SHGs can be one significant vehicle of development, today. This path could be considerably expanded. For, today, no single public agency is able to meet the vast number of needs of the rural people.

We can no more pretend that the government can meet this vast variety of needs of the people. We can, in most cases, enable people to meet many of these needs by their own efforts. Whatever is beyond the ability of local groups and communities, government may step in and help. In improving the farm productivity, there are many things that farmers themselves can do. For example, the on-farm rainwater management is something that farmers alone can do. There are many things like this that farmers alone can do.

I will take a minute more. Today agriculture development is no more a farmers' responsibility alone, nor is it the government's responsibility alone. It is, in fact, a shared responsibility between them farmers **as producers** and the government **as the enabler**. The two are distinctly different roles. As agriculture gets modernized, it also gets increasingly externalized, and farming becomes altogether a different ball game. In its enabling role, the government must not only create the necessary pre-requisites for development, but also help farmers to utilize these facilities efficiently, in managing farming as a production business. But, this perception is still missing in the policy making and administrative circles. We often see that the "necessary conditions" are there, in terms of credit or input supply or support prices or market facilities. But, since the farming communities are not homogenous, while the elite farmers may adequately utilize these facilities, the middle level farmers do not avail them properly. This is for a variety of reasons. As such, the enabling role of the government must now include, in a substantial measure, the capacity building responsibility in the case of the middle level farmers. Our agricultural development ventures are markedly deficient in this regard, at present. Mere technology transfer activities will not take us very far.

Arun: *What role do you see for the civil society organizations?*

Dwarakinath: This exactly is the point. The governmental agencies, like the extension service, have certain limitations, today. In their mentality, ability and dedication, the earlier agricultural agencies were commendable. This is not the case today, because the society itself has changed in many ways. The present day extension agency seems to be aimless. Also, the needs and expectations of the people have expanded and multiplied manifold, as seen earlier. As such, the existing extension agency is not regarded as an adequate delivery mechanism, at present. Then who else should do this? Evidently, people should do what they can. What they cannot do, we should look to the public and other agencies. This only means that we cannot expect that the existing public delivery mechanism to be able to deliver all that is required today, but has to be supplemented with other organizational efforts in order to serve the vastly expanded socio-economic needs of the society.

But, in my view, the public agencies should still be there on the ground, as the policy delivery system, with limited and deliverable responsibilities. For this purpose, we have to rebuild the past agencies, where necessary. Then, in order to meet the expanding range of other socio-economic needs, people's own initiatives have to be stimulated and fostered. This, in fact, should become a major feature in a democratic system. In this direction, we can have a set of public agencies, as the policy delivery mechanism. We can have the panchayatraj bodies, as the decentralized democratic institutions, playing their mandated role in agricultural development. We can persuade a set of proven NGOs, performing a social service functions at present in rural areas, to accept a contributory responsibility for agricultural development, since they already have a wide working relationship with the farming communities. And,

then, we can make a major effort in identifying and supporting people's own initiatives, like SHGs and other CBOs, in meeting the growing rural needs.

We should recognize, as part of the development policy, that the CBOs are the products of people's initiatives, emerging to meet some urgent needs, based on their confidence in themselves. They can mobilize the people's energies more easily, also meet the essential requirement of local accountability. They can grow constructively, and institutionalize the new social structures. This is what we can end up with, if we play our intervention role properly. Many people believe that this is the only way to save the sanity in the on-going rural development processes.

Arun: *Yes. But, as we know, these civil society organizations, also known as the NGOs or CBOs, are not new to development work, and are serving the people for quite some time. But, a peculiar thing about them is that they have remained small. They are serving as examples of service rather than making a serious dent in development. Should they remain that way, or should they become bigger to make a larger contribution?*

Dwarakinath: To me it appears that the bulk of them will have to be local initiatives, and therefore small. But, there may be some organizations like BAIF and MYRADA, which are indeed large organizations. They are very few and are serving some specific purposes. The NGOs should, in my opinion, remain essentially small and be truly local initiatives. Larger development agencies can then work with them more effectively, like NABARD working with farmers' groups, and OUTREACH with SHGs. When they are small they can be more sensitive to local needs and mobilize local resources better, and also serve to develop local leadership. That is looking at the issue from one viewpoint. However, in the natural course, some larger NGOs may also emerge. They may work in association with smaller organizations. But, they may also become bureaucratic in many ways. We must be aware of this trend.

Arun: *Let us come back to the central issue, on the role of government in the development process. The governments at present, both at the state and the center, are very keen in terms of giving more attention to agriculture. But then whether it is the present or the government, when they show keen interest in agricultural development, they only stress in their policies about matters like increased investments, expanded irrigation, larger credit and better market facilities. Are they the only issues, or are there other things to consider?*

Dwarakinath: I think I should mention here what I have seen an effort some two years ago. The Planning Commission had requested from the States, including Karnataka, something like a vision report on all development aspects including agriculture. I have seen the draft report. Agriculture development was a part of a larger comprehensive report. Even there, as you mentioned, they talked all the time about two things increasing investment in agriculture, both public and private; and improving the market facilities. These are the two things repeatedly get mentioned. By investment they mostly mean increasing the availability of irrigation, electricity, roads, storage, processing and similar facilities. By market conditions they perhaps mean support prices, insurance, credit, transport, auction yards, processing arrangements and such other facilities.

Certainly, these are the essential pre-requisites for a developing agriculture. Also these are basically the products of macro economic perceptions. These are born out of a broader, world vision; not

so much from the micro economic perspectives. For, they do not see what is happening on the ground, equally clearly. Their assumption seems to be that when these broader development pre-requisites are provided, agricultural development will automatically take place, since all farmers begin to avail them. It is

At present, the government as the enabler is creating several facilities as development pre-requisites, but availed mainly by the elite farmers, and not by the non-elites. Hence this enabling role must include a strong capacity building task also.

just like assuming that because a school is opened in a village, children will automatically get educated; or, if a primary health center comes to a village, people will automatically get healthy. But, this does not happen, particularly in agriculture. For, it appears that along with the creation of these “necessary conditions” for development, it is essential that capacity building

efforts are also pursued, to create “sufficient conditions” for development to occur. I think both the things are equally important.

In development economics, they frequently use the terms: necessary and sufficient conditions. In agricultural development, necessary conditions are the pre-requisites for development, and sufficient conditions are those that enable the farmers to make use of the necessary conditions. But, at present, they are looking at the necessary conditions all the time, and not taking an adequate look at the sufficient conditions required. This way, for me, it appears that we will not gain much more than what we have already gained, because we are only talking about “more of the same” in this approach.

Take irrigation for instance. All the easier options, we have already tapped. What we will tap next will be the more difficult and more expensive ones. But, making a better use of the available irrigation must, in fact, be a priority to be addressed, since the water-use efficiency under our public projects is said to be only about 30-35 per cent. Why can't we go to 60 per cent? This, of course, requires not only public investment for improving what we have already created, but also for mounting a special effort aimed at enhancing the irrigation management capacity of farmers. This, we are not doing as much as needed. All the time we keep talking about the big irrigation projects.

There is another issue that deserves our attention. There is considerable room for us to improve the productivity of our farms. As we build the capacity of our farmers to be better managers of farming as a business, not only will the unit costs of farm products come down, but also their quality will go up, which is essential for us to be competitive in the global market.

Arun: *You have already given a lot of answers. But I still want to go back to a question – now that the country is looking for 8 per cent GDP growth rate, it is said that agriculture must have a 4 per cent growth rate, whereas the existing growth rate is less than 2 per cent. How do we really match these requirements?*

Dwarakinath: See, in farming we have got what we call as a “plough plan”. When you plough the land, for long years, at a certain depth, a hard pan gets formed at that depth. Nothing much will go beyond this pan – neither the crop roots nor air and water. Crop growth gets stunted. This is what I think has happened with our development efforts in agriculture. Farming communities, as social systems, are not homogeneous. We have worked for years with the top layers, made up of resourceful farmers. These elite farmers have done very well, relatively. This has contributed certain growth rate in agriculture. Further growth must be gained by going beyond, by reaching the middle level farmers and improving their productivity. But, the lower layers, the resource-poor, middle level farmers have remained mostly un-reached. Or, they have on

their own tried to imitate the elite farmers, often making mistakes in investment decisions and technology adoptions, paying heavy penalties in life.

What is involved here really is the capacity building of the middle level farmers helping them to cope with the changes that are taking place in the farm sector. The elite farmers have done this on their own, because of their economic ability, social standing, political clout and their reach in contacts. The others are mostly “localites” and risk-shy. All these farmers, over the years, have moved beyond subsistence farming, into market farming, and now into commercial farming. On the way, most of them have lost sight of some of the good traditional farming practices like mixed farming, crop rotation and copious use of organics in farming. As a consequence, today, the middle level farmers in particular, to survive and thrive, must learn to manage farming as a business.

As said earlier, elite farmers, in this process of transformation, have been able to find their own way out. But, the middle level farmers have not been able to do so. That is why they need some hand holding for a while. Modern farming requires that farmers are good managers of farming. As I see it, there are at least four dimensions to this kind of management. One, they must be better managers of the natural farm resources, including the soil, water and bio diversity. We see a lot of degeneration in the past. Two, they must be good managers in choosing and combining different farm enterprises, in accordance with

**All knowledge will be useless unless it is in the hands of the user.
We know that the farmer is the end-user of the natural farm resources;
he is the end-user of the technologies generated by research; and
he is the end-user of the development facilities created by the government.
Therefore, all the precious farming knowledge in the universities and elsewhere
will be useless, unless it is used to upgrade the abilities of the end-user.**

their objectives, and consistent with the resources they can mobilize. We now see a lot of poor decision makers in this area. Three, they must be good in combining and using the new and old production technologies, with both productivity and production costs in mind. Four, all farmers today must have a money income, and hence they have to sell something in the market. This requires some basic knowledge on their part as to how the markets behave. Most of the middle level farmers are clueless with regard to the demand-supply interactions, and poor in production planning.

Capacity building of the farmers, more so of the middle level farmers, is therefore, critically important, now. In this context, I see the responsibility of the government as the enabler does not end merely with the creation of the development pre-requisites, and transfer of technology, but goes beyond to include a very strategic role in building the capacity of farmers as effective managers of farming as a business.

Arun: *This long discussion has thrown adequate light both on the challenges and the opportunities. Still it appears that we have many miles to go to help the middle level farmers. But how can we close this discussion on a positive note? You amply indicated that this kind of development is as much the responsibility of the enablers like the government, PRIs, NGOs and CBOs, as it is that of the farmers and their own organizations. But, is this a workable proposition?*

Dwarakinath: I think it is. Not only that, we do not have too many options. Most of our farmers are small and marginal farmers. Recently, I was looking at the national figures. We have 165 M holdings, 80 per cent of which are in the small and marginal category, and 60 per cent being marginal. As such, we have to see that these farmers are reached where they are. While doing so, we have to help them to take a close look at their needs along with the resources they have, so that their improvement plans remain realistic. Then, we have to guide them in groups so that they can gain from the strengths of one another, and also overcome some of their limitations by pooling what they have. Quite a few are, of course, cynical about farmers working in groups. But they must have to look at the SHGs to realize the present day reality. Farmers are driven by their necessities, today. Also, we have the glorious example of the spirited response of the farming communities in the past, in surmounting the food problem of the country. The Community Development Programme showed us the way.

These groups, under the guidance of a development agency, can adopt alternative farming practices, to improve and stabilize farm productivity and incomes. Many of us are aware that what the farmers possess today are not really economic holdings. Therefore, in helping these farmers, it is necessary that some additional income generation activities are also added, ensuring that farming itself is not over-shadowed. For, the farm resources are indeed the very precious assets of the nation.

These groups can use the manpower more economically, by sharing responsibilities and pooling resources where collective efforts are needed. So far, many groups have gained by marketing their saleable surpluses, collectively. Seed production, nursery raising and local production of biological inputs are some of the other things that have caught their imagination. So far, we have not seen many alternatives to group work in our present situation.

Also, working with groups is more advantageous to the development agencies. It is evidently enormously cost-effective. Further, the ideas and suggestions that are shared with them are usually examined and assessed from many angles by the groups, while learning gets tremendously multiplied. Thus, both for the intervention agencies and for the receiving farmers, the group work offers certain unmatched benefits.

Arun: *One last question, but, very crucial in my opinion. What you have indicated already, I want you to be a little more explicit. You talked about Self Help Groups. We know that 60 to 80 per cent of the farm work is being done by women. It is perhaps a lot more in cases where men folk migrate, seeking opportunities elsewhere for earning an income. This means that a larger burden of farming now falls on women than ever before. So, do we say that these SHGs can serve to open a new chapter in agriculture development in the country? Is it really happening? We hear about their economic empowerment being brought about by the SHG movement. Can something like this happen to empower women in farming too?*

Dwarakinath: Certainly, I think it is possible. But what we have done so far, in this regard, is very limited. However, the opportunities are enormous. As you know, SHGs were born for a very specific purpose. Poor women, getting very little help from the larger society, came together to “help themselves”, under the guidance of some far-sighted NGOs. In groups, they started with small savings, and meeting their day-to-day needs, through a process of mutual help. Gradually, they gained in financial strength, self-confidence

**Evidently, all this means a massive mass education effort.
But, can we do it? We have a rural society in disarray; a melting pot.
As such, is this approach a realistic one? May be it is.
Within the living memory, we brought about a green revolution through
social education, with less literate and less trusting rural communities.
Again, If we look closely, most people even today want to live; live decently.
Perhaps our problem is finding suitable ways, to reach their minds and hearts.**

and operational experience. What worked for them most is the simple discipline they followed from the very beginning. Over the years, they have been looking beyond savings, and got into other income generation activities like owning a cow, sheep or goat. Progressive Gram Panchayats, I understand, have helped them with land and building, and made use of them in some social service activities including non-partisan selection of beneficiaries for various social welfare programmes.

But, into agriculture development, the SHGs have yet to enter in a big way. As far as I know, some beginnings are there in places like Dharmapuri and Madanapalli. Some established NGOs, who are into other aspects of rural development, have expressed a desire to take the help from AMEF to bring these groups into farm improvement work as well. This is good. We should build upon these opportunities.

All SHGs, as you are aware, are in close contact with farm families, directly or indirectly. Because the SHGs are brimming with confidence today, they are willing to help themselves as well as help others. They have proved their leadership, creative abilities and their positivity. They can be excellent vehicles of change in farming too, leading to improvement of livelihoods of farm families, and environmental betterment.

As seen earlier, for a number of reasons, the intervention agencies will find it useful to work with groups of farmers, instead of individuals. Here, in the form of SHGs, we find voluntary, ready-made groups, set on the course of self-help approach. They are interested in farming, one way or the other. This offers a very conducive opportunity for capacity building of the farm population in alternative farming systems. It is required very much at present. As such, building upon the organizations like SHGs, as people's initiatives, is the most sensible thing to do in agricultural development.

We have to remind ourselves that our future agricultural development task cannot be handled by the public agencies alone. It has to be a multi-agency approach. With public agencies at the core, the task has to be shared by the Panchayatraj bodies, NGOs and CBOs and other people' organizations. I do not see a better alternative.

Arun: *Sir, if you put these thoughts together, what are the critical issues that we need to focus upon, today?*

Dwarakinath: If we have to take agricultural development forward, there are certain strategic issues we should address. Beyond creating the 'necessary conditions', we have arrived at a stage where the 'sufficient conditions' are given due attention, with a focus on the following matters.

1. **Farming in changed circumstances:** The purpose in farming has changed from mere production of grain and fodder to saleable commodities and organic manures. The production base is rapidly getting depleted in soil fertility, water availability and biodiversity. Meanwhile, the rural aspirations are rising high. These factors have to be taken into account in present day planning for development.
2. **Holistic approach to development:** Beyond 'crops and yields', attention has to be devoted to natural resource conservation and natural resource utilization, on a sustainable basis. Apart from this, there are compulsions for farmers to plan their production and deal with the markets. Our 'technology transfer' efforts drastically fall short here.
3. **Empowering farmers in management:** Management of farming as a 'business' is far different from managing farming as a 'way of life'. Farming today has moved into the realm of economic activity as a commercial business. The farmer has not arrived there, as yet. He should today be a good manager of not only crop production technologies, but also of natural farm resources, purchased inputs and market operations. Our development approach does not devote attention to these capacity building aspects.
4. **Development, a multi-agency effort:** The public extension system falls short of the present day requirements. It may still serve a useful purpose as a policy delivery mechanism. But, in the enormous task of transforming farming into a commercial business, at the middle level, extension should become a multi-agency endeavour. Here, in addition to the public extension system, PRIs, NGOs, CBOs and farmer groups should play a prominent role. Promoting and fostering 'local initiatives' should be the key stone of the development approach.
5. **Working with groups of farmers:** Working with farmer groups should be the manner of interaction with farming communities. Here, groups like 'SHGs' can play a key role. Multiplying innovations are more easily and cost-effectively achieved through this approach.
6. **Farm women at the center:** A time has come to bring farm women on to the center stage of development. This is particularly important in ecological agriculture as they are the key players in promoting activities like intercropping and kitchen gardening, thereby enhancing crop bio diversity and also household food security.

Arun: *Thank you sir, thank you so much. You have thrown so much light on the entire agricultural development task, in such a short time. I am honoured to be a part of this discussion. Certainly within AMEF we perceive the SHGs as the engine of growth in the village community; harbinger of a movement. We hope to do more in working with the SHGs.*

Dwarakinath : Thank you very much, Dr. Balamatti.