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TEACHING MANAGEMENT INTO THE 21ST CENTURY - A SOUTHERN PERSPECTIVE

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ABSTRACT

The main purpose of teaching management into the 21st Century, to a typical farm-household in the South, is to facilitate it to produce, on a sustainable basis and from the same or declining area of land, (i) more and better food for own and local consumption, and (ii) commodities for processing and export so as to improve its income and quality of life and to contribute to national development. To be effective, teaching should (i) be simple, economic, participative, and interactive and (ii) include women and younger generation. It does not necessarily mean drastic changes in the existing philosophy of management teaching to farm-household but does imply a significant improvement in application. To attain the desired results, its training should be accompanied by improved management on the part of extension agencies, farmers' organization, supporting services, and policy managers, whose lapses are often more responsible for the failure of the farmer to properly adopt and manage the extension advice, than the lack of sincere efforts on his part.

INTRODUCTION

This paper addresses some issues relating to the „Teaching of Management to Farmers (Farm-households) of the ‘South’ (developing economies) into the Twenty First Century“. Starting with the interpretation of „management“, important features of the South, which are especially relevant for teaching management in agriculture are examined. Thereafter, likely demands to be placed on agriculture of South into the 21st Century are reviewed. This is followed by constructing a typology of the addressee, indicating the challenges and the tasks of teaching management, and spelling out some of

the elements of effective management teaching. It is argued that teaching management to farmers is a significant but one aspect of the overall process. It is equally important that the extension workers, educators, policy makers, and even international community learn to manage their responsibilities properly. Like all papers of a broad nature, this presentation also suffers from the inherent vulnerability of making generalizations which can be easily contradicted by specific counter examples.

MANAGEMENT AND PURPOSE OF ITS TEACHING:

The term 'management' is interpreted here to include (i) the process of decision making, and (ii) proper execution of the decisions, to achieve operational efficiency. Even the best decisions, when not executed as per plans, are likely to result in less than desired payoffs. The objective of teaching management is thus to enable the decision-maker (a southern farm-household in our context) (i) to make appropriate decisions in line with his goals, resource endowment and the physical, social, economic, market, cultural, legal and other environment in which he operates/is likely to operate into the 21st Century, and (ii) to effectively execute these decisions.

SOME FEATURES OF THE SOUTH- SIMILARITIES AMONG DIVERSITY:

Diversity

On the basis of their per capita Gross National Product (GNP), the World Bank has classified 210 of the world economies into low-income, lower-middle-income, upper-middle-income, and high-income. No country from Africa, South Asia, and Eastern Europe and Central Asia belongs to the high-income group. Of the 55 countries of Africa and 8 in South Asia, 39 and 7 respectively are low-income. For convenience, the low- and middle-income economies are sometimes referred to as developing economies (South). They are abode to nearly 57% of the world's population on about 30% of its area. As compared to the other economies, they have higher population growth rate, lower life expectancy at birth, higher rate of illiteracy, relatively high contribution of

agriculture to the national economy and a still higher proportion of labor force employed in agriculture, pointing to this sector's lower productivity and income levels (Table 1).

There are conspicuous inter-regional differences in incomes, illiteracy, share of agriculture in GNP, and growth rates. Africa and South Asia, the two critical regions of the South, have lower GNP per caput, lower life expectancy, higher illiteracy rates and relatively lower GNP growth rates (Table 2).

Individual countries of the South are quite heterogeneous in natural, cultural, socio-economic, and institutional conditions, political set-up and the policy environment and consequently, in the levels of their human and economic development. Even within a country, one finds significant inter-and intra-regional differences in climate, resource endowment, population density, education, and the way farming is managed. In Malaysia plenty of both, (i) the small-holder sector with relatively lower yields and incomes, and (ii) extremely well-managed, export-oriented estate sector, having access to ultra-modern technology (most of it developed in national research institutions), harvesting benefits of large-scale production and marketing, and using highly sophisticated management with high yields and returns from agriculture, exist side by side. In India, literacy rates among children aged 10 -14 vary widely, ranging from 98% in Kerala for both male and female, as against 68% and 39% respectively in Uttar Pradesh.

Similarities of Characteristics and Problems in Agriculture:

Notwithstanding these diversities, the following similarities with respect to certain features and problems of agriculture, with implications for teaching management for South farm-households, can be observed.

1. A majority of their population lives in rural areas, with poor infrastructure and agriculture as the mainstay of livelihood.
2. Agriculture has a significant impact on GNP, growth and employment, but has low productivity. During 1990-94, of the 13 low-income South economies experiencing negative GNP growth rates, 9 also had negative growth rates in agricultural sector.

Table 1: Selected Features of "Low-Income* Economies"

	Reference Year	Unit	Countries (included in World Bank Report)
			Total (All Economies)
			Low-income Economies
Countries	1996	Number	133
Area		1000 sq km	133,478
		%	40,391
		%	30.26
Population	mid 1994	million	5,601
		%	3,182
		%	56.81
Population growth rate	1990-94	%	1.5
			1.8
Life expectancy at birth	1995	years	67
			63
Adult illiteracy	all	%	not avail.
	male	%	34
	female	%	not avail.
			24
			45
Share of agriculture in GDP	1994	%	<8
			28
Growth rates in agriculture	1980-90	%	2.8
	1990-94	%	not avail.
			3.5
			2.8
Labour force employed in agriculture	1990	%	49
			69
Female labour force (as % percent of total labour force)	1990	%	42
			42

* per capita GNP US\$ ≤ 725 in 1994

Source: Calculated from various tables in the World Development Report 1996

Table 2: Regional variations in selected variables
 (Low*- and middle** -income economies)

Variables	Year	Unit	Regions		
			Sub-Saharan Africa	East Asia and Pacific	South Asia
Gross National Product (per capita)	1994	US\$	460	860	320
Life expectancy at birth	1994	Year	52	68	61
Adult illiteracy all	1995	%	43	17	50
	1995	%	54	24	64
	1995	%	35	9	37
Labour force in agriculture (as % of total labour)	1980	%	72	72	70
	1990	%	68	69	64
Share of Agriculture in GDP	1980	%	24	27	39
	1994	%	20	18	29
Average annual growth rates of GDP	1980-90	%	1.7	7.9	5.7
	1990-94	%	0.9	9.4	3.9
Average annual growth rates in agriculture	1980-90	%	1.8	4.4	3.2
	1990-94	%	0.7	3.6	2.7
Share of rural population to total population	1994	%	69	68	74

*per capita GNP in 1994 < US\$ 725;

** per capita GNP in US \$ 726<8955

Source: Various tables of the World Development Report, 1996

3. Growth rates in agriculture are lower than those for the whole economy and show a declining tendency. On the other hand, the growth in demand for cereals in the coming decade, is likely to increase from 3.2 % in 1988/90 to 3.4 % in sub-Saharan Africa and to remain at more than 2% in South Asia, the two critical regions (Alexndratos, 1995a). This implies an increasing gap between demand for food and its supply from local production.
4. Within these countries, the differences between average yields and potential yields of most of the agricultural enterprises, as well as the differences between the yields on small farms and estate farms/well-managed farms are considerable. Often, suitable technologies for increasing production and resource conservation exist. However, either they are not being adopted by the farmer, or he is not able to use them efficiently due to inadequacy of information or supporting services.
5. In many developing economies, where agriculture is an important sector, the land/person ratio is declining,
6. The distribution of holdings and other agricultural resources is fairly skewed. The top decile of farmers account for 30% - 50% of the operated area.
7. Women play no less important a role in the decision-making, operating and management of agriculture. Taking farm-household as a decision making unit, this importance becomes overwhelming. Youth and children also contribute to the family labor force.
8. The rate of illiteracy among farmers would continue to be high in the coming decade. However, they have a fund of relevant indigenous knowledge, often left untapped by extension.
9. The training of farmers has been mostly top-down and often based on the technologies and methods developed by international, national or commercial entities. These are usually alien to farmers' experience and existing situation. The philosophy of

participation and involvement of the intended beneficiaries in deciding about 'what to learn' is seldom practiced.

10. Full potential of extension services, cooperatives and farmers' organizations, and other means of disseminating information is not being utilized. Neighbors and villagers are generally the first informants in the teaching and spread of technology.

LIKELY SITUATION INTO THE 21st CENTURY - A GLOBAL VIEW

Two of the conclusions of various studies with respect to the likely situation of food production and agricultural trade into the 21st century are as follows. Firstly, in the developing countries, as a whole, cereal production would fail to keep pace with the demand. Consequently, the self-sufficiency ratios (SSR's) would worsen with the passage of time. In spite of the 'green revolution', the SSR's of cereals deteriorated from 98% in 1961-63 to around 92% in 1979-81; tended to stagnate around that figure during 1988-90 and are expected to reach a low of around 90%. Into the 21st century, with the exception of East Asia (including China), farmers in all the other regions of the South are not likely to be able to produce even enough to maintain the SSRs of 1988-90 (Alexandratos, 1995a). The overall situation of agricultural production is likely to be no better. Secondly, „The projected developments in import requirements and export availabilities of the major crop and livestock products indicate that it may not be long before the developing countries as a whole turn from net agricultural exporters to net importers.“ (Alexandratos, 1995)

THE ADDRESSEE (TEACHING MANAGEMENT TO WHOM?)

Typical target group in the South into the 21st Century, is expected to be a farm-household with: relatively small size of farming business; diversified farming; some integration into the market; a wealth of indigenous knowledge, relevant to its conditions yet little formal education; rational decision maker, and receptive to such new ideas which are in line with its objectives and capacity; relatively less well-off in terms of

money, power and, therefore, with poor access to resources, extension, education, and the market; most (though probably declining share) of its total production/income and efforts spent on food (production, processing, etc.); and a relatively low productivity and risk-bearing ability.

CHALLENGES FOR TEACHING MANAGEMENT INTO 21st CENTURY

This typical southern farm-household is expected to produce, on a sustainable basis and from the same or declining area of land, (i) more and better food for own and local consumption, and (ii) commodities for processing and export. This improvement should come, *inter alia*, from (i) better management of existing resources (land, labor, water, etc.) and technology, (ii) effective use of package new of practices, requiring a coordinated use of all ingredients in right quantities, involving greater proportion of purchased inputs, (iii) proper management of credit, storage, processing and marketing (e.g. management to contain post-harvest losses to a minimum, management of small-scale downstream activities like better processing to improve nutrition and incomes, management of staggered production to fill in the market niches), and (iv) nutrition management in food preparation, use of smokeless hearth, etc. It would act not as a mere supplier of labor and some capital, but much more as manager and entrepreneur. Its agricultural income would need to be augmented from off-farm pursuits as well.

The challenges for (teaching) management at different levels (indicated below in the parentheses) are to arm this addressee with, e.g.

1. technology appropriate to its production environment. (management of research);
2. knowledge of using this technology properly, (management aspects of extension and farm-household);
3. timely and adequate access to: (i) appropriate and intelligible information, (management aspects of research and extension), (ii) required inputs (seed, fertilizer, credit, etc.) at right prices (management at institutional and farm-household level);

- (iii) storage and market to store/sell the product at appropriate time and attractive prices. (management at institutions and farm-household level), to facilitate use of appropriate technology; and
4. improved skills in nutrition and off-farm cottage industries (management at extension and farm-household level).

SOME ELEMENTS OF EFFECTIVE MANAGEMENT TEACHING:

For such a diverse clientele, naturally there is no single „The Optimal“ recipe to teaching management. Various approaches, group or individual, public or private, have their pros and cons, and their examples of successes and failures. The proportion of various ingredients in the optimal mix would depend not only on the target group, but also on variables like resources in terms of money, manpower and infrastructure, level of development, social and cultural aspects, local leadership, all of which tend to vary within a country, state or, region. The main thing is that teaching (i) is economic, participative, interactive, and effective and (ii) includes women and younger generation as well. Some elements of such teaching management are:

1. To start with the simplest change, which does not require a significant modification in the existing management practices. - and then go to the more complex ones (one such example is given below under point 5). By planting a double crop of sorghum and chickpea, the farmers in Andhra Pradesh have the possibility to increase their production manifold over that from the presently practiced single-cropping methods.
2. To avoiding conflicting teachings and extension messages which confuse the farmer.
3. To use group-extension approach with participatory methods. When the target group is involved, it identifies itself with the practices being taught (rather than having a feeling of imposition). Farmers' Field Schools for teaching integrated pest management have achieved significant success in some countries of Africa.

4. To use adopters as vehicles for transmission of management knowledge to their neighbors. In a study conducted in Eastern Part of Uttar Pradesh, India, it was found that the village farmers/neighbors were the first informants of the new technologies/ practices to more than 2/3rd of the adopters; extension services were a poor second with about 1/5th. In farmers' Field Schools, the participants have a multiplier effect and are used as examples/cases for training other farmers.
5. To teach , in training centers, management of low-input, low-costs integrated production systems. They are somewhat more complex, but make optimal use of resources, and provide additional employment and incomes. The Songhai Environmental Rehabilitation Center for young farmers in Port-Novo Benin provides one such example of the grass root approach to teaching management. (Nzamujo, 1995)
6. To catch them young, the farmers of the future, by organizing them in associations or clubs for demonstrating and teaching relevant agricultural activities. They learn new approaches to management and also have early contact with service institutions.
7. To organize women in clubs or associations and training them in time-reducing, cost-effective, nutrient-preserving methods of preparing food and use of, e.g., smokeless hearths which help in protecting health as well conserving firewood. A successful example of management of South-South exchange of knowledge is AVAL (Project Action de VALorisation), where information about local /traditional processing techniques of cassava tubers and maize was transferred by women of Benin to those of the neighboring Burkina Faso (Nago, 1997).
8. Using farmers' gatherings and fairs and demonstration plots as informal networks;

Just a few words about private vs. public extension services. Private extensions services from agricultural industries are generally (i) commodity- (and not farm-household or farming systems) - oriented, (ii) for commercial enterprises, and (iii) profit- rather than development/welfare-driven. Once the farmer has decided to join the scheme, he has little influence on further decisions regarding use of inputs and marketing of produce. Extension services from public sector are rather necessary in the initial stages, are

supposed to be welfare- and development-oriented, but usually suffer from bureaucracy and mismanagement. Agricultural universities, with their underlying philosophy of integration of teaching research and extension have been quite effective. They organize farmers' fairs, and arrange free courses for different types of farmers, tailored to their needs. They also undertake extension work, usually on a limited scale, as dictated by their resources. Whether public or private, teaching management to farm-households would be useful, only if they are provided right type of institutional and policy environment and support.

EPILOGUE:

Most of the points made above might appear hackneyed. In fact they are but they are still relevant. What also needs to be improved is the execution by the extension agencies, service institutions, and policy managers. They too need management teaching.

Many countries of the „South“ have made tremendous progress in developing communication, space and nuclear technology. However, in terms of the availability of infrastructure and education, their farmers find themselves today, in the same situation or even worse than their brothers and sisters in the ‘high-income’ economies in the beginning or the middle of the 20th Century. Hence, the term „into the 21st Century“ has a different dimension for most of the South farmers. Even where infrastructure exists, it does not function. Electric supply is erratic and so is the supply of water and other inputs. The installations are in disuse due to poor maintenance and shortage of operational budget. For South farmers, even these ‘hackneyed-looking’ methods of teaching and extension of management, when fine-tuned to the local conditions, could be more than sufficient, if these are backed by good management on the part of extension workers, managers of farmer’s organizations, suppliers of services, educators, and policy makers. However, it does not mean that the newest technology of communication and approaches to management are futile in the context of South. These should be selectively applied not just because they exist but wherever they are appropriate. These can certainly be used with advantage, for example (i) for large-scale well-to-do farmers who are integrated into the market, have a large-size of business, are well equipped with

resources and modern technology (e.g. estate farmers in Malaysia) and (ii) for teaching management to trainers of farmers, managers of input supply, researchers, and policy makers, just to name a few.

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