The International Agricultural Environment

- The Third World (Sub-Saharan Africa)

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Kenya

ABSTRACT

The emphasis by developing countries is on self sufficiency in food production, growth of G.N.P., employment and income distribution. There is also a need for technology development and the expansion of extension services to disseminate the new technology to the farmers. Assistance from the developed countries in technology development, capital investment and with inputs such as fertilisers, chemicals and machinery, is also essential.

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"Like scholars, we seek in our daily lives to enrich man's understanding of himself and the environment around him. Without opportunities to share knowledge and experience, to have them inform the human condition, our work and association would be without significance".

Adapted from Prof. S.O. Wandiga,
University of Nairobi.

The primary effort of those involved in rural development matters, including farm management, is towards a search for a viable knowledge to enrich their understanding of the environment around them, in order to clearly focus on their individual assignment and activities. The individuals constantly seek opportunities to study, review objectives, constraints and related development issues with a view to formulating recommendations or suggesting alternative policies for improving human condition. Being part of that set, and in our individual capacities and concerns, I believe, we also seek generalisable explanations of the response and resource allocation (management) behaviours of our people to various development strategies that might be brought to bear in our countries or region. The study of our environment and the sharing of the acquired knowledge and experiences should assist in putting into focus attainable objectives and possible effective management approaches.

Sub-Saharan Africa has a background of diverse technical, economic and socio-political endowments and constraints, together with varying and sometimes conflicting economic and socio-economic objectives. By necessity therefore, this paper draws heavily to the experiences relevant to Kenya. Notwithstanding this however, the environment analysed in the paper is generalisable and the conclusions thereof can raise issues for fruitful discussion consistent with the objectives of IFMA and the current Congress.

Agricultural Development Focus at Sector Level

While we are proud of our achievement since independence in many countries in Sub-Saharan Africa, we however face serious challenges in the transformation and improvement of the economic systems we operate in. Senator Denis Norman, Minister of Agriculture in Zimbabwe summarised and contended that:

> "a continuing decline in agricultural production in Sub-Saharan Africa, rapid growth in population and net food imports, the declining quality of the natural resource base, and the importance of agriculture to the development of predominantly rural countries call for new strategies to increase agricultural production to meet Africa's food crisis and economic development".

Upper most issues in Africa today include unprescedented population growth rates of about 4% and meeting food needs from domestic sources.

The objectives of many countries in Africa have changed markedly overtime. Initially, the development of their economies was considered synonymous with growth of gross national products. The strategy for achieving this objective was the selection of projects and programmes likely to yield the highest returns per unit investment. Priority was not investment in the Agricultural Sector. Due to observed limited successes, the second strategy was conceived that directed effort and resources to employment creation and income redistribution. By 1976, the strategy was reshaped to take on board - basic needs approach to development. In the last two strategies Agricultural sector increasingly received considerable attention. The impetus for the new approach came from the desire to be food secure in the face of lack of financial resources, or serious balance of payment, high world prices for grain in the international market and economc recession. Locally, many countries were experiencing drought conditions and therefore poor harvests followed with the expected food demand outstripping supply.

Granted agricultural development is a product of the interaction of technical, economic and soio-cultural variables, given favourable political climate. While agricultural scientists have concentrated on technical aspects - physical and biotechnology - and economists on market variables etc., the quality of total policy pre-scriptions for the Agricultural sector, has been hazy. For instance, export crops have received considerable resources and extension attention than the food crops. Through calculated research, market and other incentives, prime land and informed labour ended up in the production of export crops. Parastatal organisations concerned themselves strictly to these crops and handled the others as periphery products. The surplus investible funds generated from agriculture found their way to non-agricultural development projects. Naturally, the development of the Agricultural sector was thereby stifled.

Agricultural Development Focus at the Farm Level

We can assume agricultural development begins at the farm level. A central criterion to measure such development is the increase of productivity and income of farm families per unit land and labour. Experience has shown that agricultural research results and vocational training provided to farm families, extension agents and youth does foster and encourage the attainment of this criterion. Economists, for one, believe vocational training contributes to agricultural production and productivity through the so called worker and allocative effects. The worker effect refers to increasing worker's or farmer's ability to produce more output from a given bundle of inputs. Allocative effect is the ability to acquire decode and sort technical and economic information efficiently for sound decision-making process consistent with set objectives. For Sociologist, changing attitudes to agriculture is very crucial, in which it is not considered as a way of life for those involved but a means in itself to prosperity.

The aims of agricultural research are generally noble. To be most effective, however, the results must meet and be

adapted to the felt needs of the recipients, who have access to the means and incentive for farming. Since independence in Sub-Saharan Africa, at varying degrees, government intervention into the agricultural sector has taken place - particularly to provide avenues to means of production and awareness to available opportunities in agriculture at the farm level. Agriculture, as the mainstay of most economies, has been accorded various development strategies, some of which were not relevant to or were not capable of translation into farm-level situations. A lack of knowledge of farmer circumstance and specially determinants of farmer behaviour and decision-making process in the allocation of his scarce resources, made failure of expected impacts, inevitable. It is suggested that, these failures have sometimes occurred because the fundamental features which characterise smallholder agriculture - relating to its physical and economic resource endownments, the objectives and priorities of its farm families and the peculiarly constrained environment in which it operates - have not been understood or appreciated.

High population desities are common place in Sub-Saharan Africa - particularly in suitable cropping areas. Growing populations have pressed on soil resources with serious consequences on soil erosion and falling standards of nutrition. In some countries, marginal lands have been put to the plough with attainable low levels of crop yields under the best of climatic conditions.

It is common knowledge that rainfall, its amount, timing and seasonal distribution is a dominant influence on Sub-Saharan agriculture for both cropping and livestock activities. Rainfall is a serious constraint on production and development because it is frequently inadequate in amount and unreliable in its distribution. Its variability has introduced a sensitivity to risk and subsequently an averseness to innovative technology.

Rightly so, farmers treat the farm family as constituting two interdependent activities of production

and consumption. The household depends on the farm to provide it with subsistence and cash, offering in return family labour. Notably there is a trade-off for labour within the farm and for off-farm opportunities and invariably between domestic and farm activities. These conflicting uses of the labour resource constrain output.

Needless to indicate the constraining socio-cultural factors engrained in farm families, do limit production and productivity at the farm level. Some of the factors militate against the uptake of innovation, production and consumption.

The other side of the coin of the pattern of agriculture displays the multiple objectives of farm families that asct as a backdrop for farm level decisions. The objectives include:

1. an adequate and assured family food supply,
2. income to purchase a required level of material needs,
3. a certain degree of security reflecting farmer circumstances,
4. observance of socio-cultural customs and obligations,
5. a satisfactory amount of leisure,
6. meeting assigned national goals and aspirations.

When we consider the composite of the constraints, objectives and the specific environment in which a farmer operates, it appears there is a need to derive an efficient farm management and development framework which can improve farm family decisions on enterprise selection, resource allocation and use, taking into account farm family objectives and behaviour towards risk.

Focus on Smallholder Agriculture

Closer examination of the pattern of agriculture suggests a greater participation of smallholder farming sector in the economy.

Smallholder agriculture is a rapidly growing sector. Concern for economic development in many countries, means and increasing emphasis on the development of the smallholder agricultural sector. Since the mid 1950's, the development strategy has been one of transforming smallholder peasant agriculture from traditional subsistence to a partly cash enterprise sector. The aim has been that of widening the scope and incentive for farmers to adopt new enterprises and improve husbandry and other related production activities.

To gain greater insight in the smallholder agricultural sector, we need to examine:

- a typical smallholder model
- various circumstances affecting farmer's choice of production system, and
- relationship of farmer circumstances, management practices and factors limiting production performance.

Smallholder Model

One of the characteristics of farms within the smallholder sector in Africa, is that they are in transition from subsistence to commercial farming. Farmers must sell part of their production in order to buy those items of necessity that cannot be produced on the farms such as tools, clothes, building materials, processed products etc. To the extent that these items are necessary to survive, farmers strive to produce a saleable surplus from their food crops and livestock. The more successful the farmer is in his production efforts, the fewer the sacrifices he has to make to achieve his goal.

Another key feature worth noting of a farm household is that production and consumption activities are so closely interrelated that decisions on resource allocation take account of the needs of the farm family unit, in addition to producing marketable commodities.

Figure 1 represents a schematic diagram of a smallholder farming system. The main roles of the

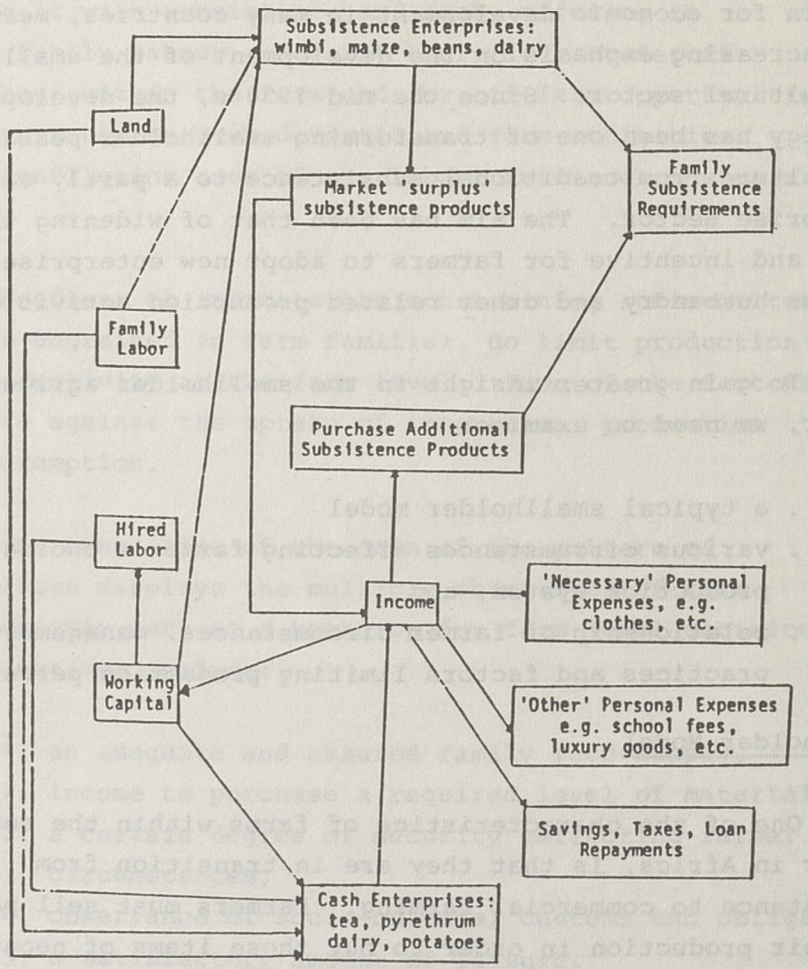

Figure 1. Smallholder model.

traditional factor inputs of land, labour and capital are identified. Furthermore the major goals of the system are indicated implicitly reflecting the decision making process of a smallholder. The main idea of the system is that the family wishes to satisfy its subsistence needs and at the same time maximize family income to meet the other expenses and savings. The smallholder has to allocate his traditional factor inputs in such a way as to satisfy his objectives. Degree of emphasis differs between different smallholder farming systems and by the same household over time. Hence, the decision process of what to do and how to go about it has to be considered in the whole farm family context on a multi-product basis as well as multi-period.

Other features in the schematic diagramme include a situation that hired labour is mainly employed in cash enterprises, whereas family labour attends to subsistence crops. This phenomenon underlies the widely held thesis that an emphasis on this section of the farming system would increase wage employment in rural areas. Accepting this thesis implies an undertaking that any promoted cash crop e.g. tea or oil crop will bring to bear a cash orientation - meaning a relative margin being left over above costs of production to employ required resources. That is, for a sustainable scheme, the governments must introduce a development package that would maximize the generation of working capital. The hypothesis being proposed seems to suggest that internal generation of working capital does act as an impetus to further expansion of a more commercially oriented activities, with subsequent effects on increased production capacities, incomes, employment and indirectly and improvement of rural standard of living. Governments and well wishers for Africa must be seen to encourage this trend.

The analysis links us to Figure 2 which identifies the various circumstances that management needs to consider when selecting a crop or livestock technology to employ for efficient performance. Circumstances can be looked at as constraints that influence decision making

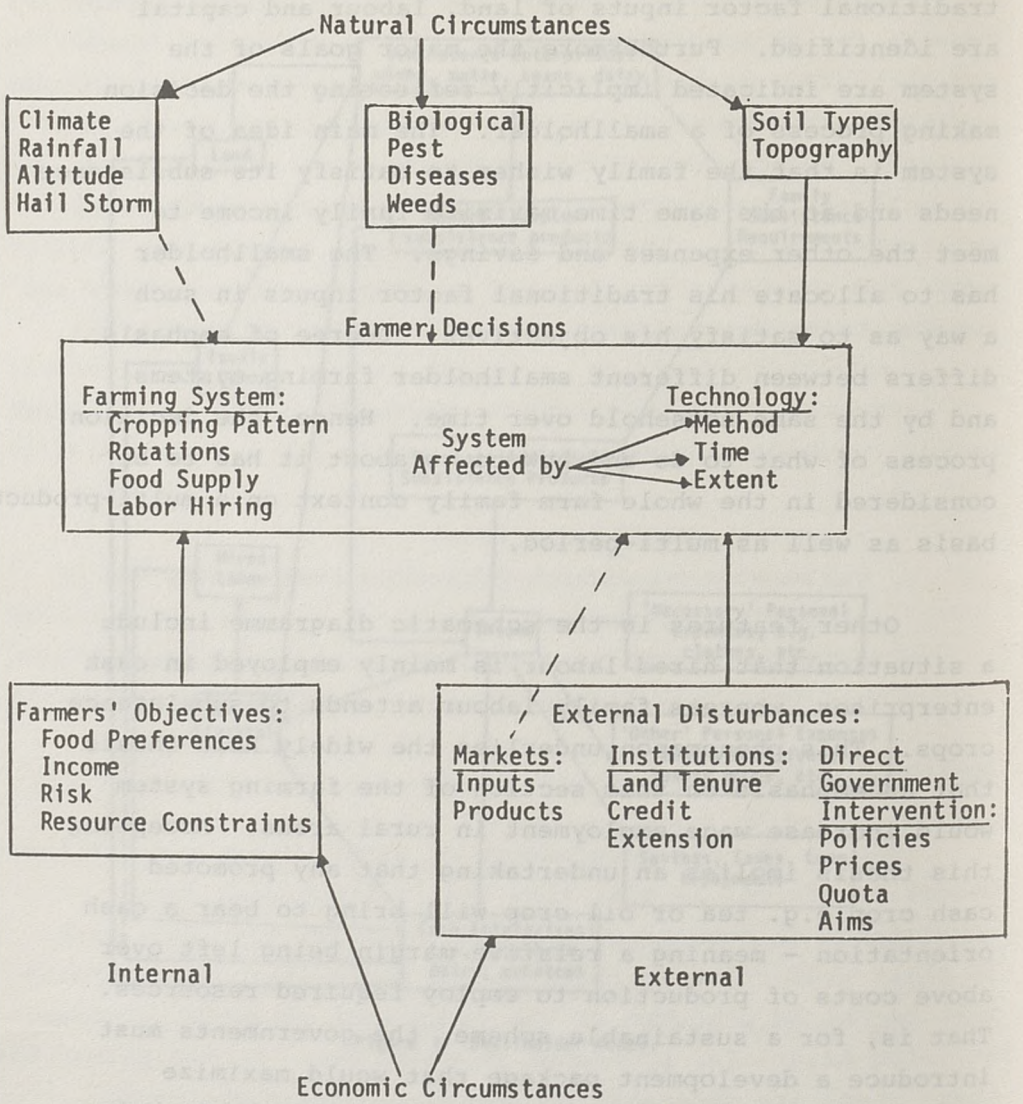

Figure 2. Various circumstances affecting farmers' choice of production system.

in selecting activities in a farming system. Conceptually, the circumstances affect the way farmers make decisions on crop selection, cropping patterns, rotations and resource allocation, that are consistent with farm family goals, resource constraints, food preference, food security and risk preference. Account has to be taken of potential external disturbances over which farmers have no effective control. At the farm level, the farmer faces a complex system and a host of variables. To transform and properly systematize the decision making process of the farmer requires a close examination of the circumstances he faces to identify those constraints that are amenable to his direct control/influence and therefore manipulation. The success with which he manages to modify the circumstances and effectively plan and execute over time, will dictate the eventual performance or effeciency of his farming system (Figure 3). The onus is to the change agent (is to the African himself) to study and understand the farmer circumstance and develop strategies that will be most effective and productive to the nation as well as the farmer. The motivating element to the nation is capital generation/food self-sufficiency profits in the eyes of the farmer. Whereas he has multi-objectives including subsistence. As a rational being, he can be motivated by self-interest and disregard the noble objectives the nation hopes to achieve. Hence the dynamics of the production system in the areas where cash crops are undertaken seem to reflect a transitional and short term situation.

Farm Management Environment

The discussion on the characteristics of the agricultural sector at the national and farm level bring to focus the critical issues pertaining to rural development in Africa. The related farm management questions that precipitate from the discussion on the smallholder model include the need to appreciate how decions are made and the variables that are taken into account.

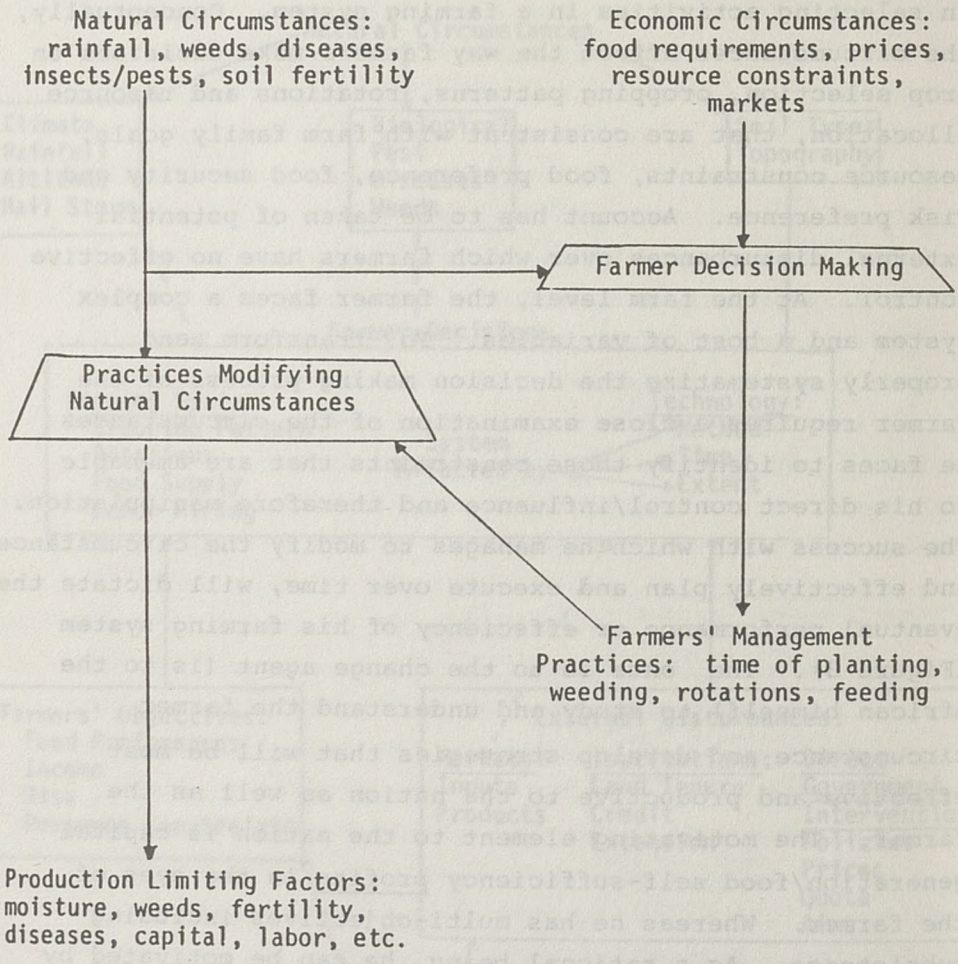

Figure 3. Relationship of farmer circumstances, management practices and factors limiting production on performance.

At the household level, I wish to submit, that production decisions are ad hoc. This is to say, in most cases there is no systematic farm planning. Little use, if any, is made of analytical tools of budgetting, linear programming, etc. Some of these tools require deployment of hard-ware and soft-ware. This technology is available in Africa but at limited scale. Need exists of addressing this issue in order to encourage systematic farm management practice.

Population pressure, mixed-cropping, variable harsh weather condition, multiple objectives provide a farm structure that call for different approaches to planning. The character is accentuated by inadequate or poor quality data to peg decisions making processes on. Africa needs to carefully study the management environment that smallholders operate. Farming systems approach is topical today.

The public sector intervention particularly in product marketing and input controls is at times inconsistent to general development. We need to raise the issue to encourage dialogue between primary producers and policy makers. Decisions at the farm level are very much affected by activities external to the farm. For instance the current emphasis on export crop orientation at the expense of food crop promotion must be re-examined. Africa will be better served if there is a re-orientation. We find ourselves captive of the systems we have created over the years. Unless we make a break to tradition, Africa might never be self-sufficient in food.

The tendency of active donor agents participation at primary levels does not augur well with the interests of appropriate management at the farm level. It is my experience and observation that the agents bring conflicting signals, on piece meal and short term basis. Africa needs to re-examine their role and inculcate activities that would be most productive for longer term rural development.

Conclusion

The search for viable knowledge and understanding of what will get the agricultural sector moving to meet the multiple objectives seems will come through strategies that involve the people and research. We need initially to compile and integrate the knowledge existing in the research literature regarding the agricultural sector, nationally, and at the farm in order to identify barriers on production efficiency, technology and off-farm income opportunities. We can use the information to improve management effort. Declining quality of natural resource base in Africa population growth and the hersh conditions prevailing in many countries call for re-orientation to resource utilization that aim at solving food demands.

Local specific research should be commissioned on a number of problems, particularly addressing management issues, appropriate technology, biotechnology, farm household characteristics, employment generation and women contribution issues. Peasant participation is a must. Farming systems approach is endorsed.

I realise, the focus for farm management for rural development for Africa possibly runs through a number of varied backgrounds. To be more fruitful, the Congress and IFMA can focus on a few critical common issues for immediate discussions or for follow up through national chapters. My sincere appeal is to IFMA to go beyond meeting every three years to exchange experiences. We need to assist each other, allowing a greater play of active catalytic roled. National chapters will be judged according to the contribution made in the development of their individual countries.

LET US BE SEEN TO BE PARTNERS IN PROGRESS.