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# THE ROLE OF TRADITIONAL AGRICULTURAL SYSTEMS IN THE QUEST FOR SUSTAINABILITY

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## INTRODUCTION

Ashes are sprinkled upon the leaves to destroy insects, the rice is threshed to the song of the group leader, a fire is lit a few metres in front of the site for sifting paddy, the sleeve of a scarecrow flutters in the wind. Primitive? Superstitious? Inferior?

Development, it is to be remembered, is not social engineering and the modern is not always superior to the traditional. These are ideas which must be kept in view during the formulation of any development policy for any nation. The process of development must take place in a context, a context which is different for different communities. What exists already must not be wantonly destroyed because of the assumption that nothing can be learnt from traditional ways of doing things.

The very principle of sustainability is not new to civilisation. It has existed from the moment when man realised that if everything is used up now, none will be left for tomorrow, for the children and the children's children.

In the realm of intellectual pursuits it is often difficult to state something new, to suggest something different, an idea which has never been proposed before. To some extent this paper falls in the category of restating what has been said before. Anyone in any field of study related to sustainability and economic development would know, firstly, what sustainability means, at least as defined by a host of professionals. They will also understand what development would entail, the need for external aid of most developing countries, the need for technological changes, improved infrastructure, in agriculture

the security of land tenure and access to credit, all factors which contribute to the development process. Yet, there is another often-mentioned but little-elaborated-upon factor in the development process - people - too often seen as a problem and not as the solution.

## SUSTAINABILITY

Writers on the subject of sustainability usually adopt or operate out of different perceptions of the concept. There are those who view sustainability as food sufficiency. The population is increasing and therefore it is necessary to increase food supplies. The application of scientific principles and technological innovations to agriculture are seen to be the tools for accomplishing this goal of greater food production substituting mechanical, biological and chemical inputs for land. Those who adopt this perception of sustainability display a lack of serious concern for environmental degradation in this process of increasing the food supply and are more concerned with leaving a capacity to produce rather than a stable, secure resource base from which the future generations may produce.

Sustainability is sometimes seen too as stewardship. Nature has provided both renewable and non-renewable resources, sometimes limiting man's capacity to produce food, perhaps rightly so. Before the use of modern machinery or chemicals, natural systems were used, systems capable of indefinite self-renewal. For those who subscribe to this stewardship perception, agricultural systems which do not preserve ecological balance, which deplete and pollute the

natural environment must be replaced by more ecologically kind systems. The emphasis is on maintaining a tolerable level of soil erosion and safeguarding soil quality. Sometimes only marginal adjustments are required in the agricultural system being used, sometimes radical ones.

A third perception, one with which this paper deals more closely, is sustainability as community, often referred to as 'radical' or 'alternative' agriculture. There are those who believe that there is value in community itself, a community being a group of living things who interact with each other, whose lives significantly affect one another's. The identity of a human community is usually based on factors such as geographic proximity and sometimes ties of kinship. These are the traditional communities where everyone knows neighbours when harvest time is a community affair to clear the fields and replant, where the elders of the community, in the oral tradition, transfer agricultural knowledge to the young farmers. But mere nostalgia is not useful here.

The creation of sustainable agricultural systems may be greatly aided by traditional knowledge and cultural practices of rural societies. Policy-makers must recognise this, must concede this. Many present-day systems have overlooked the values inherent in systems such as family-farming, values and stewardship, self-reliance, humility in the face of the knowledge of the power of nature and a holistic view of the world and its ecosystems. These values must not be lost for out of these come practices which result in sustainable systems of agriculture. The lessons of the past are no less valuable than contemporary scientific knowledge, knowledge which sometimes holds contempt for the mysteries of nature. Alternative agriculture implies a new sensibility to the land and society, a sensibility often passed off by the more 'practical' thinkers as sentimentality.

### THE CHANGING FACE OF COMMUNITIES

New types of communities are now coming into existence, often products of the effort to fulfil the concept of 'development'. These communities are larger, based on class or

common economic interests. The world is being urbanised. But even so, the rural population is growing. It is sometimes suggested that a large unstable urban population is more threatening and potentially politically destabilising than a quietly suffering rural one and accordingly, capital is diverted to the urban areas at the expense of the rural. In the urban region the returns to the capital expenditure on infrastructure and services are higher. More people benefit because of the high proximity of the dwellings, they pay a greater amount of taxes due to higher incomes and therefore are seen to be entitled to more services.

These changes in the structure of community imply great changes in relationships among the members. As all who are honest will concede, richness of relationships are the primary means of individual fulfilment and happiness, not wealth and prestige and power. Why should we assume that simply increasing the material well-being of a rural poor person by transplanting him into a system which is devoid of all that he once knew, but which provides him with more goods and services will make him happier. Do we have the right to assume this?

In traditional communities a mutual self-interest extended to one's attitude to nature. Nature was not seen as something to be tamed and brought under control as is the perception of many modern farmers. Instead, traditional farmers harboured an almost mystical respect for the land, a sense of duty to the earth and endeavoured to live harmoniously within the ecosystems. Religion played no small part in many of these practices. Even if regarded as superstition by modern scientists, religious beliefs achieved a certain respect for the earth, a respect which is fundamental if sustainable agriculture is to be practised.

### THE CONTEXT OF DEVELOPMENT

Basic food production is one of the most important of human activities. But every human activity takes place within a context. Ignorance of this context leads to countless difficulties in the implementation of many developmental policies, even to the failure of quite a few. How can an economist, assuming the profit-maximisation

motive of the rational farmer, or the technologist with ready innovations be made to understand that a lot more motivates farmers' production and that there is reluctance to adopt a technology even through its superiority in production is apparent? Until these questions are addressed by the disciplines of economics or engineering then there will continue to be a role for those who may provide some of these answers, the anthropologists.

One step in the right direction has been made in the development of Farming Systems Research where social scientists examine the farmer's social milieu, institutional settings within which the farmer operates and attitudes and beliefs which motivate or constrain farmers in their agriculture. Before peoples' beliefs are destroyed and disregarded as being inferior, and replaced by systems which have not stood the test of as many years of use as many traditional systems have, these beliefs must be understood and as much must be learnt from them as possible. Anthropologists are best consulted here. With their direct contact they are able to study people in their cultural context and thus better understand how they perceive their world. This would undoubtedly aid the successful transfer of technology from developed countries, transfers which go all wrong simply because the giver does not really know the receiver. Anthropologists also understand that people do not always do what they say they do. Their reported culture is not always their actual culture. Only close daily observation will uncover this. Again this would aid in the elimination of error when it comes to policy implementation. It is always better to deal with reality.

Culture is expressed as gestures, dietary habits, styles of dress, architecture etc. To take this away from a people, to deny them the food they desire, the buildings they desire all in the name of development, of improving their lot, is not true development. Will a new variety of corn or potato, though cheaper to produce and give a higher yield, but which is not according to the tastes of the people, necessarily improve the lot of the farmers in their own eyes?

## TRADITIONAL STRATEGIES

A study was done by Stephen Brush and reported in the newsletter 'Culture and Agriculture' in 1983, on the traditional agricultural strategies of traditional farmers in the hilly regions of Tropical America.<sup>1</sup> Traditional, he points out, can be as contemporary as any other method of farming for these methods have adapted over periods of time. Certain systems capable of sustaining quite dense populations, were characterised by centralised farming, irrigation and terracing. All of this without sophisticated machinery and chemicals. Is it not this which development efforts aspire?

The post-conquest period of Latin and Central America was characterised by the retreat of various indigenous groups to different regions, each developing a system which was suited to a particular agro-climatic condition. From whom else should the developers learn about the characteristics of the land, the peculiarities of the land? Marginalised by the wealthy land-owning class, these peoples retreated to marginal lands of steep terrain and poor soils. In these communities, native culture and indigenous agricultural practices were preserved.

Land was held by individuals, families or cooperatives and peasant corporations. Many small, scattered parcels were held, due the inheritance tradition but served the purpose of spreading the investment of labour and seed over a larger area and reducing the risk of crop loss. A rotation system was used allowing up to seven years of fallow between potato crops, perhaps combatting nematodes. Fallowing is an invaluable method of maintaining land quality in traditional agriculture. Water management was fairly decentralised. Surface runoff was slowed down by embankments and check dams which spread flood water and caught valuable alluvium. Slope modification, too, was important in the management of soil and water conditions. The evolution of tools and tillage practices aided this - digging sticks, footplows, and the short-handled hoe, all cheap and available. Sloped and flat terraces were designed to slow runoff, build soil

and maintain soil temperature and soil quality. Central and South America show a great diversity in the staple crops. These varieties are adapted to local climate. There is great diversity within fields. The crops provide a continuous plant cover which protects the soil from the elements. Again it is risk management.

These strategies have all been developed to cope with natural hazards. They rely on the protection of the soil from humans by replicating the natural systems to the best of their ability and having net energy production. But the world is changing, undoubtedly. Rural populations are growing and there is need to increase food production. There may be use of shorter fallow periods, increased labour-use, use of chemicals and other external inputs, which may sometimes place the farmer in debt, and the use of different crop varieties. But even so, it must be remembered that there are other considerations in this quest for more food, considerations of which traditional systems have been mindful. These include long-term viability of agro-ecosystems by maintaining genetic diversity, soils and local flora and fauna, local control of resources and local self-sufficiency. These were the important factors in the traditional communities and they should remain so while at the same time catering to their changing needs.

#### CONCLUSION

Stagnation is not being preached here.

The only constant thing seems to be change and change we all must. But societies must not change, or be changed, because of any assumed superiority of any other agricultural or social system. We must not only pay lip-service to the preservation of diversity of culture and traditional agricultural practices. We must realise that there is value in doing so, advantages of doing so. Knowledge is power and the knowledge which many rural farmers possess is invaluable for it was taught by the great teacher, experience. These storehouses of knowledge must be sought and when found must either be utilised or discarded, but discarded only because they have been examined and found to be useless or detrimental to development. Development must begin with people. No one has been appointed keeper of the rest of the human race. Each culture and society deserves respect, above all when they have something of value to impart to the rest of humanity. We must give them a chance to teach us, but, before that, we must admit our ignorance.

#### ENDNOTES

- 1 BRUSH, Stephen (1983): "*Traditional Agricultural Strategies in the Hill Lands of Tropical America*", In: **Culture and Agriculture**. Anthropological Study Group on Agrarian Systems, University of Arizona. No.18.