



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

---

---

# SUSTAINABLE RURAL DEVELOPMENT: WHAT ROLE FOR THE RURAL COMMUNITIES?

JOHN HUNT

(Caribbean Research & Development Institute, UWI Campus, Trinidad, W.I.)

---

---

## INTRODUCTION

The theme of this presentation is that initiatives for rural development are taken almost in isolation by urban-based governing institutions. The rural community has very little to say in what is to be done, how it's to be done and by whom it is to be done, yet it is the rural community that is expected to sustain what are deemed to be benefits imposed upon them.

To put the present situation into some historical perspective, the first section looks at how societies have developed from reliance on farming towards industrialization; and how rural development institutions came to be built on an urban bias. The second section discusses the shortcomings of the present situation, while the third synthesises these and examines the ideal criteria and goal of rural development. The fourth section looks at a new approach, illustrated with a model, which suggests that by planning rural development around the needs and constraints of the rural community - and taking into account the resources available to it, development has a better chance of being sustained. Two case studies show the advantages of using such an approach for development planning and for research.

## HISTORICAL PERSPECTIVE

The earliest societies were those based on farming which were largely economically and socially self-contained, and where the principal means of production was labour and the land itself. The governing institutions and the people lived side-by-side, relying on their natural environment to provide them the means to exist.

Through external factors - contacts with other cultures, the development of new technologies such as irrigation and iron-working, improved communications and the move towards cash crops and trade - market economies developed. And along with market economies, market towns were established where the governing institution came to reside. Due to lack of opportunities in the rural communities and a rise in labour demands in the towns through industrialization, urban populations began to expand. Their demand for food put pressure on the rural communities to increase production [Buntin, 1970, p.747 et seq]. More recently this obligation to increase production has resulted in 'overfarming', that is abusing the very resources that have sustained the human race. There is now a conflict between people and the natural resource base [Eswaran, 1991, p.201].

Turning to the development of agricultural research and extension, it was only in the late eighteenth century in Europe and North America that agricultural information began to be disseminated in an institutionalized way through farmer societies. Later it was through fairs and then through itinerant teachers.

Extension came into the language through the idea of 'extending' new knowledge from the universities of Oxford and Cambridge, in the 1860s, an idea taken up by other centres of agricultural research in Europe and North America. This led to the formation of Ministries or Departments of Agriculture which assigned technicians to visit farms and conduct research and on-farm trials. At about the same time other institutions (credit agencies, grain associations, produce marketing boards) came on the scene.

In the developing world, research and

extension was initially geared to export crops. (It was only after World War II that they became important for traditional crops, and even then extension mainly concerned itself with administrative and regulatory matters) [Swanson, 1984, pp.3 et seq].

Because research and extension were institutionalised from the urban base, they have continued to operate from that base, with all the disadvantages that that can have when attempting to promote development in little understood rural communities.

The same can be said of planning. The system in the developing world has been inherited from the colonial administrations who established in the cities and towns governing institutions which set out development programmes. The situation continues today and is reinforced by the links with and role models of the developed world.

This lack of appropriate institutions to provide sustainable rural development is succinctly articulated by Clifford Wharton Jun. (a policy advisor to the US government) when he said:

*If there is an area where we [sic] have been most unsuccessful, it has been the development of cost-effective and programme-effective models for the delivery of new scientific and technical knowledge to the millions upon millions of farm producers in the Third World. We know how to harness the creative and inventive forces of science and technology in the war on hunger, but I submit we have not been fully successful in technology diffusion [Wharton C. in Swanson, 1984, p.6].*

The concept of transferring methodologies from the developed to developing countries is implied in the statement (quoted in Arnon, 1981) that:

*the technology transfer process would be greatly accelerated by simply adopting technologies from either the developed nations or the international agricultural research centres ... [but] applications of new technology in developed countries have not been made to tropical and sub-tropical environments, and many of the*

*problems significant to developing nations have not been sufficiently studied in the developed nations [Swanson, 1984, p.72].*

## THE PRESENT SITUATION

This can be looked at from the perspective of four different rural development institutions, policy and planning, programming and project design, research and extension; and from the farmer's viewpoint.

*Policy and planning* all too often produce development programmes quite irrelevant to the rural communities. They are based on considerations of political priorities, technical concerns and macro-economic targets. They neither reflect the rural community's problems nor their aspirations and are too inflexible to adapt to local changes such as prices and weather [Woods, 1982, p.7]. Where development programmes are imposed on farmers to meet national shortfalls and the farmers see that for them there will be little benefit, such programmes are most likely to fail [Cerneja et al, 1985, p.6].

Policy on pricing can be crucial to the success of a development programme [Eswaran, 1991, p.201]. High prices for inputs and low or erratic or late announcements of prices for products can only make farmers more reluctant to take up a new technology where costs and prices are crucial to results. Exorbitant interest rates can only deter the rural community from investing in existing or new enterprises.

The increase in the number of bureaucracies to administer all these centrally planned programmed aggravates rather than alleviates the problems. They can be concentrated in certain regions for the convenience of the bureaucrats; they affect a minute percentage of the population; and they create a dependency syndrome [Crouch & Chamala, 1981, p.180].

On the international level startling statistics come to light. Fifty per cent of FAOs regular programme has been devoted to African agricultural recovery yet the continent sinks deeper into poverty [FAO, 1986, p.20]. In the six years between 1978 and 1984, the World Bank invested worldwide US\$1 billion (a small

percentage of the total investment) in national research and extension projects [Cernea et al, 1985, p.4] yet, for instance, the training and visit extension system that the World Bank promotes has had little impact after ten years in the rainfed areas of Central India [Chambers et al, 1989, p.176].

Programming and project design that has relied on centrally developed blueprints has paid too little attention to the constraints of the rural communities and socio-economic realities, and has assumed that the natural resource base can look after itself.

Programmes and projects need to be specifically designed. Strategies for rainfed areas cannot be based on those that worked in irrigated areas; new technologies adopted by one area or one community will not always be adopted by their neighbours; one type of intervention is not appropriate for the whole community [Chambers et al, 1989, p.176]; development projects do not inevitably bring permanent change [Coombs, 1981, p.39]; formation of local groups cannot be built on foreign institutions, traditions and customs [Crouch & Chamala, 1981, p.158]; not all farmers have spare capacity and a burning interest to take up new and risky ventures [Cernea et al, 1985, p.7].

Socio-economic conditions need to be favourable for rural development to take-off and be sustained. These include functionable physical infrastructure (roads, railways, rivers, airports); assurance of power; access to inputs and markets; availability of labour at critical agricultural periods; ease of gaining credits [Woods, 1982, p.7]; availability and security of tenure of land; an absence of praedial larceny [Seepersad, 1985, p.19].

Development programmes that do not take account of the burden placed on the natural resource base can cause overgrazing, overcultivation, waterlogging and salinisation of irrigated land, and deforestation, and can only cause more long-term harm than benefit [Eswaran, 1991, p.203]. Few developing countries have a systematic and detailed soil resource inventory programme, and agronomic research programme are still conducted on soil about which little is known [ibid, p.202]. Despite efforts at the international level (e.g. the UN

conference on environmental development - the Earth Summit) and at the country level, clear and firm regulations for proper management of the environment are rarely established, let alone enforced. National governments suffer from shortage of resources and political will [Eswaran, 1991, p.199].

Because of its top-down orientation, research has many weaknesses. Despite a lack of knowledge scientists have about rainfed agriculture, they make assumptions that they already know what sorts of questions to ask the farmers [Chambers et al, 1989, p.69]; they easily fall into the trap of viewing problems from their own particular discipline (even to the point where research topics reflect their own interests and not those based on problems identified through surveys) [ibid, p.170]; they concentrate on technical parameters rather than human ones (farmers are taken as objects to be measured and analyzed in the same way as crops, soils or the climate [ibid, p.102]; they tend to overrate research contributions and underrate development [Schwass, 1981, p.18]; they frequently over-estimate what they feel constitutes a breakthrough [Schwass, 1981, p.18] (it might not be higher yields or shorter straw that the farmer needs); they provide discrete packages, whereas farming is a continuous performance [Chambers et al, 1989, p.3]; they too often ignore the risk factor (basing their work on the expectation that the farmer will have all the resources to take the full package [Cernea et al, 1985, p.9], while in India, for instance, it is estimated that 80 per cent of research output is rejected by the farmer, and probably more than that in rainfed areas [Chambers et al, 1989, p.192]; and finally, researchers often live in or near large towns and regard themselves as superior beings. They cannot relate easily to extensionists, let alone farmers [Cernea et al, 1985, p.4].

Extension too has its weaknesses from being more urban-based than it should and lacking empathy with its clients - the rural communities. Two constraints worthy of note are the inadequacies of the extension workers and the framework of the bureaucracy in which they are meant to operate.

Extensionists are trained in urban-based

institutions and then absorbed into top-down structures, working under centrally planned strategies which allow little room for enterprise or imagination [Claar, 1990, p.3]. (This in fact they may find comfortable for they need take few risks.) Those stationed in towns rarely have the mobility to reach villages [Swanson, 1984, p.228], and when they do they have little real understanding of the needs and aspirations of the small-scale farmer. They tend to establish themselves in the one paradigm of promoting technical packages that are neither location-specific nor condition-specific [Chambers et al, 1989, p.67] and frequently act as the planning arm of the government - ensuring production quotas are reached, overdue credit repayments are collected, farming regulations are applied [Antholt, 1989].

The bureaucracies in which they work suffer from lack of government funding, sound management, and an ability to recruit, train and deploy within the rural communities well-motivated people with local knowledge [Axinn, 1988, p.22]. This low level of esteem can only be aggravated when studies show that farmers more frequently take advice from other 'good' farmers, input dealers and relatives than they do from extensionists [Sofranko et al, 1988].

The prime purpose of all four of these rural development institutions is to increase productivity and to sustain that increase. Yet how much do they really know what farming is actually like? What impact do they have on economic and ecological improvement and its sustainability.

Farming, especially under rainfed conditions, is a hazardous business. It is complex, diverse and risk-prone [Chambers et al, 1989, p.xviii]. Inputs might not be available as and when required, nor at the price and quality expected; family labour may suddenly be short; disease can affect draught animals at crucial periods of the season or other animals and crops at any time; funds might be short to buy needed inputs, rent land or equipment; there may be unexpected family obligations to satisfy. The weather can be quite unpredictable, causing flood or drought with resulting crop and animal losses. There may be obligations to fulfil government quotas, thereby reducing still further available resources for other commitments [Schwass,

1981, p.18].

Within his own community there will be many cultural and political constraints to face. Larger farmers tend to dominate village affairs, frequently taking for themselves the benefits of development programmes. Cultural and religious taboos and commitments can affect his freedom of choice. His access to resources may be restricted [Coombs, 1981, p.19 et seq].

All these unpredictables and the absolute priority for the farmer to feed his family, leave very little spare capacity to take up new technologies. And he may find anyway the new technology beyond his powers of management, his level of knowledge and skill, his level of confidence [Cernea et al, 1985, p.7].

And yet ... and yet, despite all these problems farmers have survived and have adopted new technologies over the centuries, and mainly done so from other farmers. Two of the main staple crops in West Africa, maize and cassava came from South America and have crossed continents without a planner, researcher or extensionist in sight [Chambers et al, 1989, p.58]. Farmers through their own trials and experiments are frequently ahead of the researchers. Farmers are adopting and adapting small ideas all the time [*ibid*, p.34].

#### WHAT IS THE MESSAGE FROM ALL THIS?

Firstly, the farmer is amazingly resilient and astute despite - or more likely because of - endless and unpredictable factors. Secondly, rural development institutions can be bureaucratic and isolated from the rural communities they were established to serve. Thirdly, that development programmes take little account of the experiences, needs, aspirations and constraints of rural communities, pay little heed to preserving - not to mention building up - the natural resource base, and assume too readily that socio-economic conditions will be favourable. And fourthly, national goals and targets imposed on the rural population are unlikely to succeed.

From these statements it can be seen why such assertions as the following can be made:

*It is obvious to the critical observer that much research, even when carried*

*through to an apparently successful conclusion, is unlikely to have the expected impact on farmers' agricultural practices [Cernea et al, 1985, p.3].*

They show too how far from the ideal the present situation is, when considering the goal and criteria for successful rural development programmes.

Taking first the criteria for development programmes, it has been suggested that the success rate for rural development is better if there is active participation of the rural community in all aspects of project formulation, implementation and evaluation; there is linkage with input supply agencies and marketing organisations; there is a combination of local and national aspirations and a combination of indigenous and international scientific knowledge; there is a clear understanding of the socio-economic conditions of the people, of the infrastructure and services, and of the natural resource base; there is good personal contact between specialists and the rural community; and there is leadership development [Axinn, 1988, p.135].

Turning to the goal of a rural development programme, Chambers suggests it should be

*to train and motivate farm families to teach others the innovations learned and adopted, and to encourage others not only to adopt them too, but improve on those innovations [Chambers et al, 1989, p.56].*

To achieve these, there is evidently need for an improved approach, yet one that is complementary to the existing top-down mode.

#### **SO WHAT FORM COULD SUCH AN IMPROVED APPROACH TAKE?**

It is proposed here that for successful uptake and sustainability of agricultural development (of whatever nature) rural communities must not only be fully involved in all aspects of the rural development process, but their needs must become the reason for undertaking the development. Chambers puts it like this:

*In the existing top-down mode, priorities*

*are determined by planners, scientists and extension workers. Yet this approach is not always appropriate. A new approach which complements the top-down mode can provide an alternative of greater impact. The focus of development would be on the farm family, on the rural community. Instead of starting with knowledge, problems, analysis and priorities from the point of view of the planners, researchers and extensionists, it would start with these from the rural community's perspective. Instead of the ministry of planning, the research station or the extension centre being the locus of action, it would now be the farmer and the village. Instead of the ministry official, the researcher or the extensionist being the initiator, it would be the farm family. For it is the farm family who knows the system of farming, its problems and opportunities. It is they who can suggest possible solutions, even if not the right ones [Chambers et al, 1989, p.xix].*

Such an alternative approach would inevitably have a considerable effect on institutions concerned with rural development.

Planners and project designers would have to accept a real change towards greater community participation and, to achieve this would have to create appropriate country-wide mechanisms for identifying and selecting development priorities [Coombs, 1981, p.39].

One such mechanism could be rapid rural appraisals to compile a profile of an area through undertaking walking tours for site reconnaissance, short social surveys, direct observations, group interviews [Chambers et al, 1989, p.74]. Participation would encompass not only the rural communities but all institutions involved (government or otherwise). Researchers of different disciplines would each contribute on a continuing basis their specialist advice [*ibid*, p.143]; extension would be involved all the way through.

Planners would also have to realise the importance of maintaining rural development centres and, where necessary consider establishing new ones [Cernes et al, 1985, p.12].

Project designers would have to ensure

that developments to be achieved under a project were sustainable so they would continue when outsiders withdrew. (This withdrawal phase could be eased by directing rural community leaders to permanent local resource centres which could provide that continued support [Chambers et al, 1989, p.60].

In this way, planning and project design would take into account the community's experience and aspirations, the socio-economic constraints, and the ability of the natural environment to support planned development programmes. It would also provide for economic and ecological sustainability.

*Research and extension* would need to gear their agenda to respond to the needs of the rural community [Chambers et al, 1989, p.55]. And to do this, they would have to understand the farm family's viewpoint [ibid, p.41]. Science would need to be transferred to the farmer, so the reasons why he does things can be discussed with him. His indigenous knowledge would need to be respectfully considered, his full farming system and his way of life would need to be understood [ibid, p.26].

Research would have to be multi-disciplinary. Social scientists and resource planners are as important as crop scientists; social, economic and natural resource aspects of problems are as essential as the biological ones [Cernea et al, 1985, p.6].

Research would need to be both adaptive and applied and would need to be developed with the extensionists and farm families [FAO, 1986, p.14]. The involvement of the farmer is perhaps the most important reason for ensuring that experimentations are self-sustaining, for the farmer himself would become the experimenter. Farmer's plots would act as a start for discussion, comparing different experiments by different farmers in their own fields. (This would have the added advantage of allowing 'free-speech', not just what the farmers think the researchers want to hear; and farmers themselves would start to discuss matters seriously and creatively. The leaders and innovators would be recognised and acknowledged, a network would begin to form [Chambers et al, 1989, p.125]. And small-scale experiments have many advantages as noted in Chambers et al, 1989, p.58. Also farmers would

feel they were more respected, and they would gain new knowledge and skills at their own pace and according to their own resources. Concocting extension packages in research stations and obliging the farmers to accept them would no longer be the only option, for if research responded to farmers' needs, farmers would be eager for this results. Nor would research any longer be concerned about setting up trials simple enough for farmers to understand and evaluate, for adoption of innovations by farmers would by itself be validation of a technology [Chambers et al, 1989, p.114].

Extensionists would have to be trained and well versed in the concepts, procedures and techniques of programme planning, management and evaluation of extension activities that focused on the rural community [FAO, 1986, p.14]. Agricultural extension would have to be seen as more than technology transfer - the purveyor of specific technologies [Swanson, 1984, p.1]. Three initiatives for improving extension could be arranging staff exchanges between extension and research, making extensionists accountable to their clients (the rural community), and devolving control and responsibility for extension to the farm family [Antholt, 1989].

To maintain its credibility (both in the eyes of the rural community and the paymasters) research and extension would have to respond to the needs of the farm family [Cernea et al, 1985, p.6].

## CONCLUSION

Chambers says that the *challenge of rural development includes not just raising productivity but also increasing sustainability both economic and ecological. And the key to sustainability is that interventions help rural communities to meet their priorities and are so fully compatible with local culture that farm families can build on them independently by means of their own experiments and development efforts. People will sustain what meets their objectives and reject what does not. This requires a reversal of the one-sided relationship between specialists and farm*

families, so that specialists learn from the farming community, through mutual learning and exchange of ideas and knowledge and skills [Chambers et al, 1989, p.102].

## CASE STUDIES

Two case studies look at project planning with a focus on the rural community and initiating a research project where the farmer takes the lead.

A rural development project, The Integrated Watershed Management Project in Honduras during the five years 1976-80 addressed the problem of slash-and-burn cultivation practices on watershed lands. The goal of the project was to replace this with sedentary agriculture, balancing the needs of agricultural production with that of soil and forest conservation.

One of the objectives was the direct involvement of the community to raise their awareness of soil conservation benefits and to participate in the rehabilitation scheme. A particular feature of the project was that no targets were set at the start. These were to be developed with the rural communities as they became aware of the importance of soil conservation and good farming practices.

The project was deemed a success in that nearly 2000 members of 78 rural communities worked on the project and the areas benefitting from soil conservation works and reforestation increased year by year. Soil conservation achieved its target, reforestation nearly so.

Among the reasons given for success were the commitment of the government (including technical assistance, lease of handtools, distributing of agricultural inputs, remuneration of field staff according to the extent targets that were met, effective extension); support from the international agencies (funds, food-for-work, technical assistance); and strong community participation (especially in some communities from women's groups).

The major achievements including the change from slash-and-burn to sedentary agriculture and the realisation of the advantages

of this type of farming. Constraints encountered at the beginning but overcome included over-centralised administration.

It was noted that these sorts of projects could be replicated in other parts of Honduras; they promoted farming systems that provided permanent and sustained yields; and from an investment point of view rated much better than any other sector of the economy. [Ronnie de Camino Velozo in *Incentives for Community Involvement in Conservation Programmes*, 1987].

The second case study looks at an adaptive agricultural research project in the Dominican Republic. The proposition, in the words of the author was "that social scientists can provide effective and complementary techniques to standard agricultural research wherever social distance between cultivators and technicians is great. Social distance increases when formal research and extension procedures are implemented without adequate regard for cultivator knowledge".

By listening to the farmers, the social scientists in this case designed trials with the farmers, redesigned experiments farmers had been doing themselves to make them more reliable to the scientists, and redesigned the scientists' trials so they could respond to the local conditions. This was called mutual adaptation and the experiments, adaptive trials.

In addition to adaptive trials two other techniques complementary to agricultural research practices were used. These were case histories (looking at the history of how farming practices had evolved and why) and sociological (creating networks for knowledge exchange). These networks included researchers, cultivators, extensionists, agro-bureaucrats, the private sector.

By following an unconventional course of action (using farmer's knowledge not scientific expertise; involving extension from the beginning, not at the end; defining research priorities through agro-sociological studies, not waiting for the Ministry to define them), a more productive approach developed.

In taking this approach for research on cassava, the starting point was talking with selected respected farmers to unearth all they knew about the development of cassava



production, noting where and why changes occurred. Questions about problems were avoided as these usually elicited standard answers. Problems were deduced from a synthesis of the interview, and these turned out to be such things as soil quality, root rot and the need for short-cycle varieties. Two other ways were used to verify problems - a sample survey amongst farmers and a survey amongst researchers, extensionists and others with regard to problem perception.

From an objective look at this information and at what was happening on the ground, it was clear that researchers and cultivators were on different tracks, designing experiments for different purposes, hardly listening to each others' arguments and aims. It became the role of the social scientist to overcome this, as one example illustrates. The farmers explained there were two types of root rot, although the scientists insisted only one was known. It took much discussion and production of the physical evidence to persuade the researchers of its existence and the need for investigation.

Thus by starting with the rural community, researchers can, for example, expose problems that do need solving, rather than problems the researchers think need solving or ones to which they are unaware [Louk Box in *Farmer First*, Ed. Chambers et al, 1989].

#### REFERENCES

- ANTHOLT, C.H. (1990): "*Strategic Issues for Agricultural Extension in Pakistan: Looking Back to Look Ahead*", Extension Seminar. Islamabad, 7th March.
- AXINN, G.H. (1988): "*Guide on Alternative Extension Approaches*". FAO, Rome.
- BUNTIN, A.H. (Ed.) (1970): **Change in Agriculture**. Gerald Duckworth. London.
- CERNEA, M.M., COULTER, J.K., and RUSSELL, J.F.A. (Eds.) (1985): "*Research-Extension-Farmer, a Two-Way Continuum for Agricultural Development*". The World Bank. Washington, D.C.
- CHAMBERS, R., PACEY, A., and THRUPP, L.A. (Eds.) (1989): "*Farmer First, Farmer Innovation and Agricultural Research*", Intermediate Technology Publications, London.
- CLAAR, J.B. (1990): "*Decentralised Extension Brings Better Results*", In: **Interpaks Interchange**. University of Illinois, Vol.7, No.1.
- COOMBS, P.H. (1981): "*New Strategies for Improving Rural Family Life*", International Council for Educational Development. Connecticut.
- CROUCH, B.R., and CHAMALA, S. (Eds.): "*Extension Education and Rural Development*", Vol.2, John Wiley and Sons, Chichester.
- FAO (1986): "*Improving Agricultural Extension to Increase Food Production in Africa*", FAO, Rome.
- SCHWASS, R.H., (1981): "*Aspects of Agricultural Development in the South Pacific*", Food and Fertilizer Technology Centre, Taiwan.
- SEEPERSAD, J. (1985): "*Extension Manual, Developing Extension Programmes in the Caribbean*", The University of the West Indies, St. Augustine.
- SOFRANKO, A.J., KHAN, A., and MORGAN, G. (1988): "*Insights into Farmer-Extension Contracts, Evidence from Pakistan*", In: **Agricultural Administration and Extension**, Vol.30, No.4.
- SWANSON, B.E. (Ed.) (1984): "*Agricultural Extension, A Reference Manual*". 2nd Edition. FAO, Rome.
- WOODS, J.L. (1982): "*Making Rural Development Projects for Effective*". UNDP, Bangkok.