

Coming Full Circle

Farmers' participation in the development of technology



***Coming full circle: farmers' participation in
the development of technology***

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Postal Address: Box 8500, Ottawa, Canada K1G 3H9
Head Office: 60 Queen Street, Ottawa, Canada

Matlon, P.
Cantrell, R.
King, D.
Benoit-Cattin, M.

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Abstract

Involving farmers in identifying the constraints to rural agriculture and in designing measures to alleviate them is the subject of this publication, which resulted from a meeting, held in Ouagadougou, Upper Volta, 20–25 September 1983. Agronomists, economists, anthropologists, and others seeking to get the most from research efforts discussed the pitfalls of assembling packages that are sound technically but have some essential flaw because the developers have overlooked some crucial constraint at the farm level. The subject is one that is receiving much attention currently as agriculture in developing countries has failed to net major increases in production despite thousands of dollars invested in research and optimistic claims that improved varieties, techniques, equipment, etc. have been developed. The gaps between results on research stations and those on farms in the Third World have prompted some researchers to view the farmers' conditions as the real laboratories. Why, how, where, and when to get farmers involved in research are the focus of this document, and the degree to which researchers and the agencies they represent have been able to listen and work with their new partners varies, as is clear from the 11 papers and the commentary that follows them.

Résumé

La participation des paysans à l'identification des problèmes agronomiques et à la recherche de leurs solutions est le sujet de cette brochure qui rapporte les états d'un séminaire tenu à Ouagadougou (Haute-Volta) du 20 au 25 septembre 1983. Afin de mieux exploiter les résultats des recherches, des agronomes, des économistes, des anthropologues et d'autres personnes intéressées ont discuté du danger de préparer des blocs agronomiques, solides sur le plan technique, mais possédant des vices fondamentaux, les développeurs n'ayant pas pris en compte certains obstacles critiques au niveau des fermes. Ce thème est largement débattu aujourd'hui alors que la production agricole stagne dans les pays moins avancés malgré l'injection de milliers de dollars dans la recherche et les espoirs mis dans la création de variétés, techniques et équipement améliorés. La différence entre les résultats obtenus dans les stations de recherche et ceux recueillis sur les fermes ont conduit des chercheurs à reconnaître que la ferme même constituait le vrai laboratoire. Le thème principal de cet ouvrage qui se dégage des onze communications présentées et des commentaires qui suivent, est donc de déterminer quand, où, comment et pourquoi les fermiers doivent participer à la recherche et aussi, jusqu'à quel point les chercheurs (et les organismes qu'ils représentent) ont su être à l'écoute des paysans et travailler avec eux.

Resumen

La participación de los agricultores en la identificación de las limitaciones a la agricultura rural y en el diseño de medidas para superarlas es el tema de esta publicación que resultó de una reunión celebrada en Ouagadougou, Alto Volta, del 20 al 25 de septiembre de 1983. Agrónomos, economistas, antropólogos y otros interesados en obtener lo mejor de los esfuerzos investigativos, discutieron los problemas de producir paquetes técnicamente válidos que no obstante presentan fallas básicas porque sus diseñadores han perdido de vista alguna limitación crucial a nivel de la finca. El tema recibe actualmente mucha atención debido a que la agricultura de los países en desarrollo no ha podido aumentar la producción pese a los miles de dólares invertidos en la investigación y a las optimistas voces que proclaman haber desarrollado variedades, técnicas, equipo y otros elementos mejorados. La brecha entre los resultados de las estaciones de investigación y aquellos de las fincas del Tercer Mundo han hecho que algunos investigadores consideren las condiciones de los agricultores como los verdaderos laboratorios. Por qué, cómo, dónde y cuándo involucrar a los agricultores en la investigación es el tema central de este documento, y el grado en que los investigadores (y los organismos que representan) han podido escuchar y trabajar con sus nuevos socios varía como lo demuestran los 11 trabajos del libro y el comentario final que los sigue.

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COMING FULL CIRCLE

*Editors: Peter Matlon, Ronald Cantrell, David King, and Michel
Benoit-Cattin*

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I feel that the objectives of this book should be defined clearly in a large context, so that everyone will be aware of the scope and limits of future reflections. The meeting that gave rise to this book is closely related to two earlier workshops organized by IC-RISAT: in 1974 (ICRISAT

1975) and in 1979 (ICRISAT 1980). Technical concerns dominated the first, but socioeconomic aspects were discussed. Only two contributions had significant anthropological content. The second one focused on socioeconomic constraints in the development of semi-arid agriculture, and a sociologist working in agricultural research in Senegal foresaw the route that farming-systems research is taking. His paper on farmer's participation put forward many ideas about involving farmers in research programs (Faye 1980).

Changes in farming-systems research have resulted largely from the growing involvement of social scientists in agricultural-research institutions and the consequent exchange between them and agricultural scientists. This book shows the predominance of social scientists who have an interest in the subject.

The issues have no geographical specificity (Agriscope 1983). They concern every state where the rural family is the major producer of agricultural goods. I believe that research and development efforts must interact continually with the environment they aim to improve.

Beyond undifferentiated approaches

My remarks stem from an attempt to analyze the institutions and individuals concerned with relations between farmers and researchers. Farmers, extension personnel, and researchers are all manipulated to some extent; they are all working in geopolitical settings that they may not fully understand but that largely predetermine their behaviour. Consequently, when we as researchers "tune in" to farmers, they may take advantage of the opportunity to press for fertilizer, credit, subsidies, etc. They assume that we are part of the government agricultural apparatus and think we can pass their demands on to the appropriate authorities. In fact, there is some basis for their assumptions. After all, areas in which farming-systems programs are funded and implemented are not selected solely on scientific grounds.

This is only one of many misunderstandings that arise in relations between researchers, development personnel, and producers (Tourte and

Farmer—researcher dialogue: reflections and experience

***Michel Benoit-Cattin, Institut de
recherches agronomiques tropicales et des
cultures vivrières, Montpellier,
France***

Billaz 1982) — the RDP triangle. (Although the triangle is a convenient simplification, I believe, it is more practical and less misleading to speak of rural societies, research, and interventions.)

Rural societies, research, and interventions are all social organizations. Each implies diverse, restrictive, heterogeneous, and nonegalitarian social structures. Perceiving this is essential for anyone involved in farming-systems research; it precludes an undifferentiated approach. It also obviates the "paradise-lost" way of thinking that rural environments were formerly in equilibrium and that this equilibrium was recently disturbed and must be regained. Researchers or others working with farmers must be aware of the complexity of rural societies. Just to observe a village meeting can be enlightening: there are rules for who sits where, who says what, and so on. Outsiders meet the local authorities rather than the "farmers."

Likewise, research activities cannot be separated from their institutional nature: whether they are funded and undertaken by national or international agencies; what role the countries and the agencies play in North-South relations; etc. Isn't there currently a qualitative change in these relations: a move away from policies for the transfer of technology and knowledge toward policies of support provided by established, well-endowed research institutions in the North to younger institutions in the South?

The institutions are diverse: they include government departments (agriculture, rural development, animal husbandry, the environment, education, health, trade, and so on); marginal government sectors (such as rural administration, which is based on a naive view of rural society that ignores the intricacy of local authority); sectoral- and integrated-development projects or activities; and nongovernmental organizations (NGOs), most of which have religious origins (CERES 1983). Although NGOs and government institutions have an interest in coordinating their activities, both inherently have their own status and objectives. This is also true of the individuals involved. Each researcher is strongly influenced by his or her special interest or discipline and may be unwilling (unable?) to share insights with someone from another field.

Individuals and institutions

The heterogeneity in rural societies — the contradictions and conflicts — has come to light through ex-post analyses and surveys. To understand it completely, one must compare what is reported with what is observed. Thanks in part to this method, my colleague and I (Benoit-Cattin and Faye 1982) were able to differentiate individuals' objectives and conducts according to their status in farming operations in the Sahelian Sudan. Such analyses can have concrete effects. For example, one who understands the farm-equipping process could draft costed proposals for organizing the manufacture and distribution of equipment for an entire region. The fact that all heads of households, for diverse and even contradictory reasons, wish to possess all that they require for farming with draft animals (animals, seeder, multipurpose hoe, cart) can be used for a simplified trend analysis. Censuses make it possible to project the demand over the medium term and meet this demand as far as possible, given the capacity to produce the tools and the financial constraints arising from the distribution of the tools on credit.

Scientific research precedes, accompanies, supports, and clarifies assistance policies. Not that these contributions overshadow the social responsibility of research to attain long-term results and expand knowledge. Research must have a balanced orientation toward technical innovations, rural societies, and assistance policies. Researchers from the disciplines most directly concerned must be able to share findings, value their colleagues' perspective, and interact in an ecological, geographical, and political context that has yet to be defined.

Looking at practices

The men and women in rural societies work mainly at growing crops and raising animals but also do many other things. All these activities must be considered in terms of the objectives, plans, and motivations of the individuals and groups. The purpose of analyzing practices is to define and understand the systems in use for production, crop growing, animal husbandry, forestry, and so on.

The methods proposed for finding out what farmers are doing are increasing (Benoit-Cattin 1979a; Billaz and Diawara 1981; Benoit-Cattin and Faye 1982; Agriscope 1983), and most rely on a mixture of interviews and observations. This mixture ensures that reported practices are compared with actual practices. The information supplied by farmers must not be confused with their interpretations. Where organization of work is concerned, social "rules" elicited by outsiders talking to farmers no longer reflect how things are done. Practices vary from one farm to another, depending on how much equipment the farmers have and how long they have had it.

In assistance policies, too, statements of intention often diverge widely from practices. A country's agricultural policies as stated in a development plan are often quite different from policies in force. Moreover, the principles behind an agricultural-development project sometimes differ profoundly from extension practices.

The task of identifying problems and designing programs to address them is complex; it depends on what is vaguely called social demand, as well as on the strategies of institutions (their internal scientific directions). The present vogue of farming-systems research exemplifies the complexity. One constantly hears that an interdisciplinary approach is required; in practice, a multidisciplinary approach — that is, a parallel approach by the disciplines — is used. There has been debate over whether the procedure is downstream or upstream, most farming-systems researchers finally being satisfied to call it circular. Can the notion of circularity be applied meaningfully to systems?

One experience

In Senegal, rural agricultural-research activities — known as experimental unit projects (Benoit-Cattin 1977a) — were begun in 1969 in two cooperatives in the south. For about 12 years, a great variety of specialists worked together or succeeded each other on the sites. The push to agronomically improve the real environment intensified research into such areas as anthropology, nutrition, training, economics, sociology, and extension (Benoit-Cattin 1979).

The results were knowledge, description and analysis of the situation, improved methods, and a series of proposals to national and regional authorities responsible for agricultural development. Since 1977, farm counseling has been under way, a genuinely interdisciplinary effort drawing on the project agronomist (who may be considered principally an innovation promoter), the economist (who focused on farm performance and development in a context of technical change), the sociologist (who had acquired a keen understanding of local social dynamics by working on land-tenure problems), and all field personnel — extension workers and survey officers (who were the real links between researchers and farmers).

The steps in the farm-counseling method are selection of interested farmers, with preference being given to those with serious difficulties; assessment by the extension officer; design of a proposal aimed at medium-term progress on a farm; negotiation with the farmer to refine the proposal; and implementation of the program year by year with provision for adjustment (Benoit-Cattin 1978).

Through the experience gained from the first farm-counseling efforts, rules have been refined and adapted. At the same time, knowledge has been increased, and farm operations have been improved.

The function of farm counseling is technical; both the researchers and the farmers evaluate technologies as experienced technicians. After all, throughout history, agricultural techniques have been invented by farmers and not by researchers, who have come on the scene only recently. The technical function is complemented by an economic evaluation of farm conditions. From this analysis, standards are determined (such as one seeder for every 5 ha or a debt limit of one-third of the head farmer's income). It is also complemented by a social and cultural framework for introducing innovations on farms. This framework provides the basis for the rules. For example, one complete set of cattle-powered equipment is proposed for each farm, plus one set of implements for every other household (Benoit-Cattin 1977b). To establish farm counseling, one must learn how local farms operate and how techniques are adopted. One difficulty encountered was that the extension workers' status with respect to farmers was brought into question. The workers found it difficult to accept that they were no longer regarded as the ones with the knowledge of the techniques and that they had to take farmers' views into account during negotiations. To speak of farmers as colleagues in technical research indicates that they must be awarded equal status in the efforts.

Nevertheless, farm counseling must not be perceived to be merely a structure used by researchers and farmers; it is also a structure for agricultural extension. Moreover, it is the source of concrete proposals to those responsible for agricultural policy (Benoit-Cattin 1978).