

## **SUMMARY OF RESULTS OF THE SURVEY**

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## **1. INTRODUCTION**

The first step in the CUREMIS exercise was a survey conducted among all the regional and sub-regional policy officers and outposted staff of the Economic and Social Department of FAO. The survey was based on a questionnaire which was distributed to them and was structured around “major trends affecting food, agriculture and rural development” as identified in the process of preparing the FAO Strategic Framework, namely:

- changes in the role and functions of the state and implication for food, agriculture and rural development
  - trade liberalization, globalization and increased reliance on regional blocks
  - persistence of poverty, mounting inequality, food insecurity and continuing risks of emergencies
  - population growth, urbanization and related changes in demand on agriculture; increasing pressure on natural resources and the environment
- research and technology development and inequality of access.

A consolidated synthesis of the responses to the questionnaire was then reviewed and commented upon by FAO Headquarters units and a few outside experts. The outcome of the process is summarized in this chapter. Its contents are meant to reflect as closely as possible the views expressed by FAO outposted staff. The comments that have been made by FAO units and outside experts have mainly been used to introduce concepts and issues.

The reason for this way of proceeding is to present the views of practitioners that deal with day-to-day problems at the country level. The FAO staff stationed in regional and sub-regional offices have access to policy making in the countries of their region, and are therefore well placed to “feel the pulse” of what governments consider to be important issues

on which more information or analysis is needed in order for policy decisions to be formulated and implemented on a solid basis. It is felt that this way a useful purpose can be accomplished by performing an intermediary function between the perceived policy needs of governments and the policy making community on one side, and the programmes of academic and research institutions (including international organizations) on the other. In other words, making known how policy problems are seen at the operational level can stimulate a comparison with the way such problems are seen from a more scholarly perspective, or through similar exercises undertaken by other organizations (e.g. IFPRI). It is hoped that such a comparison may lead to fruitful indications for further policy and economic research work.

The general purpose of CUREMIS is that of proposing to the research community within and outside FAO a series of themes deserving additional economic analysis. However, the specific objective of the survey as summarized in this chapter is not that of building up a “state of the art” review of such issues for research. Rather, it is hoped that it will provide ideas and stimuli for research, some of which will be explored in subsequent issues of CUREMIS publications to be produced every two years by FAO.

Clearly, many of the issues proposed by the respondents to the FAO questionnaire have already been the objects of more or less thorough policy research. If they have been raised, this may mean several things: for example, that the results of research may not have been adequately known and therefore need to be disseminated more widely; or that they may not have been adequately understood at the operational level, and therefore need to be explained in clearer terms with more extended analysis of their operational implications. Indeed, it may be that research has been carried out at too abstract a level, without direct reference to relevant policy prescriptions; or that research results may not quite fit the reality of specific country situations, and therefore need to be adapted to different cases in different regions, countries, local realities, specific groups of people etc. Or, again, the related policy prescriptions may have been tried but may not have given the expected results, possibly because they were not so good after all, or because of inadequate implementation capacity,

inefficiency, pressure by vested interest groups, corruption and so on. Also, there may be confusion on the policy implications of different paradigms that are conflicting or incompatible with each other, thus generating perplexity and, in several cases, inaction or changes of direction at mid road in the implementation phase.

With very few exceptions, no attempt has been made to fill the “lacunae” in the responses to the questionnaire. Those lacunae may provide interesting indications (in the vein of what mentioned above) as to the difference in perception between policymakers level and those who are in charge of policy research in academic centres and have easier, more accurate and more complete access to current literature on the related subjects.

Another word of warning on the limitations of the survey results: although the broad definition of “agriculture” includes fisheries and forestry, these two areas have not been specifically addressed in the questionnaire. Accordingly, the summary contains only few passing remarks on them. It is hoped that a similar exercise may soon be carried out with respect to these two important sub-sectors.

The sequence of topics is different than that of FAO’s strategic Framework, mainly in order to reflect the relative importance that respondents have attached to the various sets of issues. Thus, the second section of this chapter deals with poverty and food insecurity, which have been considered by both respondents and commentators as being by far the most crucial and urgent problems confronting policy makers. The third section deals with market-oriented reforms and the changing role of the state, and the fourth one with globalization and international trade issues. The fifth section refers to the last two areas covered in the questionnaire: pressures on natural resources and the environment, and research and technology.

It goes without saying that all the above areas are closely interconnected. Therefore, some issue re-appear, possibly in slightly different form, in the various sub-sections. This was, to a large extent, inevitable, and it has been preferred to incur into some repetitions rather than risk omitting important points raised under different headings in the course of the survey.

## 2. POVERTY, INEQUALITY AND FOOD INSECURITY

Poverty, inequality and food insecurity are the most crucial and persistent problems facing humanity. Their alleviation is – or at least should be – at the heart of any meaningful development effort. There is currently a generalized and renewed interest on poverty issues by international organizations and development scholars. This concern is heightened by the realization that progress towards the elimination of poverty and food insecurity has generally been far from satisfactory. And it diverges sharply from the agreed commitments and targets established by various international conferences in the course of the past few years.

At the World Summit for Social Development, held in Copenhagen in 1995, participating countries committed themselves to the goal of eradicating poverty “as an ethical, social, political and moral imperative of human-kind”, and of eliminating severe poverty within the first decades of the 21<sup>st</sup> century. At the World Food Summit, held in Rome in 1996, leaders from 186 countries made a solemn commitment to halve the number of hungry people by the year 2015.

Yet, recent estimates of poverty indicate that the achievement of such goals may very well be unrealistic if current trends are not reversed. UNDP’s *Human Development Report 1999* states that “more than 80 countries still have per caput incomes lower than they were a decade or more ago”. The World Bank’s *World Development Report 2000/1* estimates that the number of people living on less than \$1 a day in the developing world total almost 1.2 thousand million, slightly exceeding the figure of a decade earlier. Of these, 522 million are estimated to be in South Asia and 291 million in sub-Saharan Africa, representing, respectively, as much as 40 percent and over 46 percent of the respective total population.

Regarding one of the most severe manifestations of poverty, i.e. lack of adequate nutrition and access to food, FAO, in *The State of Food Insecurity in the World 1999*, estimates that the number of undernourished people in the developing world has decreased by 40 million since 1990/

92, to approximately 790 million. However, “in the first half of the decade, a group of only 37 countries achieved reductions totalling 100 million. Across the rest of the developing world, the number of hungry people actually increased by almost 60 million”. What is even more worrying, “if the pace is not stepped up, more than 600 million people will still go to sleep hungry in the developing countries in 2015. To achieve the Summit goal, a much faster rate of progress is required”.

Another important issue is that of inequality which has risen significantly in many developing and transition countries in the last twenty years or so years or so. There is an increasing concern that international development targets related to poverty reduction may not be met without very significant changes in income distribution. Within-country inequality has in turn been accompanied by growing inequality among countries, in the context of an increased polarization of wealth between the richest and the poorest countries in the world.

With respect to food, agriculture and rural development the main concerns are: how can agriculture and rural development contribute to poverty eradication; and how can poor households and individuals have access to the food they need. It is clear, however, that poverty and food insecurity, cannot be addressed from a purely sectoral viewpoint. Therefore, the related policy and research issues reflected in this text, while concentrating primarily upon agriculture and rural development, will inevitably touch upon other fields than agriculture *strictu sensu*.

Given the vast array of potentially relevant issues, this introductory chapter will limit itself to mentioning, in a summary way, some of the most important ones that have been raised by the staff of FAO Regional and Subregional Offices which have been consulted in the course of the CUREMIS exercise, and commented upon both within and outside FAO. The in-depth chapters that follow will analyse a few selected issues in greater detail.

With respect to poverty and food insecurity, research issues can be grouped within the following broad categories:

- dimensions, characteristics and location (geographical and social) of poverty and under-nourishment;
- factors contributing to poverty generation and those that contribute to its permanence or aggravation;
- policy measures that may contribute to their alleviation or elimination and social and institutional changes that would be required for policy interventions to obtain their intended effects.

### **Dimensions and characteristics of poverty and food insecurity**

Any meaningful intervention to combat poverty and food insecurity must start with a precise identification of who the poor are, how many they are, and where they are located. Although there is a large body of literature and survey results have been accumulated - respondents to the questionnaire feel that further research in this direction is continuously needed.

In addition to general indications of poverty and food insecurity at the world, regional and country level, disaggregated information on the incidence of poverty and vulnerability is required both for proper policy design and for adequately targeted interventions. This entails identification of different categories of the poor and malnourished at the local and household levels, by sector of economic activity, occupational characteristics, social status by age and gender (so as to define as precisely as possible the extent of the feminization of poverty). Special attention should be given to the identification of the most vulnerable persons within each category. The lack of consistent time series data on changes in poverty and food insecurity, on the characteristics of those who “fall” into poverty and those who “exit” has also been pointed out.

Given recent broader perceptions of what contributes to poverty (see next section) other indicators of poverty and deprivation should also be monitored in addition to those related to income: human development (or the lack of it), access to education, social services and various sources of empowerment and participation in a dignified social life. This is necessary in order to capture the multifaceted aspects of what makes up sustainable livelihoods, and consequently lay the basis for prioritization of needs and



more effective interventions for poverty alleviation and livelihood improvement.

These are by now well accepted, even obvious, considerations in the poverty discourse, but one thing is to state them in principle, and an entirely different thing is to investigate, describe and quantify concretely where and to what extent such conditions prevail in various social contexts. In this respect, further research at the national and local levels can still provide useful contributions.

Respondents to the questionnaire have especially directed their attention to rural poverty, calling for additional research on the extent of poverty among such groups as small landless farmers, small fisherfolk, rural labourers, self-employed rural workers in the informal sector, members of ethnic minorities, female headed rural households, as well as rural population groups that are affected by natural calamities. The question regarding the nature of poverty in remote and marginal and in well-endowed areas, should be investigated in greater depth.

Urban and rural poverty are tightly linked. In rural areas, livelihood insecurity pushes population towards urban centres in the expectation of a better life. Migrations, both within countries and international, and their links to rural poverty have not received the attention they deserve in the research agenda. Migration flows need to be continuously monitored and understood, with respect to their magnitude, composition, trends and direction, and especially underlying causes. Timely analysis of their implications for poverty at the origin and destination areas is needed, both as regards positive implications (remittances as a source of poverty reduction, more efficient allocation of manpower resources) and negative ones. The latter may include: possible deterioration (at least in the short-term) of the socio-economic conditions in rural areas due to the emigration of the ablest, with consequent impoverishment of the remaining rural population; the inability of cities to absorb the inflow of migrants and pressures on social services due to unemployment and underemployment in urban and peri-urban areas.

The accentuation of income and social inequalities, especially in rural areas, should also be kept under constant surveillance in all countries. In countries in transition, the relative novelty of the growth of inequalities and fast impoverishment that the socio-political changes of the last decade have generated, makes intensive research and monitoring particularly needed. This is especially so in view of the lack of experience in dealing with these phenomena in the context of structural and institutional changes that have occurred - and are still occurring - in these countries in a manner which is far from being easily predictable.

The methodology for assessing the dimensions of poverty and under-nutrition should be improved, both at the aggregate and disaggregated levels. It has been noted that a proper mapping of poverty has never really been done and that there exists considerable lack of co-ordination among concerned agencies on poverty measurements and trends, and on related analytical tools. In this respect, the Food Insecurity and Vulnerability Information and Mapping System (FIVIMS), which has been called for by the World Food Summit and is currently being implemented in various countries under the co-ordination of an Inter-Agency Working Group, is a step in the right direction. Agencies and countries concerned, with the help of research institutions, should continue their efforts to expand the coverage and improve the quality of the information collected and analysed in the context of FIVIMS. The construction and analysis of food accessibility indicators and food entitlements maps can usefully be expanded and incorporated in an integrated system, as well as nutrition surveillance at the level of local communities, with special attention to the most vulnerable groups.

The contribution that participatory techniques can provide to a detailed assessment of poverty and under-nutrition should not be under-rated. Research can give impulse to the refinement of related methodologies and favour their expanded application.

### **Causes of poverty, inequality and food insecurity**

Moving from the analysis of the extent and characteristics of poverty directly to remedies is a shortcut - not infrequently practised - that leaves

behind a fundamental area of investigation, i.e. what are the causes of poverty. It should be noted that, in examining the causes of poverty one cannot avoid a degree of circular causation, since poverty can often be at the same time cause and effect with relation to many of the issues that have been addressed by the respondents to the questionnaire. There appears to be a growing awareness (also reflected in the survey) that this aspect has not received sufficient attention, and that this may be one of the reasons for the lack of effectiveness of many policy measures and programmes with respect to poverty alleviation.

It is by now generally accepted that the main causes of poverty are related to access handicaps: access to education and health, as well as access to productive resources (land, credit, markets, transport networks, electricity, telecommunications) but also to institutions (markets, social networks, etc.). Investigating the various aspects and causal links of access handicaps, inadequate endowments and entitlement failures in different situations and for specific social groups represents a continuing research priority. It should cover the analysis of the impediments (social, institutional, economic) that prevent or reduce access to opportunities that contribute to human development and the build-up of human and social capital, as well as to sources of material well being. It should also include in-depth investigation of the efficiency costs of poverty and malnutrition and of other forms of deprivation.

War and civil unrest are of course among the main causes of poverty. Greater attention should be devoted to the assessment of the effects of civil unrest and military conflicts on the disruption of food supplies and of economic activities, on nutrition and, generally, on the sources of livelihood of vulnerable groups. Research directed at specifying the social groups that are most severely affected and the impact on them in terms of impoverishment, deprivation and displacement during and after wars and civil disturbance can help design effective remedial measures. Research may also contribute to understanding the socio-economic factors that have given or may give origin to civil unrest. Poverty may also be the cause, or one of the main causes, and not only the consequence, of civil unrest and conflicts.

A severe calamity in developing countries is the fast diffusion of HIV/AIDS, which is affecting the livelihoods of millions of people, especially, but not only, in Africa. The impact of the epidemic, and of the consequent changes in the demographic structure (especially decline in the share in the productive age groups) on such aspects as labour availability for agricultural production, on poverty, food security and nutrition at the household level should be carefully assessed.

The nexus between poverty and environmental degradation needs to be further explored in its multi-faceted dimensions with relation to specific geographical and ecological areas and to the various population groups that draw their livelihood from them. The factors that aggravate poverty in so-called marginal areas (arid, semi-arid, mountain and hill areas, those that are prone to climatic vagaries, or other remote areas) also demand special attention. In these areas, but not only in them, the problem of vulnerability of the rural poor to external shocks – be they natural calamities or economic (e.g. price) instability - deserves case-by-case investigation. Research should also address the reasons for the collapse of traditional coping mechanisms in rural areas.

Poverty, inequality and food insecurity may also be policy induced. It is recognized that in several countries, market oriented policy reforms that have been pursued over the last two decades have had beneficial effects on growth and, in some instances, on poverty alleviation. However, in many countries the effects on poverty and inequality have been more controversial. Respondents to the survey have frequently stressed the need for retrospective analysis of the results of policy reforms, so as to identify the reasons for their varying performance with respect to poverty reduction. They have underlined that both the contents of the policies and the modalities of their implementation should be examined, taking due account of the conditions, including major economic disequilibria and fiscal deficits, that have been at the origin of the reforms. Following is a summary account of some of the questions that have been raised.

- a) To what extent have market oriented reform policies resulted in an imbalance, including gender imbalance, in access to various factors (knowledge, information, new technologies, physical assets and other

resources) and how is this affecting productivity, poverty and food security?

- b) Are the reasons for the widening of social inequalities in countries where economic reforms have been implemented inherent to the reforms themselves, or are they the result of incomplete, partial or biased implementation? The process of policy implementation needs close scrutiny, so as to ascertain the extent to which rent-seeking, inefficiency and corruption may have contributed, and contribute, to distortions in the destination of benefits of economic growth and policy change.
- c) Widening social inequalities did not characterize the early stages of market-led growth in East Asia. To which extent is that model replicable in different social and institutional conditions? What lessons regarding the mitigation of poverty and inequality can be learned that could be applicable elsewhere?
- d) In a more general sense, respondents frequently raised the issue of the relationships between growth and poverty. Beyond the obvious consideration that growth is a necessary but not a sufficient condition for the reduction of poverty, it is strongly felt that more in-depth examination is needed of the conditions under which economic growth and, in particular, agricultural growth, may lead to the reduction of poverty and inequality, or may, on the contrary co-exist with their exacerbation.
- e) A common characteristic of adjustment measures has been that of a significant reduction in the role of the state. The institutional weakness of the state in developing countries (as distinct from the amplitude or restriction of its functions) is seen in many of the responses as one of the principal barriers to poverty reduction. In analysing the causes of poverty and inequality, due consideration should be given to this issue. Such weaknesses include limitations of the state in supporting local organizations, and enhancing self-help efforts of the poor.

With more specific focus on the agricultural and rural sector, additional issues calling for research have been mentioned. They include the following:

- a) How do changes in the structure of agriculture following reform policies affect income distribution in the rural areas ?
- b) To which extent – and under which circumstances – do increases in agricultural income compensate for the reduction in the provision of public services in rural areas, both those related to agriculture (input subsidies, price support) and not directly related to it (support to schooling and health) and, in general, of welfare and redistribution measures?
- c) What has been the effect of safety nets and targeted relief measures directly aiming at rural poverty alleviation? Have they really contributed to pull the poor out of their condition and to their empowerment – or are they only temporary palliatives without lasting effect? What has been their actual coverage of target groups?
- d) What has been the experience with rural poverty alleviation programmes undertaken in collaboration between organizations of the civil society, government and international bodies?
- e) At the international level, what is the impact of trade (tariff and non-tariff) barriers, export subsidies and other trade discrimination measures adopted by developed countries on poverty and inequality in developing countries? To what extent are losses of developing countries due to such trade policies offset by development aid ?
- f) A special case is that of former socialist countries, where access to food by low-income groups has emerged as a major concern. Further study could shed light on which aspects of reforms (notably on agricultural and land issues) and of the domestic social, political and institutional set-up, have been obstacles to poverty alleviation and food security.

#### **Policy measures and institutional changes to alleviate poverty and food insecurity**

A major policy concern, as reflected in the responses to the survey, is related to the framework within which policies are conceived. In the view

of many of the respondents, research must confront the issue of the adequacy or otherwise of the economic development paradigm that has prevailed over the 1980's and most of the 1990's to address poverty problems. The dominant view is that such a paradigm has shown poor achievements in dealing with them. The World Bank itself, which was one of its chief proponents, has initiated a process of re-thinking, and has started to introduce corrections to the paradigm that has been identified with the so-called Washington consensus. The *World Development Report 2000/1* (which at the time of writing has just been released) is centred on poverty, and is bringing additional elements of reflection on the limitations of earlier approaches.

The two most relevant aspects of pro-poor strategies on which there is general concurrence are investment in human development and increased access by the poor to an extended set of assets which include physical assets and public services. The results of the survey reflect this orientation.

Human development is considered as one of the most critical factors, if not the most critical, of economic growth and of poverty alleviation. The risk of an unequal pace in the development of human capital and in the acquisition of knowledge and information in general is acutely felt. How to promote an equitable access to the means of development of human capacity is one of the highest priorities for poverty eradication. For policy guidance and formulation, the relationship between the components of human capital and poverty reduction requires further quantitative and qualitative research. The analysis should include disaggregation by gender.

For both men and women, human development entails massive investment in education, health and other social services. Research can help by providing information, drawn also on the experience of past successes and failures, on such issues as: What forms and combinations of investment in education, health, sanitation etc. promise to be most effective and efficient in terms of poverty reduction? What directions can be recommended for external assistance to play a catalytic role in this regard?

Human development also entails empowerment of, and participation by, the poor, notably the rural poor. Questions that can be addressed by

research relate to: what policies, legislation, institutional arrangements and programmes can enhance the organizational, managerial, advocacy and leadership capacities of the poor, as well as their capacity for self-help income and employment generation? What role can central and local governments and organizations of the civil society play in this regard?

Access to physical assets and services is the other pillar on which poverty reduction strategies can be based. Major issues, as emerging from the responses to the questionnaire, concern how can access handicaps be removed; in which way can access by the poor, notably the rural poor, to physical assets (primarily land and capital) be improved.

The research challenge is to devise policy interventions that make asset redistribution a prospective win-win game, in which inclusion of the poor can generate growth. The study of cases where the poor themselves have participated in the process through the creation of “access institutions” (such as mutual benefit organizations) deserves to be pursued. And so does the analysis of the role that the state can play in giving basic support to those organizations.

The first priority of research underlined in the survey with regard to asset redistribution policy appears to be the definition of innovative land reform modalities. Past experiences include both success cases and failures, in those instances where transfers of land property have been effected with bureaucratic and socially dangerous methods. The dramatic population increases expected in developing countries make the search of new ways absolutely necessary. Such new ways should take due account of the economic and financial viability of land reforms and of the efficiency of the learning process for the small farmers who are expected to benefit from the reforms. In former socialist countries, land reform may have a significant impact on poverty if land assets can effectively be used, leased or sold.

The establishment and strengthening of the regulatory and institutional framework for land tenure and land market development is a priority. This calls for comparative studies and innovative research in land policy



analysis, formulation and implementation, involving, whenever possible, community and co-operative action for land (and water) management. It would also be useful to conduct a review of the experiences of land banks and land funds and to try and draw conclusions as to which kind of approaches to land banks are proving the most effective, and why. Aspects related to land policy are also covered in section V of this chapter.

Access to capital is the other major factor for improving the material conditions of small farmers and other rural poor. Greater access to credit by the rural poor would entail improvements in a whole range of financial services, including appropriate saving facilities, banking standards and management, forms of insurance, the use of innovative financial practices that may reduce transaction costs and risks, and the support of a variety of financial structures (formal, semi-formal and informal) in the supply of credit.

Micro-credit initiatives have been extensively analysed through a host of case studies. An international comparison and synthesis of the lessons that can be learned from micro-credit initiatives undertaken in different countries over the last decade or so, of their advantages and shortcomings, could offer useful guidance for the support of such initiatives in other countries/areas. The need is felt for moving from general knowledge to the analysis of specific implementation mechanisms, facilitating awareness of the most effective practical modalities of micro-credit for food security.

The issue of poverty in high and low potential areas should be addressed with greater attention. If the bulk of the poor are concentrated in low potential areas, what kind of strategies could be designed for them? The challenge facing policy in such areas is to create conditions for the emergence of combinations of farm and off-farm activities that minimize income and consumption risks which are prevalent in those areas. Alternatively, would it be more effective to concentrate investment and other policy interventions in high potential areas, favouring at the same time a process of orderly migration from the former to the latter areas? How can agricultural activities be expanded in marginal areas without causing further stress on fragile natural ecosystems?

Agricultural production can be expanded through land saving and labour intensive methods, but there are limits to the absorption of the additional labour supply generated by population increase in rural areas. Many of the respondents stress the need for policy to look beyond the narrow confines of production agriculture and broaden it to the overall development of the rural space, while at the same time avoiding the defects of past attempts at integrated rural development projects. Work should be further pursued on the formulation of strategies that are conducive to rural diversification, development of – and increased access to – small-scale processing facilities, promotion of agro-industries and of group-based agribusiness in rural areas, and, in general, any activity aimed at increasing the value added of agricultural produce and enhancing the competitiveness of small farmers and of other rural operators.

Interventions that address poverty issues will also contribute to combat food insecurity. However, specific measures directed at improving food security are called for. Food security issues can most pertinently be addressed in the context of the Plan of Action agreed at the 1996 World Food Summit which, with its seven commitments, covers a comprehensive spectrum of initiatives required to enhance food security at the household, local community, national and international levels. Research is called for to help formulate and design modalities of implementation, and help countries identify the most effective ways to give practical effect to the commitments that concern them and overcome the problems that they face in this regard.

Focussing specifically on nutrition, research can assist in better formulating, targeting and promoting nutritionally beneficial programmes. There is need to define precisely and prioritize the main problems of vulnerable groups and, following that, to translate the knowledge on these problems into the design of practical measures to improve nutrition that reflect the views of those that are involved and are tailored to meet their needs. Similarly, it is necessary to improve the methodology for monitoring and evaluating the nutritional impact of agricultural and rural development programmes and projects.

Closely related to food security is the issue of preparedness against, and responses to, natural and man-made calamities. In this regard, several of the respondents have underlined the need for interventions for attenuating the incidence of external shocks on the poor and for improving their resilience capacity. These may include modifications in production technology, innovations in the modalities of social organization and social insurance schemes. Further research on household risk coping strategies at the national, as well as at the household and farm levels, and risk sharing systems is needed need for agricultural and rural households that are most vulnerable to natural calamities and weather vagaries. Market stabilization policies can play a significant role.

Finally, there is need to re-assess the role of the state in the fight against poverty. The functions of the state should be better defined in light of the experience of the last decades, both when the state has had a predominant role and when this role was drastically reduced. Revision of its functions, along with enhancement of accountability, democratization, and good governance are fundamental issues on the development agenda, and are certainly most relevant for poverty. These are primarily issues for action, but research may provide support in better defining public functions for poverty alleviation and in identifying national and local instruments of social control, as well as forms of international conditionality for promoting and encouraging better governance. These aspects will be examined in sections III and IV of this chapter, dealing respectively with changes in the role of the state, and globalization and international trade.

### **3. POLICY REFORMS AFFECTING AGRICULTURE AND RURAL DEVELOPMENT, AND CHANGES IN THE ROLE OF THE STATE**

Almost two decades of experience with macro-economic stabilization and market oriented policy reforms and the consequent, generalized but uneven, pace of withdrawal of the state from economic activities related to food and agriculture have left a number of questions still unanswered or only

partly answered. Those that have most frequently been addressed by the respondents to the questionnaire relate to:

- the impact that policy reforms have had on the level and distribution of incomes, particularly in rural areas;
- the impact that policy reforms have had on the performance of the agricultural sector, and what are the reasons for different outcomes of the reform process in this regard in different countries;
- which kind of changes must be considered to improve the effectiveness of policy reforms with respect to agricultural and rural development;
- what consequences such changes imply for the role of the state in agricultural and rural development.

Issues related to income levels and distribution have been addressed in the previous section, with special regard to the aspects that are of greatest concern, namely inequality, poverty and food insecurity. Here we shall turn to the other sets of issues listed above.

### **Retrospective analysis**

A retrospective analysis of the effects of policy reforms on agriculture does not lend itself to easy generalizations. A number of preliminary issues need to be addressed, to which reference has been made in the course of the survey.

The first one concerns the criteria on the basis of which agricultural performance can be evaluated. The simplest and, possibly, most significant indicator of performance is the growth of agricultural GDP. However, in relation to the objectives of policy reforms promoted in the context of structural and sectoral adjustment, other performance criteria can be adopted that permit to verify progress toward the achievement of stated objectives. These would include, for example: changes in the agricultural terms of trade; the shift in agricultural production patterns towards products identified as having a comparative advantage for the country concerned; the growth of agricultural exports; and the share of total value added accruing to farmers and, more generally, to the rural population.

A second issue relates to the difficulty of isolating the effects of policy reforms from other causal factors that influence agricultural performance. These include, at the level of each country: the initial conditions prevailing in the economy; the national resource endowment and the distribution of the ownership of, and access to, land and other resources; the prevailing agrarian structures; the prevailing levels and types of technology and utilization of production factors. At a broader level, the impact of exogenous forces which domestic reforms do not influence, mainly world trends in output and prices and international trade policies of other countries, also need to be taken into consideration.

Related to this, a third issue in evaluating the impact of reforms on different aspects of agricultural and rural development is: “what if reforms were not to take place?” Reforms were implemented as a response to unsustainable situations, created by a combination of external conditions and ill-focused policies. To what extent the post-reform situation reflects the effects of pre-reform crisis? Such a counterfactual scenario, albeit very difficult to construct, may nevertheless lead to a more precise evaluation of the effects of policies put in place to deal with the crisis.

Whatever the influence of external factors and of pre-existing crisis situations, respondents to the questionnaire have stressed the need to evaluate policy reforms. Their suggestions fall in three main areas. The first relates to the conceptualization and design of the reforms themselves, including their intended timing and sequencing. The second concerns the effectiveness of their implementation, taking into account the degree to which reforms have been adopted and the way in which the reform process has been implemented, including political constraints and capacity to implement them. The third area relates to the responses that reforms, and the way they were conceived and implemented, have generated in the agricultural sector. In relation to all the three areas, respondents have stressed the need to disaggregate the analysis, wherever possible, at the local level, so as to discern the effects of policy reforms on village communities, on specific typologies of farmers, and other rural people.

With respect to the first point, i.e. the nature of reform conception and design, the main issues that have been raised refer to the design of policy

reform and to their timing and sequencing. The design of policy reforms has in most cases adhered to a pre-established, uniform pattern without proper consideration for the particularities of regions and countries. To which extent has the lack of adaptability to local conditions, the structure of the rural economy, the institutions prevailing in different countries, etc. influenced the effectiveness of reforms? This calls for further analysis relating the nature of policy reforms to specific country and local characteristics, through research studies at the country level. Timing and sequencing of reforms have often been called into question. Fundamental in this respect has been the need for the development of an institutional infrastructure (legislative framework, private property regulations, system of contracts, banking supervision) in parallel with the process of privatization and liberalization. Haste and confidence in the “big bang” approach, the conviction that “getting prices right” would per se lead to efficient market systems may have led to a relative neglect of institutional aspects of reforms. Especially evident is, in this regard, the case of some transition economies. But the same applies to a large number of low-income countries as well.

Regarding the second area of concern, i.e. effectiveness of implementation, a general request coming from respondents to the questionnaire relates to the continuing need for analysing and evaluating ex-post the factors (economic, social, institutional) that have contributed in practice to the success of reforms with respect to agriculture – or have hindered their successful outcome – in different countries.

There are also issues related to partial or half-hearted implementation of policy changes: to which extent incomplete implementation hindered the achievement of the development objectives of the reform process? Conversely, could it not be that in certain cases a hastier and more thorough application of the precepts dictated by international lending organizations might have been inimical to rural development and farmers’ welfare? A similar point raised in this respect has to do with the distinction that should be made between cases of effective liberalization and official liberalization.

In talking about the difference between “notional” and effective liberalization one is led inevitably to the political economy of reforms.

Political economy aspects have been frequently underlined in the survey as crucial determinants in the success – or the lack thereof - of policy implementation. Many reform policies did not show the desired effects because they were not in the perceived interest of some important groups in the country. To which extent has the pressure exercised by these groups interfered with the successful implementation of reforms? How far have lack of transparency in policy administration, rent seeking and corruption inhibited the effective execution of policy changes? Is policy influenced more by urban elites? Further research is needed to compare policies of well performing countries with those countries which did not achieve the expected results, and “isolate” institutional and political factors impacting on the reform process.

With regard to the issue of supply response in agriculture, the main question has been: “what are the circumstances that have determined a slower than expected supply response by the private sector in agriculture to changes in prices and opportunities, especially in LDCs – and, conversely, what are the factors which have facilitated a more rapid transition in some countries?”. Various hypotheses have been advanced on the reasons for weak responses by the private sector. Each of them deserves being taken into account in research programmes. They include the following.

- low capitalization of private enterprises and underdevelopment of capital markets in low income countries;
- lack of sufficient entrepreneurial capacity in countries where the government has dominated economic activities for a long time, coupled with a lack of conviction that government has truly withdrawn from certain areas and will not return;
- incomplete or inconsistent packages of policy reforms;
- partial or biased implementation of reform packages;
- privatization of state assets in a way that creates private monopolies or oligopolies, without an adequate regulatory framework;
- lack of adequate supply of infrastructure and public goods.

Respondents consider that the following questions also deserve additional research.

- What are the relevance, extent and composition of transaction costs that have constrained supply response?
- To what extent has the inadequate dissemination of information on economic/institutional reforms constrained the response of the private sector?

An important issue that is not directly related to supply response, but, more generally to the capacity of the private sector to fill the vacuum left by reduced government intervention is that of the provision of agricultural services and inputs. Retrospective analysis at the country and local levels can give answers to such questions as: how quick and effective has been the capacity of private operators to replace the public sector in those cases where mechanisms for the provision of services and input supply have been greatly reduced? Which categories of farmers and rural people have benefited and which ones have been damaged or left out altogether due to the disappearance or decrease in public interventions in research and extension, seed, fertilizer and pesticide provision or subsidization, management of market channels, repairs and maintenance of rural infrastructure etc.?

### **Implications for policy design and implementation**

Moving from retrospective analysis to the identification of implications for policy design, a few themes have emerged from the survey.

Market reforms in agriculture have been mainly based on de-control of existing markets in the expectation that competitive markets would emerge and would increase the efficiency of resource allocation overall and in the agricultural system. Research can shed light on how, within the specific social and cultural context of different societies, institutional changes have been or can be implemented in order to stimulate the private sector's role and generate competitive market conditions for agricultural inputs and outputs in situations where withdrawal of earlier government



interventions have created, or risk to create, a market vacuum or the emergence of private monopolies or monopsonies.

Packages of measures should be identified that can induce a more effective involvement of the private sector in agricultural markets, taking account of past experiences, positive and negative. In the context of market liberalization, the need is felt for identifying ways of improving linkages between urban areas and rural producers and between sectors within the rural space, with a view to stimulating rural development; for evaluating and improving the effectiveness of existing marketing systems; for identifying measures to sustain the process of market development (risk management instruments, information and other services); for exploring effective forms of private/public partnership in the provision of such services.

The consequences of the financial crisis in East Asian countries point to the need for research to investigate the most adequate policy mix to prevent, and recover from, external shocks that endanger the economic and social stability of a country. In particular, research can help in identifying the most appropriate measures to protect the income and food security of the poor in case of external events that may threaten their livelihoods.

With respect to new trends toward policy design, mention should be made of the World Bank's Comprehensive Development Framework (CDF), which calls for a long term holistic approach, gives much greater importance than in the past to institutional aspects and to the specificity of different societies, stresses the importance of good governance, calls for "ownership" by the recipient country and plays down the earlier accent on strict conditionality to enhance instead the method of consultation and participation.

The CDF is not a detailed blueprint for action, but rather (as its name implies) a framework within which new ideas and proposals for initiatives can be advanced, with a view to making progress towards the stated objectives of CDF itself, namely sustainable development and poverty

reduction. Researchers from different organizations can contribute to the development of innovative policy proposals, taking account, *inter alia*, of the interactions between the principles expressed in the CDF and the commitments that are contained in the World Food Summit Plan of Action.

### **Changing role of the state**

Over the last decades, the role of the state in the economy has radically changed. Before the 1980s governments in developing countries generally claimed a large role, for which they were in most cases intrinsically unsuited. The realization of the weaknesses of the state led to a drastic shift in the paradigm concerning its role in economic activity. The orientation of international financing institutions called for minimal government interference and the withdrawal of the state from a number of functions that it had hitherto performed.

There is now a widespread consensus that a blunt “market versus state” dichotomy is grossly oversimplified and that the state has an important role to play in economic activity and poverty reduction, albeit a different one than that it used to. The need is generally felt for a strong and effective, albeit smaller, government that would assume responsibility for the provision of public goods and the correction of market failures.

However, the extent and modalities of government intervention as well as the forms of interaction and partnership with the private sector and organization of the civil society are still far from being clearly delineated. They obviously vary from country to country and largely depend on the institutional capabilities of the central government and peripheral public entities. Respondents to the questionnaire have raised a number of points related to the contribution that research can give to defining the role of government, decentralized public units and the civil society in food, agriculture and rural development. They can be summarized as follows.

- a) A synthesis of current research would be useful on the definition of the public, common and private character of economic and social functions, as there is considerable divergence of views about it. There is a tendency of equating public functions with the public sector (i.e. implementation

of public functions by public institutions and civil servants). It is desirable to identify those public activities that could be implemented by the government or local public entities, and those that can be implemented by private organizations with various forms of public or social control, taking account of the specificity of local structures and institutions.

- b) In particular, the withdrawal of direct state intervention from agricultural markets raises a number of questions, such as: what lessons can be learned from the experience accumulated so far in various institutional settings? Which agricultural support services can be provided by the private sector and various organizations of the civil society, and which ones should be retained by the government - under which conditions and with which modalities? More knowledge is needed on the role that can be played by farmers' organizations, NGOs and other forms of civil society organization in delivering rural public goods and services. There is need to analyse the role of each type of organization with respect to their capacity to respond to different kinds of market failures. Case studies and analyses of conditions leading to successful experiences are still necessary and can contribute to improving existing knowledge on most suitable forms of organization in agriculture.
- c) Since the non-farm economic activities taking place in the rural space fall only too often in an institutional vacuum, policies for their promotion entail the re-definition of the role of the Ministry of Agriculture and other government bodies with respect to rural development. The institutional set-up and the organizational structure most effectively conducive to rural development should be the object of country-by-country investigation, including links with decentralized units of government, the private sector, and civil society.
- d) Small farmer-based and servicing enterprises, in particular agricultural co-operatives and associations can effectively take over activities in rural areas formerly managed by the public sector. However, institutional mechanisms for consultation with, and support of, private sector/rural people's based enterprises are often deficient. Excessive

or misplaced forms of control often limit the development of viable farmer co-operatives and associations. There is need to know more about the experiences with decentralization and privatization, through empirical studies analysing the cost-effectiveness of alternative approaches to decentralizing and privatizing services in rural areas. Fiscal aspects of decentralization are also important issues.

- e) With respect to decentralization, a common danger is that governments usually want local government units to be uniformly structured. But one of the main advantages of decentralization is that it makes it possible to diversify decision processes according to local conditions including institutional capacity. Much could be learned from the diversity of local ways of making public decisions and social choices, with direct and indirect effects on food and agriculture. A review of past experiences would be helpful. Also, more information is needed to analyse the desirable process and sequencing of implementing decentralization.
- f) A sensitive issue is redeployment of staff of parastatal agencies whose functions are privatized. At the same time, there is need to increase the efficiency of the remaining staff through capacity building and an appropriate remuneration policy, so as to reduce, and hopefully neutralize, corruption. Analysis of successful examples of practical options would provide useful guidance in this regard.

#### **4. GLOBALIZATION AND INTERNATIONAL TRADE LIBERALIZATION**

Globalization is a term very widely used, in the research and policy debates, as well as by the press and the general public, but very seldom precisely defined. In fact, several definitions have been put forward that put the stress on different aspects of the phenomenon. From a narrow economic point of view the term refers to the fast-growing degree of interdependence among countries and regions through increased international trade and capital flows. A broader definition would include aspects such as information, environmental, social, cultural, and even health issues that are in many cases becoming increasingly 'global'. Governance and the

role of national governments is also affected by globalization, as the importance of global governance bodies and agreements (e.g. the WTO) increases, and as a world-wide trend toward less regulations and more role for markets gains strength (though some point to a possible reversal of the current trend).

The forms of interdependence included in the definition of globalization (e.g. trade and capital flows) are not new. What is new is perhaps the speed at which their global dimensions are expanding. A matter of degree, therefore, rather than totally new processes: Trade has grown twice as fast as world GDP in the last decade, but its share in world GDP is comparable to what it was, for instance, in the 1930s.

Possibly the most recurrent feature in the emerging literature on globalization is that of spelling out the dichotomy between the opportunities and the threats it poses, and the mechanisms through which they may materialize. A related observation concerns increasingly 'connected' vs. increasingly marginalized countries and people. Only a handful of countries, for instance, account for the near totality of international capital flows, and even within a country (as it has happened in China) the gap between export-oriented regions and remote areas may widen.

The task of this section is not however that of analysing or even just presenting the multiple aspects of globalization, for which the reader is referred to the 1999 edition of the World Bank's *World Development Report* and UNDP *Human Development Report*. The focus will instead be on presenting a concise summary of the issues related to food and agriculture that the respondents to the questionnaire have raised and that concern (a) cross-cutting aspects of globalization; (b) the freeing of capital movements; and (c) international trade liberalization. Needless to say, this distinction is at times somewhat arbitrary and even issues already referred to above in relation to market oriented reforms may as well be covered in this section to some extent.

Opportunities and dangers deriving from globalization (including international agricultural trade liberalization) should be analysed at a disaggregated level for different groups of countries and different

population groups so as to better target policy interventions and assistance as necessary. In the responses to the questionnaire, the overwhelming concerns deriving from globalization is that of the risk of further impoverishment of poorer countries and poorer groups of population, deterioration of their food security and accentuation of marginalization which may be associated with the increasing bi-polarization in the world economy. Further research on policy measures at the international and domestic levels to limit and, if at all possible, reverse, the effects of these threats is certainly needed. It should however be stressed that the existence of a causality link between globalization and the widening of the income gap between rich and poor economies at a macro level is far from clear or proved, and that this may itself deserve further investigation.

Related to this, several respondents stressed that with globalization countries may be increasingly exposed to external shocks as well as opportunities. It is therefore important to increase our understanding of what influences a country's capacity to adjust to shocks and/or reap the benefits of such opportunities. Physical infrastructure, education, the development of domestic markets and institutions are most likely to have a direct beneficial effect on such capacity. However, the list is very likely to be incomplete, and further research is needed to improve our limited knowledge of (a) the factors that are more relevant for the rural sector to successfully cope with such changes, (b) the mechanisms through which these factors operate, and (c) the policies that can foster a country's capacity to adjust.

The emergence of global governance issues is a further aspect of globalization that generates questions for research. One major example is the power of WTO over member nations, which is much greater than that of the GATT. But besides that, a number of multilateral environmental agreements, trade and currency unions are now in place that have significant implications at the national level (biodiversity and climate change conventions in particular, but also biotechnology, biosafety and IPRs). Systematic research is needed with the aim of developing policy options for negotiations. Such research should take place at different levels: general (key policy questions); country- and region-specific (to assist policy

formulation); ‘institutional’ (to highlight the crucial policy-research links and the constraints in delivering policies).

### **International capital flows**

Only a few (twenty or so) ‘emerging markets’ significantly participate in international capital markets, while most developing economies are still at the margins. In fact, some trace a divide between countries (and they are the majority) that are at a ‘first stage’ of globalization (which entails opening to trade and introducing current account convertibility), and those that are well into a ‘second stage’ of globalization (characterized by some integration into world capital markets and some degree of capital account convertibility). The distinction is not merely academic, as the problems and opportunities created by the different levels of integration into the world economy are clearly different for the two groups of countries.

The inflow of capital, in terms of foreign direct investment, attracted *inter alia* by a competitive factor cost structure, does generate opportunities for expanded economic activities and employment that should not be underestimated. In this connection, innovative forms of co-operation between international investors and national agriculture and agro-industry need to be developed so as to expand income gains for developing countries, giving consideration at the same time to environmental and social effects.

Large and free movements of financial capital without proper regulation of domestic financial institutions can be a source of financial crises, as has happened recently in Asia and Latin America, with repercussions on the economy and on agriculture. The nature and extent of these repercussions, specifically on agriculture, agro-industry and the rural sector in different countries, deserves more in-depth analysis. Research efforts leading to a more accurate sequencing of liberalization and institutional policies so as to avoid (or minimize the impact of) such crises are also needed. The recent controversy over the appropriateness of the policy response to the Asian crisis confirms that a consensus on such an important issue is far from having been achieved.

Nevertheless, many countries that are currently at the 'first stage' of integration into the world economy are likely to eventually, even if not necessarily, graduate to the 'second phase'. Policies to adequately manage this process and to create the conditions for countries to attract, and benefit from, the inflow of international capital in its various forms, in particular with respect to the implications for the agricultural and rural sectors, should be investigated further.

### **International agricultural trade**

Several issues calling for impact analysis have been raised by respondents in connection with the implementation of trade liberalization measures. Issues raised included both assessments of past experiences with trade liberalization (namely those brought about by the Uruguay Round), but also issues that are of relevance for future negotiations. Following are some of them, in that order.

One of the problems in starting a new round of multilateral trade negotiations is the increasing scepticism with which many developing countries now look at the potential benefits and costs of freer trade. That is because the benefits that they managed to reap following the UR are seen by many as much more limited compared to what the expectations were at the conclusion of the round. At the WTO Ministerial Meeting held in Seattle in December 1999, these concerns were clearly put forward by many developing countries, that stressed the need to assess the experiences to date with the implementation of the Agreement on Agriculture before embarking into further negotiations. Their proposals stressed in particular two points to be looked at: (a) the difficulties that developing countries encounter in implementing the Agreement, and (b) the assessment of the Agreement's impact on trade, including an assessment of developing country constraints in accessing import markets, due to both tariff and non-tariff barriers. Similar concerns figured in the responses to the CUREMIS questionnaire.

A first major question for research is therefore to what extent have developing countries been able to take advantage of UR provisions. Related



questions concern whether there have been particular problems for them in complying with UR commitments and, if so, in which areas - and what is being done or can be done to overcome them.

Other major questions include the relative importance of other factors, such as sanitary and phytosanitary standards or technical barriers to trade. Serious concerns have been expressed by several of the respondents regarding developed countries' policies (notably the EU, USA, Japan) that hinder exports from developing countries, including explicit or implicit export subsidies, tariff escalation, and various forms of non-tariff import barriers. This is also an issue that has emerged during the recent multilateral trade talks, as developing countries voiced dissatisfaction with the implementation of the UR Agreements including *inter alia* the inadequate implementation of the Marrakech Decision Concerning the Possible Negative Effects of the Reform Programme on Least Developed Countries and Net Food-Importing Developing Countries.

The erosion of preferential treatments is perceived by some respondents as a serious problem, although some disagreement emerged on the likely magnitude of its impact. For certain countries and commodities the effects of the erosion may not be adequately compensated by the provisions adopted in the Uruguay Round in favour of developing countries. Can the combined effect of these two sets of factors on export earnings and farm income be identified and quantified?

The position of countries regarding agricultural trade liberalization is often driven by diverging political concerns relating to the allocation of costs and benefits from higher market access, the reduction of export subsidies and of domestic support to agriculture, and the removal of barriers to trade. Their negotiating position in the next round of international trade negotiations will reflect these differing concerns. Research leading to guidance on the negotiating position of groups of countries having similar concerns to be adopted in order to maximize the benefits or reduce the negative impact of specific aspects of international trade agreements is seen by respondents to the survey as a useful contribution. Special consideration is needed for Least Developed Countries (LDCs) in general

and, particularly, for smaller countries which have a weak negotiating power.

Following are some of the points which have been raised in this regard:

- a) As benefits of preferential schemes are eroded, what additional options for special treatment in favour of groups of developing countries affected can be proposed that would permit lowering the cost of adjustment to the increased competition at the world level? Options that have been proposed include compensatory tariffs (to offset remaining subsidies by developed countries), adjustment funds to encourage the switching to more environmentally friendly production lines, allowing higher export subsidies to be reduced *pari passu* with import tariffs. A detailed analysis of the likely impact of these and other alternative measures is needed to reach more informed negotiating positions on all sides. How can food security be further safeguarded through additional provisions to those already adopted in the UR? Can other types of special measures be devised that will protect the livelihoods of most vulnerable groups, both in rural and urban areas?
- b) What would be the most appropriate sequencing of agricultural trade liberalization and other policy reforms which are currently undertaken by a number of developing countries (e.g. exchange rate reforms, domestic factor market reforms)?
- c) Although in theory environmental issues are best treated through specific (non-trade) agreements and policies, governments have found trade measures to be a useful mechanism for encouraging participation in and enforcement of multilateral environmental agreements. As the importance attached to environmental standards tends to increase with per caput GDP, poorer countries want to avoid excessive environmental standards being imposed on them through trade agreements. A similar story applies to labour standards. How do trade concerns relate to environmental concerns and labour standard concerns and are they best treated through trade negotiations or otherwise? What is the interest of poor countries with respect to this? Many developing countries have taken the position that environmental issues should be left out of trade

agreements, and fear that an inclusion of environmental issues may mask increased protectionism by developed economies.

Again, research on these issues may facilitate reaching more informed negotiating positions.

Besides international agreements, regional trade agreements (RTAs) are sometimes indicated as an opportunity for expanding intra-regional trade, strengthening the bargaining power of participating countries, and also as a possible way to contribute to increasing food security at the sub-regional level. While issues such as the theoretical implications of setting up RTAs, or the analysis of their functioning in middle- and high-income countries (e.g. the EU, NAFTA, Mercosur) have been thoroughly studied, much less attention has been devoted to the analysis of RTAs other than those mentioned.

This is reflected in some of the issues for research that have been raised by the respondents to this survey: (a) What makes some RTAs 'successful' and others not, and in particular what has been the experience of poorer countries (e.g. in Africa, in Asia) in setting up RTAs; (b) What is the impact that different options for RTAs would have on national food security; (c) Are RTAs a way to converge towards multilateral trade integration (trade creation) or an obstacle on its way (trade diversion and increase in trade discrimination)? The matter may be worth of further investigation in different economic and geographic situations, also in view of the compatibility with the current WTO agreement on agriculture and of forthcoming WTO negotiations.

Questions have also been raised in relation to international agricultural trade that concern more directly domestic issues and policies, rather than multilateral trade negotiations and trade liberalization. A first set of such questions relates to the changes in the composition of agricultural output in response to the emerging trade and policy environment. To which extent have changes in agricultural trade affected (or will affect in the long run) crop switching and the level of food production for internal consumption, and what are the implications? How is the drive towards agro-

industrialization fostered by increasing agricultural trade, international competition, and internationalization of product standards affecting the development of the different agri-food subsectors (farming, inputs, processing and distribution) in developing countries? Under what conditions does this lead to broad-based as opposed to unequally distributed gains from economic growth? What are the implications for policy, including those related to technology development and adoption, and institutional changes?

Which adjustments in domestic policy are required in different countries to improve competitiveness to realize the potential benefits arising from tariffication and removal of trade distortions? Treating tradable agriculture as a special case of industrial analysis, and introducing new methodological approaches imported from other disciplines, as it has been suggested by some respondents, may yield rewards, particularly in the analysis of dynamic comparative advantages and of what government can do to foster competitiveness.

Some of the smaller countries fear that, as a result of globalization, import of processed food of lower nutritional value may increasingly replace traditional food items in the diet of local population, with a net deterioration in the quality of nutrition. This and similar concerns call for nutritional impact analysis of trade policies.

A potential source of benefits for developing countries agriculture may come from the establishment of “labels” which define specific production conditions (e.g. organic agriculture, absence of genetic manipulation, equitable distribution of benefits etc.), as these may improve the production and export potential of indigenous agricultural products as compared to those obtained through large scale industrial production methods usually employed by trans-national corporations. The potential for such measures to contribute to pro-poor growth and the mechanisms through which this may happen should be explored.

## 5. INCREASING AGRICULTURAL PRODUCTION: SUSTAINABILITY AND TECHNOLOGY CHALLENGES

### **Increasing pressure on natural resources and the environment**

As the scale of human activities expands, the capacity of ecosystems to (re)generate the natural resource base becomes an increasingly binding constraint to further growth and development. With respect to agriculture, the combined effect of population growth in developing countries, of increases in per caput income and of changes in dietary patterns linked *inter alia* to growing urbanization, will bring about substantial increases in demand for food and other agricultural products. Increased food demand will have to be met either through local food production or through increased export earnings, mainly agricultural for many developing countries. In either case, there will be context-specific constraints that are likely to entail, even in the presence of progress in land saving agricultural technology, further expansion into less and less productive land, growing water requirements, deforestation and additional exploitation of fisheries resources and further environmental degradation.

Population growth is a major factor of pressure on natural resources and of environmental degradation. Correct diagnosis of problems related to the population/food nexus usually require a local, sometimes even a household level of analysis, although action may require national and international support. Thus, respondents emphasized the need for investigating the interaction between demographic factors and food availability, including indicators of population structure and potential growth, and for working out operational mechanisms through which to measure population/food supply ratios and vulnerability to food insecurity at the local level and inform related policy action.

An overall research priority that has emerged from the survey concerns the need for a state-of-the-art review and assessment of best practices for sustainable use and management of natural resources, as emerging from research work carried out to date, including the empirical analysis of

determinants of successes and failures encountered in adopting methods inspired to the so called “Doubly Green Revolution”. Such practices can be included in packages of policy measures to increase production, while ensuring sustainability and fostering accessibility of food supplies.

In turn, these packages would also benefit from better information and statistics at the national and local levels on aspects such as: available land resources, current land use patterns, land use changes, potentially available land, land erosion and degradation, available water resources etc. Informed policy discussion also requires progress in the methodology for the valuation of natural resources and methods for identifying environmental and production trade-offs, externalities associated with different technologies and processes, and for designing market-based instruments to rationalize and internalize costs in line with the distribution of benefits.

Progress is also needed in our knowledge of the factors leading to the expansion of the agricultural frontier (e.g. agricultural extensification vs. intensification), and of the impact of farming system choice resulting from policy incentives on natural resource depletion (deforestation, soil degradation and, generally, reduction of the productive capacity). How can the process of resource degradation be checked and, possibly, reversed without compromising growth? Methods for assessing the ecological and economic viability of household production systems are needed to prevent producers from progressive de-capitalization (e.g. depletion in soil fertility).

Several respondents underscored the issue of conflicts over access to natural resources and of gaining a better understanding of how can conflicts between different actors (producers, consumers, sedentary vs. nomadic pastoralists, tourism) be addressed and solved while fostering at the same time sustainable agricultural and rural growth and development in general. Additional issues for research that have been identified by respondents include the following:

- a) Assessment of the role and potential of organic and/or low input farming in increasing agricultural output value, on-farm employment and income in a sustainable way.

- b) Better understanding of the issues, social as well as economic, informing the direction of public investment in most fertile or in lower potential areas.
- c) Related to the above, research is needed on the appropriate policies to address the problem of increasing agricultural productivity in a sustainable manner in remote and marginal areas.
- d) Research and dissemination of findings on the development of sustainable, integrated agro-forestry activities, including investigation on economically efficient use of food and other non-wood forest products.

#### **Land and water resources: some economic and policy issues**

Land tenure and land use regimes and related policies represent an important factor for sustainable agricultural production growth. The issue of land reform is still an open one in many countries; access to land by landless rural people, and other forms of land distribution or consolidation of land holdings remain important policy issues. The way in which such issues are confronted would significantly influence both equity and efficiency in rural areas.

A first research issue raised by respondents in relation to land policy is the need to carry out a systematic survey of experiences with land reform policies with a view to deriving lessons that can be learned on land reform policy design and implementation. The potential trade-offs of instituting land rental markets as opposed to land redistribution, should also be the subject of further investigation. The issue of market based land reform and its implications should be closely examined.

In many areas traditional open and unrestricted land use systems are becoming unstable due to population growth, government policies, commercialization of agriculture, and changes in technology. In such cases the lack of secure land tenure and access to resources may pose a constraint to sustainable agricultural development. This is particularly so for rangeland, where open access has resulted in overgrazing, soil erosion and desertification. Research is therefore needed to identify institutional and legal arrangements conducive to overcoming these problems.

The analysis of integrated systems of land, water and coastal management is seen by respondents as a research priority, particularly for small island states. In these countries a better understanding of such systems is a sine qua non condition for appropriate policy design for sustainable development.

Many of the above issues assume special significance in transition economies, in connection with the adjudication of land that was formerly state or common property. Also with relation to transition economies (but not necessarily limited to them), in-depth studies on the functioning of land markets should be undertaken, so as to better understand the reasons for the lack of progress in the development of properly functioning land markets.

Since agriculture is the primary user of water, higher production to meet the needs of a steadily growing population, means using more water from strained supplies. The increasing demand for, and often injudicious use of, water are creating problems of scarcity which require greater attention to the design of policies leading to sustainable utilization of this vital resource. The problem is particularly acute in the Near East and North Africa, but is common to other regions as well. Respondents to the questionnaire have raised a few points in this connection, which are summarized below.

The current availability of water data to inform policy design and evaluation is considered far from satisfactory. The collection and dissemination of data and statistics on water consumption by agricultural activities has been pointed out as a high priority.

In the context of past and ongoing debates on the suitability and cost effectiveness of various forms of irrigation schemes, more in depth and up-to-date analyses should be carried out on the impact of policy reforms on water resources, including the reduction in maintenance work, the cost effectiveness of different types of irrigation schemes in various contexts, the role of (and potential partnership between) the public sector and social groups. This research work would help orientating future government policy and international cooperation.



The need is also felt for further research on how to provide incentives to farmers to adopt more efficient water use practices in agriculture. Specifically, there is need for research on how to best develop appropriate and socially acceptable water pricing policies, and on the sustainable management of ground water, particularly with regard to institutions for managing this non-renewable common property resource. Another important problem is the lack of awareness of water users in regions where water tables are overexploited. Timely research and communication to enhance public awareness over environmental threats are needed as necessary preconditions for policy decisions and acceptance.

Further research work should be carried out on policies and mechanisms for devising and implementing appropriate forms of shared water resources management. One institutional arrangement for the management of water resources that has often been championed in recent years by governmental and non-governmental development organizations is the setting up of Water Users Associations (WUAs). Research is needed on the experiences with WUAs including the factors that favour their creation and dissolution. What can be the role of policy at national or local levels to strengthen their effectiveness?

Very relevant to the food and livelihood security is the availability of safe drinking water. A crucial question is the analysis of water pricing schemes that balance water demands for agriculture and for human consumption while at the same time not neglecting the impacts of such pricing on the poor.

#### **Agricultural research and technology: some economic and policy issues**

In the quest for poverty reduction, increased food security and sustainability, a key role is played by agricultural research and technology advancement. Technological progress can help produce more, safer, and higher quality food and agricultural products, at lower cost, and with lower depletion of the natural resource base. National and international systems are in place that deal with the problems of agricultural research and technology and its management. This section is not intended to comment

on their efforts, but only to report on the perceptions of what are the open issues for research as they emerge from the survey.

Increased land and labour productivity can be achieved - in the short term - through wider local application of existing technologies, and - in the long term - through development or adaptation of new technologies for identified agricultural production systems. To date, agricultural research in developing regions has been mostly concentrated on production in relatively high potential environments, and on traditional export and the main staple food commodities. A partial shift in emphasis is called for by the respondents to the questionnaire for research strategies to include the development of technologies for indigenous food crops and non-traditional export commodities.

It is widely accepted that returns on investment in agricultural research have generally been high and application of research results has led to increased production. In some regions (e.g. sub-Saharan Africa), however, the National Agricultural Research Systems (NARS) have by and large so far not had the impact on productivity growth that they had elsewhere. One main challenge is now to engender agricultural research to provide SSA and other regions so far excluded from much of the productivity gains of the last few decades with the technologies required to increase and improve agricultural output in a sustainable manner at any scale of operation.

Some of the issues raised by respondents in this connection concern how can the capacity of NARS be enhanced further to make them efficient and effective in addressing the need for research, and technology development and transfer; the need to further explore appropriate alternative funding strategies for agricultural research (public or private, paid for by the state or by the clientele etc.) also in relation to different types of research questions; the extent to which the lack of complementary investment, services and public goods impede the efficient application of modern productivity enhancing technologies; the scope for policies conducive to the improvement of the performance of indigenous agricultural technologies with the involvement of local communities, and the development of guidelines for effective participatory approaches.

Appropriate technologies may vary considerably for commercial farms and for small agricultural producers. Commercial farmers usually have less difficulties in adopting the required technology. Small farmers are constrained by factors such as lack of credit and risk considerations. The challenge is that of devising the policies and institutions needed for the creation, adaptation and dissemination of appropriate technologies for different typologies of farmers.

Site-specific studies of the labour market are also needed to ascertain the features and extent of employment conditions, underemployment, plain unemployment, and related issues such as seasonality of labour demand patterns. The results of this type of research will have implications for policies related to technology generation and adoption.

A still very much open field is that of biotechnology. What will be its impact on biodiversity? What are the prospects of it being used to address the needs of the poor and enhance food security, and what role can the National and International Agricultural Research Systems play in this respect? Conversely, what are the risks of polarization of production in developed countries and displacement of agricultural output of developing countries through the substitution of food produced through biotechnological innovations, including that hitherto obtainable only in tropical countries? How can co-operation among countries promote the acquisition of biotechnological innovations?

What is clearly established from past experiences and has been repeatedly stated by respondents is the overwhelming need to focus on the demand for new technology and on training people in using technology. In rural areas specific work has to be done to establish accessibility to communications media and information: how are information needs determined; how can the capacity of the NARS to promote Agricultural Information Systems be enhanced; how can stakeholders participation be promoted; how can the effectiveness of information systems on stated objectives be measured.

Privatization and liberalization have no doubt produced gains in the overall efficiency in agriculture and in the provision of some services. But since research and extension have a substantial public good component, if

outright privatization is attempted that may result in such activities being under-funded. In particular, small scale farming is more likely to be neglected, both because of lack of interest by private research institutions and because of the high cost of access to research findings by smaller farmers, with consequent efficiency losses. Have there been cases of success stories in privatization of research and extension and which are the characteristics of such systems? Which are replicable?

In Africa, for instance, the public sector still plays a key role in agricultural research and technology generation. While the scope for partnership with the private sector should be explored, any decision to move toward a more private-sector oriented agricultural research system should, according to the responses to this survey, be examined with great caution. In countries in transition, the way agricultural research is to be re-oriented to the changed economic context poses questions which are very different from those of other regions and that should be examined in depth.

Stock should be taken of past experiences with various methods of R&E to elaborate on what are the specific reasons for losses in research efficiency where they have occurred, what policy initiatives are required to revive research efforts geared towards the needs of small farmers, what is the institutional set-up which can ensure an effective transition towards a demand-driven research and knowledge system. Research efforts should be devoted to the question of how countries are addressing the issue of decentralization, and the related policy implications for agricultural research.

Measures to prevent the collapsing of public extension services should be considered, given the importance of extension services reaching the rural poor. In this respect new ways of delivering such services (e.g. through schools, local shops, radio, Internet, etc.) should be analysed from, inter alia, a cost/benefit perspective. The experience with cooperation between farmers' associations, NGOs, community groups and government in research and extension should be analysed so as to come up with guidelines to ensure better coordination.

The issue of Intellectual Property Rights (IPRs) as it relates to agriculture has received particular attention by the respondents to the questionnaire. The recommendations that have emerged fall into two broad areas: (a) the need to investigate in greater depth the economic implications of the extension of IPRs to agricultural varieties, technologies and markets, and (b) the need to develop and strengthen institutional mechanisms, national and international regulatory systems to help governments deal with IPRs in agriculture, and avoid that benefits of IPRs be limited to the privileged few.

The recent drive toward higher IPR protection originated in developed countries, and it is increasingly an issue that raises concern in developing countries, because of risks of accentuated polarization and exclusion. The protection of IPRs involves very complex trade-offs relative to its potential beneficial (e.g. promoting innovation) and detrimental (e.g. restricting access) effects on the creation and diffusion of knowledge and information. The relative importance of such effects may vary greatly across industries (some being more IPR-intensive than others, the classic example being the pharmaceutical industry) and may interact with other factors such as a country trade openness or an industry market structure. In fact, IPRs protection policies will also influence market structure and have distributional consequences. Very little is known, however, on how these complex links work and on their likely net effects in agriculture. More research is therefore needed to evaluate the potential impact of alternative policy options in this area from a developing country perspective.

