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THE CHALLENGES OF POVERTY REDUCTION WITH PARTICULAR REFERENCE TO RURAL POVERTY AND AGRICULTURE IN SUB-SAHARAN AFRICA

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1. Introduction - the Issues and Setting

One out of five of the world inhabitants - about 1.2 billion people - live in extreme poverty. This is now commonly understood as living with less than one dollar a day¹. Their poverty is not only a condition of low income, low consumption and lack of assets. It is above all a condition of vulnerability, exclusion and powerlessness².

More than two thirds of them are in Asia; South Asia alone accounts for nearly half of them. About one fourth is in sub-Saharan Africa, and this share is expected to increase. This paper focuses specifically on sub-Saharan Africa, not only because it is in that part of the world that the greatest rural poverty reduction challenge lies, but in particular because IFAD and the Belgian Survival Fund Joint Programme (BSF.JP) target geographically in particular 16 sub-Saharan African countries.

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¹ The "standard" dollar-a-day poverty threshold is commonly used for international comparisons. This poverty line adjusts for differences across countries and times in Purchasing-Power-Parities (PPP). At this line, a person obtains a "global consumption bundle" worth USD 1 per person per day in constant purchasing power of 1993. For more on the measurement of poverty, identifying the poor and adding the numbers up, we refer to IFAD (2001), pp. 18-20.

² Throughout this paper, references are made to the following IFAD publications: IFAD, March 2002, Enabling the Rural Poor to Overcome their Poverty, Rome; IFAD, 2001, Rural Poverty Report 2001 - The Challenge of Ending Rural Poverty, Rome; IFAD, 2001, Assessment of Rural Poverty, Western and Central Africa, and: 2002, Eastern and Southern Africa, Rome; IFAD, 01 September 2000, IFAD and Belgian Survival Fund Joint Programme Strategy Paper 2001-2011, Rome.

Poverty is largely a rural phenomenon³ - some 900 million people - 75% of the world's 1.2 billion extremely poor - live in rural areas. In sub-Sahara Africa, it is 80%. Rural poverty reduction must therefore be given priority if the Millennium Development Goals (see box), particularly the one relating to poverty, are to be met. And ending rural poverty is the core business of IFAD since its inception since 1978. It is the only specialized agency of the United Nations exclusively committed to the rural poor, hunger and malnutrition, by raising productivity and incomes, and improving the quality of their lives⁴.

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The definition of rural as opposed to urban is important in the measurement of rural poverty. National distinctions between rural and urban are arbitrary and varied (see IFAD (2001), pp. 17-18). The most common definition of the borderline is 5.000 persons, but it is 10.000 ore more, as in Nigeria, or it depends on various characteristics, as in Brazil and China. We explicitly recognize the importance of peri-urban agriculture ("rural in an urban setting") and the increasing difficulty of distinguishing between rural and urban.

⁴ IFAD was founded as the result of a resolution of the 1974 World Food Conference. Its prime objective is to provide direct funding and mobilize additional resources for innovative, cost-effective, replicable programmes that have sustainable impact on the conditions of the rural poor in developing countries. For a long time, IFAD was a lonely voice on rural poverty in the international community. Needless to say, IFAD has 24 years of experience in this subject, and the IFA-BSF.JP has 15 years of accumulated information and know-how. Their comparative advantage and cost-effectiveness in this area are well recognized. Moreover, IFAD has in the multilateral development system one of the lowest overheads on its operations, with no field offices and modest operational costs. This makes IFAD unique in the United Nations system.

The United Nations Millennium Declaration (MDG)

The development goals of the Millennium Summit signify a determination of developed and developing countries to, as the Millennium Declaration states, *create* an environment - at the national and global levels alike - which is conducive to development and the elimination of poverty. Among the most important of these goals is halving, between 1990 and 2015, the proportion of people whose incomes are less than one dollar per day, and the proportion of people who suffer from hunger. Monitoring progress in reaching these goals is the task of the entire United Nations system coordinated by the Department of Economic and Social Affairs of the United Nations Secretariat and the United Nations Development Programme and in close cooperation with the World Bank, the International Monetary Fund and the Organisation for Economic Co-operation and Development.

Source: IFAD, Rural Poverty Report 2001, Rome.

Achieving the global targets in poverty reduction, taking into account the MDG, the Monterrey declaration and the Jo'burg summit, is the subject of Panel I. The focus will be on moving beyond declarations, focusing on the realities, the constraints, regions, priorities and actions of development agencies.

There is quite an academic debate whether poverty has reduced or increased over the last two decades (Deaton, June 2002). Two recent World Bank reports came to different conclusions on the evolution of poverty, on the basis of the same data set, but different analytical methods (World Bank, 2001a) (World Bank, 2001b). And both reports are truthful - poverty has lightly progressed from 1987 to 1998, and has considerably regressed from 1980 to 1998. It all depends on how poverty is measured

in China and India. More than one-fourth of the poor in the world live in India. According to Shaohua Chen and Martin Ravallion (2000), more than 200 million people in China have been lifted out of poverty during the last two decades. Part of the problem is one of measurement on the basis of household surveys, or on the basis of the national accounts of a country. Also, the World Bank is the only global institution publishing original estimates of the number of poor in the world.

For the purposes of this paper, it suffices to state that for most of sub-Saharan Africa, except for a few countries such as Ethiopia and Uganda, there has been little poverty reduction since the late 1970s, but a fall in the exceptionally high ratio's of rural to urban poverty. Often some reduction in rural poverty is accompanied by increased urban poverty as rural poor have moved to cities, without finding employment and income there. In contrast, successful rural poverty reduction usually works by raising the productivity of the poor, while most urban poverty alleviation efforts are welfare-oriented. Moreover, rural poverty alleviation may reduce migration, thus helping to reduce urban poverty.

It is now recognized that for some farming systems in marginal, resource poor areas, the best strategy may still be to move to other, better endowed areas or cities. This is now, for the first time I believe, explicitly recognized in FAO's pioneering study on the link between farming systems and rural poverty (see John Dixon, 2002, http://www.fao.org/ag/magazine/GFSS.pdf).

Poverty is not an intrinsic attribute of people, but a product of livelihood systems and the socio-political forces that shape them.

There is chronic and transient poverty, and they may demand different remedies. A household is chronically poor if its mean income is below the poverty line, while a household is transitorily poor if its mean income is above the poverty line but its annual income falls below the poverty line at least once during the period of analysis.

There are intimate links between rural poverty, food security and agricultural development. But its name notwithstanding, IFAD is not dedicated to the development of agriculture. IFAD is dedicated to improving the incomes, food security and livelihood security of rural poor people. But most rural people find their livelihood in agriculture, directly or indirectly. The agricultural sector contributes 30 to 80% to GDP (macro-economic development), employs 50% or more of the active population, and represents 50% or more of exports. Agriculture is also the principal source of savings, taxes (mainly at export) and public finance. Most sub-Saharan countries, with a few exceptions (Nigeria, Botswana, South Africa, ...), at the present stage of their development, are really agricultural states. But agriculture is typically poorly performing, under-capitalized and not really competitive at the international level. Agricultural growth is only 2% per year for 25 African countries, and 4% in 17 other.

"Agriculture" is to be understood here in its broadest sense, comprising crop and animal production, fisheries, forests and upstream and downstream sectors: agribusiness, the agri-food chain and transformation/processing of agricultural products. It includes smallholder- and peasant farm production as well as large plantation agriculture in the forest belt. Agricultural development must thus be seen in the context of an emerging value-adding chain and industrial development rooted in

agriculture. Thus, smallholder agriculture figures prominently - but not exclusively - in IFAD's operation in the region, because smallholder agriculture is one of the mainstays of their livelihoods. The point is to strengthen what rural people consider essential in improving their livelihood security, including non-agricultural activities where these are relevant and viable.

2. Agricultural growth, comparative advantage, stage of development and industrialisation

Most countries in sub-Saharan Africa are rich in agricultural resources - they have substantial natural assets for agriculture and have a definite comparative advantage in the agricultural sector. This depends very much on the stage of economic development (< 1,000 USD/capita) as comparative advantage shifts in the course of economic development. This is also why industrialisation in the first stage must be based on agriculture. Continuous improvements in agricultural productivity then open up opportunities for migration out of agriculture and diversifying industrial development, particular via small- and medium-sized enterprises. Several fast growing industrialising Asian countries, such as China, Malaysia, Thailand, even India are following this path. And Japan, South Korea, Taiwan and some other industrial countries have previously had rapid agricultural development as a precondition for industrial development. The case of Japan which had its agricultural revolution in the period 1863-1912, which laid a sound basis for industrial development is well documented (Yujiro Hayami et al., 1975).

The critical role of agriculture and agricultural development, leading to rural poverty reduction, at the first stages of economic development, is nevertheless often poorly understood. The critical role of agricultural development can only be well appreciated if one takes into account the following:

- the comparative advantage of the agricultural sector
- the capacity of the agricultural sector and agri-industries to absorb large amounts
 of labour (as a parking ground for later industrialization) no other sector can do
 likewise
- the labour-intensive character of agriculture and agri-industries for modest investments
- availability of adapted technologies at relatively low cost
- agriculture produces food crops which are at the basis of livelihood security
- the broad based income generation effects, and multiplier effects, which the agricultural sector brings. Agricultural growth is almost always equitable (except maybe plantation agriculture) and often favours women, particularly in food production and -processing. A large number of people share in its benefits.

 Agricultural growth is thus high quality growth and the quality of growth matters a lot. Growth in other sectors of the economy is also important, but it carries a much larger risk of increasing inequalities and resulting in uneven development, with a small number of people capturing most of the benefits. This can be said to be low quality growth. Agricultural growth means assets accumulation by large numbers of smallholders, increased productivities and expanding incomes for many, and it is usually sustainable
- agricultural growth very much determines economic growth in sub-Saharan
 countries, as such growth creates market opportunities for other sectors, directly or indirectly. Agriculture must thus be the engine of growth at the present stage of development

high quality growth is sustainable and PRO-poor, PRO-women and PRO-environment.

Most developed countries have no comparative advantage in their agricultural sector, which usually employs only 2-5% of the active population. Because labour is expensive, capital investment in agriculture is very high, and as a result, also agricultural productivity. But typically incomes in agriculture lag far behind those in the other sectors of the economy ("the income disparity gap"). And because farmers are well organized, and have strong lobbies, they receive protection and large subsidies from their governments.

The total public support for agriculture in OECD-countries now amounts to about one billion USD per day⁵. And because of positive protection and export subsidies from the industrialised countries, poor developing countries suffer in the realization of their agricultural development and comparative advantage. That "rich" countries support the incomes of their farmers can be seen as their business, but that they also give production-tied (coupled) subsidies and subsidize exports, and operate barriers for agricultural imports from poor countries, and thus make it very difficult for poor countries to lead an agricultural export-led economic growth strategy is shameful and unethical. For this reason, initiatives such as the European Union's "Everything - but - arms" for the very poorest countries, which eliminates all barriers on imports,

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⁵ This contrasts sharply with total ODA-development aid which is around 55 billion USD per year. Out of the total OECD-countries support for agriculture - 362 billion USD (or 1.4% of GDP) about 80-90 billion USD goes to export subsidies, undermining the ability of developing countries to compete effectively on world agricultural markets.

need to be expanded to all poor developing countries where agricultural development is their ticket out of rural poverty. Moreover, the transition period for sensitive products, presently up to 2006 for bananas and up to 2009 for rice and sugar appears quite long.

One also needs to recognize that poor agricultural performance in the past does not exclude rapid spurs of agricultural growth in the future, e.g. the Green Revolution in India in the late sixties and seventies. Moreover, there are success stories in agricultural performance in sub-Saharan Africa, e.g. cotton in West Africa, (e.g. Mali produces 600.000 ton, Benin over 400.000 ton), cocoa in Côte d'Ivoire (40% of world production), rice production in the Office du Niger in Mali, onions in Niger, cassava in Nigeria, cut flowers in Kenya, etc.. And all these successes point to favourable investment- and marketing conditions, a large public supportive role, and the importance of agricultural research, technology development, extension, input delivery and credit⁶.

According to Nicholas Stern (2002), chief economist at the World Bank, the investment climate - which leads to growth and poverty reduction, and empowerment - which leads to poverty reduction, particularly via education (of women), social protection (safety net) and inclusion in social organizations, are the pillars for a strategy for pro-poor growth. IFAD is particularly well placed for the second pillar - empowerment (see further) but also supports the first.

⁶ IFPRI is presently documenting agricultural success stories in sub-Saharan Africa.

It is only now that it is generally acknowledged that growth can only be truly sustainable when poverty is explicitly taken into account. And there is no viable alternative for rural poverty reduction than smallholder development as an engine of income growth.

3. Why do the rural poor matter and the nature of their poverty

As poverty in sub-Saharan Africa is mainly a rural phenomenon, the rural poor really matter in agricultural development and, by extension, in overall economic development. Experiences are that the poor, when given economic opportunities, seize on it and respond to economic incentives. This has been shown time and again, and warrants the focus on the rural poor as the foundation of economic growth and development. As the poor respond eagerly to economic incentives, they are efficient with the resources and technology at hand, save whenever they have a chance and pay back credit on schedule. This has been confirmed in Grameen bank type credit schemes in Africa and proves that poor rural people are creditworthy risks and in the end, a good investment. But because there are so many rural poor, and because the amounts involved per person or household are so small and the poor lack collateral, administration costs can add up. This is why a local, decentralised approach is needed and why commercial banks, usually located in cities, are usually not interested in lending to them.

Lifting the rural poor out of their poverty, breaking the poverty circle, through investments in their basic capital stock (physical, human, social) thus appears as sound economic strategy with the added advantage that such economic growth is high

quality growth and by definition broad-based and equitable. But that lending to the

poor is potentially a wise investment is often not acknowledged.

But rising out of poverty is no guarantee against falling back into poverty. Civil strife

and war, natural disasters, financial crises, migration and degrading natural resources

disproportionately increase the insecurity and instability of the rural poor. Thus, assets

stand central in the ability to withstand shocks and cope with vulnerability (see box).

And it is the access to assets and free markets that matters.

The Centrality of Assets for Rural Poverty Reduction

IFAD's Rural Poverty Report 2001 states that increasing access to assets is crucial for

broad-based growth and poverty reduction. Assets take many forms - human and

social (education, health, organizations), natural (land, water and forests),

technological (farm production, processing and marketing methods), infrastructural

(roads, communications, health and education facilities, housing) and financial (crop

sales and off-farm revenue, investment and working capital, 'savings' in the form of

livestock and stored commodities). There is strong complementarity among asset

categories. For example, building social capital by strengthening farmers' groups and

improving road and communications networks can enhance the financial asset base.

Secure land use rights can allow farmers to invest in technology, leading to higher

farm productivity and incomes. They may then invest in improved health and

nutrition status and their children's education.

Source: IFAD, Rural Poverty Report 2001, Rome

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Assistance must focus on the assets of rural poor, enhance them and strengthen them. This includes in particular human assets: better rural health training, and education, but also physical assets: rural infrastructure development, access to markets, improved soil fertility, access to safe water, and increasingly recognized, social capital-access to and the quality of informal networks and local organisations. Social assets, through empowerment, inclusion in decision making processes, mutual self-help mechanisms and mutual micro-finance are of vital importance in coping with adversity. And better technology must help to increase productivity, reduce risks and enhance the stability of incomes.

Smallholders finance, technology, market organization and access to land and water are the classic problems of rural development assistance. These problems must be addressed in a systematic and comprehensive fashion, not haphazard or in isolated cases. Only then can they bear directly on production and income of the rural poor. And there is a large role for public sector institutions in this area, by the provision of agricultural services such as research, extension, education, micro-finance, infrastructure, market organization. But this needs to be coupled with substantial private investment in the agricultural sector - particularly in services, processing and trade. Thus the investment climate is important, as is empowerment.

According priority to the rural poor means taking on the challenges of a world that is rapidly transforming, and assuring that the rural poor are not left behind. Global interdependence, decentralization and rapid development of civil-society organizations present many opportunities, provided the rural poor can influence the institutions, policies and decisions that affect their lives. As things stand, the rural

poor rarely choose or control the conditions under which they earn their livelihoods. And among the highly diversified poor rural populations, one significant group stands out: women. The majority of women still remain economically and politically marginalized, although their contributions to the resilience of rural households and their potential as agents of change have been acknowledged.

We must therefore recognize that gaining control over major decisions that affect his or her welfare (empowerment) is a key element of human dignity for any individual. Thus, lack of access to assets and lack of reflection of the interests of the rural poor in key political, economic and institutional processes - lack of empowerment - go together. Both together are the immediate causes of rural poverty. The problems of the rural poor are very often paternalistically viewed as existing somehow outside the basic framework of market competitiveness and asset accumulation - as being not rational persons or not motivated by income (as was often the case in the colonial period).

4. The decline in international financing for agricultural development

International financing for agricultural development declined by nearly 40% from 1988 to 1998 and is at an all time low as share of overall development aid. This contrasts sharply with the centrality of agriculture as the primary livelihood for the rural poor. Why then have so many donors turned away from agriculture and rural development? Even in the World Bank sponsored Poverty Reduction Strategy Papers (PRSP), the agricultural sector is downplayed.

The World Bank lending is a case in point: in 1999-2000, only 8,5% of lending in sub-Saharan Africa was spent on agriculture, as against 21,2% in the 1985-89 period (IFAD, 2001, p. 26). For most donors, the decline in agriculture's share reflects the increased importance attached to social services and social and economic infrastructure development. It also reflects the view by some that the establishment of appropriate policy frameworks, which will induce private investments, will sufficiently raise agricultural productivity and alleviate poverty. This is however doubtful.

Many donors are of the opinion that there were too many failures - non-performing projects - in agricultural and rural development, and that therefore new approaches are needed. This often results in more tied aid and less aid for public institutions and public services. The impression gathered is that we are back to trickle-down theory, and that rural poverty, which is overwhelmingly a rural phenomenon, is being attacked not via investments in its core activity, but via other, indirect activities, or at the macro-economic level. Granted that policy improvements are important, to be effective they need to be accompanied by investments in the sector most concerned, either public or private. The declining support for agriculture is thus extremely damaging to efforts to reduce poverty and hunger.

Panel III focuses on financing for development, the mobilisation of resources for poverty reduction, bringing together issues such as directing resources for development towards people's priorities, bilateral assistance and debt relief, the general issues of indebtedness, financing poverty reduction through multilateral development agencies.

5. Important lessons learned - what works?

After more than a decade of structural adjustment (SAP) and economic liberalization in sub-Saharan Africa, in the face of declining donor support for agriculture and the rural sectors, and renewed emphasis on poverty reduction and locally based development initiatives (e.g. NEPAD), important lessons have been learned.

Hereafter follows a list, which largely reflects a personal assessment:

- trickle-down does not work for rural poverty reduction. Rapid economic growth in one sector of the economy (e.g. mining, forestry exports, oil production) usually does not affect the poor. Attacking rural poverty requires broad based economic growth (e.g. smallholder agricultural development) and specific targeted actions for the poor (e.g. micro-credit focused on women).
- reduced public expenditures, such as as a result of SAP, affect first of all the poor, because of increased health and education costs, and other (unaffordable) public services. A public social protection safety net targeted at the poor is absolutely necessary. But targeting is difficult, and without targeting the costs may become prohibitive. But it is more important that the very poor are reached, than that some non-poor also benefit from the scheme (which is unavoidable).
- many African governments are reluctant to face-up straightforward to the poor.

 They are still largely hidden, unacknowledged and without power. The usual focus is still on the productive, educated, urban-based, male, assertive part of the population. Giving the poor a voice, incorporation in public programs, empowerment etc. is all too often left to NGOs and is not a public concern.

 Also, the development potential of the poor, their capacity to save and invest (very small sums) and to contribute to economic development is still largely

ignored. This also extends to university level courses in economic development in African universities which often fail to address poverty, poverty assessment and poverty reduction (as a subject, not as a by-product of economic growth). The focus on poverty is still too much a concern of northern donors and international institutions. There are a few exceptions: Uganda, Ghana, South Africa,... "How does it affect the poor?" should be one of the most frequently asked questions in ministries, but unfortunately it is not. Too many decision makers are content with a statement that "... it will also benefit the poor" (ultimately - via trickle down). Prioritising public investments by taking account of their direct incidence on the poor, knowing that one Euro of income more for the poor has much greater weight than one dollar more for the average citizen, should become standard operating procedure if poverty alleviation is to be taken seriously.

- agricultural development requires incentives (favourable prices) and publicly supported agricultural services and institutions: agricultural research and extension; agricultural education; input supply (e.g. seeds) to the extent that the private sector is not performing; agricultural credit, particularly micro-finance were private banks are non-performing; marketing infrastructure, in particular roads, communication, transport. The critical role of the government in agricultural development is often poorly understood.
- labour, particularly as it affects women in agriculture, is often a major constraint on agricultural performance. Animal traction, also in transport, small-scale post harvest operations (drying, milling, processing) and rural water supply (pumps) can go a long way in alleviating the burden on women. NGOs can play and play a major role in this respect.

- most agricultural research is "scale-positive" in the sense that the outcome of research is more quickly and readily available to the large-scale farmers who have better access to the requisite information, resources and credit (Evans, 1998). Research on the impact of the Green Revolution showed that larger farmers initially gained the most, but even the smallest farmers eventually gained too, while the urban poor profited the most from the greater availability and lower real prices of their staple foods. Nevertheless, research for innovations of specific advantage to the poor farmers has often failed, or was not a success, or more endowed farmers took most of the advantage.
- often stability in yields, and less risk, is more important for the rural poor than higher yields per se. There is still great potential in improved varieties resistant to pests, improved crop rotations, fallow management with legume crops, small doses of organic and inorganic fertilizers for integrated soil fertility management. And wrapping up fertility and pest resistance in the seed rather than in agrochemicals, if feasible, helps sustainable management of natural resources. Thus, pro-poor, sustainable technical progress should, besides yield enhancement and labour-intensity, also seek robustness, resilience and stability.
- in the economic liberalization and free trade environment of today, poor farmers are more fully exposed to the demands of markets and vulnerable to their volatility. But market access is often difficult because of low population densities in rural areas, remoteness from centres and high transport costs. These are real physical barriers in accessing markets. And giving better access to markets for the rural poor is often costly and difficult, particularly in remote or enclaved areas.

IFAD's Agricultural Research Strategy for the West and Central Africa Region - Priority Areas

In terms of overall research priorities for the region, IFAD is attempting to focus more on those areas which tend to be neglected in relation with its target group - resource-poor smallholders including women. Because of its strong focus on the rural poor, IFAD has the potential to exert considerable leverage in agricultural research by focusing on on-farm testing and verification of technologies for location-specificity - an area which may be overlooked by other donors and the global research system. Another general priority concerns applied research with potential large impacts on IFAD's target group which requires no farmer consent or which will feed directly into adaptive research. Examples of such research are: biological control of pests, particularly on crops of major interests to West African smallholders, or on livestock; integrated pest management and plant health management, which reduces the risk for (poor) farmers and which stabilizes yields over time; post-harvest research, particularly on roots and tubers, bananas and plantains (starchy staples), which has the potential of greatly reducing the labour burden on women, and which extends conservation periods.

In terms of crops produced by the rural poor, highest priorities are: starchy staples: roots and tubers, bananas and plantain, which are still orphan crops; grain legumes which are the exclusive responsibility of women in many (but not all) countries - groundnuts, cowpeas, soybeans, other beans and are very important from a nutritional point of view; and vegetables which are also often the responsibility of women and quite important nutritionally, and receive virtually no attention at present from

research (despite the fact that demand in investment projects for assistance in developing these crops is often much stronger than for traditional staple crops).

In general, cereals are also important, particularly in the moist and dry savanna, but other donors already focus heavily on cereals research. Overall, cereals research receives a large share of CGIAR funding, particularly maize, rice and wheat (the "Green Revolution" crops), due to their undeniable global importance. A major exception, however, is sorghum and millet in the dry savanna and Sahel, and these are of particular importance for farmers in marginal areas in these countries.

Livestock is also important for IFAD's target group: and, in particular, milk production which is often dominated by women, while cattle husbandry in general already receives a lot of funding and most of the benefits accrue to men. Small ruminants, pigs, poultry and fowl are also important because of their protein contribution to the diet. Often the poorest farmers, who are net buyers of cereals, get most of their cash income from the sale of animals.

In terms of cross-cutting issues in agricultural research, the following are very important: soil and water conservation in dry areas, including improved irrigation management in the Sahel; soil fertility and ecological sustainability, including agroforestry; and the fight against desertification in the dry savanna and Sahel.

Source: IFAD's agricultural research strategy for the West- and Central Africa Region, Rome, January 1999.

"efficiency" in the economy, but the benefits are usually very unevenly spread, and most of the poor do not benefit. Free market economics does not necessarily lead to more equity, equitable income distribution, equal opportunity or better access to vital public services. Often, to the contrary! Private monopolies are also far worse than public monopolies. Minimal public services (education, health, transport, credit, input supply) are needed for addressing rural poverty. These services can be provided by private entities, but there must be a minimal public financing and control. Because targeting is difficult, often nothing (public) is done.

Importance of Social Science Research in IFAD's Agricultural Research Strategy for the West- and Central Africa Region

IFAD strongly believes that a social science perspective is an essential element of applied and adaptive research if it is to be relevant to the needs of resource-poor smallholders. Research must be capable of improving the life of poor people, and the assessment of such improvements requires social science research input. This is a theme that needs to cut across all applied and adaptive research in the region in the form of multi-disciplinary work.

Regarding social science research itself, a number of issues are of great importance for resource-poor smallholders in West- and Central Africa. Access to rural financial services for poor people is a major issue in all countries in the region. There is a specific need for more action research in the area of development of proximity approaches where rural populations are sparse and it is difficult to deliver such services cost-effectively.

How to support agricultural marketing in an adverse environment, with lack of competition, lack of transparency, poor marketing infrastructure, etc. which typically prevail in the areas where most poor farmers live is under-researched. Often, we do not know how to support agricultural marketing in such circumstances in cost-effective and sustainable ways. While there has been a great deal of policy-level research on agricultural marketing and food security issues, much remains to be done at the level of identifying appropriate investment approaches. Here again, action research with the accent on "action" will be most useful.

Additional areas requiring the attention of social science research include: approaches to rural decentralization and local development that ensure equitable devolution of decision-making, including identification of best practices for organizing small farmers; returns to labour in agriculture as compared to returns to land and the determinants of labour productivity; gender as it affects the division of labour in the household; refinement and dissemination of project-level tools for assessing household food security interventions; and the socio-economic factors determining adoption of particular technologies.

Source: IFAD's agricultural research strategy for the West- and Central Africa Region, Rome, January 1999.

a conducive policy environment, good governance and thus good public
management is now more and more recognized as a necessary condition (but
not sufficient) for aid to really work. Burnside and Dollar (1997 and 1998) have
shown with panel data that aid spurs economic growth only in a good,
conducive policy environment. Moreover, in countries with relatively good

management, aid has a powerful effect on reducing infant mortality. There is no effect in countries with weak economic management - evidenced by poor property rights, high corruption, closed trade regimes, and macroeconomic instability. And in such countries, development projects promoted by donors tend to fail.

6. The Belgian Survival Fund and IFAD

The Belgian Survival Fund (BSF) mandate is to ensure the survival of populations threatened by famine, malnutrition and underdevelopment in those Third World areas having the greatest mortality rates from these causes.

The BSF.JP concept is oriented towards a comprehensive, integrated, participatory and multisectoral approach aimed at enhancing and strengthening household food security, nutritional status, local governance and the capacity of civil society, focused on the rural poor.

Food security and nutritional status constitute an entry point to an integrated approach, encompassing multiple elements such as production, marketing, access, entitlement, intra-household distribution, basic social services and empowerment.

The strategy paper 2001-2011 of IFAD-BSF.JP indicates geographic targeting combined with self-targeting of activities or loan packaging of interest to the rural poor as the most effective targeting mechanism, likely to be more effective than using exclusionary criteria. Within the 16 countries eligible for BSF.JP cofinancing, projects are specifically targeted towards the poorest subregions, those that require

special attention because of special reasons. Targeting of potential beneficiaries is to be achieved first through selection of the agro-ecological zones and socio-economic conditions. Within these limited subregions, target beneficiaries specifically comprise the highly food-insecure and marginalized rural dwellers who have minimal access to means of production, including land and technology, off-farm income-generating activities, and financial or social services. They include land-poor smallholders, landless people and female-headed households. Potential beneficiaries will thus be targeted through a participatory and self-targeting mechanism.

BSF experience in targeting consists mainly of:

- geographic targeting, which is largely but not exclusively carried out in the design phase
- self-targeting: the selection of activities that are of concern to rural women
- gender-targeting: targeting women heads of households as a group with special needs.

IFAD's strength in improving household food security and nutrition lies in increasing agricultural production, particularly staple foods and enhancing income-generation through institution building, including rural financial institutions and targeted investments at both the micro and macro levels in agricultural technology, processing, storage and marketing (IFAD-BSF.JP Strategy Paper 2001-2011). Particular attention is devoted to strengthening the role and capacity of community-based organizations, rural people's associations, farmer organizations, women associations and indigenous people in order that they become more effective agents for self-help development. This is the essence of empowering them.

BSF will place more emphasis on evolving towards a process approach with built-in flexibility and continuity as opposed to a top-down blue point approach. Through a demand-driven process, activities that have the greatest impact on household food security and nutrition, and that lead to higher disposable income levels, will be prioritised periodically.

Microfinance development occupies an important place in IFAD's-BSF.JP, as it does in many Belgian NGOs. It is a powerful instrument to enhance the assets of the poor, kick-start a process of asset accumulation, reduce vulnerability and increase resilience. The current approach is to generate unsubsidised, but non-exploitative, microfinance markets through local peer-monitored intermediation. This has had considerable success, but outreach to the very poor may conflict with financial sustainability at least until the difficult problem of the interface between informal and formal institutions has been solved. This is why BSF grant resources are so important, as they can be mixed with IFAD's regular (concessional) loan resources, thus offering more favourable terms to the very poor, which allows them access to microfinance services.

IFAD has adopted the logical framework as a standard project management tool throughout the Funds's portfolio. It is essentially a cause-and-effect model of how project interventions will affect beneficiaries. The responsibility for implementation rests heavily with the local government and the target population.

IFAD has adopted a new monitoring and evaluation approach, which will allow better impact assessment and hopefully increased effectiveness of aid resources. This is the subject of a panel discussion (Panel II).

7. Conclusions

Poverty is linked to frustrated capabilities due to asset deprivation, inability to afford decent health and eduction and lack of power. Low consumption is only one dimension, others are malnutrition, illiteracy, low life expectancy, insecurity, powerlessness and low self-esteem. Poverty is multidimensional and therefore poverty reduction efforts must be multi-targeted - they must encompass economic, social, political and institutional factors. This makes poverty alleviation a most difficult task, if one aims at sustainably lifting the poor out of poverty.

Agricultural change can work to reduce poverty, but only when linked to social changes that give the poor greater power over the social factors that determine their livelihoods. Thus, the answer to rural poverty is not just agriculture, although this is a big part of the story. Equally important are empowerment and a favourable investment climate, also for the poor, which creates an enabling environment and incentives. The main challenge is to enable the rural poor in helping themselves out of poverty through increased access to resources (assets), markets and institutions. This is a daunting task. If we fail, we will have in a decade or less a major focus on urban poverty, as the rural poor will have undoubtedly moved to the cities, where welfare services are usually better. But the rural poor offer much better prospects in economic self-sustaining, equitable development (quality economic growth) through agricultural and rural non-farm (often farm related) productive activities. Once they

join the urban poor, it becomes more difficult to put them on a sustainable path out of poverty, as they may settle in an urban welfare safety set, even if there are big holes in it and if it is far from adequate. If we don't lift the rural poor out of their precarious situation over the next decade, the task awaiting the international community may be even more daunting and impossible. This is why a PRO-poor, PRO-women, PRO-environment approach to agricultural development is so important.

References

- BURNSIDE, Craig and David DOLLAR, 1997, Aid, Policies and Growth, Policy Research Working paper, no 1777, The World Bank, Washington, D.C..
- BURNSIDE, Craig and David DOLLAR, April 1998, Aid, The Incentive Regime and Poverty Reduction, Macroeconomics and Growth Group, The World Bank, Washington, D.V., draft.
- DEATON, Angus, juin 2002, La pauvreté recule-t-elle?, Finances et Développement, IMF, Washington, D.C., http://www.imf.org/fandd.
- DIXON, J., A. GULLIVER and D. GIBBON, 2001, Global Farming Systems Study:

 Challenges and Priorities to 2030 Synthesis and Global Overview, FAO,

 Rome, www.fao.org/ag/magazine/GFSS.pdf.
- EVANS, L.T., 1998, Feeding the Ten Billion Plants and population growth, Cambridge University Press, Cambridge, 247 p.
- FAO, 2001, Handbook for defining and setting up a Food Security Information and Early Warning System (FSIEWS), FAO Agricultural Policy and Economic Development Series Nr. 6, Rome.
- FAO, 2001, Food insecurity: when people live with hunger and fear starvation, The State of Food Insecurity in the World, 2001, Rome.
- HAYAMI, Yujiro et al., 1975, A Century of Agricultural Growth in Japan, Tokyo, University of Tokyo Press.
- IFAD, January 1999, IFAD's agricultural research strategy for the West and Central Africa region, Rome.
- IFAD, March 2002, Enabling the Rural Poor to Overcome their Poverty, Rome
- IFAD, 2001, Rural Poverty Report 2001 The Challenge of Ending Rural Poverty, Rome.

- IFAD, 2001, Assessment of Rural Poverty, Western and Central Africa, and: 2002, Eastern and Southern Africa, Rome.
- IFAD, 01 September 2000, IFAD and Belgian Survival Fund Joint Programme Strategy Paper 2001-2011, Rome.
- RAVALLION, Martin, June 2002, Un filet de protection automatique?, Finances et Développement, IMF, Washington, D.C., http://www.imf.org/fandd.
- SHAOHUA, Chen and Martin RAVALLION, 2000, "How did the world's poorest fare in the 1990s?", World Bank Research paper, Washington, D.C., http://econ.worldbank.org/does/1164.pdf.
- STERN, Nicholas, 2002, A Strategy for Development Keynote Address, Annual World Bank Conference on Development Economies 2001/2002, Boris Pleskovic and Nicholas Stern, eds., The World Bank, Washington, D.C., pp. 11-35.
- WORLD BANK, 2001 a, Globalization, Growth and Poverty: Building an Inclusive Word Economy, Oxford University Press for the World Bank, New York.
- WORLD BANK, 2001 b, Rapport sur le développement dans le monde 2000/2001: combattre la pauvreté, Published for the World Bank, éditions ESKA, Paris.
- WORLD BANK 2002 a, "The Role and Effectiveness of Development Assistance", World Bank Research Paper, Washington, D.C., http://econ.worldbank.org.
- WORLD BANK 2002 b, Building Institutions for Markets, World Development Report 2002, Washington, D.C..

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