

The New Agenda for Agriculture

Chapter 1 Contextual Framework for the New Agenda for Agriculture

Table of contents

	Paras
Summary	
Setting the scene	1-10
Multiple demands and expectations placed upon the agricultural sector <ul style="list-style-type: none"> • <i>mainstay of poverty reduction with the smallholder at the center</i> • <i>contributor to national GDP, and major employer</i> • <i>international trade and contribute to the national trade balance</i> • <i>reducing hunger and in meeting nutritional needs</i> • <i>social protection and lifting the poor from poverty</i> • <i>response to famine and the management of food aid</i> • <i>contributes to the security of biodiversity and natural resources</i> 	11 12-19 20-21 22-23 24-26 27-28 29 30-33
Major trends and transformations are taking are place for which there are few precedents <ul style="list-style-type: none"> • <i>reduced role of the state in economic activity and the increasing role of the private sector</i> • <i>changes in wholesale and retail market structures including the advent of global food chains</i> • <i>changes in consumer demands including food standards and food safety</i> • <i>overall changes in demand and shifts in the global production supply base</i> • <i>opening up of developing country markets and the prevailing international trade regime</i> • <i>complications created by health crisis of HIV/AIDS and other health pandemics</i> • <i>impact of climate change</i> 	34 35-39 40-43 44-45 46-50 51-55 56-58 59-61
Heterogeneity of the state of agriculture and farming systems between countries and within regions	62-68
Developing the <i>New Agenda for Agriculture</i>	69-80
Key priorities for the <i>New Agenda for Agriculture</i>	81-84
The preconditions and necessary underpinnings of the agriculture agenda <ul style="list-style-type: none"> • <i>Developed country contradictions and the demise of agricultural ODA</i> • <i>Public expenditure and public institutions</i> • <i>The political and institutional dimensions of agriculture need to be understood and addressed</i> • <i>Investment in infrastructure and technology</i> • <i>Securing natural assets and environmental management</i> • <i>Factor in and mitigate for disasters and failures of governance in the national agricultural economies and food systems</i> • <i>Build better links between food aid, famine mitigation and agriculture policy</i> 	85 86-89 90-95 96-99 100-106 107-111 112 113-114
Key policy questions that need to be addressed and knowledge gaps	

Summary

The *New Agenda for Agriculture* accepts key pre-conditions including investment in infrastructure and science and technology, sound public sector institutions, enabling land and water policies, in order for agriculture to play an effective role in pro-poor growth and poverty reduction. The agenda emphasizes that these must of necessity remain a priority on the national and international development agendas and calls for a recommitment to investment to secure the economic and pro-poor growth opportunities offered through agriculture to the millions of poor currently residing in rural areas in developing countries and transition economies.

However, in view of unprecedented changes now impacting on the agricultural community in developing countries and transition economies in particular on the livelihood of the smallholder and with unresolved issues of chronic poverty in rural and agriculture dependent areas, it challenges the international development community, national governments, private sector and civil society to take on a new agenda which addresses both pro-poor economic growth built around agriculture as well as strategic support to agriculture based communities for which, inter-generationally, there exist limited other opportunities beyond agriculture for household security and well-being.

Policies and interventions need to be tailored to meet particular country, region, farming systems and household or farm types reflecting the extent of the heterogeneity of agriculture between countries and between and within farming communities. There are no single interventions and prescribed simple solutions available to tackle the diverse range of challenges faced.

This overview lays out the current state of agriculture and in particular highlights the multiple economic and social demands placed upon the sector. It presents some of the key dynamic and unprecedented changes now taking place that have the potential to offer both gains and losses to developing countries and in particular to the smallholder.

Finally, this overview sets out the agenda for the future. Such an agenda is forward looking and anticipatory in nature. It recognizes that the agriculture sector and other sectors supportive of agriculture require a reversal of the recent downward trend in public sector financial support from national governments, donors and International Financial Institutions. Most developing countries need to continue to address the factors which contribute to labor demanding productivity enhancement, many of which have been inadequately or incompletely tackled in the past. Attention should also be given to increasing access and response to markets, and to support rural household income diversification.

The *New Agenda for Agriculture* calls for new institutional partners and alliances and for the development of innovation in policy, investment and coherence between relevant sectors in particular those of agriculture, trade, social protection and infrastructure.

Setting the scene

1. The past 30 years have seen significant global success in food production with an overall decline in world food prices, an increase in caloric intake, a reduction in the percentage of undernourished people, and high rates of return in some key areas of investment in agriculture. Poverty rates in the last decade have also declined in many regions, except for Europe and Central Asia, the Middle East and North Africa, and sub-Saharan Africa. Whilst, the greatest numbers of poor people live in South Asia, the proportion of poor remains highest in sub-Saharan Africa, where slow economic growth has left millions at the margins of

survival. In sub-Saharan Africa alone more than 314 million people continue to live on less than \$1 a day. In most regions poverty, in particular absolute poverty remains a largely rural phenomenon with estimates of the proportion of the world's absolute poor living in rural areas potentially as high as 75% (IFAD 2001).

2. The patterns of variation in poverty reduction mirror the variation in per capita agricultural growth rates, and it is suggested that agricultural growth in particular the rate of growth of agricultural productivity, plays a significant role in poverty reducing growth (Thirtle et al 2001). Further, very few economies around the world have achieved broad based economic growth without agricultural and rural growth preceding or at least accompanying it (Mellor 2000, Pinstруп-Andersen et al 2001).

3. The strong pro-poor effect of agricultural growth in particular increases in productivity are seen through a number of transmission mechanisms: the direct impact of household incomes and positive impacts of labor markets and wage rates; a reduction in food prices with impacts on both the rural and urban poor; through multiplier effects on the non farm economy, income diversification and the strengthening of economic and other linkages between rural and urban areas; and finally through broad based economic diversification and the transition from an agrarian economy to one of manufacturing and services.

4. Whilst structural transformation continues to evolve over time with a net resource transfer from agriculture to other sectors of the economy as development takes place, the need to maintain a growth rate in agriculture at around 3.5 percent per annum in low income countries remains necessary to achieve the Millennium Development Goal targets relating to a reduction in extreme poverty and hunger. In most rural areas, agriculture remains the sole driver of the economy, for although the non farm economy is a major contributor to household income and rural livelihood diversification, its growth is often strongly influenced by growth in the agriculture sector (due to up and down stream linkages) and the capacity of the non farm sector to lead the poverty reduction agenda as an alternative to agriculture is in many countries either non existent or severely constrained. The multiplier effects of agriculture are estimated to be in the range of 1.35 to as high as 4.62 (Thirtle 2001), although the multiplier links for sub-Saharan Africa are at the lower end of the scale with important implications for investment decisions in the agriculture sector. Agriculture-derived income generated tends to be spent at the local or sub national level on a range of goods and services, thus fostering opportunities for local diversification. Thus, whilst agriculture remains a primary contributor to growth in particular in the early stages of development, it cannot function in isolation from the wider economy requiring a supportive and enabling environment including the removal of factors constraining its growth such as infrastructure. Nor can it drive growth alone without structural change that supports second round effects and the growth multipliers in the local economy for example product and labor markets (Dorward et al 2004).

5. At a time when poverty still remains predominantly rural, and when the international and national communities are increasingly challenged to tackle and secure a sustained reduction in poverty, the pace and nature of transformation of agriculture is set to change in unprecedented ways putting at risk both achievements to date in the reduction of poverty through agriculture and constraining opportunities to optimize the role that agriculture can play in helping to meet the relevant MDG targets. Agriculture within developing countries and transition economies is today threatened by investments that foster larger scale production, the very successes of global food production, and by structural change within global and national agricultural market systems. Global and national food systems are increasingly driven by consumer interests, changing consumption patterns, and food quality and safety concerns. International, regional and national food industries and trades are responding with profound impacts on the entire production and marketing system. Shifts on production and consumption patterns within the OECD and adjustments in global trade

agreements including Regional Trade Agreements, combined with the opening up of developing country markets will impact on opportunities for developing countries. Science and technology, which strongly underpins developed countries' agriculture and transnational agribusiness, is largely in the hands of the private sector. In general, their focus is on the needs of the OECD countries with little incentive to meet the demands of agriculture including the smallholders in the developing world thus further widening the gap between the farming worlds in the north and those in the south.

6. Such trends are further exacerbated by the continued depletion of the natural assets base upon which many millions of rural people depend, poor health and educational status of rural communities, health crises in particular that of HIV/AIDS, and in many regions an aging farm population. The poor and in particular the smallholder and those whose livelihoods are dependent upon agriculture and the assets of natural resources will therefore be profoundly affected by the current and dynamic changes taking place globally and nationally.

7. The launch of the *New Agenda for Agriculture* coincides with the recognition of the importance of the agriculture sector as a major contributor to poverty reduction set within an environment of dynamic and unprecedented change. Further, it also coincides with a period of significant under investment in agriculture by national government and development agencies.

8. The challenges are considerable within this changing environment and will of themselves require significant financial resources both to support the agriculture sector directly and to secure the enabling pre-conditions (e.g. infrastructure). Whilst opportunities for labor intensive pro-poor agricultural growth set within strengthening markets exist, they are not universal. The rural poor and rural economies more generally frequently lack alternative income sources to agriculture and may if agriculture cannot be sustained in line with poverty reduction objectives, fall deeper into poverty and destitution. The need therefore for agriculture to be addressed as both a driver of pro-poor growth and as a means for the protection of livelihood is evident. The new agenda recognizes this dual function.

9. The goals of poverty reduction, reduction in hunger and wider economic growth in many developing countries cannot and will not be achieved "through business as usual". Public sector institutions in developing countries, partner development agencies and donors, and responsible private sector players will require to recognize and understand the changes impacting on the agricultural sector and their impact on agriculturally-led pro-poor growth as they work to foster broad-based, environmentally sustainable, agricultural development as part of the wider economic growth, poverty reduction and food security agenda.

10. Building on what is known and works, addressing unanswered questions and tackling new agendas in line with international and national transformations in agriculture are essential prerequisites to meet the challenge ahead. The *New Agenda for Agriculture* aims to identify some of the key and most pressing issues influencing the transformation process and to provide guidance on how best such challenges might be addressed. To achieve broad based economic growth and poverty reduction requires both a long term and an holistic approach.

Multiple demands and expectations placed upon the agricultural sector

11. Agriculture is called upon to play multiple roles within political and economic policy of developing countries and transition economies. This challenge itself is further exacerbated by the often conflicting policy objectives of developed and OECD countries as they relate to the agricultural sector in terms of commitments to international development and to their own national agendas and interests i.e. there is often a lack of coherence between the respective trade, agriculture and environmental policies within OECD countries and that of their

development agendas. Such multiple objectives and the associated trade offs underlie the challenge of setting out a clear and coherent international agenda for agriculture which takes into account the interests in both developed and developing countries. The following section presents some of the key expectations of the sector.

Agriculture..... in many developing countries is seen as a mainstay of poverty reduction with the smallholder at the center

12. Whilst globally poverty reduction has fallen over the past forty years, the pace of poverty reduction and the depths of rural deprivation are often masked within national statistics. Different regions have seen different rates of poverty reduction with the more rapid decline in Asia in particular in the countries of South East Asia and with relatively little progress made in sub-Saharan Africa where the numbers of people living below the poverty line has doubled over the last twenty years¹.

13. Agriculture remains at the economic heart of many developing countries contributing to the bulk of employment, and significantly to GDP and export earnings. Given its relative dominance on the economy, it will remain a primary source of growth and means of poverty reduction for some time to come. Further, agriculture remains the backbone of the rural economy where the majority of the worlds' poor live and where they will remain through at least 2035 (IFAD 2001).

14. The evidence is quite clear at the macro level, that growth in agriculture has consistently shown to be more beneficial to the poor than growth in other sectors for example Warr (2001) showed that levels of poverty reduction through growth in agriculture were higher than those through growth in manufacturing in a number of south Asian countries. Similarly a greater positive impact on the poorest was observed for every 1% growth in agricultural GDP compared to similar growth in manufacturing or services (Gallup et al 1997). However such impacts through agriculture are usually best realized where there is an equitable distribution of assets in particular land (De Janvry and Sadoulet 1996). Further, growth in India's rural sector reduced poverty in both rural and urban areas whilst urban growth had impact on the reduction of rural poverty (Datt and Ravallion 1996).

15. The relationship between broad based agricultural growth and poverty reduction and in particular the implications to smallholders and rural labor is illustrated in Box 1.

Box 1 Empirical illustrations of relationships between agricultural growth and poverty reduction

A 10 percent increase in crop yields leads to a reduction of between 6 and 10 percent of people living on less than \$ 1 a day (Irz et al 2001).

The average real income of small farmers in south India rose by 90 percent and that of landless laborers by 125 percent between 1973 and 1994 as a result of the Green Revolution (World Bank 2001)

One percent increase in agricultural GDP per capita led to a 1.61 percent gain in the per capita incomes of the lowest fifth of the population in 35 countries analyzed (Timmer 1997)

One percent increase in labor productivity in agriculture reduced the number of people living on less than \$1 per day by between 0.6 and 1.2 percent (Thirtle 2001)

¹ <http://www.worldbank.org/research/povmonitor/index.htm>

16. Differences in poverty reduction impacts through agriculture have been seen to be closely related to differences in agricultural performance in particular agricultural productivity. In Asia, the rapid productivity gains achieved through the Green Revolution offered a route out of poverty through a direct impact on income and labor rates, the lowering of rural and urban food prices, and generating new up and down stream economic and livelihood opportunities stimulated through the growth of agriculture. The impact of such productivity growth further contributes to the stimulation and sustaining of wider economic diversification and transformation beyond agriculture. There has not however been universal success in the achievement of such productivity gains. In for example sub-Saharan Africa, where there exist a different set of pre-determining factors from parts of Asia, productivity has stagnated or even fallen in some areas (Nkamleu et al 2003).

17. Increasing agricultural productivity remains the single most important determinant of economic growth and poverty reduction and thus provides the key to achieving the Millennium Development Goal of halving the proportion of people living in absolute poverty by 2015. For growth to take place agriculture must become more productive using less labor per unit output and non agricultural opportunities must open up (often agriculture linked) so that labor released from agriculture can be used more productively. It must be emphasized that such poverty impacts and broader based growth occur when there is increased productivity and not merely increased production e.g. through land area expansion or additional labor input.

18. Such growth is achieved not only by increasing incomes for producers and farm workers but also by creating demand for non tradeable goods i.e. services and local products. This indirect effect on demand and the associated employment creation in the non farm sector in rural areas and small urban centers appears to be a major contributing factor to the reduction of rural poverty.

19. With some 2.5 billion people in the developing world actively engaged in some form of agricultural activity and or are non-working dependents of those engaged in such activity (Dixon et al 2001), the sheer numbers alone imply that any debate on agricultural policy and the impact of unprecedented transformations must place the future of the smallholder and that of the wider rural labor force at the heart of the debate.

.... although a declining contributor to national GDP, agriculture continues to be a major employer and source of livelihood for the poor

20. The contribution of primary agricultural activities to the total economy of developing countries averages around 13 percent but ranges from 8 percent in Latin America and the Caribbean to some 28 percent for South Asia with much heterogeneity among countries within the different regions. As countries develop, primary agriculture contributes a declining share to the national income. For example in India, the agriculture share of GDP declined from around 45 percent in the early 1970s to 27 percent in 2001. Despite such a decline some 60 percent of India's population still depends on agriculture for their livelihood. In sub-Saharan Africa, agriculture accounts for 20% of the GDP, employs 67% of the total labor force and is the main source of livelihood for poor people. Although the share of GDP in agriculture is declining in many countries in the region, in others an increase is seen with agriculture value addition and or through a decline in other non agricultural sectors (Dixon 2001)

21. Agriculture may itself be undervalued within the GDP. Work undertaken by IICA (2003) quantifies agriculture's wider value to the economy in eleven countries in north, south and Central America, through estimating the multiplier effects between primary agriculture and agro-industry, services, environmental goods, and trade. Results indicate that an "expanded" agricultural GDP could be some three times higher than the primary agricultural

GDP. The revenue of value addition was further found to remain largely within the rural areas. The development and application of such methods will become of increasing importance as greater value addition is given to primary agriculture and as a means to guide public policy on the wider importance and role played by agriculture within the national and local economies.

.....must compete in international trade and contribute to the national trade balance

22. Primary commodity exports are a principle source of foreign exchange earnings for many developing countries. With an opening-up of markets, developing countries are increasingly impacted by world commodity prices as both importers and exporters. Whilst many countries have benefited from lower international commodity prices in the 1990s and early 2000s, others have experienced negative effects on their ability to generate export earnings, in particular those exporters of agricultural raw materials, beverages and other tropical crops. Those dependent on one or a few such commodities have in some cases (notably coffee exporters) been hit badly. Whilst short term impacts of lower international commodity prices have moderated food import bills of developing countries, longer term and potentially damaging effects on national food security have yet to be fully understood in particular the effects on smallholder production.

23. Regional agriculture and food trade gaps vary. In 2000, sub-Saharan Africa spent an estimated \$18.7 billion on food imports accounting for some 15 percent of overall imports. Agricultural exports from sub-Saharan Africa have generally performed poorly with the relative share falling from 8 percent in 1971-80 to 3.4 percent in 2000. It is estimated that if the self sufficiency ratio is to remain the same in 2015 as in 1995-97 (about 85 percent), sub-Saharan Africa will have to meet 118 million tons of its projected 139 million tons of cereals through increased production within the region - this provides a huge challenge (NEPAD 2003). The urgency for agriculture in sub-Saharan Africa to become more competitive is stark.

..... plays a fundamental role in reducing hunger and in meeting nutritional needs

24. Whilst poverty is the main cause of food insecurity, hunger is also a significant cause of poverty as food insecurity and malnutrition impairs people's ability to both develop skills and increase their productive outputs. FAO estimates that some 800 million people in developing countries suffer from under-nourishment. The highest incidence of under-nutrition is in sub-Saharan Africa impacting upon an estimated 30 percent of the population.

25. Numerous studies from countries in sub-Saharan Africa, South Asia and Latin America attest to the negative impacts on productivity of poor nutritional status of the rural labor force (Stamboulis 2003). Poor nutritional status leaves people susceptible to illness, less productive, at risk of intergenerational transmission of nutritional status, and impacts upon children's performance at school.

26. There is mounting evidence that the accumulated effect of under-nutrition has a negative affect upon macroeconomic performance and on growth. With agriculture at the heart of the poverty reduction agenda, the policies for reduction of hunger must place agriculture in particular that of enhancing agricultural productivity of the smallholder at its center.

..... plays an increasing role in social protection and lifting the poor from poverty

27. Underlying this agenda is the need to combat persistent poverty. Studies have shown that the poor, who are closer to a subsistence minimum, pursue a more conservative investment strategy than do the less poor. The portfolios of the poor are heavily invested in

consumable assets which offer low returns and such low returns on poor households portfolios create a poverty trap since they offer less disposable income and less opportunity to accumulate assets than is the case for the less poor (Zimmerman and Carter 2003). There is however a significant amount of movement of households into and out of poverty – some of this is attributable to responses to exogenous variability such as climate, health or commodity prices, other shifts reflect more permanent shifts in long term wellbeing associated with the loss or gain of a set of productive assets.

28. Efforts to address risk and to provide social protection inputs to those at risk are often treated separately from interventions and policies that foster growth promotion including those in the agricultural sector. Social protection is now moving beyond the social sectors of health and education and social assistance (of example welfare benefits for the sick, elderly or disabled), to include those who have temporarily dropped from productive activity. The productive sector of agriculture is now seeking policies and innovation aimed to reduce risk for example through weather-indexed crop insurance products. The interaction between agricultural and food policy and intervention and social transfer mechanisms to support mechanisms to reduce risk and vulnerability and to seek to lift some of the poorest and agriculturally dependent out of poverty has therefore become increasingly important.

.....response to famine and the management of food aid

29. Food aid in the form of emergency, project or program aid, is another component of international transfer. The mechanisms and management of food aid have a direct impact on the agricultural sector at national and regional levels in particular in sub-Saharan Africa. Food aid may be procured in the donor country, from local markets in recipient countries or from third countries. It may be delivered directly or “monetized”. It is recognized that the provision of aid in the form of food may not be optimal and work continues to identify improved delivery mechanisms and to mitigate any harmful impacts (POVNET 2004). The coherence between famine mitigation, agriculture and rural policy, and food aid remains crucial to the attainment of the MDG on poverty and hunger.

..... contributes to the security of biodiversity and natural resources

30. Progress in agricultural productivity over recent decades has been associated with costs to the environment through the misuse of natural resources as inputs or through their use as a sink for pollution. Agriculture based on intensive agro-chemical inputs is prone to mismanagement leading to environmental degradation in particular where the systems of incentives are inappropriate (Hazell and Lutz 1998).

31. Agricultural intensification and extensification can impact in the natural assets of land, soil and water in a number of ways. For example, poor land and soil management fosters water and wind erosion, over or misuse of pesticides and fertilizers leads to soil and water contamination, and the overuse of irrigation causes salination. Soil degradation is most extensive in sub-Saharan Africa where some 65% of cropland is degraded compared to some 38% in Asia. Water efficiency in agriculture is generally low and there are major concerns over resources depletion, unsustainable exploitation of ground water, falling water tables and conflicts over water use. Irrigated agriculture is a major user of water with for example 80% of South Asia’s water resources now allocated to agriculture. Long term sustainability of water resources that take into account the multiple uses of water means that agriculture must in many regions pay greater attention to efficiency, and the farming system including crop mix.

32. Agricultural systems themselves impact on the biodiversity, with diverse agricultural systems fostering biodiversity and negative impacts seen on more highly simplified systems. Finally, there is a decline in the genetic diversity within agriculture itself increasing pest and

disease problems and reducing the capacity for resilience. In India for example, in 1990 some 30,000 varieties/landraces of rice were grown yet today 75% of the rice cultivated is from ten varieties.

33. The manner in which the agriculture sector evolves will have long term impacts on the asset base. With smallholders, herders and fisher folk, key custodians of the natural assets including soils, water and biodiversity throughout vast areas of the developing world, efforts to achieve sustainable intensification of agriculture is seen as a desirable objective. Sustainable intensification aims to build on the wider natural, social, and human capital assets and make the best use of available technologies and inputs, thereby seeking to minimize harm to the environment (Pretty et al 2003).

Major trends and transformations are taking place for which there are few precedents

34. The agriculture sector is facing challenges for which there is little precedent. These are created by changes in the international and local market place, changes in institutional responsibilities and influenced by factors outside of the wider remit of the sector.

Reduced role by the state in economic activity and the increasing role of the private sector in input and output markets

35. Well functioning and well integrated input and output markets offering a range of goods and services to the producer are a prerequisite for a dynamic agricultural economy and one which places increasing productivity at the center. Policies must seek to promote access not only to output markets but also inputs markets and to credit services required to purchase inputs. Technology and access to technology also plays a critical role. The state has, to a considerable extent, withdrawn from an active role in service supply and marketing however in many cases the private sector has not been able to respond effectively in particular to meet the needs of smallholders and those in disadvantaged areas. Private investment, whether domestic or foreign, is constrained by risks and high transaction costs of operating in what are often weak and fragmented rural markets. In many countries in sub-Saharan Africa this slow response may in some cases be explained by the partial nature of the reforms undertaken. These include a tendency for backsliding of government policy undermining the credibility of the reform, and the continuation of government interventions that reduce the incentives for private sector involvement.

36. It must be noted that the remarkable achievements in the 1970s and 1980s of rural growth and poverty reduction in India have largely been achieved as a direct result of significant public investment in rural areas through both support to preconditions (e.g. infrastructure, technology, land reform) and to the subsidy to inputs including fertilizer and credit thus effectively enabling the growth of input and output markets. The inter-relationship and timing of support to pre-conditions and to support to kick start markets thereby triggering agricultural transformation is however critical. Also shown to be important is the need to determine when and how best to exit from direct and interventionist support to input and outputs markets (Dorward et al) and to determine critically what are, and the extent of, the pre-conditions.

37. Thus where technological change strongly supported by such public policy and intervention underpinned the productivity gains of the Green Revolution, today's poor in for example sub-Saharan Africa face both greater technological challenges in raising productivity as well as the effective removal of the state as a critical player in support to the sector.

38. Overall insufficient attention has been given to investment in infrastructure and in developing the institutional framework and mechanisms necessary for privatized marketing and service delivery to thrive. A supportive policy and institutional framework including a business-friendly environment are essential for the effective operation of markets.

39. Many poor economies share past experiences of failed public sector support to the agriculture sector whether subsidies and or large agricultural parastatals. Whilst this may serve as a warning to renewed attempts to revisit such policies there remains a critical lack of new and innovative models to replace the state's role and functions in particular in areas of weak and missing markets.

Changes in wholesale and retail market structures including the advent of global food chains

40. Global wholesaling and retailing is moving fast and largely under the radar of public policy. Developing countries have largely failed to penetrate in a significant manner the agriculture and food markets of developed countries. With the current trends of corporate concentration in trading, processing, manufacturing and retail, there are now concerns about whether the national production systems including the smallholder will secure and sustain their place within national and regional markets.

41. The global food retail market is anticipated to grow to 22 percent by 2006 with the bulk of growth being seen in the emerging markets of Asia and the Pacific. Global food chains reach not only outwards from, but increasing inwards to, developing countries. Supermarkets for example now control 50-60 percent of the food retail sector in Latin America and many have international corporate linkages. Such structures apply international commercial standards to their procurement processes.

42. Further, large international buyers whether bulk commodity/staple production or buyer driven chains can extract favorable terms from suppliers (such as lower prices, provision of services) with the associated risk of a declining share in value for the rural producers and traditional wholesale or volume suppliers. Buyers are increasingly setting product and process standards and placing demands on traceability which will exclude some producers from these supply chains - further worsening inequality.

43. Traditional wholesale and retail markets are themselves not static and their role in servicing the needs of the smallholder and rural and urban consumers has generally been neglected and is poorly understood. Unless the nature and implications of these dynamic changes are taken into account and where appropriate acted upon within the framework of public policy, irrevocable change may take place within the production and marketing system impacting on the livelihoods of millions of producers and traders.

Changes in consumer demands including food standards and food safety

44. The goals of food regulation are to reduce risks such as control for infectious animal or plant pests and diseases, and/ or to regulate product quality to enable market transactions and to meet consumer demands. Controls on the spread of animal and plant pests and diseases and basic grades and standards have for a long time impacted on bulk agricultural commodities however with the shifts towards higher value products (meat, dairy horticulture and semi-processed foods) and with increasing consumer demands, ever increasing industry-derived standards and codes of practice are being set. These place hurdles for the smallholder and developing countries participation in these markets. The possible marginalization of developing countries exporters and their producers whether large scale commercial farmers or smallholders, through safety and quality standards enforcement in international trade is now a key policy issue.

45. With the globalization of the agricultural and food industries, changes in retail marketing, and with increasing awareness by developing country consumers, industry driven grades and standards will penetrate domestic and regional markets of developing countries. Such penetration will potentially have even greater impact on the smallholder and their participation in the market into the longer term than the impacts of external trade applied regulations and trade standards.

Overall changes in demand and shifts in the global production supply base

46. Projections for global food supply and demand are always complex. However, it is anticipated that the total growth in demand for food will continue through 2020 (IFPRI 2003) in particular in the most populous and rapidly urbanizing countries of Asia specifically in China. Increasing urbanization and changing eating patterns are leading to diet diversification and an increased demand for high value added products.

47. Consumption in non OECD countries is expected to grow at faster rates than in economies of the OECD area, especially for dairy products as well as livestock products. The consumption gains for these products are faster than the growth in populations offering the potential to reduce malnutrition and hunger (OECD 2004). Together with an estimated 55 percent increase in livestock product consumption between 1997-2020 (IFPRI 2003), coarse grains and especially oil seed meal used in animal feed are expected to see significant growth.

48. At the global level and given normal weather conditions and continued productivity gains in production greater than the increased rate in consumption, a continued long term decline in real prices is anticipated for key food commodities.

49. Developing countries as a whole will remain net cereal importers. Of 148 developing countries, 105 were identified as net importers and 43 as net food exporters (McCalla and Valdes 1999). For agriculture more broadly, 85 developing countries were identified as net importers and 63 as net exporters. More agricultural activity is shifting to non OECD member countries with China (cereals), Argentina (oilseed and oilseed meal) and Brazil (sugar, beef and oilseed and oilseed meal) becoming major international players.

50. With the increased demand for animal feed in particular maize, it is unlikely that developing countries will be able to keep pace with demand not least due to limitations of land area expansion and a slowing of growth rates of yields for cereals. Consequently a doubling of net cereal imports by developing countries by 2020 is anticipated. Opportunities do exist for the smallholders in labor abundant economies to capture a greater share of this market however increasing agricultural productivity and effective access to markets will remain critical.

Opening up of developing country markets and the prevailing international trade regime

51. Increased openness in trade will mean a progressive re-distribution of world production according to countries' comparative advantage which means that certain industries in some countries will decline as cheaper imports become available. Such adjustment costs will potentially impact heavily on employment in particular rural agricultural labor and on the smallholders in some countries.

52. As domestic markets open up, in particular those with large markets, this could have a major impact on international commodity markets and the nature of national agriculture. For example India will increasingly become more integrated in the world markets with significant annual growth in exports anticipated however in the absence of major technological change in the agriculture sector (impact of farm size, infrastructure limitations, access to inputs, adequacy of investment in less favored areas) and with income and population growth, this

could lead to very significant increase in demand for agricultural imports. Unless action is taken the rural poor will be significantly worse off. A similar scenario exists in other developing countries (OECD 2004). The need for an effective interface between agriculture and trade policies as well as those of social policy during such transition becomes of increasing priority.

53. Where countries go out of production of some commodities and or shift their production patterns, they will potentially become more vulnerable to international food price variability.

54. The opening up of national markets may offer economic benefits in terms of consumer gains from lower cost import products including higher and consistent quality products. However beyond possible direct impacts on the farm sector such opening up of markets will have there will also be potential impacts on the rural agricultural production linkages and multipliers potentially impacting on opportunities for rural diversification and thus deepening the poverty impact.

55. Whilst this paper does not focus on the particular issues surrounding the current international trade regime and the processes which underpin the WTO negotiations, the implications of these regimes cannot be ignored. High-income countries' agricultural subsidies amounted to more than \$300 billion a year in 2002, and this has hurt growth in the agricultural sector, where many of the poorest people work. The World Bank estimates that full liberalization of trade could increase agricultural growth enough to lift 300 million more people out of poverty by 2015. The opening up of developing country markets whilst such levels of subsidy exist presents particular threats to their rural economies in terms of loss of market, loss of up and down stream linkages associated with local production, and a reduction in the capacity to build competitive internal market systems and structures for input and output marketing which will be able to be sustained and globally competitive into the future.

Complicated further by the health crisis of the HIV/AIDS and other health pandemic

56. Despite the HIV/AIDS pandemic being in its third decade in sub-Saharan Africa, one of the hardest hit regions of the world, there remains weak empirical analysis on its impact on the agricultural sector. It is however considered that the full impact on the agriculture sector is only just beginning to be seen and will intensify over the coming decades.

57. Likely effects of HIV/AIDS on the agriculture sector include: increased rural inequality; a reduction in household assets and wealth leading to less capital intensive cropping systems; and, problems of transfer of production and marketing knowledge to future generations (Jayne et al 2004). The cost of labor may rise in part as a response to reduction in capital assets and there may be a shift to less labor and capital intensive crops. Other health pandemics, given their impact of labor productivity should also not be neglected.

58. Further, rural areas with particular acute shortages of clean drinking water, poor sanitation, poor housing and weak provision of and access to health services make rural people and thus the agricultural sector particularly vulnerable.

Predicting the impact of climate change is uncertain but change will take place

59. In an analysis of the global consequences to crop yields, production, and risk of hunger linked to socio-economic and climatic scenarios, Parry et al (2004) consider that for the most part, the world appears able to feed itself during the rest of the century, however, this outcome is achieved through production in developed countries (which it is anticipated will mostly benefit from climate change) with projected declines in production in developing countries. Regional difference will grow over time with, under some scenarios, increases in prices and a

risk of hunger amongst poorer nations. This may have an overall negative impact on pro-poor agriculture-led growth and on the levels of risk and vulnerability in rural areas and to some economies.

60. Whilst predicting the extent of the future change remains difficult and uncertain, the current impacts of climatic variability and recurrent extreme weather events (rapid onset of disasters - hurricanes, cyclones, sea surges and flooding, and slow onset disasters such as drought) on the rural poor is already increasing their vulnerability and impacting on their capacity to cope. Further, events such as drought and floods severely disrupt the economy, including its infrastructure, from which it can take years to recover. Climate variability is already impacting on short term growth in some regions in particular those with high agriculture dependency.

61. Economies that are heavily dependent upon climate and weather-sensitive sectors such as agriculture including fisheries and livestock for their growth are likely to be most affected by both long term climate change as well as climatic variability. Long term and more gradual changes will impact on the cropping pattern and reduce yields.

Heterogeneity of the state of agriculture and farming systems between countries and within regions

62. The New Agenda for Agriculture essentially recognizes and takes account of the significant diversity of the agriculture sector between developing countries and transition economies and between farmers and farming systems within countries and sub-regions within them. Not all countries face the same constraints or opportunities and differing sets of interventions and policies will be required in differing settings.

63. However classifying countries and or sub-regions within countries which demonstrate common features may help in guiding policy and investment choice and in lesson sharing for the agriculture sector. Features which may be included in such classification include: per capita income level; poverty levels; agricultural GDP; rural:urban population; population density; and, natural (agro-ecological) and geographic (land locked or coastal) endowments. In addition from a trade perspective such classification may include: trade openness; trade regime; private sector investment climate; and, land reform and asset distribution. Early efforts have been made (Diao et al, in preparation) to construct a cross country typology for sub-Saharan Africa in order to assist in guiding public policy choice and intervention.

64. Two frameworks which aim to codify the farming systems and household characteristics and which aim to assist in understanding the needs of different systems and households and their interactions have been developed. These offer differing but potentially complementary approaches.

65. Firstly, the Food and Agriculture Organization has identified eight main categories of farming systems based on natural resources availability and the dominant pattern of farm activity and household livelihood (FAO 2001). For each region a listing is given of those systems which offer greatest potential to reduce poverty and stimulate agricultural growth. Secondly, building on models developed from work in rural Canada and Mexico, Vorley (2002) classified agricultural production into three "Rural Worlds" delineating producer type and farming systems (Rural World I – commercial or semi-commercial farms; Rural World 2 – small family farms, some leasing and some seasonal migration; and Rural World 3 – farmers and households with little land, sharecropping, and seasonal migration) by levels of market integration, issues of power and inclusion. (DCD/DAC/POVNET/A(2004)5/RD4/REV1)

66. Farrington (2004 - POVNET I/RD4) cautions efforts to oversimplify and seeks a more nuanced approach to any classification of rural space, farming systems, people and institutions specifically, recommending also the inclusion of the chronically vulnerable (i.e. those who cannot engage in productive work) and those with very few assets who depend mainly on casual, unskilled and often agricultural labor. Without the inclusion of these additional groups, the interaction of agriculture sector policy, transformative processes and social policy on the rural poor cannot be fully assessed. This becomes particularly relevant when addressing the interaction between interventions that offer social protection to the most vulnerable, and those interventions that aim to lift the poor from poverty through support to productive agriculture.

67. Further the notion of "small" in the context of small-scale producer or smallholder varies and should be seen set within the different contexts, across resource endowments, asset availability and access, farming systems and productivity, and livelihood opportunities both within agriculture and outside of it. However to provide some indication of scale, in for example South Asia, there are over 125 million holdings with an average size of 1.6 hectares and 80 percent of which are holdings of 0.6 hectares. These smallholders support the needs of some 1.3 billion people. In India smallholder production accounts for an increasing proportion of the agricultural GDP and farmers with less than two hectares were responsible for 41 percent of total food grain in 1990-91 as compared to 34 percent in 1980-81.

68. In sub-Saharan Africa, the average farm size is larger than in South Asia; however 96 percent of farms have less than 5 hectares and over 65 percent with less than one hectare (Dunstan 2001). Some 60 percent of the population in sub-Saharan Africa report agriculture as their main income source, this percentage rises for rural populations alone. Smallholders in sub-Saharan Africa are known to account for 90 percent of agricultural production. In Latin America the average farm size is larger, although many small farms exist even in a context of relative land inequality.

Developing the *New Agenda for Agriculture*

69. The *New Agenda for Agriculture* takes as a starting point a **recognition that there are trade-offs on public choice in support to agriculture and that the dynamic changes within agriculture will impact on different farming groups and in different countries in different ways.** The new agenda must place at the center, a recognition that the underlying and historical assumption that levels of and gains from productivity growth through agriculture may not be able to offer adequate growth reduction potential to all of the poorest regions of the world and that in these and in other more dynamic farming regions, the impact of unprecedented change will have further negative consequences to many millions of smallholders.

70. The new agenda is set therefore within the context of securing maximum agricultural growth benefits to the poor, understanding key dynamic changes and their impacts, fostering those beneficial impacts and mitigating negative risk of others, seeking to understand and address trade-offs, and balancing the social protection and productive agendas. New models of interaction between economic development and social transfer will be required in rural areas.

71. It further recognizes that is it a prerequisite to **build consensus at national and international levels on agriculture sector policy within the framework of growth and poverty reduction including securing the voice of the smallholder.**

72. It must first be emphasized that it is unlikely that there will be a simple or single answer and policy interventions will vary by region and country and at sub national levels. Different countries and regions in the developing world and transition economics are at different stages

of their transition from a largely rural population where agriculture remains the driving force of rural and national economic growth and poverty reduction to more fully urbanized economies where the secondary and tertiary sectors of the economy take precedence. The depth of rural poverty and thus agriculture interdependence, even in countries with a relatively low rural population remains however evident and should not be neglected.

73. Although there may be common lessons to be shared and learned, the unprecedented changes impacted in a given country's agricultural transition will create different outcomes, calling for anticipatory research, and greater scenario planning and dialogue at country and regional levels. Fundamental rethinking of public policy and intervention is required by development agencies and policy makers alike in the face of these global and national challenges.

74. Such an agenda must be forward looking and anticipatory in nature. It calls for new institutional partners and alliances and for innovation across the social and agriculture sectors. It recognizes that different policy objectives may require different approaches and that the interaction between them is also important.

75. Donors and national governments have to accommodate growing uncertainty by adopting more flexible approaches and increasing their capacity to respond to a changing environment. New approaches to the modeling of the interaction of factors, and scenario assessment as tools for planning for the agriculture sector, is now a necessity.

76. Reaching consensus on alternative scenarios for national policy which may have far reaching impacts on rural communities and consumers requires the putting in place processes for broad based consultation and dialogue. Local empowerment and capacity building of organizations of civil society representing the agricultural and farming community is a necessary prerequisite for consensus building and for the planning of public resource allocations. Policy processes that exclude the poor are unlikely to be relevant to their needs.

77. It recognizes that whilst pro-poor agricultural growth can make a major contribution to poverty reduction, it cannot achieve it either alone or in isolation from interaction with the wider economy. **New models of support to the dynamics of urbanization and to wider local economic development and diversification are essential.**

78. The relationship between agriculture and the wider rural and urban transformation is not a new dynamic. However, this relationship has generally been given inadequate attention within public policy and investment. Understanding how the mechanisms of transformation take place in particular the gains from increased agricultural productivity and the fostering of these transfer mechanisms is necessary to enable the greatest returns to agricultural growth beyond the direct impacts on producer income and labor markets and the lowering of urban and rural food prices. Specifically of interest are the multiplier effects within the rural and urban economies and the stimulation and sustaining of longer term economic diversification out of agriculture and into manufacturing, services and industry.

79. There is limited empirical evidence on the linkages between agriculture and urban development. Studies that exist, show the linkages are strongly influenced by the local context in particular the nature and type of agriculture practiced including type and mix of crops grown, type and location of any value addition, the prevailing land tenure system and the nature of the urban demand. Commonly stated linkages between rural and agricultural economies and the small and intermediate urban centers include urban centers role as consumers, as providers of input and output linkages to wider regional and external markets, as centers for the provision of goods and services for rural areas; as locations for the growth and consolidation of non farm activities and employment, and as labor markets for rural communities. It is noted however that regions with predominantly large scale commercial

agriculture, the local small urban centers are often bypassed. This is particularly the case where agriculture is focused on export orientated activities where value addition and processing may take place in more distant locations or at the port of exit (Satterthwaite and Tacoli 2003).

80. The environmental impacts of agriculture (e.g. pollution, erosion) and urban development (e.g. waste management, pollution) and the shared issues of water and land management also cut across administrative and sectoral boundaries and require common policy agreement and regulation.

Key priorities for the New Agenda for Agriculture (Section to be developed 21 March to refine the case for the selected themes)

81. The *New Agenda* focuses on three priorities themes. These are themselves not exclusive but respond to the most pressing and essential topics currently felt to be inadequately addressed within by international and national policy and investment. These are supported by selected and innovative entry points for priority action by international and national policy makers.

82. **Making agricultural markets work better for the poor** addresses the challenges faced in linking the different categories of smallholder to national markets as well as linking national developing country markets with the regional and global markets. Chapter 3 elaborates the priorities. Specific opportunities to secure smallholder participation in the agriculture sector in general (Chapter 8) and in the dynamic national and international markets more specifically (Chapter 6) are outlined. The interface between support to smallholder participation in dynamic and poverty reducing activities and the support required to secure a livelihood in the absence of alternatives is outlined in chapter 7.

83. **Social protection and livelihood protection in agriculture** – recognizing that some areas do not have the potential to support the productivity increases needed for agriculture to drive the wider pro-poor growth. Policies and investment should not be as demanding as those required for pro-poor agricultural growth yet significant investment is required. Returns to such investment need to be assessed against the costs of livelihood and natural resource management failure and the human and fiscal costs of rural communities becoming increasingly dependent on long-term welfare and emergency relief. In order to minimize risk and reduce vulnerability, agricultural policy needs to understand the impacts of change on differentiated groups and to identify initiatives that reduce risk and vulnerability. It becomes important therefore to understand factors influencing structural change that can lift different groups of people out of poverty in the longer term and to understand the factors leaving other households caught in a trap of persistent and structural poverty. Distinguishing between the types of poverty, and the structural features and constraints that create poverty traps can drive innovation in new models of “safely nets” thus reducing the impact of such risks and through the building of “cargo nets” which offer mechanisms to help households build up their assets base leading to sustained pathways out of poverty. Chapters 4 and 7 elaborate the priorities and actions.

84. **Increasing diversification of rural livelihoods.** The importance of sectoral linkages both consumption and production between agriculture and non agricultural activities are recognized (Johnson and Mellor 1961). Of particular importance in rural areas is the consumption linkage generated by increased rural incomes and creating the demand for often domestically produced goods and services. Household income diversification into non farm activities or through other social or economic transfers across most rural areas can however represent a significant source of household income and be an essential strategy for risk mitigation. Over time in most emerging and transition economies the relative importance of

agriculture will diminish with growth in manufacturing, service etc. Chapter 5 elaborates the priorities for addressing income diversification set in the context of and coherent with the new agenda for agriculture. Chapters 7 and 9 tackle the issues and opportunities derived from multi-locational livelihoods and its impact on both pro-poor growth in the agriculture sector as well as supporting the means to secure a sound exit from agriculture where viable opportunities exist.

Whilst new agendas must be tackled, the preconditions and necessary underpinnings of the agriculture agenda should not be neglected

85. Set in the context of multiple demands, and actions required to address the new agenda, attention must continue to be given to securing the preconditions and necessary underpinning that also influence agricultural productivity and secure effective mechanisms that link the gains from agricultural productivity with rural and the wider national poverty reduction objectives.

Developed country contradictions and the demise of agricultural ODA

86. National objectives of OECD countries in agriculture and trade often differ from their development aid objectives and may be contradictory as concerns the interests of developing countries. Whilst few will deny that global trade reform is necessary to enable developing countries to exploit such trade opportunities that are open to them, contradictions of policy and objectives further exacerbate the complexity of defining a framework for the new agenda for agriculture.

87. Whilst the importance of OECD trade policy reform cannot be overstated, it should however be noted that the elimination of tariffs and domestic subsidies may result in only limited shifts in world commodity prices. Further, the developing country beneficiaries most likely to gain are those able to meet international market requirements e.g. China for cotton compared to for example West Africa. Securing the gains from trade liberalization will therefore require considerable and increased effort at national level.

88. The current focus on the global trade agenda may have distracted both developing countries from the reassessment of the agriculture sector within national strategy and policy as well development partners from giving due attention and priority to the sector.

89. In real terms, external international development assistance to agriculture has fallen significantly since the 1980s and has reached an all time low². This is despite high returns for some types of agricultural investment. The decline has been particularly severe in sub-Saharan Africa where the external assistance level per agricultural worker is roughly one quarter of the peak 1982 level (FAO 2004). Further, external assistance to agriculture does not reach the neediest countries on terms of the prevalence of under nourishment.

Public expenditure and public institutions

90. Despite studies which show positive growth and poverty reduction effects from public spending in agriculture, the majority of developing countries public expenditure to agriculture is stagnant or declining. The situation is most severe in sub-Saharan Africa, where there has been a rapid withdrawal of state support to the sector and a perception that past public spending on agriculture has had limited impact (Jones and Stockbridge 2002). Compared to developed countries, agriculture spending as a percentage of agricultural GDP is low in developing countries. A recent study of public expenditure in 43 developing countries shows average spending falling from 9.8 percent of GDP in 1980 to 7.9 percent of agricultural GDP

² OECD DAC Annual Report 2003 – OECD to check reference

in 1998 (Fan and Rao 2003). There are significant variations between countries most notably in sub-Saharan Africa (1998 – ranging from Botswana at 45 percent of agricultural GDP to 0.19 percent in Mali). Further as a proportion of total government expenditure, the share of public spending also declined from 12 percent in 1980 to 9 percent in 1998. Again there were significant regional variations.

91. Usually, Ministries of Agriculture (MoAs) lead on public policy for agriculture in developing countries. In addition there are also other sectoral line ministries with wider rural development oversight and or responsibilities for sectors which link directly with agriculture such as trade, land and water. Building a coherent case for public sector support to agriculture in an environment of multiple sectoral agencies, with limitations of public funds and complex trade-offs, remains a particular challenge. Further, sectoral coherence between line Ministries beyond those directly focused on agriculture is also necessary including infrastructure (rural infrastructure planning and choice), health (food and nutrition policy, food safety, pesticide policy), education and labor (skills for labor markets, education attainment and agricultural productivity interaction) and social protection (livelihood security through agriculture), etc. Failure to put in place the means to address associated policies may miss key economic and social benefits and or have unintended or unplanned for outcomes.

92. The *New Agenda for Agriculture* implies a need for institutional change and realignment in order to take on the breadth of the agenda in particular the building of partnerships between the Ministry of Agriculture with other sectoral line Ministries, and with the private sector, and organizations of civil society. Increasingly, MoA's have the function of providing strategic guidance to both the agriculture and food sectors, provide the enabling, legislative and regulatory environment for agriculture and food, inform the food security agenda, and ensure that macro policies are coherent with the vision and goals of the agriculture sector. Prerequisites for a supportive policy environment for agriculture include attention to sustainable investment in infrastructure, land titling and the enforcement of property rights, regulation and support to rural financial systems, the strengthening of farmers' organizations and business associations, and ensuring the capacity of local level government to address and remove barriers to the sector.

93. MoAs need to play a key role in national science and technology policy, in research priority setting and in the identification of future human capital requirements including technical skills and capacity building for the agriculture and wider agribusiness sector. Ensuring that appropriate knowledge is generated, and disseminated to meet the needs of smallholders, commercial farmers and the agribusiness sector should fall under the mandate of MoAs whether they are themselves direct service providers or not.

94. In general there is a relative lack of nationally generated evidence-based analytical work to underpin public investment choice and policy. This is due in part to a limited policy research capacity and funds within the relevant sectoral line Ministries and national independent economic and social research institutions and due to a heavy dependency on external developments agencies who undertake policy analysis as a contribution to informing investment choice for use of development funds.

95. Finally, new and innovative institutional structures are required to promote local economic development including the improvement of the investment climate for the agriculture and non agricultural sectors, the promotion of labor mobility and labor markets, the development of innovative means to help the private sector to provide agricultural, financial, infrastructural markets and social services, the promotion of producer organizations, trade associations, chambers of commerce. New modalities for public administrations to work together with the private sector are required at all levels from local through to national.

The political and institutional dimensions of agriculture need to be understood and addressed

96. There remains a tendency to seek technical solutions to policy change and ignore the wider political dimension. Political dimensions can create significant obstacles to change including vested interests that may block reform for example in the area of land and property rights, or derive direct or indirect benefits from incomplete reform or subsidy.

97. The relative weakness of the farming lobby, and the lack of incentives for policy makers to tackle pro-poor policy change, should be a cause for concern. The strengthening of and engagement with organizations of civil society in particular representational bodies (farmer organizations, co-operatives, retail associations, business groups, consumer groups and chambers of commerce) can help to guide and inform agricultural and food policy choices. A number of recent rural and agricultural strategy documents of development agencies (e.g. World Bank 2003) highlight the intention to focus funds to support capacity building in this area.

98. Greater attention should be given to attitudes, beliefs and behaviors which lead to gender based discrimination and power inequality between men and women and to seek to remove such discrimination and inequality. Social exclusion in particular of ethnic minorities, social groups and by faith orientation remains a particular challenge in rural areas and as such the implications to tackle such social exclusion within the agriculture agenda should be seen as a political imperative.

99. No single institutional arrangement can be relied upon to deliver the same pro-poor outcome and similar formal institutions can have different outcomes in different settings (Rodrik 2002). Successful outcomes will depend on how well economic, political, social and cultural institutions both formal and informal interact. Whilst well functioning economies tend to have in place institutional arrangements that provide for key economic functions of allocation and security of property (land tenure, inheritance law); facilitation transactions (contract law, market information, banking) and permitting economies and scale and specialism (competition law, regulation of cooperatives), good institutions do depend on giving attention to local conditions and may at the earlier stages of growth not require deep and extensive institutional reform. Understanding and addressing key institutional barriers to pro-poor agricultural growth remains a priority.

Investment in infrastructure and technology

100. Irrigation set within the wider water supply and demand side management, rural roads and agricultural research are three main infrastructural investments that will drive agricultural growth (IFPRI 2001). Investment in rural roads in particular has significant impacts on productivity and poverty alleviation (Fan - POVNET paper).

101. Given that the application of water and its managed use is an essential factor in raising productivity of agriculture and ensuring predictability of outputs, the fact that some 3.7 percent of sub-Saharan Africa's arable land is under irrigation compared to 10, 29 and 41 percent respectively for South America, East and South East Asia, and South Asia respectively, is a cause for concern. It highlights the need for both significant and continued investment in irrigation infrastructure, both small and large scale, and in innovation in formal and informal local level land and water management systems.

102. However, given the levels of capital investment required in for example sub-Saharan Africa and South Asia in such infrastructure, difficult choices remain on absolute allocation and sequencing.

103. Whilst studies have shown high rates of return to investment in agricultural research (Alston et al 2000), there remains under-investment in agricultural research by national

governments and international agencies. The private sector internationally is increasingly driving the technological change for the agriculture sector however the adaptation of such technology and innovation for crops, agro-climatic and market conditions relevant to developing countries, by the private sector is limited. The challenges and opportunities offered by biotechnology must be addressed, as well as the science and technology required to meet new challenges such as anticipated by the changes in consumer demand (e.g. implications of intensification of the livestock sector, changes in pest and disease induced by intensification and climate change, etc)

104. There is a critical public sector role both international and national yet to be played in closing the north-south technology gap as well as ensure that key emerging and priority research agendas are addressed.

105. The range of skills and infrastructure required to adapt, verify and or further develop technologies available internationally for agriculture, calls for significant increases in human skill capacity in science and technology within developing countries. The inequality in skills capacity and wider infrastructure serves to dampen the developing countries capacity to compete internationally and to meet the knowledge requirements of farmers and the wider agribusiness. Sustainable national agricultural research and advisory systems are a prerequisite of a new agriculture agenda.

106. The information and communications technology (ICT) revolution provides new options for accessing information by providing it directly to farmers, agribusiness and public and private sector advisory services. However, most extension programs have yet to integrate effectively the benefits of mass media and ICT. Investment gaps exist in many rural areas relating to connectivity and capacity building. Policy and regulatory reforms relating to the use of ICT also need to be addressed in many regions.

Securing natural assets and environmental management

107. Effective land and water policies are prerequisite to a sound agricultural sector. Water in many regions remains a key limiting factor on growth and inequitable land distribution hampers pro-poor and broad-based growth (Deininger 2004) where greater equality is good for both growth and poverty reduction. Secure land use rights and access to common property is particularly important for the poor and most marginalized groups including the rural landless. Continued efforts are required to sustain pluralist approaches and specifically to support the convergence of customary and formal tenure systems thus minimizing overlapping and conflicting sets of rights.

108. Expansion of crop area will be limited in most developing countries and most increases in crop production will come from yield increases and higher cropping intensities. The current levels of nutrient depletion represent a significant loss of the natural capital asset. In sub-Saharan Africa, where soils are inherently fragile, it is anticipated that unless smallholders are able to adopt sustainable integrated soil fertility and land and water management practices, such nutrient depletion will jeopardize their longer term productivity and income potential. Integrated approaches to increase productivity are required which combine the use of organic matter, mineral fertilizers, improved seed, and improved soil and water conservation techniques. Mineral fertilizer use in sub Saharan Africa is 10 percent of that used in South Asia and below 5 percent of that applied in industrial countries. Greater efforts are called for to address the needs of less favorable and fragile agro-ecological zones.

109. Environmental degradation is particularly harmful to the poor, who are themselves most dependent on natural resources. There is a need for more innovation in soil and land management within agricultural intensification building on local knowledge.

110. Integrated land, water and soil management are not merely technical issues, they require supportive legal and institutional structures, systems to re-enforce technology and agricultural systems and links to dynamic markets. None of these changes can take place without a supportive environment of dynamic input and output markets, the necessary infrastructure etc. Community participation and ownership is essential. Opportunities exist to strengthen the provision of public goods efforts aligned to social protection programs with natural resource management programs where the latter are seen as part of a wider public good.

111. Gender inequalities in terms of access to resources and assets exist and need to be addressed. The participation by women in decision making processes at household, community and societal level requires continued focus.

Factor in and mitigate for disasters and failures of governance in the national agricultural economies and food systems

112. Manmade and natural disasters and failures of government impact heavily on the national agricultural economies and food systems. In any given year between 5-10% of global hunger stems from droughts, floods, armed conflicts and political, social and economic distributions. Some 50 million people in 39 countries faced severe food shortages in 2002 (IFPRI 2003). The costs and longer term implications of such disruptions in terms of re-establishing and rebuilding the rural and farming community and the food systems including the repair to infrastructure and other public and private investment is not known.

Build better links between food aid, famine mitigation and agriculture policy

113. The integration of food aid within the wider national and regional agricultural sector and social protection programs remains essential. In recognition of the multiple dimensions and interactions of food aid, new guidelines have been generated (von Braun 2003).

114. New efforts to address famine prevention are also being proposed (for example USAID 2003) for states that have the following characteristics: food deficit and foreign exchange constrained (thus leaving the country susceptible to economic and environmental shocks); high prevalence of malnutrition and poverty; political and economic stability (reducing risk of broad based famine and food insecurity), and where there is political commitment to address the root causes of food insecurity. Such a framework calls for medium term effort (i.e. 5 years minimum) and the integration of emergency, relief and development within a common agenda focusing on the capacity building and the development of resilience at all levels to cope with shocks thus explicitly attempting to break the cycle of food crises, protect the chronically food insecure, and build conditions for sustained growth.

Key policy questions that need to be addressed and knowledge gaps

Can an effective framework or model for analysis and scenario planning be developed for use as a tool kit by policy makers?

There is a lack of a framework and associated tool kits which can help to guide the analysis of the impact of multiple and dynamic changes on different categories of farm households, to inform investment or policy in areas that offer greatest return and to understand and cost the social and economic implications of not providing support to the agriculture sector.

Agricultural policy needs to understand the impacts of change on differentiated groups and to identify specific and targeted initiatives that reduce risk and vulnerability.

Can innovative models of public support be tested and offered that can help emergent agricultural industries and smallholder agriculture to develop and become competitive and sustainable in a globalizing world?

Mechanisms to put in place smart subsidies to address missing input and output markets and to supporting emerging industries and or industries recently exposed to international market pressures without creating either distortions in the market, dependency, or going counter to prevailing trade rules, requires urgent consideration.

How best can agriculture policy and rural sector policy be woven with social policy to achieve win-win gains of social protection and the enhancement of economic dynamism?

Recognizing that for many smallholders agriculture cannot offer a viable long terms future and that in many rural and less favored areas other economic opportunities are unlikely to be secured, can (inter-generationally) new models of social transfers be developed that enable smallholders to maintain some form of household livelihood through agriculture without distorting the transition out of agriculture and creating longer term dependency?

Can models which integrate multi-functionality including support to global environmental goods be developed suitable for developing country needs and capacities?

Within the wider framework of global poverty, inequality and faced with the challenges of climate change and global warming – can new and innovative approaches be considered to support rural populations in their role as custodians of the rural landscape and the natural resources asset base?

How can policy and public intervention best strengthening linkages and interaction between different scales of farming (Rural Worlds 1-5) and support linkages between global food industries and national suppliers

Building effective linkages between the agricultural industries of the north and the south, between the large global food retailers and the national developing country supply base, and between the commercial agriculture and the smallholder within countries will become a prerequisite of the new order for agriculture. New models of public sector support (policy and financial intervention) to support such linkages need to be developed.

Can new models of pro-poor Local Economic Development integrating a local level understanding of agricultural transformation be developed to underpin the new agriculture agenda ?

The close interaction between growth in the agriculture and non agriculture sectors, the dynamics of local level labor markets, and the interactions between rural and urban development and transformation, calls for new model of local economic development to be defined and supported.

Deepening the understanding of the impact of change of the smallholder to guide policy and intervention

There remains an essential need to build up the social, economic and institutional policy research and analysis to guide public policy at both national and international levels. The current and anticipated impacts of many of the dynamic changes on smallholder agriculture are presently poorly understood.

A deeper understanding of the political processes, incentives and institutions guiding national and regional agricultural agendas is also required.

References

- Alston J. M., C. Chan-kang, M. C. Marra, P.G. Pardey, and T. J. Wyatt. (2000) A meta-analysis of rates of return to agricultural R&D: *ex pede herculem?* IFPRI Research Report 113.
- Anderson, J. (2002) Risk management in rural development. Rural Strategy Background Paper 7. World Bank, Washington, DC.
- Brathwaite, C. W. D. (2003) More than food on the table: agricultures true contribution to the economy. Summary IICA.
- Bresciani, F. (2003) Agricultural growth and poverty reduction module: a cross country synthesis. FAO Agriculture and Economic Analysis Division. Roles of agriculture international conference 2003.
- Datt, G. and M. Ravallion (1996) How important to India's poor is the sectoral composition of growth? The World Bank Economic Review. Vol 10 pages
- De Janvy, A. and E. Sadoulet (1996) Growth, inequality and poverty in Latin America: A causal analysis 1970-94. Working paper no. 784, Department of Agricultural and Resource Economics, University of California Berkley
- Deininger, K. (2003) Land Policies for Growth and Poverty Reduction. World Bank.
- Diao, X., P.Hazell, D. Resnick, J.Thurlow with M. Rockmore and M Abrenilla (2005) The role of Agriculture in pro-poor growth in sub-Saharan Africa. IFPRI – in preparation
- Dixon, J., A. Gullivar, and D. Gibbon (2001) Farming Systems and Poverty Improving farmers livelihoods in a changing world. Edited by M. Hall. FAO Rome 412pp
- Dorward, A., S. Fan, J. Kydd, H. Lofgren, J. Morrison, C. Poulton, N Rao, L.Smith, H. Tchale, S. Thorat, I. Urey, and P. Wobst (2004) Institutions and economic policies for pro-poor agricultural growth, DSGD Discussion paper no. 15 November 2004. 116pp
- Dunstan, S. (2001) Will they survive? Prospects for small farmers in Sub-Saharan Africa. Sustainable Food Security for All by 2020. September 4-6 2001. Bonn Germany.
- Fan, S. and N. Rao (2003) Public spending in developing countries: Trends, determination and impact. EPTD Discussion paper Non 99. IFPRI.
- FAO (2003) State of Food and Agriculture. Annual Report 2002-2003
- FAO (2004) State of Food and Agriculture. Annual Report 2003-2004
- FARM-Africa (2004) Reaching the poor a call for action. Investment in smallholder agriculture in sub-Saharan Africa. ISBN 1-904029-01-9. 30pp
- Gallup, J., S. Radelet, and A. Warner. (1997) Economic growth and the income of the poor. CAER Discussion Paper no. 36. Cambridge MA. Harvard Institute for International Development
- Hammer, L., J. Healey, and F. Naschold. (2000) Will growth halve global poverty by 2015 ODI Briefing note 8. 7pp

- Hazell, P. and E. Lutz (1998) - complete
- Heltberg, R. (1998) Rural market imperfections and the farm size-productivity relationship: Evidence from Pakistan *World Development*, 26 (10): 1807-1826
- Irz, X., L. Lin., C. Thirtle, and S. Wiggins (2001) Agricultural productivity growth and poverty alleviation. *Development policy review* 19 (4): 449-466
- IFAD (2001) Rural Poverty Report 2001. The challenge of ending rural poverty. IFAD Rome. 266pp
- IFPRI (2003) Strategy: towards food and nutrition security. 38 pp. IFPRI Washington DC. USA
- Jayne, T.S., M. Villarreal, P. Pingali, and G. Hemrich (2004) Interactions between the agriculture sector and the HIV/AIDS Pandemic: implications for agricultural policy. ESA Working Paper no. 04-06. 39pp
- Jones, S. and M. Stockbridge (2002) Agriculture and rural enterprise in Africa: Is there an investment gap? Oxford Policy Management UK. Working paper prepared for DFID
- Rosegrant, M.W., M. S. Paisner, S. Meijer and J. Witcover. (2001) Global food projections to 2020: emerging trends and alternative futures. IFPRI. 206pp
- Mellor, J. (2000) Faster, more equitable growth: the relation between growth in agriculture and poverty reduction. Harvard Institute for International Development.
- Narayanan, S., and A. Gulati. (2002) Globalization and the smallholder: A review of issues, approaches, and implications. MSSD Discussion Paper No. 50. 118pp
- Nkamleu, G., Gokowski, J. and Kazianger, H. (2003) Explaining the failure of agricultural production in sub-Saharan Africa. Paper presented at the 25th International Conference of Agricultural Economists. 16-22 August 2003. Durban South Africa
- NEPAD (2003) Comprehensive Africa Agriculture Development Programme. New Partnership for Africa's Development and the Africa Union. 102pp ISBN 0-62030700-5
- OECD (2004) Agricultural Outlook 2004 -2013 Highlights
- Parry, M.L., N.M. Arnell, A. J. McMichael, R. J. Nicholls, P. Martens, R.S. Kovats, M.T.J. Livermore, C. Rosenzweig, A. Iglesias, and G. Fischer. (2001) Millions at risk: defining critical climate change threats and targets. *Global Environment Change* 11 (3): 181-193
- Parry, M.L., C. Rosenzweig, A. Iglesias, M. Livermore, and G. Fischer (2004) Effects of climate change on global food production under SRES emissions and socio-economic scenarios. *Global Environmental Change* 14,(1): 53-67
- Pinstrup-Andersen, Pandya-Lorch et al (2001) The unfinished agenda., IFPRI
- POVNET (2004) Implications of HIV/AIDS for pro-poor agricultural growth. Issues paper prepared by Annabel Muelder. Helsinki workshop June 17-18 2004.
- Pretty, J., J. I. L. Morison, and R.E. Hine (2003) Reducing food poverty by increasing agricultural sustainability in developing countries. *Agric. Ecosys. Environ.* 95 (1), 217-234

Report of the 29th Session of the Committee on World Food Security. Rome, 12-16 May 2003

Rodrik, D., A. Subramanian, and F. Trebbi (2002) Institutions rule: the primacy of institutions of geography and integration in economic development. NBER Working paper 9305 (October)

Stamboulis, K., and A. Zezza. (2003) A conceptual framework for national agricultural, rural development and food security strategies and policies. FAO ESA Working Paper No 03 -17.

Thirtle, C., Irz, X., Lin, L., McKenzie-Hill, V. and Wiggins, S. (2001) Relationship between changes in agricultural productivity and the incidence of poverty in developing countries. Report commissioned by DFID.

Timmer, C.P. (1997) How well do the poor connect to the growth process? Consulting assistance on Economic Reform Discussion Paper No. 178 Cambridge, MA.: Harvard Institute for International Development

USAID (2003) Breaking the cycle of food crises: Famine prevention in Ethiopia. Working paper. USAID Washington DC. USA. 31pp

Von Braun, J. (2003) Berlin Statement. Conference summary recommendations drawn from the international workshop on *Defining the Role of Food Aid in contributing to sustainable food security* Berlin September.

Vorley B (2002). Sustaining Agriculture: Policy, Governance, and the Future of Family-based Farming. IIED, London

Warr, P (2001) Poverty reduction and sectoral growth: results from south east Asia. Australia National University Canberra

World Bank (2003) Reaching the rural poor - A renewed strategy for rural development. World Bank Washington DC USA, 174pp

Zimmerman, F.J. and M.R. Carter (2003) Assets smoothing, consumption smoothing and the reproduction of inequality under risk and subsistence constraints. *Journal of Development Economics* 71, 233-260.