

Agriculture Policy Guide

*Meeting the challenge of a new pro-poor agricultural paradigm:
The role of agricultural policies and programmes*

(2012)



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Acronyms

ACDI/VOCA	Agricultural Cooperative Development International/Volunteers in Overseas Cooperative Assistance
ACE	Agricultural Cooperatives in Ethiopia
ADB	Asian Development Bank
AGRA	Alliance for a Green Revolution in Africa
AIDS	Acquired Immune Deficiency Syndrome
ALIN	Arid Land Information Network
ARD	Agricultural Research and Development
AU	African Union
BAAC	Bank for Agriculture and Agriculture Cooperatives, Thailand
BMU	Beach Management Unit
BMZ	Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung (Federal Ministry for Economic Cooperation and Development)
CAADP	Comprehensive Africa Agriculture Development Programme
CFPR	Challenging the Frontiers of Poverty Reduction
CFS	Committee on World Food Security
CGIAR	Consultative Group on International Agricultural Research
CIMMYT	Centro Internacional de Mejoramiento de Maíz y Trigo
CLP	Chars Livelihoods Programme
CNRC	Conseil National de Concertation et de Coordination des Ruraux (National Council for Consultation and Coordination for Rural People)
CPAN	Chronic Poverty Advisory Network
CPRC	Chronic Poverty Research Centre
CSAAWU	Commercial, Stevedoring, Agricultural and Allied Workers Union
DFID	Department for International Development
EIARD	European Initiative for Agricultural Research for Development
EITI	Extractive Industries Transparency Initiative
ETI	Ethical Trading Initiative
FAO	Food and Agriculture Organization
FFS	Farmer Field School
FPEAK	Fresh Produce Exporters Association of Kenya
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Agency for International Cooperation)
GNESD	Global Network on Energy for Sustainable Development
GNI	Gross National Income
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
IAASTD	International Assessment of Agricultural Knowledge, Science and Technology
ICRISAT	International Crops Research Institute for Semi-arid Tropics
ICT	Information and Communication Technology
IFAD	International Fund for Agricultural Development
IFOAM	International Federation of Organic Agriculture Movements
ILO	International Labour Organization
IFOAM	International Federation of Organic Agriculture Movements
IFPRI	International Food Policy Research Institute
INOFO	Intercontinental Network of Organic Farmers Organisations
IUF	International Union of Food Workers
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal

MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MPRLP	Madhya Pradesh Rural Livelihoods Project
NCEUS	National Commission for Enterprises in the Unorganised Sector
NEPAD	New Partnership for African Development
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
OPHI	Oxford Poverty and Human Development Initiative
PCA	Precision Conservation Agriculture
PPP	Public–Private Partnership
PSNP	Productive Safety Net Programme
R&D	Research and Development
SEWA	Self-employed Women’s Association
SRI	System of Rice Intensification
TLRP	Third Local Roads Project
UGP	Urban Gardens Programme
UK	United Kingdom
UN	United Nations
UNCTAD	UN Conference on Trade and Development
UNESCO	UN Educational, Scientific and Cultural Organization
US	United States
USAID	US Agency for International Development
WEAI	Women’s Empowerment in Agriculture Index
WFP	World Food Programme
WHO	World Health Organization

The Chronic Poverty Advisory Network (CPAN) is producing a portfolio of sector and thematic policy guides to help policymakers and programme designers use evidence about chronic poverty and poverty dynamics in designing policies and programmes to:

- Contribute to addressing the causes of chronic poverty;
- Assist poor households to escape poverty;
- Prevent impoverishment.

The guides are aimed primarily at policymakers and practitioners in developing countries, working for government, civil society, the private sector and external development agencies. This includes organisations working directly with and for the poor. They are also intended for the intergovernmental, bilateral and non-governmental international agencies that support those domestic actors.

This particular policy guide is intended for policy and programme designers and implementers in agricultural agencies, as well as policymakers in ministries of finance and planning and other agencies, who are seeking better results from agricultural investment to achieve poverty reduction outcomes. 'Agricultural agencies' here means not only government departments (agriculture, livestock, irrigation, land) and agencies, but also private sector and non-governmental organisations (NGOs). The guide also aims to support the work of organisations representing poor people and social movements on agriculture.

The guide identifies key areas and new emphases for agricultural policy and programme development to eradicate poverty and hunger and presents new research results on agriculture and poverty dynamics in Africa. It also discusses the applicability of these policy thrusts across a categorisation of countries based on their food and trade security and their agro-ecological and climatic conditions. The guide is about what to do rather than how to do it in a particular context. However, CPAN is very happy to work with policymakers on the 'how to' question: please contact us if you would like to adapt the ideas in this guide to a particular context, or to get into more detail on how to design and implement or evaluate policies and programmes.

Reading the guide: if you want policy prescription only, skip or just read the conclusion to Part A, which is analytical. If you have limited time, there is an overall summary included with the guide, and each section ends with a summary of policy implications. In addition, at the end of each policy cluster section is a brief discussion of the applicability of the different policies and programmes to different country contexts, using the International Food Policy Research Institute (IFPRI) disaggregation of countries (see Annex 1).

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Maximising sustained escapes from poverty and preventing impoverishment will accelerate achievement of the Millennium Development Goals (MDGs). This policy guide is designed to show agricultural and other interested policymakers how their policies and programmes can benefit chronically poor people, help poor people move out of poverty and prevent the impoverishment of others. It makes a new case for a shift in the mainstream agricultural paradigm towards a focus on asset accumulation and protection in the context of sustainable agriculture, as well as an emphasis on farm workers as a major constituency for agricultural agencies. It also suggests a more rapid transition to incorporating sustainable agriculture and indigenous technologies into the agricultural mainstream in a pro-poor systems innovation approach. It supports other work in highlighting infrastructure and pro-poor market arrangements, non-farm economic growth and local institutional development to enable agriculture to have a greater impact on poverty reduction.

Part A of the policy guide contains a new analysis of panel data from Africa, backed up by existing panel data analyses from Asia, to underline the importance of asset accumulation and the protection of assets against loss, as well as infrastructure for effective market operation. It draws attention to farm workers as the great neglected agricultural constituency at the heart of the chronically poor, and briefly summarises the policy implications of the analysis.

Part B takes its structure from the findings in Part A, and examines what works for the poorest in policies and programmes on assets, farm technologies, markets and labour, as well as policy areas outside the control of agricultural agencies: local institutions and employment-generating growth.

A focus on farm asset accumulation should address the constraints that prevent chronically poor farm households from improving their productivity – typically, ways to access more and better quality land, to enhance the quantity and quality of livestock and to own and expand farm equipment as well as to transform these into higher incomes through knowledge and technology. Whereas past transformations have been Green Revolution based (improved seeds and agro-chemicals), the transformations of the future will be grounded in sustainably intensified agricultural technologies. An innovation systems approach is needed; one that incorporates local knowledge and addresses critical constraints. Also, agricultural research and development (ARD) needs to target poor people, including the poorest, if it is to benefit them.

Assets can be lost, thus require protection. Social protection helps in this regard, but agricultural agencies can also support innovative insurance schemes. Women are particularly vulnerable to asset loss, on divorce, separation or becoming widowed, and agencies therefore need to support or sponsor relevant moves towards gender equality. Women also need secure access to the assets and household resources necessary to enable them to innovate where land and homesteads are passed through the male inheritance line.

Collectively owned or managed assets – land, fisheries and forests – also need protecting, and co-management has evolved as a major way of doing this. Principles on managing large-scale investments in land have recently been agreed and need to be implemented; this approach could be extended to fisheries, forests and other scarce resources. A new approach is needed on farm technology, one that is more open, flexible and diverse, emphasising soil fertility, farm mechanisation and indigenous knowledge as much as seeds and fertilisers. This implies reformed extension and research approaches.

Markets can be both competitive and regulated at the same time, with public and private systems functioning complementarily, such that inputs and outputs flow between them while government sets

regulations in line with its priorities.¹ Governments can also create an enabling environment for pro-poor growth by developing institutions designed to improve the functioning of sectors in which the poor are most active (like agriculture) and in which they are the most likely to realise sustained benefits. These might include secure marketing institutions, credit and savings programmes and local infrastructure developments.

Markets are critical to ensuring good returns to assets and labour. They can be, but are not always, competitive, and regulation can ensure they are sufficiently but not too competitive. Broader access to secure markets is crucial for chronically poor households. A wealth of work on value chain improvements clearly highlights producers' organisations and contract farming as promising ways forward in terms of putting farming on a more secure footing. Governments may need to 'hold the ring' and regulate the relationships established by contracts. Corporate actors are controlling resources and shaping markets as never before, so there is a need to redress power imbalances and strengthen the role of other actors to make corporations accountable to the poor. Agricultural agencies can encourage more responsible corporate governance through a mix of incentives and pressure, and also can create an enabling environment for farmers' organisations to make them more effective. Moreover, they can support efforts to increase representation of the poor, women and farm workers within organisations.

It is well known that infrastructure investments can assist in providing good access to competitive markets. The poorest people benefit from village-level roads and other very local infrastructure, which infrastructure agencies often neglect. Road connections are critical; electrification, often using off-grid sources, is crucial to farm and non-farm diversification; and improved energy sources are vital, both environmentally and in terms of releasing women's time. Mobile telephony also has potential.

Poor households are generally clients in formal financial institutions. Banks and other financial institutions do not see a business case in serving the very poor segments of the population, and therefore only donor-supported microfinance agencies work with these groups. What poor households need above all else are savings and insurance opportunities. Microfinance agencies now realise that credit is not a 'magic bullet' to eradicate poverty, and that client demand should be the focus, with products designed accordingly. The poorest clients may need grants and support rather than credit. Credit for farmers and agricultural entrepreneurship remains weak in many countries and needs a new look from agricultural policymakers, to take into account poor households' overall requirements with regard to savings and insurance, payment and credit products. This is an area that requires significant innovation. This is happening in the microfinance sector and needs to be extended to other financial institutions.

Farm workers are agricultural agencies' least well-served constituency. It is here that agricultural policies can have their most profound impact on chronic poverty. Farm – and, more broadly, rural – workers need to be protected by codes of practice, minimum wages supported by public works programmes and measures to limit child labour. Their employability can be enhanced through reformed apprenticeship schemes and the implementation of measures against discrimination.

Part B of this guide highlights several important areas of policy that agricultural agencies need to appreciate and support, such as social protection strategies and programmes and gender equality reforms. The guide also highlights three policy areas outside agriculture where agricultural agencies can be more active, with advantages for agriculture. Farm workers and others benefit from a vibrant non-farm economy pushing up wages and working conditions, although this is dependent on demand for non-farm products and services, which in turn is determined mainly by agricultural incomes – so there is no alternative to increasing these. The investment climate, business promotion efforts and education are all important determinants of the extent to which good employment is generated. The

¹ Wade, R. (1990). *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*. Princeton: Princeton University Press.

non-farm economy is an institutional orphan in many countries; where this is the case, and where agriculture is sufficiently buoyant, agricultural agencies should pick up the challenge.

Agencies also need to involve themselves at the local government and institutional level, as this is important in determining poverty dynamics. They could also be a stronger part of national discussions on the nature and composition of economic growth than they often are. But first they need to 'put their own house in order' and make the necessary changes to be able to shift towards a new sustainable, poverty-eradicating paradigm. The table below lists some of the challenges in doing this, together with responses to these challenges.

While this is an extensive policy agenda, it helps to distinguish what is new from what is well established in policy discussions on agriculture's role in reducing poverty. This new agenda is distinguished from the mainstream by its focus on building up assets, asset protection, developing secure and decent markets and supporting and promoting vulnerable farm workers in the context of necessary, if painful, shifts to sustainable agriculture. The mainstream, by contrast, is characterised by a reliance on technology-led transformation and modern seeds and agro-chemicals in particular.

Challenges and responses in developing a new sustainable, poverty-eradicating agricultural paradigm

Challenge	Response
Use of a systems approach	Farming systems research was tried in the 1980s and 1990s and abandoned because it was too complex. What are required are shared concepts across the different specialties and a looser collaborative/network approach to development work, rather than a restructuring of services.
Context-specific research and development (R&D) and extension	Build on the available approaches (e.g. participatory research, adaptive research) to make these services more responsive to demand and context. Significant progress has already been made here by many agencies.
Area-based approach	This has been practised by some agencies (e.g. watershed management) and many countries now include agriculture as part of an area-based local government service. There is good experience to build on. There may be boundary issues to resolve.
New emphases on intermediate farm mechanisation, farm workers, regulating agricultural markets and the non-farm economy	These may require new or strengthened departments in ministries of agriculture, or collaborative relationships between agricultural agencies and agencies closer to the topic – labour departments, ministries of commerce or rural development.
Time to bear fruit	Considerable political education is required. International support is critical – the international agricultural agencies (the Food and Agricultural Organization (FAO), the International Fund for Agricultural Development (IFAD) and the International Labour Organization (ILO)) increasingly agree with this agenda and can support national efforts.
Changes in property rights, e.g. promotion of rental systems and other ways of expanding access to land for the poorest	Many countries have already embarked on this route, even though it is sometimes long and complicated.
Favourable pricing	Initially, this has been achieved through certification (organic/fair trade) and price premiums in export markets. The challenge is to extend this to developing country consumer markets. Consumer education is critical.

Part A

New Evidence from Panel Data

This first part of the guide lays out the issues by analysing panel data from Africa and Asia, where most chronically poor farm households are to be found. It identifies the main policy thrusts necessary to improve agriculture's contribution to an increased rate of poverty escape, to addressing the causes of chronic poverty and to reducing the rate of impoverishment – all of which are necessary if poverty and hunger are to be eradicated in the next two decades. Policy thrusts making agricultural agencies full partners in the eradication of extreme poverty are identified in four areas: assets; markets; labour; and policy areas that lie largely outside the influence of agricultural agencies but where they need to be involved as partners.

1. Agriculture and poverty reduction

It is well demonstrated that agriculture remains a critical sector for poverty reduction (Box 1). However, policymakers in ministries of finance and planning, and more broadly those outside the agricultural world, often still do not accept that this is the case, or do not know what the appropriate policy response is. This scepticism has different roots, including the perceived failure of large-scale rural development projects in the 1980s and 1990s, the reliance of agricultural development on state-led approaches in an era characterised by market fundamentalism and the unattractiveness of investing in low-productivity agriculture when commodity prices were low (up to 2000).

Box 1: Abstract of the latest cross-country evidence of agriculture's role in poverty reduction²

The role of agriculture in development remains much debated. This paper takes an empirical perspective and focuses on poverty, as opposed to growth alone. The contribution of a sector to poverty reduction is shown to depend on its own growth performance, its indirect impact on growth in other sectors, the extent to which poor people participate in the sector and the size of the sector in the overall economy. Bringing together these different effects using cross-country econometric evidence indicates that agriculture is significantly more effective than non-agriculture in reducing poverty among the poorest of the poor (as reflected in the \$1-day squared poverty gap). It is also up to 3.2 times better at reducing \$1-day headcount poverty in low-income and resource-rich countries (including those in Sub-Saharan Africa), at least when societies are not fundamentally unequal. However, when it comes to the better-off poor (reflected in the \$2-day measure), non-agriculture has the edge. These results are driven by the much larger participation of poorer households in growth from agriculture and the lower poverty-reducing effect of non-agriculture in the presence of extractive industries.

The agricultural policy world is now busy again promoting the Green Revolution, or at least its seeds and fertilisers component, as the answer (the original, largely Asian version, put a great deal more emphasis on irrigation). Increasing crop yield is where the international money is going and where many agricultural agencies are concentrating their attention. Significant advances since the earlier period include the development of seeds for difficult agro-ecological regions. However, it is centralised research institutions that develop modern seed varieties, usually with little space for local innovations, which may be critical in complex, diverse and risk-prone regions. The cultivars developed under these systems may lead to erosion of local varieties that are rich in nutrition and taste and hence are preferred by local consumers.

The conventional approach overlooks the interdependence between crop cultivation and allied activities such as livestock, plantation or inland fisheries – which all make substantial contributions to strengthening biodiversity, employment and income stability. As a result, the conventional approach is sometimes associated with monoculture, loss of biodiversity intensive use of land and water, leading to their degradation/depletion and increased instability of production under rain-fed conditions.

² Christiaensen, L. Demery, L. and Kuhl, J. (2011) The (Evolving) Role of Agriculture in Poverty Reduction. An Empirical Perspective, Working Paper No. 2010/36, Helsinki: UNU Wider.

Policymakers' scepticism about agriculture may be based partly on the fact that it is well known that the Green Revolution generally works best and fastest for non-poor rural households, with poorer households catching up later, if at all. This is especially true where there is significant inequality among farm households in terms of land, water and other resource ownership. In much of Africa, the Green Revolution has taken off but failed to sustain, partly because poor farm households have been too asset poor, vulnerable and food insecure. Where it has succeeded, it has not been enough to lift substantial farm populations out of poverty, although a minority has benefited.

The mainstream view on agricultural investment has historically tended towards direct input and price subsidies and price interventions, though more recently it has shifted in the direction of research and development (R&D) (Akroyd and Smith, 2007).³ That being said, agricultural expenditure accounting is rarely disaggregated in a way that clarifies the types of policies being supported. It is likely that direct input supports have been rebranded as R&D investments, such that their intended aims to improve productivity are identical to those previously sought under previous subsidisation schemes.

Box 2: Trends in sub-sector spending – the case of Uganda

Despite evidence that diversification of spending on agriculture to include basic infrastructure, R&D and extension services would achieve broader poverty reduction outcomes, recent trends in Uganda's agriculture budget allocations show that direct subsidies still make up the majority of funding. In fact, the proportion of funds allocated to direct input subsidies has been increasing over the past decade, even though studies have shown that these expenditures do not have the most significant impact in terms of raising people out of poverty. Fan et al. (2007), for example, in a study of returns on agricultural investment in Uganda, found that R&D, followed by education and feeder roads, had the greatest impact in relation to moving people out of poverty. Yet between 2005/06 and 2008/09, non-wage recurrent spending (mostly comprising direct farm inputs) increased from 49% to 80% of the Ministry of Agriculture's spending allocations.⁴

The orthodoxy of output-dominated agricultural development policy is slowly shifting towards a broader multi-sector framework in some areas to include socioeconomic, conservation and human development approaches. The Comprehensive Africa Agriculture Development Programme (CAADP) of the African Union (AU) is based around four pillars – land and water management; market access; food supply and hunger; and agricultural research – with all participating countries committed to developing strategic investment plans to fulfil this mandate. CAADP countries have also committed to channelling 10% of total public expenditure towards agriculture, based on the view that lagging investments across the continent have undermined growth potential, in contrast with the success of Asian countries, which have invested an average of 11% of total national expenditure in agriculture. However, initial prioritisation has focused on agricultural research, and, after 10 years of existence, the CAADP is nearing implementation of only this one pillar. This suggests that, despite the need for increased awareness of the critical nature of more diversified agriculture sub-sector spending, putting this principle into practice has been hesitant. This guide therefore aims to give concrete examples of where spending can have measured benefits for the poorest, alleviating any concerns that spending outside of direct supports is any more challenging or less effective.

More is now known about the causes of chronic poverty and poverty escapes or impoverishment (poverty dynamics). Assets and returns to them are critical. Education is especially important for escaping poverty. The adverse geography of some, usually remote, agricultural, pastoral or fisheries regions negatively affects returns to assets, and area-wide shocks are important in these regions – combinations and sequences of shocks impoverish people beyond recovery. Discrimination against ethnic, caste, race or religious groups also reduces the returns to assets. Younger people are known to be more likely to escape poverty, and older people to be stuck in it. Shifts in politics and power

³ Akroyd, S., & Smith, L. (2007). Review of Public Spending to Agriculture. Oxford Policy Management

⁴ The World Bank. (2010). *Uganda: Agriculture Public Expenditure Review*

relationships are needed to address some of the structural causes of chronic poverty, like discrimination and adverse geography.⁵

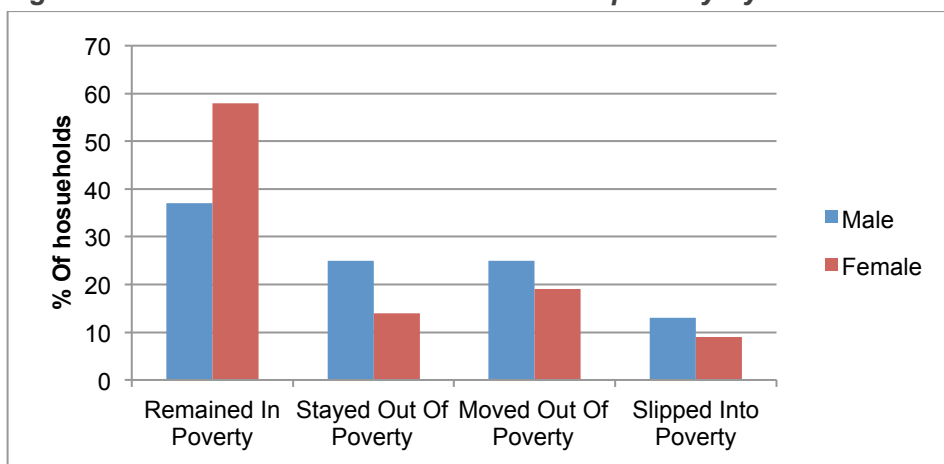
As a result, this policy guide emphasises a somewhat different set of policies to the technical fixes the mainstream agricultural policy community advocates. These different policies centre on strengthening the asset base of poor agricultural households, and so reducing inequality within the sector. The case made is not that scientific research on farming systems and the extension of knowledge is unimportant; rather that, for the poor, there is already plenty of technology available, but the poor are not using this as a result of other constraints. For agriculture to deliver on poverty reduction, the focus should therefore be on these constraints, such as lack of assets, poor people's insecurity and vulnerability, poor performance of key markets and the absence of decent work opportunities.

2. Key agricultural factors in poverty dynamics: a new analysis of African panel data⁶

In 2002 and 2008, some 2,348 farm households from the maize and cassava belts of eight major countries (Ethiopia, Ghana, Kenya, Malawi, Nigeria, Tanzania, Zambia and Mozambique) were interviewed. The interviewers ranked households according to capital assets and appearance and compared them to other households in the village. This produced wealth categories ranging from 1 (very poor) to 5 (very wealthy). Although this approach has shortcomings, as it involves assessing wealth relative to other households in the village rather than the overall sample, we use the ranking to investigate poverty dynamics, taking Categories 1 and 2 as poor and 3, 4 and 5 as not poor.

The 2008 income data suggest the (low) \$1-day poverty line⁷ falls somewhere between Categories 2 and 3, suggesting that our categorisation is functional. The households were then grouped into those who (i) had remained poor, (ii) had remained non-poor, (iii) had moved out of poverty and (iv) had slipped into poverty. In what follows, the results are combined with other analysis of the dataset already carried out.⁸ In 2002, 64% of households lived in poverty; in 2008, this proportion was 53%. However, these aggregated figures ignore significant poverty dynamics: whereas 41% of households were in poverty in both 2002 and 2008, 24% moved out of poverty and 13% slipped into poverty. Meanwhile, just 23% of households were not poor in either 2002 or 2008.

Figure 1: Gender of head of household and poverty dynamics



Data source: www.soc.lu.se/afrint

⁵ Baulch, B (ed). (2011) Why poverty persists? Poverty Dynamics in Asia and Africa. Edward Elgar.

⁶ See http://blog.sam.lu.se/afrint/?page_id=84

⁷ This is chosen in preference to the World Bank's \$1.25 as \$1 is closer to the poverty lines of the 50 countries with the largest number of poor people (see Deaton, 2010).

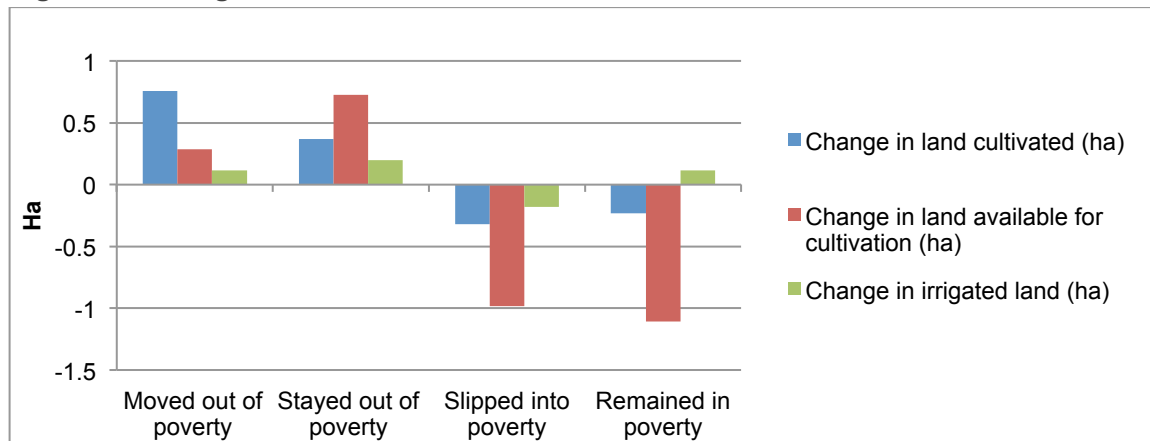
⁸ Djurfeldt, G., Aryeetey, E., Isinika, A (2011) *African Smallholders: food crops, markets and policy* CABI International

Levels of income and wealth inequality among farm households are significant. For example, the average income of households staying out of poverty was 5 times the average income of chronically poor households, and that of those who moved out of poverty 3.5 times. Female-headed households were at a significant disadvantage, with two-thirds remaining in or slipping into poverty, compared with half of all male-headed households. One-fifth of female-headed households moved out of poverty (compared with one-quarter of male-headed households), but half as many as male-headed households managed to stay out of poverty, indicating their greater vulnerability (see Figure 1). Other research suggests female-headed households are not uniformly disadvantaged compared with male-headed households, so these strong findings from eight countries are interesting.⁹

The agricultural theme underlying changes in poverty and wellbeing in these eight countries is asset accumulation and the operation of agricultural markets, complemented by diversification to non-agricultural sources of income. Market channels and access to institutions are also significant. By contrast, Green Revolution technology is not a driver of poverty dynamics, except that the chronically poor do not use improved varieties or fertiliser very much; others use it more, but there was little difference on this measure between households moving out of poverty, those staying out of poverty and those slipping into poverty. Households slipping into poverty are some of the biggest users of modern varieties, but these are not stopping them from slipping into poverty, perhaps because of high costs. Modern varieties and other input technologies were generally reported to be available, but for maize and rice producers input prices were regularly seen as a constraint (see Section B3).

Access to productive land and irrigation-enabled land proved to have a very strong relationship with movements into and out of poverty. Figure 2 shows that increases in land cultivated and land available for cultivation are highly positively correlated with poverty escapes. The figure also shows a net loss of land available for cultivation among respondents, pointing to a wider global trend of global land grabbing (see Section B2).

Figure 2: Change in land assets between 2002 and 2008



Data source: www.soc.lu.se/afrint

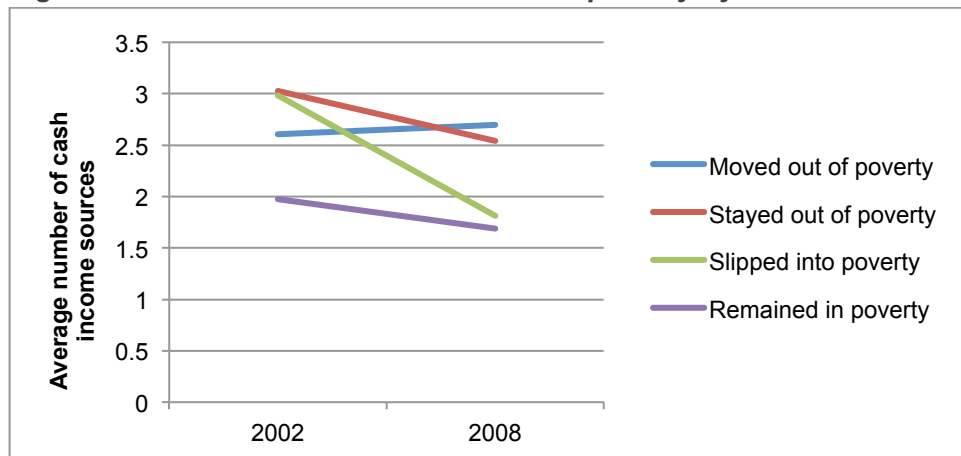
Differences in technology use and productivity between households in the same village are so large that the critical objective of agricultural agencies should be to bring lower productivity households up to the levels of higher productivity households. The chief constraints in doing so relate not to the availability of farm technologies, or knowledge of them, but to problems in applying them. These include issues concerning commercial incentives and access to adequate quality land, water/irrigation, farm equipment, livestock, labour resources, finance and effective farm extension

⁹ Chant, S. (2007). Poverty Begins at Home? Questioning some (mis)conceptions about children, poverty and privatisation in female-headed households. State of the World's Children Report, Background Paper: UNICEF

services to the poor. Plough agriculture emerges consistently as a powerful driver of improved productivity. For maize, commercial incentives are affected by economic growth in non-farm sectors, rather than public efforts to improve market participation by smallholders.¹⁰

There is a significant difference between labour resources of chronically poor households and those of other households. For the chronically poor, it is especially important to compensate for scarce labour by enhancing access to farm equipment for land preparation and other tasks (weeding, harvesting, post-harvest) and other labour-saving devices.

Figure 3: Number of income sources and poverty dynamics



Data source: www.soc.lu.se/afrint

Households slipping into poverty saw their assets decline, but were more fully engaged in organised markets, suggesting that it is the risks attached to those markets that may contribute to their impoverishment. Their perceptions of the constraints to the production of different crops are also telling: this group saw the absence of credit facilities, together with low or fluctuating output prices and high farm input prices, as the biggest constraints. These farming-related constraints were judged to be less significant than household-related constraints, with the lack of capital for land preparation and inputs seen as most critical, especially by the chronically poor and those slipping into poverty. Surprisingly, these were seen as more critical than issues related to ill-health.

3. Similar findings from Asian panel studies¹¹

The key agricultural factors identified above – the role of asset accumulation, market infrastructure and opportunities, labour, access to organisations and institutions and diversification – are crucial to understanding poverty dynamics in Asia also.

For example, panel data from India¹² reveal that rising asset ownership and education (literacy), as well as geography, are associated with differences between households stuck in poverty and those that move out of poverty. Access to land and irrigation are shown to have special importance in determining chronic poverty¹³, as is the presence of larger and more diversified villages and an urban centre in the neighbourhood. There was a strong finding that belonging to a Scheduled Tribe was likely to result in chronic poverty, pointing to how the power of discrimination works against these

¹⁰ Andersson, A. et al. (2011) 'A new era for Sub-Saharan Agriculture' in Djurfeldt, G. et al. *African Smallholders: food crops, markets and policy* Wallingford: CABI.

¹¹ See Dowling and Yap (2009) *Chronic Poverty in Asia: Causes, consequences and policies* Singapore: World Scientific.

¹² Mehta, A. Shepherd, A. Bhide, S. Shah, A. Kumar, A. (2011) *India Chronic Poverty Report: Towards Solutions and New Compacts in a Dynamic Context* Delhi: Indian Institute of Public Administration,

www.chronicpoverty.org

¹³ http://www.chronicpoverty.org/uploads/publication_files2/CPRC-IIPA%2043-new.pdf

marginal groups in India, for example affecting entitlements to land. The location of tribes in remote areas means they experience low levels of urbanisation and a lack of infrastructure to link them to well-functioning markets. Infrastructure emerged as a critical factor in influencing the rate of increase of casual wages, on which a large proportion of India's poorest people depend. The importance of urbanisation and infrastructure suggests, therefore, that enhancing market access is key to escaping poverty (see Section B4).

Table 1: Drivers, maintainers and interrupters of chronic poverty in India

Drivers	Maintainers	Interrupters
Health shock	Illiteracy/lack of skills	Diversification of in come
Sudden disability	Poverty/disability/old age	Intensive farming/crop diversification
Large social expenditure	Social exclusion	Off-farm work/new job
High interest borrowing	Geography (remoteness)	Urban linkages
Investment failure	Drink/drug addition	Improved rural infrastructure
Crop failure	Poor health care facilities	Kinship networks
Natural disaster	Larger household size	Asset accumulation
Loss of productive assets	Lack of job information	Marketable skills/linkages
Macro policy change	Forced sale of assets	Information network on job opportunities
Loss of job	Indebtedness	Decrease in dependency
Social and class conflict	Bonded labour	Increase in wages
	Governance failure	Access to credit
		Social safety networks

Source: Adapted from Mehta et al. (2011).

In Vietnam, it is largely ethnic minority populations that experience chronic poverty, with an average standard of living significantly below the poverty line. Such groups depend heavily on agriculture, but have been unable to take advantage of government subsidies on improved seed varieties because soil in the uplands is poor, little land is irrigated and extension services have been weak. Meanwhile, Vietnam's sharp reduction in poverty during the 2000s for groups other than ethnic minority populations can be attributed partly to growth and partly to Government Programme 135. This emphasised infrastructure development, resettlement and improved access to basic services, with fee exemptions in education and health and widespread subsidised health insurance among the poorest.¹⁴

A four-wave panel dataset in Cambodia suggests that most poverty is transient (households are not poor in at least one year), as 40-52% of all households studied and 84-90% of all poor households were found transiently poor.¹⁵ This study also provides further evidence of the importance of asset ownership: land inequality is high in Cambodia and half of all rural households own none or less than 0.5 ha of land. Regional inequality is also substantial: poor areas suffer from little infrastructure and badly functioning markets. Land titling has been a major initiative, but does not benefit the landless or the poorest. For the poorest farmers, charges for registration may be a disincentive, and such groups tend to be less informed than speculators about land titling.

In the Philippines, slow agricultural productivity growth has resulted in increasing poverty for farmers and agricultural workers. Panel data over the 2003-2009 period shows that the chronically poor depend more on agricultural sources of income than the transient poor, and significantly more than the never poor¹⁶. Among rice farmers, those in lowland, rain-fed areas see the highest incidence of chronic poverty, whereas farmers in upland areas, who are more susceptible to various climatic changes, have the highest rate of transient poverty. Slow growth is accompanied by low levels of

¹⁴ Baulch, B., Nguyen, M.T.H., Phuong, T.T.P. and Pham, H.T. (2010) 'Ethnic Minority P Poverty in Vietnam'. Working Paper 169. Manchester: CPRC.

¹⁵ Kimsun, T. (2012). Analysing Chronic Poverty in Rural Cambodia: Evidence from Panel Data. *CDRI Working Paper Series No.66*.

¹⁶ Reyes et al. (2011) "Dynamics of Poverty in the Philippines: Distinguishing the Chronic from the Transient Poor" Discussion Paper Series No. 2011-31. Philippine Institute for Development Studies.

education, high levels of population growth, limited land for expansion and high land inequality. Land redistribution has been successful in terms of productivity and investment, but has been implemented slowly because of landlord resistance and slow surveying and valuation processes.

In summary, land assets, education and infrastructure are the drivers of poverty dynamics in Asia.

Based on the above findings from Africa and Asia, the households most likely to escape poverty:

- Increased their asset holdings, particularly land cultivated or available for cultivation and livestock. By contrast, the chronically poor failed to increase their asset bases.
- Saw their number of cattle increase.
- Increased their irrigated land less than the other groups. These households were the only group not to experience a reduction in their number of sources of income, showing that diversification remains critical.
- Had micro businesses or non-farm employment, of which there were more in 2008 than 2002, as major sources of income (however, the vast majority of farm households still relied on farm earnings as their primary income). The chronically poor on the other hand became less diversified over time, typically selling piecemeal in local market.
- Had significantly greater access to extension, were often members of farmers' organisations and sold their outputs to private traders or cooperatives rather than in local markets.

4. Crosscutting themes explored in this guide

4.1 The neglected role of farm labour

Informal employment, much of which is agricultural and casual, is generally associated with chronic poverty. Growing use of contract labour in the formal sector is particularly problematic, as legislation is implemented through employers who have no direct relation with workers, instead using a labour contractor who works between the two. This means labour legislation may be difficult to apply if it is directed only at employers: labour contractors also need to be subject to labour legislation. However, agricultural labour in high-value activities (in combination with other household strategies) can be a way out of poverty. The classic example of this is Senegal's green beans (Box 3)¹⁷ where poorer smallholders have benefited from the more dynamic labour market generated by the success of larger smallholders and large farms producing green beans for export, which have created opportunities for the former to supply labour to the latter. In East and West Africa, having farm employment contributed significant income to households that moved out of and stayed out of poverty, much more so than for households remaining in poverty – an indicator of the importance of household labour resources as a determinant of poverty dynamics.

There are dimensions to labouring other than purely income ones: women may choose wage labouring even if the conditions are exploitative because it provides them with independence in the household, social opportunities and an ability to contribute to household income. What does this mean for agricultural policy?

Labour markets are the dark underbelly of development policy as a whole, and agricultural policy typically shows little interest here because governments believe their comparative advantage lies in cheap labour. Economists and governments are reluctant to regulate/enforce laws, specifically with reference to agricultural labour markets. For casual labourers, governments or organisations can promote decent employment in dynamic value chains with employers/buyers, and can provide labourers with information on their rights and how to access them. Good information on wages is scarce, so agricultural wage monitoring would be an excellent service to the poorest. While global

¹⁷ Swinnen, J. (2010) Global retail chains and poor farmers, *World Development* Vol 37 (1) 161-178.

consumers are increasingly aware of labour conditions on farms and in processing units in developing countries, this is not true of customers in developing countries themselves; so promoting consumer awareness of labour conditions in local markets is another potential strategy.

For contract labour, the strategies pursued to date have included social auditing (multi-stakeholder initiatives such as the Extractive Industries Transparency Initiative (EITI)), but these may fail to pick up informal/contract labour. Reputational risk campaigns against companies can be successful, but they probably represent just spots on a canvas, as they can target only a few companies at any one time. Legal reform can play a role: in South Africa, there is now joint liability between buyers, processors and labour contractors for working conditions; in China, the new contract labour law seeks to normalise contract labour.

Good employers also ensure that workers are protected by good quality health services and their children have good opportunities in school. Where policies are not in place to encourage employers to provide such social services, they are unlikely to be inclined to do so. Trade unions such as the Self-employed Women's Association (SEWA) in India have advocated for social security provisions from employers on behalf of their members and have also built service structures for their members themselves. These have included health care and health insurance, childcare and housing. SEWA has found that the provision of these services increases women's productivity in the workforce, with services such as childcare increasing women's incomes by 25-50%. There are economic, social and poverty reduction benefits to be realised from the provision of social services and they are therefore worthy of consideration among employers as well as among policymakers.¹⁸

Box 3: Farm workers' participation in contract farming in Kenya and Senegal¹⁹

In both Kenya and Senegal, asset-poor small farm households started out producing green beans for export on contract. Kenyan farm labourers typically own little or no land of their own and tend to be poorer than smallholders, especially those engaged in fruit and vegetable production. Most of these workers are paid a wage greater than the government-mandated minimum agricultural wage. Through the Fresh Produce Exporters Association of Kenya (FPEAK), the industry has adopted a voluntary labour code that exceeds Kenyan government norms and may well lead to the establishment of a new standard in the developing world. Independent auditors will monitor observance of the code.

In Senegal, tightening food standards induced structural changes in the supply chain, including a shift from smallholder contract-based farming to large-scale integrated estate production. Employment on estate farms increased from less than 10% of households in 2000 to 34% in 2005, while at the same time the share of contract farmers decreased from 23% to 10%. As a result of the supply chain restructuring, 72% of households that produced vegetables under contract lost their contract in the period 2000-2005, and almost half of these (43%) started to work on vegetable estate farms. However, these changes mainly altered the mechanism through which poor households benefited: through labour markets instead of product markets. Moreover, the impact in terms of poverty reduction has been stronger, as the poorest benefit relatively more from working on large-scale farms than from contract farming. Participants in contract farming are larger households with more labour endowments, whereas participants in estate farm employment are slightly older and from lower educated households. Contract farmers have, on average, larger farms and more livestock.

Differences in income remain large in per capita terms: the average per capita income for estate wage workers is twice as high as for non-participating households, and for contract farmers it is more than three times higher. The shifting role of households in the export supply chain should not be perceived as an absolute change in household status from independent farmers to subordinate workers. Contract farmers are already 'quasi-farmers' or 'semi-farm workers' as their activities are highly coordinated and monitored by traders and processors to ensure quality and safety. Hence, the dichotomy in the literature between independent smallholders and estate farm workers is much less clear than is suggested. Findings from the econometric analyses imply that (i) high-standard agricultural trade adds significantly to rural incomes; (ii) the income effect for contract farmers is larger than for estate farm workers; (iii) participation in contract farming is biased towards larger farms; and (iv) wage employment on vegetable estates has no bias toward better endowed households and also benefits the poorest.

¹⁸ Jhabvala, R. (1999) 'Interventions in the Labour Market: The Case of Sewa', in T.S. Papola and A.N. Sharma (eds) *Gender and Employment in India*. New Delhi: Vikas.

¹⁹ Martens, M., Swinnen, J.F.M., 'Trade Standards and Poverty: Evidence from Senegal'. Paper prepared for 106th seminar of EAAE: Montpellier.

4.2 Achieving enhanced women's agency through agricultural policies and programmes

We know low levels of women's agency cause significant downward mobility and chronic poverty, and women having or gaining access to land and housing is especially important in preventing this. The most difficult situations for women occur as a result of their being widowed, divorced or separated, causing a loss of access to resources. These processes also often feature prominently as causes of the intergenerational transmission of poverty. Female-headed households make up a substantial proportion of all households (e.g. 25% in Tanzania's most recent national household survey) and can be significantly disadvantaged; social norms and institutions often hold back women in male-headed households also. Women may not be treated as equals in farming groups and information systems, even though they are often the central actors in household food production, as well as farmers and cultivators themselves. Many women cultivate on plots they do not have legal title to, and they are also generally disempowered in production and marketing decisions. Equal land access and control over productive resources for women is a particularly important and thorny issue in many societies.

This needs to be corrected. Women often participate strongly in savings groups, and agricultural interventions could build on this. For example, in contract farming (or other) groups, wives could be offered equal membership with husbands. Land rental systems are especially flexible, but there are many situations in which landowners do not feel secure enough to rent out their land, so increased security in renting would be an important policy objective. Service delivery organisations such as advisory and financial services also need to include women as equal beneficiaries.²⁰ Gender empowerment in agriculture encapsulates a number of key areas of concern for the chronically poor, especially food security, health and nutrition. Women produce much locally consumed food and tend to be responsible for household food consumption, while at the same time they typically cultivate smaller tracts of land, are rarely targeted by extension services and have a greater overall workload in intermediate farm responsibilities (like water collection) than men.²¹ Achieving efficiency for women farmers, which at present is not being maximised because of the above factors, can have numerous spill-over benefits into other aspects of chronic poverty, including child malnutrition and micronutrient deficiencies among adults. Women's empowerment through asset ownership rights and control of production and marketing decisions will also have a positive impact on women's incomes, broadly understood to be lower than men's the world over.

Meanwhile, gender-sensitive programming and policymaking can speed up the slow process of changing social norms. Some countries have enacted progressive inheritance and marriage law reform, and this is on the agenda in others, which is very promising. But it is not only legislation that is needed; local courts and leaders need to be convinced to implement the revised laws.²²

In terms of addressing chronic poverty and maximising positive poverty dynamics (increasing rates of moving out of poverty and reducing impoverishment), achieving gender equality is not an optional extra but a core strategy, and one to which agricultural policymakers and programmes have ample opportunity to contribute. The Oxford Poverty and Human Development Initiative (OPHI) Women's Empowerment in Agriculture Index (WEAI) is an important resource to inform key policy areas, as it monitors the *status quo* of women's positions in agricultural asset ownership in addition to outcomes from selected interventions.²³ WEAI measures therefore indicate areas requiring intervention, and provide evidence of effective strategies that have been tested by previous programmes.

²⁰ AFAAS report of 2011: A review of case studies on targeting women advisory service providers in capacity development programmes

²¹ OECD. (2011). Women's Economic Empowerment. DAC Network on Gender Equality Issues Paper.

²² Cooper, E. (2010) 'Safeguarding Inheritance: Challenges and Opportunities in African Societies'. Policy Brief 19. Manchester: CPRC.

²³ See <http://www.ophi.org.uk/policy/national-policy/the-women%E2%80%99s-empowerment-in-agriculture-index/>

Policies and programmes can be designed in ways that perpetuate inequality, are gender blind or are gender sensitive when in fact they should endeavour in all suitable cases to be gender transformative. This means including strategies that ‘foster progressive changes in power relationships between women and men’.²⁴ A first step in this process at the policy or programme level would be to conduct a ‘gender responsive assessment scale’ such as that developed by the World Health Organization (WHO) in order to measure against gender transformative criteria at the policy or programme design stage and later in evaluation stages.

4.3 Environmentally sustainable farming

The adoption of environmentally sustainable farming practices is vital not only because of the significant contribution of agriculture to environmental degradation, including climate change, but also because the poorest are at greater risk during environmental shocks and more vulnerable to climate changes. This is because they live on marginal lands subject to increasingly frequent droughts, along coastal areas threatened by rising sea levels and in low-lying areas threatened by floods and landslides. Although the poorest are far from being the most significant contributors to environmental degradation, given their limited access to natural resources, practising sustainable farming and contributing to water, soil and forest conservation are the most fundamental actions necessary to protect what few natural assets they do hold. Developing resiliency and mitigation strategies and sharing sustainable farming technologies is a policy area with much room for advancement. Harnessing rural social networks and capitalising on indigenous knowledge of tried and tested sustainable management will streamline this policymaking process and be pivotal to local buy-in.

Policies backing a green economy require new measures to support the transition in agriculture. This includes taking into account the environmental and social costs and benefits linked to agricultural practices in the determination of food prices or social protection benefits to rural communities; setting up compensating or social protection and insurance mechanisms to offset losses (if any were incurred by giving up less sustainable practices); investing in new research programmes to design more energy efficient and sustainable systems; stimulating public–private partnerships (PPPs) to promote corporate social responsibility; and supporting local government mainstreaming of the green economy in development planning. In the current context of climate change, there is growing consensus among policymakers about the need to adopt new measures that reward the multi-functionality of small-scale farming. There is little evidence as to whether these work well for the poorest households.

5. Policy implications in brief

This short analysis explains the selection of policy topics in this guide. Part B contains the following emphases:

- Asset accumulation: land, water, livestock, equipment, savings and the insurance services to protect them. Support for social protection targeted to the poorest;
- Improving the functioning of labour markets for farm workers;
- Enhancing gender equality: the contribution of agricultural policies and programmes;
- A stronger emphasis on environmentally sustainable farming;
- Infrastructure and output markets to reduce risk and protect accumulation;
- Household and local economy diversification and support for the non-farm economy and non-farm employment: the contribution of agricultural policies and programmes.

Part B follows through these brief policy implications under four clusters of headings:

- Assets, and their environmentally sustainable transformation;
- Markets;
- Labour;
- Critical policy areas outside agriculture

²⁴

See http://www.who.int/gender/mainstreaming/GMH_Participant_GenderAssessmentScale.pdf

Part B

Policy Implications

The following sections build off of the empirical evidence presented in Section A, explore concrete policy options that have been tested and evaluated and provide examples of what is possible, where and how. Each of the three clusters (assets, markets and labour) takes on a selected number of issues that have been found to be particularly relevant to the chronically poor. These sections do not exhaust the list of all possible policy options relevant to agriculture and poverty reduction. Each section concludes with a summary of policy options that have had successful outcomes and presents opportunities for replication. Each policy cluster also includes a policy guidance map categorised by country or regional characteristics in order to show which policies have proven successful under specified conditions.

The assets cluster

While the focus of much agricultural policy and programme work is on increasing productivity through the development and distribution of seeds and fertiliser, whether through market or public channels, the emphasis of this policy guide is on building poor households' assets (Section 1), protecting them (Section 2) and making them more productive through environmentally sustainable technical innovations (Section 3).

1.1 Asset accumulation

The factors that keep people in chronic poverty can broadly be grouped into two:

- Low levels of endowments (the assets a household possesses);
- Limited returns to those endowments leading to an inability to accumulate further assets.

Lack of assets is frequently identified as a crucial maintainer of chronic poverty. These assets are usually grouped into five types of capital: physical (productive assets, housing); natural (land); human (knowledge, skills, health); financial (cash, bank deposits, livestock, other stores of wealth); and social (the networks and informal institutions that facilitate coordination and cooperation). Here, the focus is on accumulating productive farm assets, known to be triggers for escaping poverty or insurers against impoverishment, and the policies and programmes that assist with this.

The impacts of asset ownership on household welfare, income and expenditure depend on households being able to use their assets as components of livelihood strategies and generate a reasonable rate of return from them. Asset complementarities are critical here. While acquiring land seems to be important in enabling some households to escape poverty, this has to be complemented by other assets, like primary education, access to roads or public policy interventions.

Asset accumulation for chronically poor households involves a two-pronged approach of directly supporting the asset base of the poorest households while ensuring the enabling conditions are in place so households can receive maximum returns from their endowments. This section addresses the first of these; subsequent sections focus on protecting assets and making them productive and on market arrangements to support this.

1.2 Natural capital: land and water

There is a direct link between asset accumulation and income generation. Well-implemented land reforms can improve the living conditions of rural populations, and thereby reduce poverty, create opportunities for the next generation and enable sustainable economic, ecological and social development. Studies from Bangladesh, Ethiopia and Nepal all find a relationship between growth in

household expenditures and initial endowments of land, livestock and human capital.²⁵ In El Salvador, a 10% rise in access to land boosted income per person by 4%; in rural Mexico, households that acquired access to even small plots of land could raise their welfare substantially.²⁶

Land redistribution

Opportunities to redistribute significant amounts of land are rare. When they happen, the scope to improve the asset base and welfare of chronically poor people is probably unparalleled. This is especially the case where women are treated equally. A lesson of recent reforms in Southern Africa suggests that – in order to achieve these goals – a strong commitment to poverty reduction needs to accompany reforms. Policy rhetoric on land as a poverty-reducing asset has often not been followed through with a serious commitment of resources, either to enhance access to land or to support those who have been 'assetted'. The quality of land provided to poor people and their terms of access to it compromise their ability to make a living. Meanwhile, non-poor political and bureaucratic elites have captured land reform initiatives at the expense of the poor, and are reluctant to meaningfully reinstate or strengthen customary forms of tenure seen as safeguarding the interests of the poor. At the same time, there is growing evidence of the commoditisation of land under such customary tenure, which may not always work for poor households. Although some poor people have seen their lives transformed in the short term as a result of land reform, there is no systematic link between these programmes and poverty reduction in Southern Africa because they have not been integrated into wider agricultural policies. Any land reforms need to be an integral part of agricultural policy and programming, so that land reform beneficiaries can transform their asset into higher incomes.

In southern Africa and Cambodia,²⁷ monitoring and evaluation (M&E) systems, both during and after land reforms, emerged as afterthoughts. In Cambodia, systematic land registration since 2002 has titled some million parcels of land. However the process has not been sufficiently supervised, which has led to evictions, and the World Bank is facing official complaints of arbitrary exclusion of households from the titling system, driving them into extreme poverty. Land reforms will always be controversial; from the outset it is essential to have a transparent governance institution and centralised database of ownership information before, during and after the reforms. Monitoring and enforcement systems cannot be afterthoughts; they are integral to success.

Improving land rental and leasing

Short of redistribution, policies can improve title to land for poor people (Box 4), to make it more secure, or reform the rules governing renting land to make it more secure to rent out and easier to rent in land, thus enabling greater mobility. Policy evaluations suggest this is a smart measure.

Improving land rights, if implemented carefully, can give women greater control over income, a higher share of business and labour earnings and more access to credit. Many countries have passed formal legislation equalising access to land between husbands and wives, but enforcement is patchy and can be difficult for women. Local, gender-biased land-use norms predominate where the state is unwilling to invest the resources in challenging them. It is possible to run successful information campaigns, which include gender issues, around land titling at the local level. Staff training will be a substantial determinant of success.

²⁵ Baulch, B. (2011) Overview: Poverty dynamics and persistence in Asia and Africa. In *Why Poverty Persists: Poverty Dynamics in Asia and Africa*. Ed. B. Baulch.

²⁶ World Bank (1998) *El Salvador Rural Development Study*. Country Study. Washington, DC: World Bank.

²⁷ World Bank (2009) *Cambodia Land Management and Administration Project: Enhanced Review Report*. Washington, DC: World Bank.

Box 4: Land leasing as a means to reduce poverty – Nepal leasehold forestry and forage²⁸

The government of Nepal launched the Hills Leasehold Forestry and Forage Development Project in 1989 with the goal of reducing poverty and restoring degraded environments in the Middle Hills, by leasing small blocks of public forest land to groups of rural poor people, who would use, regenerate, protect and manage them.

The programme specifically targeted households below the poverty line with less than 0.5 ha of land. Positive discrimination was urged towards landless groups, disadvantaged tribal groups and female-headed households. A range of other interventions complemented access to land, including infrastructure grants, introduction of imported fodder, tree species and grasses, training on sustainable livestock holdings and credit facilities.

Leasehold forestry has been very successful, but the project was costly, at an average of approximately \$800 per household or \$1,400 per hectare of degraded land. Significant resources were required to negotiate between community members and for monitoring to ensure services and land leases targeted the poorest. According to an IFAD mid-term evaluation, mobilisation could have been effected more cheaply and rapidly, and the formation of inter-groups and cooperatives facilitated and conflict minimised.

Land rights legislation must also be made aware of local customary rights, shared resource arrangements and historical land use conflicts that may as yet be unresolved. Although individual rights (and obligations) have arisen as the primary means of land titling in some areas, they are not appropriate in every context. Land use decisions, even where individual land rights are deemed relevant, can often have wider group impacts. Run-off from fertilisers applied to fields near waterways, for example, have much broader impacts beyond the landowner. Even individual land rights must be considered in the context of the communities and ecosystems of which they are a part. Individual and community land rights require the direct involvement of affected local populations in all land allocation and monitoring processes.

Effective water rights

Very closely linked to access to productive land is the complementary need for the establishment of effective water rights institutions and the development of sustainable use strategies that moderate between the demands of large agribusiness interests and those of the poorest farmers. Water has historically been treated as an open-use common resource, but many countries are currently piloting new alternatives such as integrated water resource management, so as to be able to distribute water use equitably in a sustainable manner, while also establishing local ownership and management responsibilities.²⁹ Both land and water assets for the poorest farmers are inseparable policy requirements of any rural poverty reduction strategy.

Box 5: Community-based water resource management³⁰

Water rights conflicts are becoming more prevalent, particularly in severely water-deprived areas of Sub-Saharan Africa that depend on limited water sources for subsistence agricultural purposes. Oxfam and WaterAid have been facilitating community-based water resource management systems as a response to these conflicts. These systems involve a number of incremental steps that include household- and community-level water use surveys, community-led risk assessments and ongoing M&E.

Oxfam's experience in Banibangou, Niger, has demonstrated how community-led M&E can help produce a long-term local strategy for water use and conservation. This programme focused on the participation of vulnerable groups, including a women's gardening committee that had suffered from water shortages. It found that, while local terms of use can be set through the framework of community-based water resource management, there is a need to further develop partnerships between community-based groups and local government to ensure these groups are supported sufficiently by the collection of water use data (for monitoring), maintenance and contingency planning.

²⁸ www.ifad.org/events/reducingpoverty/nepal.htm and www.ifad.org/evaluation/public_html/eksyst/doc/prj/region/pi/nepal/nepal.htm

²⁹ Bunclark, L., Carter, R., Casey, V. and Guthrie, D. (2011). *Managing Water Locally*. London and Oxford: The Institution of Civil Engineers, Oxfam GB and WaterAid.

³⁰ Ibid

1.3 Physical capital: livestock, farm equipment, roads and local infrastructure

Livestock³¹

In terms of livestock ownership there is evidence of 'livestock ladders' acting as pathways out of poverty, whereby the poorest households first rear small livestock, including poultry, goats and pigs, and then, with increased resources and experience, move onto larger livestock such as cattle.³² Box 6 illustrates how a project directly providing livestock assets can provide the basis for the further accumulation of productive assets.

Box 6: Heifer International³³

The focus of Heifer International is on providing poor households with a productive asset, usually a draught animal or cattle for dairy production, but also smaller animals like poultry, goats, sheep, bees (and hives) and grasscutters (a small wild rodent in demand for its meat). Revenues generated have allowed many beneficiaries, mostly women, to obtain other assets, such as land or equipment to improve their production system. The scheme is simple to set up and to manage, and is highly replicable.

Operating within a ladder framework, gradually accumulating assets and consistently building off of existing assets, typically means smaller, lower investment animals are the most appropriate for beneficiaries with the lowest asset bases to build from since they require fewer inputs. These animals can also be optimal in areas of land shortage, and some can even be managed safely in urban areas. A recent evaluation of Heifer International's work in Ghana found that ruminants and small animals had had a direct impact in terms of meeting basic needs but that these animals were also at greater risk of disease, making them more difficult to manage and maintain.

The most significant impact in terms of meeting basic needs found in the Ghana project evaluation related to the contribution of manure from chicken, sheep and goats, which replaced chemical fertilisers that would otherwise have been purchased. Households benefiting from this saved an average of \$150 per year and saw increased yields. In one village, households were selling manure or bartering it for vegetables.

This example shows that asset accumulation and income generation can be mutually reinforcing while at the same time providing for subsistence. Heifer International acknowledges in its evaluation that, since the programme was new, disease mitigation was a lesson to be taken forward into future programming. Disease risk mitigation training and cost-effective treatments are essential to the sustainability of livestock asset-building programmes.

Livestock assets are frequently used as a means of insurance, as well as a source of income, with the richest households in Niger, for example, having the most diversified livestock system, from large to small ruminants. This enables them to sell goats and sheep in the face of crises (including health shocks and food shortages) while not endangering the structural balance of their herd.³⁴ Livestock policies and programmes that leave out small stock may exclude poorer households. For households that have to sell livestock in response to risk, effective information about prices and access to markets is essential to reducing the losses from distress sales. Restocking programmes have become a frequent response to drought- or disease-induced livestock losses (see Section B.2.), but there are all kinds of shocks that can lead to livestock losses. Insuring livestock and restocking are major ways to protect against them.

³¹ See Pica-Ciamarra et al. (2010); also www.fao.org/ag/againfo/programmes/en/pplpi/home.html and www.cop-ppld.net/cop_knowledge_base/

³² Kabeer, N. (2002). Safety Nets and Opportunity Ladders: Addressing Vulnerability and Enhancing Productivity in South Asia. ODI Working Paper Number 159. London, Overseas Development Institute.

³³ Heifer International. (n.d.) *Impact Evaluation of Heifer International in Ghana*. Kalamazoo, MI: The Evaluation Centre at Western Michigan University.

³⁴ Alary, Corniaux and Gautier (2011) Livestock's Contribution to Poverty Alleviation: How to Measure It? *World Development* (2011) 39 (9): 1638-1648.

Women's control over livestock is often stronger than that over land, especially over poultry, small stock and dairying, including the processing and selling of milk. Those who design livestock policies and programmes underappreciate these roles. Women and men both have tremendous knowledge, for example about livestock breeding, but programme development needs to take this into account. Sometimes, when livestock or livestock products are produced for sale rather than consumption, men take over and control the marketing. Programmes can address women's constraints in marketing livestock – access to money for transport, control over household transportation, safety while travelling and lack of mobility when they cannot stay overnight. Poor women, as well as men producers, also need help achieving modern phyto-sanitary standards.

Livestock development on its own does not necessarily contribute to poverty reduction. Complementary assets, including land for grazing (or the resources to purchase fodder) and quality water sources, are essential for livestock rearing to be profitable. Poor producers depend more heavily on common property resources, including village pastures, water tanks and local forests, for feed and fodder, and complementary policy interventions around maintaining access to these and enhancing their quality is essential (see Section B2). For some poor people, livestock is not a means out of poverty, as they lack the necessary resource base, motivation or markets.³⁵

A critical issue is that, as livestock services are increasingly privatised, women face significantly greater challenges than men in accessing them. They are often left out of vaccination, compensation and restocking schemes. Women's groups help women access information and other services. Policies need to acknowledge and act on women's significant control over and knowledge of livestock, reduce women's constraints in marketing livestock and include women as owners in insurance programmes.

Farm equipment

Little attention is given in agricultural policy and programming to farm mechanisation, even though it has proved a critical trigger for households escaping poverty. There are many examples of the acquisition of farm equipment or the power to operate it (draught animals, tractors, diesel engines) making the difference between being poor and vulnerable and being on an upward trajectory out of poverty. Earlier literature drew attention to the labour-displacing effects of mechanisation and the ways in which women lost control of income-earning opportunities to men as they were mechanised. While policymakers clearly need to exercise caution here, this should not prevent progress through useful and often intermediate approaches to mechanisation, such as draught animals.

In northern Mali, small-scale irrigation investments between 1998 and 2006 increased household consumption and assets, while also raising the likelihood of these households engaging in informal food-sharing networks with non-irrigating households.³⁶ Treadle pumps are a small-scale technology that has had an immense impact (Box 7). The constraint of these lies in marketing, particularly in Africa, where higher production costs might disincentivise adoption as compared with in South Asia.³⁷ Where there is significant demand, agricultural agencies could ensure through regulation that the market is competitive and offers choice, especially on price, where farmers are sensitive. This would allow more rapid marketing.

³⁵ IFAD (2010) IFAD's Livestock Position Paper Livestock planning, challenges and strategies for livestock development in IFAD. Rome

³⁶ Dillon, A. (2011) "Do differences in the scale of irrigation projects generate different impacts on poverty and production? Evidence from large and small-scale projects in Northern Mali" *Journal of Agricultural Economics*, 62 (2): 474-492.

Egan, L. A. (1997). The experiences of IDE in the mass marketing of small-scale affordable irrigation devices. *Irrigation Technology Transfer in Support of Food Security*. Rome: FAO.

Box 7: Treadle pumps for irrigation – technology with a bias towards the poorest³⁸

The impact of investments of \$12-15 in a treadle pump (a foot-powered pump that can lift water from shallow groundwater sources) in South Asia's poverty triangle (Bangladesh, eastern India and Nepal) is substantial: treadle pump owners are self-selected from among the poor, although first generation investors tend to be less poor; a pump raises incomes by up to \$500, with a modal additional income of \$100, through growing higher yielding varieties or higher value crops. The irrigated, 'priority plots' farmers create produce higher yields than diesel pump-irrigated fields.

The primary constraint is marketing: the potential in the region was 9-10 million households, whereas the number sold was not more than 1.5 million. Appropriate pricing for the poorest in addition to continued subsidies for diesel-powered pumps in India and Nepal was found to affect uptake of the technology. Areas where distributors priced the pump lower sold more units, as might be expected. It may be necessary to divert some portion of diesel subsidies to research on ways to make treadle pumps more affordable for the poorest.

Plough agriculture has a history of making an impact on poor farm households. In South and South East Asia in the 1990s, three-wheeled tractors were replacing water buffalo at a fast rate in some countries, such as the Philippines. Now farmers are going straight to the smaller Indian tractors. While chronically poor households do not have the means to acquire such equipment, they would benefit from being able to rent them. In Sudan, the use of rental tractors with a specially designed attachment sped up the contour terracing of arid lands, which made marginal farms much more productive, through conserving water.

The question is whether public agencies will have much to contribute to poor households in terms of acquiring farm equipment. They can certainly assemble and provide information and training to farm households. They can also regulate supplier industries and traders to ensure there is competition and to promote choice among different products. Moreover, they can work with financial sector organisations to provide the credit for medium-term investments, where this is needed.

Local infrastructure

Efforts to maximise returns on agricultural output typically lead policy towards input subsidies and R&D, but too often overlooked is the potential role local infrastructure can have in supporting value-added activities such as energy production, storage facilities, cleaning and sorting facilities and primary processing. Public investments in these facilities can pave the way for non-farm employment in addition to providing the market opportunity for higher prices for producers by reducing transportation and processing costs upmarket.

In Kagera, a remote rural region in Tanzania, research has highlighted how geography plays an important role in the potential to exit poverty, arguing that there are two paths to do this. One, for households with sufficient land and human capital, is in agriculture, where the most successful households have diversified their farming activities, including growing food crops for own consumption and cash crops for sale and keeping livestock. The alternative route is through business and trade. While this route is not reserved for the wealthy, households need both to have a reasonable asset base and to live in a well-connected village. This also highlights that agriculture, and the accumulation of agricultural assets, does not represent the only route out of poverty for people in rural areas.

Although many commitments have been made towards local infrastructure investment (e.g. through the New Partnership for African Development (NEPAD)), the fulfilment of these has been relatively limited. Infrastructure development can seem a daunting investment for financially struggling governments, even though the projects most likely to have an impact on the lives of the poorest can require very minimal investment (such as low cost micro irrigation, as discussed above). Maintenance of these investments, too often an afterthought, can be locally managed if appropriate buy-in and training are provided at the outset to local beneficiaries.

³⁸ Tushaar Shah, et al. (2000) Pedaling Out of Poverty: Social Impact of a Manual Irrigation Technology in South Asia, IWMI, Colombo.

At a higher level of off-farm enterprise development, non-farm business assets for processing and storage of high-value, perishable commodities become important. Such investments will be made by non-poor households, but may be particularly important in generating a diversified, employment-generating agriculture sector.

1.4 Human capital: education, labour, health and nutrition

Education and labour

Education gives people the knowledge to improve their livelihoods and provides access to formal (salaried or wage) employment, which a number of studies show is an important escape route from chronic poverty. It is also one of the few assets that cannot be sold or taken away from somebody who falls into poverty. It is 'portable' when moving between places, whether migrating or displaced.³⁹

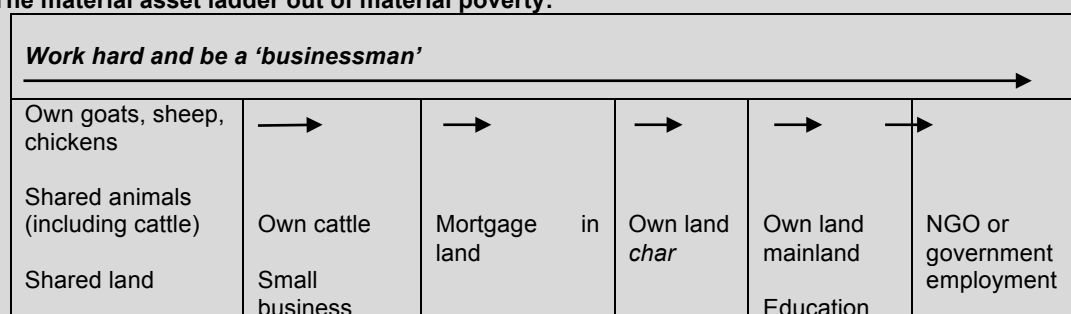
Agricultural agencies need to spend more time and resources on ensuring these complementary assets are in place, since they enable greater returns from other assets. Basic literacy and numeracy, for example, are essential to farmers engaging in contract farming, since without these skills they will not be able to negotiate fair terms of trade. Whether building infrastructure directed at education specifically (such as schools), or indirectly through roads and better transport access to nearby schools, agricultural agencies must account for the enabling benefits of education services.

Box 8: The Chars Livelihoods Programme⁴⁰

The Chars Livelihood Programme (CLP), operating from 2004 to 2010, was funded by the UK Department for International Development (DFID) and had the specific mandate of reducing extreme poverty on the *chars* (islands) of the Jamuna River in north west Bangladesh. Its central activity was giving £100-worth of investment capital to women in 55,000 extremely poor households. These households were targeted on the basis of their being landless (including having no access to agricultural land) and 'asset-less' (including having no cattle). The majority of women purchased livestock, primarily cattle. They received livelihoods and social development training in groups as well as a monthly stipend for 18 months to maintain the livestock before they started to generate income, inputs for a homestead garden and access to a tube well and sanitary latrine.

Mixed-methods research on a sample of these beneficiary households illustrates how they conceptualise the escape from extreme poverty and the central position they give to agricultural activities and material assets. Three years after receiving the investment capital, households had adopted two main livelihood strategies: stepping-up strategies, involving building up livestock, particularly cattle (with 75% still owning cattle), and moving into land acquisition (with 20% gaining long-term tenure over land and 44% sharecropping).

The material asset ladder out of material poverty:



Three years after entering the CLP, the main source of income for the majority of households remained agricultural day labour. However, now beneficiary households have alternative sources of income, including selling homestead garden produce, crops and livestock products, meaning they no longer have to go around the village and plead for daily work. This symbolises a shift in the role of landowners 'from job givers to job requestors' and is noted in other areas of rural Bangladesh where landless people have more opportunities to undertake non-farm work. It reflects not just a change in employment relations but also one in power relations.

³⁹ Baulch, B. (2011) Overview: Poverty dynamics and persistence in Asia and Africa. In *Why Poverty Persists: Poverty Dynamics in Asia and Africa*.

⁴⁰ Scott, L. (2011). Giving Assets: An effective approach for reducing vulnerability and building? The case of the Chars Livelihoods Programme. PhD thesis submitted to the University of Manchester.

Frequently, labour remains the major asset available to the chronically poor, and yet the emphasis on household assets obscures the overriding importance of employment in poverty dynamics.⁴¹ Low-resource households are more likely to be chronically poor because of their low asset base, but some households with more resources are also likely to be chronically poor because of agency constraints: their inability to find employment of sufficient quantity and quality means they are not able to build their asset base.⁴² As Box 8 illustrates, increased engagement in farm activities, in this case as a result of an asset-based intervention, can contribute to tightening labour markets if they are sufficiently closed. Both education and labour assets are explored in greater detail in Section B9.

Health and nutrition

The purpose of agricultural development is not only to maximise outputs and economic returns, but also, fundamentally, to produce safe and nutritious food for the development of healthy people. Poor households and marginalised people within households are particularly vulnerable to malnutrition and nutrient deficiencies, through limited quantities or qualities of available food. Although sometimes seen as an intermediate asset enabling productive labour, human capital assets such as health provide the precondition for individuals and households to further accumulate other assets on their own and move out of poverty.⁴³ Building vulnerable people's health and nutrition assets is therefore fundamental, since without these all other assets are at risk.

Women are the key actors in policy interventions to improve household health and nutrition through agriculture, as they are most often those responsible for the preparation of food and the cultivation of subsistence crops and livestock. They are not, however, empowered decision makers within the household, so a necessary first step to enhanced health and nutrition will be gender-transformative policies that empower women to have control over household incomes and influence agricultural production decisions. Homestead gardens, community plots and subsequent primary processing activities targeting vulnerable women are an opportunity not only to produce more healthy food for the household but also to pave the way for increased control over the resources women produce.

This power-shifting approach may minimise conflict within the household, as it does not take away from men control of any pre-existing assets but instead serves as a net benefit to the household. That being said, such programmes can be enhanced by education and awareness campaigns that aim to prevent a return to the gendered *status quo ante* in addition to monitoring measures to ensure programmes do not contribute to the unbalanced domestic burden women typically shoulder.

Box 9: Homestead gardens contributing to local food production and nutrition⁴⁴

Heller Keller International has implemented a number of successful homestead garden projects across Bangladesh, Cambodia, Nepal and the Philippines, which have contributed to hunger and malnutrition alleviation. This is done through small homestead plots and small farms for raising poultry and livestock in combination with nutritional education. These programmes target women in particular, as they are known to be responsible for managing the quality of household food intake.

After a small start-up programme in 1990 in Bangladesh targeting 1,000 households, the programme was successfully scaled up; by 1993, it reached 4.7 million households through the support of local NGO implementing partners. Impact assessments from these programmes have shown increased consumption of often-missed vitamins and micronutrients, increased empowerment of women by ensuring they are the central decision makers in production and sale of excess outputs (73% of programme participants being women) and the generation of employment opportunities (having created 60,000 rural jobs).

⁴¹ Aliber, M. (2001). *A study of the incidence and nature of chronic poverty and development policy in South Africa* Chronic Poverty Research Centre, Background Paper 3

⁴² Anderson, B. (2012) *Converting Asset Holdings into Livelihood: An Empirical Study on the Role of Household Agency in South Africa*. *World Development* 40 (7): 1394-1406.

⁴³ Moser, C. (2006). *Asset-Based Approaches to Poverty Reduction in a Globalized Context*. *Brookings Institute Global Economy and Development Working Paper Series No. 1*. Washington, D.C.

⁴⁴ Iannotti, L., Cunningham, K., & Ruel, M. (2009). *Diversifying into Healthy Diets*. In D. J. Spielman & R. Pandya-Lorch (Eds.), *Millions Fed* (pp. 145–151). International Food Policy Research Institute.

Social capital

Social capital assets can have direct benefits in rural communities, through farmers' groups pooling production to achieve economies of scale for example, or indirect benefits, such as by creating an enabling environment for technology transfers across social networks. Policy interventions can help foster strong and supportive social capital in rural communities, but they also run the risk of dismantling existing social capital. This can occur where resource allocations benefit some groups over others, where farmers' groups are established in an exclusive manner or where commodity chains are lengthened and local markets are undermined.

Social capital, as it is understood here, follows Putnam's definition of the features of social organisation such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit.⁴⁵ Social capital is highly contextual in that a number of intervening social and environmental dynamics shape the functioning of social networks. Religious customs, local histories and culturally defined rights systems all interact in a way that can either support or inhibit policy interventions. An awareness of these dynamics, particularly the impact they have on the poorest, is therefore an important consideration in policy design.

Strong 'bonding' social capital is often found to arise as an informal social protection mechanism where publicly available protections either do not exist or do not reach those most vulnerable and therefore in greatest need of them. Policymakers can use the existence of this form of capital as an excuse to shirk social protection obligations. Although it may be that policies should be directed in a way that does not diminish this strong bonding capital (unless group membership jeopardises one's personal liberties), where public social protection is needed, policies are essential to relieve the burdens on networks of vulnerable groups. For example, health risk-sharing networks might pool resources in the event of a member falling ill, but even a small contribution can add additional financial strain to a vulnerable member of such a group. Policy must intervene to relieve this burden.

Policy implementers can harness existing social capital to help identify severely marginalised beneficiaries. It is often the case that implementers simply do not see the most vulnerable individuals or groups, whether these are abused wives hidden within the household, mistreated domestic workers equally hidden, immobilised elderly or disabled individuals or vulnerable young children. By tapping into networks these groups are most likely be a part of, or which will make them aware of services, policies directed at the most vulnerable will be more likely to reach them. This could be as simple as advertising a service in an area where news of it might spread through relevant social networks, or as complex as directly eliciting vulnerable individuals through existing beneficiaries.

Social capital is also often the primary means of information transfer in rural areas, with farmers sharing price information and techniques in informal gatherings or through formal producers' groups. Awareness of existing social capital channels therefore offers an efficient way for extension services to spread information widely if dissemination is targeted in a way that maximises key network actors. New or enhanced social capital can also be developed through policy by establishing local ownership of public resources, facilitating the establishment of community groups and ensuring resource rights are complementary to the existing social fabric of local communities.

⁴⁵ Putnam, R. (1995). Bowling Alone: America's Declining Social Capital. *Journal of Democracy*, 6(1), 65–78.

Box 10: Building on social capital through farmer cooperatives in Vietnam⁴⁶

The Capacity Building in Agriculture and Rural Development project assisted in the formation of four mango farmers' groups in southern Vietnam between 2001 and 2003. Four years later, all four cooperatives continued to operate, but each had developed a distinctive structure and had expanded into different subsidiary activities, such as mango seedling production, input supply retailing and microcredit. Although these projects were similarly designed in adjacent geographic regions, each took shape by way of dynamic social actors and institutions.

Participating farmers across these projects reported income increases through higher prices received by means of pooling production and state-assisted market linkages to larger contracts. Higher earnings were also reported from value-added post-production activities, with some technologies and required inputs funded by profits accrued by the cooperative associations themselves.

However, outcomes related to bridging capital (extended interactions with non-members and other local farmers groups) were not uniform. In some cases, bridging capital was achieved quite successfully through the internal dynamics of the cooperatives themselves; in others, members took a more exclusionary approach so that project benefits did not extend beyond the selected group to other community members.

Box 11: The Urban Gardens Programme for HIV/AIDS-affected Women and Children⁴⁷

The Urban Gardens Programme (UGP) aims to provide nutrition and income diversification for highly vulnerable groups in Ethiopian cities through support to school and women's group urban plots. Project participants are provided with one year's inputs and training support to develop small urban and peri-urban plots with a focus on low-labour and low-cost technologies that are suited to the poorest.

A recent participatory impact assessment found the greatest impact of the UGP had been on participants' social wellbeing, through increased social acceptance and community relationships. All participants acknowledged a sense of empowerment and self-reliance as benefits of participation in the programme. By creating a public space where economically and socially marginalised people can meet, group gardens provide an opportunity for vulnerable people to build social networks with other people having similar experiences as well as with other members of society, thereby breaking down social stigmas and fostering a more inclusive community.

1.6 Policy and programme implications: summary

In relation to building the key farm assets of poor households, the following lessons stand out:

Natural assets

- Providing enhanced access to land, for example land owned by government, or making tenure more secure can work well for poor households.
- Well-functioning land rental markets provide chronically poor households new opportunities.
- A worked-through commitment to poverty reduction needs to accompany any land redistribution, including full M&E processes.
- Formal legislation granting equal access to wives and to prevent asset stripping from women who separate or divorce needs to be backed up by information campaigns in local communities and commitments from local leaders and the judiciary.
- Land is not productive without water, and equitable water access rights are generally non-existent or without legal title. Water rights regulations and accompanying management and monitoring mechanisms that involve community engagement are a starting point.

⁴⁶ Rankin, M. K., & Russell, I. W. (2005). Building Sustainable Farmer Cooperatives in the Mekong Delta, Vietnam: Is Social Capital the Key? Retrieved August 10, 2012, from <http://www.engagingcommunities2005.org/abstracts/Rankin-Marlo-final.pdf>

⁴⁷ Shroff, R., Dessalegn, M., & Teshome, H. (2011). *Understanding the Social Impacts of Urban Gardening in Ethiopia*. Addis Ababa.

Physical assets

- Small animals, cattle and plough livestock are productive assets that help raise the poor's asset bases for eventual leverage. Women's constraints in marketing livestock and livestock products need to be addressed (see Section B2).
- Affordable intermediate farm mechanisation has scope to increase crop yields, crop diversification and incomes, and has been neglected in policies and programmes.
- Local infrastructure development, such as of storage and processing facilities, allows poor farmers to maximise returns from those assets they do hold.

Human assets

- Basic literacy and numeracy education has high returns for smallholders contracting with intermediaries and gives farmers an opportunity to barter equitably with traders.
- Agricultural asset development feeds back to health and nutrition: growing nutritional crops and livestock leads to healthy people, and healthy people are better equipped for farm labour to grow nutritional crops and livestock. Integrated programmes like homestead gardens can have health, income and social capital benefits.

Social assets

- Bonding social capital acts as informal social protection but should not replace public support. Public interventions can ease the stress members of informal risk-sharing groups experience.
- Policy implementers can harness social networks to identify vulnerable 'unseen' individuals, or use them as a policy outreach tool, as in the case of farmer extension.
- Social capital can have negative effects when it supports exclusionary group membership or restricts members' personal liberties. Policies working with groups can ensure the poorest benefit by being made aware of social dynamics and traditional power structures.

Clearly, the binding constraints to asset accumulation vary depending on the context. However, some key principles with regard to agriculture, poverty reduction and asset accumulation emerge.⁴⁸ This section has focused on the first of these; the rest of the guide elaborates on the others.

- **Build and protect household-level productive assets**, including both private and common property assets. One approach here is to provide assets directly to the very poorest. However, equally important is to change investment incentives, for instance through property rights or investing in complementary assets such as education and infrastructure.
- **Improve risk management options for the chronically poor.**
- **Improve the productivity of the current holdings of poor people.** Two channels for this are agricultural technologies (Section B3) and market arrangements (Sections B4-7).
- **Facilitate favourable transitions out of agriculture.** Investments in human capital are critical.

⁴⁸ Barrett, C. (2008) Food systems and the escape from poverty and ill-health traps in sub-Saharan Africa. Paper was presented at the Cornell University and United Nations University Symposium on The African Food System and its Interactions with Health and Nutrition, held at the United Nations, New York City, November 13, and at Cornell University, November 15, 2007.

2. Protecting assets

Asset accumulation is the central piece of the jigsaw that farm households need to put together to escape poverty. But in the risky world that small farm and farm worker households occupy, assets can be too easily lost – burnt, washed away in a flood or, most frequently, used to release cash for health or schooling expenses or other necessities such as food or water. Drought is a particularly common risk, one that can wipe out household asset portfolios. However, poor people typically resist selling assets as long as they can, unless they are kept especially for that purpose – chickens, goats or sheep are useful ‘liquid’ assets.

2.1 Global land rush

Assets can also be taken. For example, poor households are experiencing real threats to land assets as a result of the recent rush for agricultural land and water by national elites and international investors. This global phenomenon is happening quickly and on a very large scale. Since 2000, up to 83.2 million ha have been put into transactions in developing countries. Africa accounts for some 56.2 million ha of deals (67.5%), followed by Asia (some 17.7 million ha) and Latin America (about 7 million ha).⁴⁹ The Land Matrix, an online public database, closely monitors global land acquisitions and analyses recent trends to provide up-to-date information on which resources are particularly at risk.

Policymakers are facing the pressing challenge of addressing new large-scale land acquisitions, as these are increasingly leading to local land conflicts, instability and deepened chronic poverty. Global decision-making processes have produced internationally accepted standards for the responsible governance of land tenure for the benefit of all, with an emphasis on vulnerable and marginalised people (see Box 12).

Box 12: Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests

The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (endorsed by the Committee on World Food Security (CFS)) establish internationally accepted standards for responsible land tenure and guidance for states to use when developing policies, legislation and programmes. They seek to improve tenure governance ‘for the benefit of all, with an emphasis on vulnerable and marginalised people, with the goals of food security and progressive realisation of the right to adequate food, poverty eradication, sustainable livelihoods, social stability, housing security, rural development, environmental protection and sustainable social and economic development’. They recommend safeguards to protect legitimate tenure rights, human rights, livelihoods, food security and the environment from risks from large-scale land acquisitions, and encourage states to promote investment models that do not result in the large-scale transfer of tenure rights to investors and to develop partnerships with local tenure right holders.

The Guidelines provide an alternative to the Principles for Responsible Agricultural Investment (RAI) earlier developed by the UN Conference on Trade and Development (UNCTAD), the Food and Agriculture Organization (FAO), the International Fund for Agricultural Development (IFAD) and the World Bank. The latter were criticised heavily for legitimising large-scale land investments and undermining smallholder agriculture, and for a lack of clear standards or enforcement mechanisms. The UN’s Special Rapporteur on the Right to Food publicly deemed them ‘woefully inadequate’.

The RAI Principles were also criticised for not consulting relevant parties adequately and, consequently, for a lack of credibility. The Voluntary Guidelines were drawn up through a more inclusive consultation process. Over the course of three years, negotiations involved nearly 100 national governments, NGOs, civil society, farmers’ associations, private sector representatives and research institutions. The process was considered an ‘historic milestone not only for the way in which land tenure is managed, but also for international consensus-building’⁵⁰.

⁴⁹ Anseeuw, W., Boche, M., Breu, T., Giger, M., Lay, J., Messerli, P., & Nolte, K. (2012). *Transnational Land Deals for Agriculture in the Global South: Analytical Report based on the Land Matrix Database*. Bern/Montpellier/Hamburg.

⁵⁰ <http://www.guardian.co.uk/global-development/poverty-matters/2012/may/11/global-land-deal-guidelines-hunger>

It is now up to national-level policymakers to adapt the CFS Voluntary Guidelines to national needs and transform them into policy. Although there is much support for the Guidelines across international bodies, states, the private sector and civil society, policymakers will still have to manage many competing and powerful interests when it comes to negotiating future land deals.

Large-scale purchases of land, long-term leases and illegal land grabbing present extensive socioeconomic risks, especially for the family farms that predominate worldwide. These risks include intensifying conflict over land, relocation or displacement of local populations and increasing migration into cities. In countries with a lack of legal certainty, uncertain land rights and corruption, land acquisition can pose particular a threat to long-term food security and national stability and peace.

At the same time, for many developing countries, important opportunities can arise from the inflow of new technology and capital associated with foreign investment, as most of the affected countries are not in a position to conduct the necessary investment themselves. Increased state revenue (e.g. taxes) from investment in land and agricultural projects can – if reinvested – provide a basis for boosting production, employment and income, improving the living conditions of the rural population. If secure land rights are guaranteed; investments comply with social and ecological standards; human rights are respected (including the right to food, housing and water); land transfers and agricultural projects are integrated into poverty reduction strategies; and the local population participates in planning contract negotiations and the implementation of investment measures, then large-scale land acquisitions and leases can play an important role in the economic development of rural areas and generate momentum.

2.2 Insuring individually owned assets

Land can be either an individually or a communally owned asset, but the majority of remaining assets to be protected are the former, and can in theory be insured. There are also community resources, access to which can be very important for the poorest households. These also need protection, usually by local organisations and government.

Assets need to be protected. Since 2000, many countries have embarked on social protection policies and programmes (usually, but not always) providing cash transfers to the poorest households. The evidence is now strong that such transfers have very significant short-, medium- and long-term benefits, positively influencing child nutrition and health, schooling, transitions to the labour market, savings and investment (see Box 13). They can act to prevent the sale of assets when households need cash. However, they also have limitations. They are often targeted at the poorest – for good reason – when resources are scarce, but (if the targeting works) they miss the less poor and those who are vulnerable to falling into poverty. In many situations, this means the majority of the rural poor.

Insurance provides an alternative approach, at least for individually owned assets, and one in which agricultural agencies are likely to be more closely involved. Coverage of poor or vulnerable people is currently minimal. About 15 million people have health insurance through microfinance agencies, and it would make sense if these organisations also promoted agriculture-related insurance. Agricultural agencies could choose to become heavily involved in promoting insurance schemes that reach poor households, by working with private insurance companies to develop innovative products. The Access to Insurance Initiative⁵¹ is investigating the constraints to this, country by country. Governments can regulate the sector dynamically through their insurance supervising agencies in such a way that low-income households can take up insurance. Specifically, they can provide clear policies and a conducive regulatory framework; ensure information on product features is simple and in local languages; promote flexible payment schedules and appropriate non-traditional distribution channels; support capacity development of insurers and financial literacy of low-income clients; and require

⁵¹ <http://www.access-to-insurance.org/>

separate reporting. Agricultural agencies can improve the infrastructure for agricultural insurance – that is, through weather stations and data on livestock and crop production.

Box 13: The poverty reduction and agricultural benefits of social assistance

Rigorous impact evaluation evidence from Mexico tells us that social protection has reduced the poverty gap by 30%, and that socially protected children experienced 1 cm of additional height growth after two years. Social protection is also expected to increase years of schooling by close to an additional year. These are substantial achievements. Evaluations of other programmes are beginning to show similar results.⁵²

The benefits for smallholder households are numerous. If cash transfers are invested in agricultural assets and inputs, including labour, productivity increases and vulnerability reduces, as there are fewer liquidity constraints. In this sense, cash transfers are an alternative to credit. If transfers are guaranteed, predictable and regular, they perform an insurance function and permit risk taking in high-risk agro-ecological environments.

The benefits for farm and other workers are also significant, directly from cash transfers or from public works programmes, but also through the retention of a low price for food; often an aim of agricultural agencies. There are, however, trade-offs between low prices for consumers and high prices acting as incentives for producers.

The implication is that agricultural and social protection agencies can coordinate their activities to achieve policy synergies. Agriculture builds assets and social protection protects them.⁵³ In practice, this means learning about each other's policies and programmes, working out how to adapt them to ensure both livelihood protection and promotion effects and being collaborative rather than territorial in attitude. This latter has to come from the highest level: ministers and heads of agencies, if the trade-offs between food relief and food market buoyancy and between seed relief and seed market health are to be negotiated.

The insurance market is barely developed in low food security countries, but in middle and high food security countries there is an emerging market that could be harnessed. Companies will resist being the first to insure poor people, or to provide a new sort of insurance policy, as the risks will be perceived as too high, as will the transaction costs involved in insuring small households. As such, governments (or development agencies) will have to lead the way in terms of subsidising insurance, so that they carry the risks beyond a certain point. In the absence of formal insurance, there are also many viable and useful informal insurance mechanisms that can play a valuable role.

Livestock represents savings, and their accumulation enables escape from poverty. However, given that they are subject to disease and many other risks, livestock insurance is critical. There is little experience to draw on of insuring the rural poor's principal disposable asset, except through dairy schemes, in which it is possible to deduct such costs, as well as some animal health costs, straightforwardly and transparently from the regular payments to farmers.

A 2010 IFAD/WFP review of 36 weather index insurance programmes suggests that these could be effective in agriculture, especially if they create a product of real value to the insured, as part of a broader financial service, and increase client awareness of insurance products. Such programmes need to attach insurance to effective existing delivery channels, improve the infrastructure and quality of weather data, promote legal enabling frameworks and anticipate a need for continuous modification and improvement based on experience.⁵⁴ Box 14 presents the Mongolian case, whose uniqueness lies in the use of a regular livestock census.

Weather-based insurance has also been applied to crop farming, with good results in many pilot programmes. In India, private insurers have sold 2.1 million index insurance policies since 2003. There are many challenges to face, and reaching the poor will require the intermediation of farmers'

⁵² Shepherd and Scott (2011) page 86; Barrientos, A. and Zarazua, M. (2010): 'Do social transfer programmes have long term effects on poverty reduction?' *CPRC Policy Brief 20* www.chronicpoverty.org

⁵³ Sabates-Wheeler, R. Devereux, S. and Guenther, B. (2009) *Building synergies between social protection and smallholder agricultural policies* Future Agricultures Consortium, Working Paper 6 www.future-agricultures.org

⁵⁴ IFAD and WFP (2010) *The potential for scale and sustainability in weather index insurance for agriculture and rural livelihoods*, Rome: IFAD.

associations or microfinance organisations. The latter have focused on developing health insurance, given that ill-health is the major cause of asset depletion; asset insurance should be their next step.

Box 14: Weather-based indexing and insurance schemes – the Mongolia pilot

Herders in Mongolia suffer tremendous losses in *dzud* (winter disasters), with livestock mortality rates over 50% in some areas: few countries have such frequent and high rates of localised animal deaths. The government of Mongolia implemented a pilot livestock insurance project, using a World Bank loan, as one of the few applications of weather-based index insurance. Mongolia is one of the few countries that perform an animal census every year, and this concept may be precisely what is needed to start a livestock insurance programme. Just as important, the insurance used in Mongolia should not interfere with the exceptional efforts that experienced herders take to save animals during severe weather: using individual insurance may in fact diminish these efforts. As the insurance index would pay all herders in the same region the same rate, the incentives for management to mitigate livestock losses remain strong.

The project, started in 2005, involves a combination of self-insurance by herders, market-based insurance and social insurance. Herders retain small losses, larger losses are transferred to the private insurance industry and extreme or catastrophic losses are transferred to the government, using a public safety net programme. A syndicate pooling arrangement protects participating insurance companies against excessive insured losses, with excess of loss reinsurance provided by the government. The fiscal exposure of the government of Mongolia to the most extreme losses is protected through a contingent credit facility. The project offered the first opportunity to design and implement an agriculture insurance programme using a country-wide agricultural risk management approach. During the first sales season, 7% of herders in the three pilot regions purchased the product.

2.3 Non-insurance strategies

Given the challenges in many countries of developing an insurance market, alternative measures may work better. In low food security countries, if insurance markets are more-or-less non-existent or have limited potential (low trade security), encouraging savings institutions could be more effective. These need an enabling environment: many lending organisations are prohibited from providing savings instruments to clients, which may be an appropriate policy if the risks of organisational failure are high, but this needs to be assessed on a case-by-case basis, especially where organisations have become financially viable. Mobile banking offers new opportunities for poor people to save.

In climate-insecure countries, governments must provide a solid disaster risk reduction framework as well as a regular means of post-disaster recovery. Asset distribution itself is a part of this. For decades, livestock restocking has been a standard NGO, and increasingly government, response to drought. This has to date been conducted on an emergency basis; in future, where drought is endemic, redistribution should be institutionalised, with greater budget allocations in recovery periods.

Female-headed households are disadvantaged in restocking, as men often hold ownership of assets, although women conduct rearing activities. Restocking activities should thus pay careful attention to who owns the livestock. Where restocking is undertaken, the most successful approach has been to use local animals, as they are accustomed to the local conditions, and there is therefore no risk of introducing new diseases and there are benefits to the local economy.

Poor households frequently lack the labour for sustainable livestock production, and the design of restocking projects can exacerbate this. Restocking activities in Kenya enforced a prohibition on selling animals for the first two years to prevent herd depletion, but this meant households had to rely on alternative income sources after restocking. If the goal of restocking is to support livestock-based livelihoods, then preventing selling will necessarily maintain involvement in non-livestock-based livelihood activities, and so reduce the labour available for livestock rearing.

Protecting women's assets raises other concerns here beyond insurance, and beyond those covered under finance (Section B6), as much chronic poverty is caused when women lose access to household or extended family-owned assets on separation, divorce or widowhood. Reforming marriage and inheritance laws is well beyond the competence of agricultural agencies. However,

these are reforms in which agricultural agencies should take a strong interest, supporting their enactment and implementation wherever possible. Implementation represents a particular challenge, those involved tend to be the very institutions that have resisted such reforms in the first place: local judiciaries, local clans and religious or political leaderships.

With their staff and outreach systems, agricultural agencies are at the heart of local society: if agricultural agents are suitably informed and trained on such issues, they can make significant contributions to the local debates that will determine whether such reforms get implemented. Many agricultural extension workers are now women, but these issues should not be left to them. With their knowledge of local people, agricultural agents could be called on as expert witnesses to support women at risk of disinheritance or asset loss at the end of a marriage.

2.4 Community management of assets

Common property resources (such as land, water, pasture, forests and fisheries) are also of great importance to the poor, as safety nets and a source of income or subsistence. However, as they are not individually or formally owned, their legal status is unclear and they are often at risk of predatory acquisition. Agricultural agencies need to understand how to protect and manage these valuable common assets in ways that benefit the poorest people who depend on them most but who have the least amount of power over them.

There are many experiences of co-managing common property resources (by the government and local communities) for collective and public benefit. Co-management of forests is a well-used approach, especially in Asia. There was extensive – and successful – co-management of pastures in Mongolia under communist rule, but this is now lapsing.

One of the most recent innovative and pro-rural poor responses has been in fisheries co-management. The goal of this is to give small-scale fishers a greater role in sustainably managing fisheries, to bring decision making closer to front-line fisher folk and to shape management in accordance with local variation and customary management. It generally involves government and local users each being given specific decision-making and monitoring rights and responsibilities, as well as active participation by other stakeholders such as NGOs and local businesses. Co-management has offered key opportunities for the rural poor to participate more in fisheries decision making, through more inclusive governance, to reduce risks and make fisheries management more responsive to their needs.

Many successful experiences with fisheries co-management have been reported: in reducing illegal fishing on coral reefs in Indonesia; in small-scale fisheries management in India; in increasing fish harvests among communities in Fiji, Samoa and elsewhere in South East Asia and the Pacific Islands; in creating functional fishing zones in St Lucia; and in helping address fisheries conflicts in Ecuador and Jamaica⁵⁵ (see also Box 15). It is now considered the way forward in small-scale fisheries management and has continued to spread around the world, for example in Bangladesh, Indonesia, Japan, Kenya, Tanzania, the Philippines and Uganda.⁵⁶

The government is critical to making co-management efforts work. Successful cases have involved government willingness to devolve real powers, share decision making and create accountable institutions. An enabling and cooperative policy environment is needed at all levels, and governments need to take the lead in integrating co-management goals into wider objectives. Experience has shown that top-down or externally driven co-management strategies are less successful.

⁵⁵ Valdés Valdes et al. (2007). *A profile of the rural poor*. Rome: IFAD Background paper for IFAD Rural Poverty Report

⁵⁶ Kura et al. (2004). *Fishing for answers: making sense of the global fish crisis* Washington D.C., World Resources Institute

For policymakers to build effective co-management regimes, they need to respect and work through existing local institutions; build legitimate and representative bodies responsive to poor people's needs; provide clear and immediate economic incentives for groups to participate; and address issues of power, inequality and marginalisation in value chains so the poorest can benefit.⁵⁷ This latter point may require governments to step in to protect valuable common assets for use and management by the poor against powerful interests or investors. This applies to all common property resources, although the issue of large-scale land transfers is particularly contentious at the moment.

Box 15: Fisheries co-management in East Africa – benefits and challenges for the poor⁵⁸

Lake George (Uganda)

In 2000, an integrated lake management approach was piloted on Lake George, including the creation of community beach management units (BMUs), elected committees on which seats are allocated to occupational groups and women – with the most marginalised (women and boat crew members) mandated with 30% representation. The BMUs exercise devolved powers, including collection of fisheries information, participation in licensing and the development and enforcement of bylaws. They have resulted in a number of positive outcomes, including enhanced community involvement, the development of enforcement capacity and improved access to lake resources for marginalised groups. They have also led to wider policy changes.

Lake Victoria (Kenya, Tanzania and Uganda)

BMUs were established around Lake Victoria as part of a wider response to environmental degradation, overfishing and persistent poverty. By 2008, more than 800 BMUs had been set up and, although experiences varied from case to case, they witnessed similar successes to the BMUs in Lake George. That said, a number of challenges to fisheries co-management became apparent:

- (i) BMU participation was often seen as token, as it did not allow involvement in key decisions on macro development (e.g. trade liberalisation) or the type of fisheries regulations to develop. Some BMU leaders complained that government officials included them in discussions but subsequently did nothing to address their concerns.
- (ii) Marginalised and poorer groups (such as women or crew members) did not have a strong voice because wealthier community members dominated the BMUs.
- (iii) The process undervalued local and customary institutions, often setting up new structures. This led to rural people perceiving the BMUs as government police forces rather than as representative community-based institutions.
- (iv) There was too much emphasis on enforcement (such as regulating illegal fishing) rather than building economic capabilities and rights. Part of the vision for the BMUs was for them to perform cooperative-type functions to increase bargaining power vis-à-vis fish traders, train community members in business management, share market information and lobby government. In some cases, these were achieved, but overall the focus on enforcement undermined the poverty reduction potential of the BMUs.
- (v) The BMUs did not adequately address issues of unequal power in fisheries, such as inability to negotiate with traders, insecure rights, the challenge of small-scale fishers competing with motorised boats and the absence of alternative livelihood options to replace 'illegal' fishing.

2.5 Policy and programme implications: summary

- Management of the global land rush is not beyond reach. There are vast policy spaces yet to be filled by national and regional governments, and local communities are key players in these processes.

⁵⁷ <http://www.ifad.org/rpr2011/report/e/rpr2011.pdf>

⁵⁸ Nunan, F. (2006) 'Planning for integrated lake management in Uganda: lessons for sustainable and effective planning processes' *Lakes and Reservoirs: Research and Management*, 11; O'Meally, S. (2009) *The World Bank and Sustainable Development: the case of Lake Victoria* Unpublished PhD thesis, University of Manchester.

- There is a balance to be achieved between the attraction of large-scale investments and policymakers' capacity to regulate and ensure responsible investment.
 - Coordination with social protection agencies to achieve synergies prevents duplication and conserves financial resources.
 - Middle-income countries can mobilise insurance companies to insure poor households' livestock, crops and equipment through policy development and regulation and subsidies. Agricultural agencies also need to improve the infrastructure for insurance (weather stations, livestock and crop data).
 - In low-income countries when insurance is not possible, it is important to ensure that poor households can save in a safe and convenient way; to protect women's assets from being stripped on divorce, separation or widowhood; and to implement disaster risk reduction strategies.
 - Veterinary services and restocking programmes act as insurance for poor livestock keepers. Access to both for women is important, and requires additional programme design features.
 - Restocking programmes benefit from being permanent. Women's exclusion from them makes gender empowerment and asset rights a key programme area for focus. Ensuring power is devolved adequately in common property resource co-management schemes increases the likelihood that these will benefit the resource users.
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3. Technical innovations

Part A suggested that technology availability *per se* is not usually the main issue facing chronically poor farm households – there are substantial yield differences within communities, indicating that other factors constrain farmers' yields. Nevertheless, access to appropriate technology remains important to improving the performance of small-scale agriculture and the food security of the world's least food-secure people. Such access is critical to obtaining higher returns to the assets of poor households so they can consume more, accumulate further assets, invest in education and move out of poverty. As so many chronically poor people are in farming, returns to *farm* assets and labour are central, although non-farm business asset returns and returns to education can often act as a tipping factor in getting a household out of poverty. Technology is also crucial for managing the many risks small farmers face – climate variability, pests and weeds and market instability.

The question is how to achieve higher and/or more secure returns in farming, and the answer today is markedly different to what it was even five or ten years ago. From a response based almost entirely on a Green Revolution, seeds and fertilisers and a centralised science-driven approach, there has been a transition to one centred around climate-smart sustainable agriculture which addresses the critical constraints facing the often poor small farmers who produce the bulk of food in agriculture-dependent countries.⁵⁹ This can be accomplished through a 'pro-poor agricultural innovation system' approach – which is the second aspect of the transition – from a set of solutions that is prescribed and disseminated to one developed in multi-stakeholder partnership, with poor farm households (men and women) and their varied constraints at the centre.

This section deals with three interlinked aspects of technical innovations: (i) the changes needed in ARD systems, which generate but often fail to disseminate innovations that can help poor farm households manage risk and escape poverty; (ii) the significance of indigenous technical solutions and the need for ARD systems to work with these; and (iii) the growing menu of climate-smart sustainable agriculture approaches that need to become a much more central part of ARD. There are many additional areas of technological innovation that could be appropriate for poverty reduction, such as information and communication technologies (ICTs), but the topics covered in this section have been chosen on account of their availability of evidence relating to their effects on the poorest.

Combined with farm mechanisation, discussed in Section B1, these approaches offer a suitable menu to respond to the outcome of any assessment of poor farm households' scarcest resource, which should be the analytical point of departure for any intervention. Where labour is the scarce resource for chronically poor households, as in much of Sub-Saharan Africa, affordable labour-saving devices substituting for the major uses of labour are the priority. Where water is the critical constraint, conserving water and choosing crops, breeding crops and livestock that can withstand drought and thrive in low-moisture environments are crucial. Where land is the scarce resource, irrigation to enable double cropping and switching to high-value products with attendant provisions for food security can be the way forward.

A recent scoping study carried out in the Indo-Gangetic Plains (an area which has the highest concentration of the poor in the world) shows how asset scarcity can be analysed at a sub-regional level so as to avoid sweeping policies that do not account for a gradient of asset deprivations. The study found that social, economic and natural assets were varied across villages, particularly within low and highland areas. In less densely populated highlands, labour-saving mechanisation investments were found to be most appropriate, whereas in densely populated lowland areas, it was found more effective to introduce land-saving innovations. Such differences drive the need for variable emphases on land-, labour- and natural resource-conserving interventions.⁶⁰

⁵⁹ An example of a document on this transition is IFAD (2011) (see Chapter 5).

⁶⁰ Erenstein, O. (2012). Resource scarcity gradients and agricultural technologies: Scoping implications in the post-green revolution Indo-Gangetic Plains. *Outlook on Agriculture*, 41(2), 87–95.

3.1 A gendered approach

Women contribute a huge proportion of the labour involved in agriculture, often in water and soil management, which are essential ingredients in a sustainable farm. If water management projects are blind to the gender division of labour, they may target beneficiaries wrongly. Irrigation water users' associations rarely involve women, as membership is based on land ownership, which tends to be vested in men. Yet, since women are often involved in farm management, 'their exclusion from associations in which they could communicate their needs and views can result in poor technical outcomes in water management, particularly for multiple uses of water'.⁶¹ Modern advocacy of multiple use water systems represents progress in gender terms – as previously domestic water systems were separated out (and often received lower priority or levels of investment).

Soil fertility losses are particularly acute in Africa, but also in tropical Asia and Latin America. Women are often affected as they cultivate more marginal lands, growing food crops. While the research community broadly accepts the value of 'integrated nutrient management', fertilisers still dominate agricultural development programmes, despite the high risks this entails, especially in remote or marginal lands. Resource-poor farmers, including women, cannot apply fertiliser at high rates when there is a risk of crop failure. Alternative low external input strategies (and organic agriculture) can be labour and knowledge intensive; if they are used, measures to save labour and introduce new information will be critical. They can also themselves sometimes save labour – conservation agriculture is an example. Meanwhile, extension systems generally direct information on soil management towards men; this needs to change, as women are often the effective managers of the soil. Women's insecure control over land means they may be unwilling to invest in measures that take several years to bear fruit. A gender-sensitive approach to soil productivity will:

- Promote a broad spectrum of fertility-enhancing measures;
- Extend information to women as well as men;
- Enhance women's control over land.

Box 16: Technological extension and gender – evidence from Bangladesh⁶²

Technological extension must account for the assets needed to adopt and maintain agricultural innovations in addition to the power dynamics that shape asset ownership and control. Poorer households without the basic inputs necessary to adopt an innovation will necessarily be excluded. Those without legal land title, particularly women, will be reluctant to invest what few resources they do have if they risk being appropriated later on or if they lack agency in production decision making.

A comparative study of two distinct extension programmes in Bangladesh, one distributing improved vegetable varieties and the other extending polyculture fishpond information and leaseholds, experienced very different results owing to the initial asset bases of beneficiaries. Poorer women adopted the improved vegetable varieties easily since they did not require access to large amounts of land or costly inputs. Since even non-agricultural households lacking access to substantial tracts of land tended to maintain at least small homestead plots, this technology was beneficial to the poorest households in the area as they were able to increase production.

Fishpond technologies could be adopted only by less-poor households with secured access to land. Since women typically lacked legal title, they were unlikely to benefit from these innovations. Even in those less-poor households with assets to develop fishponds, women typically had control only over homestead plots; farmland and fishponds were under men's control.

This technological extension programme comparison demonstrates that care must be taken from conceptual stages onwards to ensure innovations are designed in ways that do not perpetuate gender inequalities, but rather contribute to reducing them. Empowering women through enhanced technologies targeting their particular needs is one step in this process. Complementary education and asset protection programmes is another.

⁶¹ World Bank/IFAD/FAO (2009) *Gender in agriculture sourcebook* Washington D.C Module 6

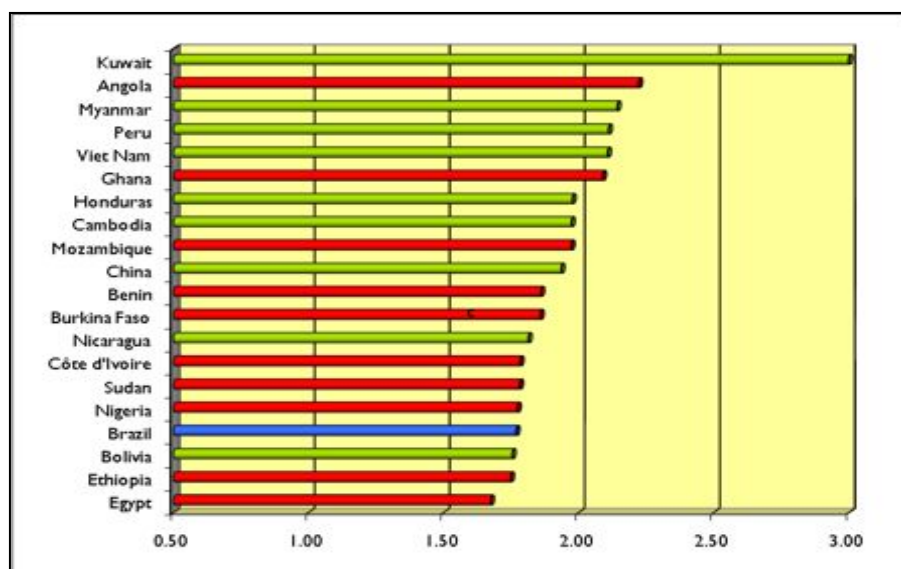
⁶² Meinzen-Dick, R., Adato, M., Haddad, L. and Hazell, P. (2003) 'Impacts of Agricultural Research on Poverty: Findings of an Integrated Economic and Social Analysis'. Environment and Production Technology Division Discussion Paper 111. Washington, DC: IFPRI.

3.2 Agricultural research and development

The conventional answer is to extend access to improved seed and chemical fertilisers (or agro-chemicals more generally), which have been promoted intensively in most developing countries for decades. In Asia, when combined with public investment in irrigation, this led to a substantial Green Revolution and, in situations of relatively equal endowments of land and other resources, with relatively well-functioning markets, the poorest farm households had a chance to benefit. But where the poorest farmers have not had the farm equipment, the labour resources or the soil fertility and moisture to make use of improved inputs, investment in improved seeds and fertilisers has been risky. In Africa, there have been productivity increases, but it has been harder to sustain than achieve these, perhaps because the complementary investments have been harder to produce and markets have not been as well organised. However, many African countries have attained significant production increases over time, even if these are not always the result of productivity changes (Figure 4). In general, the poorest farmers have been unlikely to access expensive agro-chemicals through either market or subsidised channels.

Most resource-poor farmers do not have access to conventional inputs such as fertilisers or equipment as they do not regularly make enough money from selling farm products or hiring out their labour to have adequate working capital sources. Being able to sell produce securely and at a decent price is therefore critical (Section B5). Credit is often not an alternative source of working capital, and farm credit remains a problematic area of policy (Section B6): resource-poor farm households are often either excluded from private credit systems or adversely included, on terms that mean they run up unsustainable debt. Where public input distribution systems still exist or have been reintroduced, which might allow poor farmers to access subsidised and therefore affordable inputs, the poorest farmers do not necessarily benefit – although there are exceptions. The most famous current exception is the Malawi fertiliser subsidy, which includes about two-thirds of all farmers, including many poor households. While undoubtedly a success in terms of kick-starting a relatively pro-poor pattern of economic growth, though, with increases in maize production and higher real wages, the evidence attributing poverty reduction to the fertiliser subsidy as opposed to good weather or high tobacco prices is not there, and there is no evidence that household food security has improved.⁶³

Figure 4: Growth of agricultural output, 1990/92-2004/06, Africa compared with other countries⁶⁴



⁶³ Dorward, A and Chirwa, E (2011) 'The Malawi agricultural input price subsidy programme 2005/6 to 2008/9' in *Journal of Agricultural Sustainability*, Vol 9, No 4

⁶⁴ FAOSTAT data, Gross agricultural PIN, in Wiggins, S. and Leturque, H. (2011) *Helping Africa to Feed Itself*, A Friends of Europe and Future Agricultures Report, London: Overseas Development Institute.

Extending the Green Revolution to agro-ecologically more difficult areas where there are many chronically poor farm households and to the poorest farmers in high- and medium-potential areas requires a more flexible, open approach than simply promoting seeds and fertilisers. Soil and water conservation have equal importance, as does appropriate farm mechanisation, and much more attention needs to be given to indigenous technology. In dry areas, agro-forestry can make a big difference to productivity. How can we move to agricultural policy that gives equal weight to these?

One of the central lessons from the Asian Green Revolution is the need to respond actively to diverse geographical and social settings. For Africa, everything cannot be delivered as part of the 'maize model' – whereby germplasm responds to breeding efforts, hybrid varieties offer significant returns, the private sector is geared up and interested in breeding and multiplication, agro-dealers are present and well trained and farm-level demand is widespread. This approach has certainly had its successes, and is central to the ambitions of major programmes such as the Alliance for a Green Revolution in Africa (AGRA), the Millennium Villages and Consultative Group on International Agricultural Research (CGIAR) centres such as the Centro Internacional de Mejoramiento de Maíz y Trigo (International Maize and Wheat Improvement Centre, or CIMMYT). It is also crucial to the business models of the likes of Monsanto and Pioneer, as well as other multinational purveyors of new seeds and agro-chemicals. However, it also has clear limits. As we have seen, for many crops, even other cereal crops (including teff, millet and to some extent sorghum), the model does not work. Many women, poorer people and people living away from markets miss out.

To foster a multiplicity of innovation pathways for the new Green Revolution in Africa, therefore, we need to encourage a more robust and inclusive debate about viable alternatives, with different visions that imply different pathways to pursue in parallel or in combination. We also need to diversify our narratives about the future, to encompass more different objectives and avoid the danger of closing down and locking into a narrow 'market-led technology adoption' trajectory.

To do this, we need a more open political debate about the future, one that challenges the vested interests that create singular, narrow visions. And, through a more diverse vision of Africa's Green Revolution, and the role of formal and informal seed systems within it, we need to open up the innovation process, making use of new information technologies and networking opportunities to link high-end genomics with local adaptive research with farmers. This must go beyond highly individualised and privatised solutions to other group-based efforts, and must be rooted in particular farming communities and socio-technical contexts and connected to public research and extension. One size must not fit all, especially in settings as diverse as those found across Africa

3.3 ARD systems and the poorest

The results of some ARD systems are neither accessible nor relevant to the poorest farm households, and even poor farm households in general may struggle to get access and find appropriate innovations. ARD work in many contexts does not define 'the poor', even though it may have a general commitment to serve their interests; it does not specifically target poor farm households, does not involve them adequately in the design of research and does not make the results of research accessible to them. The way forward is to develop an agricultural innovation system that involves:

[...] a network of organisations that are focussed on bringing new processes, technology and knowledge into social and economic use as well as the institutions and policies in which there are embedded. International and national research systems are moving in this direction. The challenge for ARD is to create innovation systems that are responsive to the needs of the poor, something which has been severely neglected in previous ARD approaches⁶⁵

⁶⁵ European Initiative for Agricultural Research for Development (2011) *Making ARD pro-poor: improving the accessibility and relevance of ARD results to the poorest*, Policy Brief

Pro-poor agricultural innovation systems need to define the poor, target them specifically, involve them in the design of research and make research results accessible. Disaggregating the poor is ideally done in a dynamic way – identifying farm households on stable (poor/non-poor) or upward/downward trajectories, so that households able to invest and take risks are distinguished from vulnerable households that are risk averse and those that have been unable to accumulate the basic assets needed to take advantage of innovations. This would require a micro-participatory approach using focus group discussions to understand which households are in which category.

Alternatively, the poor can be disaggregated in a static way.⁶⁶ We can think schematically of three groups:

- (i) Households that have a modicum of assets, whose children are being educated, that are diversified in terms of occupation and that are living in stable countries/regions with sustained economic growth, well-functioning markets and reasonable services;
- (ii) Households that find it difficult to accumulate assets, are struggling to assure their subsistence and have less engagement with the market and less good market channels. Assets are hard to accumulate because of pressures to sell them for urgent consumption requirements or health or school fees. Seasonal migration or commuting are likely, and women in particular undertake casual labour;
- (iii) Households largely dependent on wages. These may still have tiny plots of land.

Category (ii) households may be especially present in unstable countries or regions, or areas prone to natural disasters.

Targeting involves specifying how and which poor households will benefit directly, through information, materials, facilities, finance organisation or policies, or indirectly through employment, lower food prices or greater food accessibility – then making sure this happens. Bringing poor farm households into an innovation system (or platform) is not easy – smallholders' organisations may not represent the poorest (see Section B7), and there is a power imbalance between scientists and farmers' representatives. However, the evidence suggests such innovation platforms can work.

Box 17: *Papa Andina and innovation platforms*⁶⁷

Papa Andina is a partnership programme that facilitates innovation processes between smallholder potato farmers in Bolivia, Ecuador and Peru in connection with researchers, service providers and other market agents. It encourages co-development of new innovations among all relevant market chain actors to ensure scientific innovation is 'credible, salient and legitimate', which is achieved by fostering networking among stakeholders and the encouragement of interactive learning.

An FAO evaluation of Papa Andina's multi-stakeholder platforms in Ecuador found that these effectively linked smallholder farmers' organisations to new markets. They also resulted in higher yields through training and farmer field schools that instructed in enhanced management techniques, in addition to higher prices received by unit. This study found that platform participants sold their outputs at an average of 40% higher than non-participants. These results were attributed to factors relating to direct interaction with actors upstream, enhancing market relationships by building trust and mutual understanding among otherwise disconnected market actors.

By working directly with the poorest smallholders, technology innovators party to innovation platforms can determine which innovations will be most appropriate to their available asset portfolios. The platforms can additionally be used to build broader community social capital, which can be expected to have intermediate benefits for the poorest by linking them with new information channels and potential informal insurance and risk-sharing networks.

⁶⁶ It would be nice to be able to commend the 'rural worlds' approach promoted by the Organisation for Economic Co-operation and Development (OECD), but its categories (Rural Worlds 1-5) are overlapping and misleading.

⁶⁷ Devaux, A., Andrade-Piedra, J., Horton, D., Ordinola, M., Thiele, G., Thomann, A. and Velasco, C. (2010) 'Brokering Innovation for Sustainable Development: The Papa Andina Case'. Working Paper 12. Rome: Institutional Learning and Change.

The decline of agricultural extension systems has in many situations led to a failure to disseminate research results. Information dissemination is particularly critical to advance sustainable agriculture, as its major characteristics are that it is an integrated approach, and therefore knowledge intensive. There is no quick fix here. Functioning support systems are therefore of great importance, and advisers need all-round skills across several disciplines (soil productivity, water management, markets). While expenditure on research is once again buoyant, the same is not true for extension. Even if it were, the top-down extension characteristic of the Green Revolution era is not really appropriate for poor households.

The best support systems are multi-layered and provided by local producer organisations working with NGOs and government extension and research services in a decentralised, multi-stakeholder approach. Farmer participation is not just an add-on to conventional technology transfer: farmers, processors and traders need to be included as innovators. Participatory rice breeding in the Philippines provides an example,⁶⁸ as does the System of Rice Intensification (SRI) (Box 19). Farmer field schools (FFSs) have shown potential in terms of building the capabilities of younger and women farmers in particular, increasing yields and promoting innovative, sustainable technologies. However, mechanisms to include smaller farmers are still needed.

Box 18: Farmer field schools

In contexts where availability and access to extension services have become more difficult, agricultural policies and programmes should support the mainstreaming of horizontal, mutual learning networks of farmers, such as the FFS approach. This is an extension approach using group-based experiential learning to facilitate farmers in making decisions, solving problems and learning new techniques. Evidence from a longitudinal study based on data from different countries in East Africa has shown that this approach has a major impact on agricultural productivity (increases by 60-80%). Moreover, as women constitute half the participants, it has an impact on their economic empowerment: increased income strengthens the economic autonomy of women, and FFSs build women's self confidence to engage and negotiate with other actors and give them stronger organisational management skills.

There is an urgent need for continued innovation in getting information to poor farm households. The potential of ICTs for this has as yet barely been tapped. This is one channel. Another channel could be to institute a new sustainable farm apprenticeship scheme as the centrepiece of a renewed emphasis on agricultural education. We know that improved apprenticeships can work well to assist the transition from school into the labour market; with the need for new, more sustainable, forms of agriculture now urgent, and with a growing number of farmers practising more sustainable approaches, the time is ripe for a major new initiative to spread such approaches, supported by climate change funding, since sustainable agriculture should lead to reduced CO₂ emissions.

3.4 Indigenous technology

While nearly 80% of farmers have less than 2 ha of land, they are able to produce more than 80% of agricultural outputs in the agriculture-based countries of the 2008 World Development Report on Agriculture.⁶⁹ Many of these farmers rely mainly on local technical innovations such as indigenous soil and water conservation techniques and other sustainable agriculture practices, based on the valuing and conserving of local natural resources. Yet indigenous technology is barely valued in the mainstream Green Revolution discourse. SRI (Box 19) is a good example of a conservation-based system that has been scaled up and is benefiting resource-poor farmers. The Maarifa centres in Kenya (Box 20) are an example of an attempt to capture indigenous knowledge and make it more widely available.

⁶⁸ IFAD (2011) *Rural Poverty Report*, page 174

⁶⁹ World Bank (2007) *World Development Report 2008: Agriculture for Development*. Washington, DC: World Bank.

In dry land Africa, there are many examples of innovative indigenous soil and water conservation technologies and agro-forestry practices that have increased agricultural outputs and household revenues, as well as enhancing biodiversity. The most famous of these are in the Sahel (Box 21).

Box 19: System of Rice Intensification

SRI technology was first experimented with in Madagascar, in a context of increased water scarcity. With a growing demand for rice, the pressure on irrigation water will increase. While SRI requires only 50% of the water needed in the traditional method of rice culture, its returns per hectare, per unit of water, per unit of labour and capital are higher. In other words, a higher yield is obtained with less water, less seed and less land but more labour – the approach has been good at absorbing labour. Poorer people can manage SRI more easily than more complex irrigation systems, but it may be more difficult to apply if household labour and working capital are scarce. The approach puts a strong emphasis on farmers' own skills and creativity combined with scientific knowledge. The technology is particularly important for resource-poor farmers.

Box 20: Kenyan Maarifa centres

The Arid Land Information Network (ALIN) based in Nairobi, Kenya, has set up what are called Maarifa centres in rural areas. Each centre is equipped with computers and internet access and represents an information hub where communities can document local knowledge and share it widely with the support of field officers. The centres provide different services to farmers, including information resources, improved community livelihoods through access to new knowledge and local innovations and online marketing portals enabling communities to trade globally. Over the years, the Maarifa centres have become very popular places for farmers to go to seek market-related information or to share information.

Box 21: Re-greening the Sahel

Over the past three decades, more than 5 million ha of land have 're-greened' in the Sahel, with more than 200 million trees planted, leading to diversified ecosystem services (fodder, wood, fruit, soil fertility) worth more than €2 million in revenues to rural households.⁷⁰ Increased biodiversity resulting from sustainable agriculture practices contributes not only to strengthening rural communities' capacity to adapt to climate change, while limiting the negative impact of agriculture in terms of carbon emissions, but also to substantial revenue generation. In the case of Niger, the increase in the number of trees has been accompanied by a continuous increase in millet yields as farming systems have become more complex and more productive. This has led to a reduction in rural poverty and increases in household food security. The reduction in time spent by women on the collection of firewood (from about 2.5 to 0.5 hours/day) allows them more time to spend on income-generating activities. The economic benefits to farmers of investing in the protection and management of on-farm natural regeneration are translated by an internal rate of return of 31%. Poor farmers reported that this regeneration income, generated by the sale of firewood, was critical in helping them survive the 2005 drought.

These are all examples 'at scale' although they can take a long time to develop.

3.5 Climate-smart sustainable agriculture approaches

Promoting climate-smart agriculture can potentially contribute towards the mainstreaming of sustainable agriculture, while addressing the impact of agriculture on climate change. Climate-smart agriculture promotes an ecosystems inter-sectoral approach, with a strong emphasis on the need to provide institutional and financial support for farmers and other rural people who depend on local natural resources, to allow them to access locally adapted innovations. The approach also calls for a strong synergy between the public and the private sectors.

Developing a greener economy is a part of this new vision of climate-smart agriculture. A green economy seeks to promote economic growth and development as well as food security, while adopting sustainable resource management practices. In the current development model, meeting the growing demand for food requires the use of more water, electricity and fertilisers, contributing to higher levels of resource degradation and greenhouse gas emissions. Many small-scale farmers are already engaged in the use of sustainable agriculture practices, such as traditional soil and water

⁷⁰ Reij (2005) *Re-greening the Sahel* Washington D.C.: IFPRI Millions Fed – Proven Successes in Agricultural Development

conservation, mobile pastoralism, and integrated pest management approaches.⁷¹ A transition towards a green economy approach would benefit such farmers if governments and the international community put more emphasis on strengthening and scaling up community-based approaches.

Alongside the scaling-up of useful indigenous technologies are sustainable agriculture approaches that can be developed, of which sustainable land management is an umbrella concept and conservation agriculture, organic farming and agro-forestry are among the main examples. These of course make use of improved seeds, and (except organic farming) fertilisers, but these are not the core of the approach, which lies in the integration of elements within the farm system to get the best out of the synergies and in the knowledge intensity of practising such an approach. Low external input agriculture is sometimes also seen as sustainable, but its sustainability derives from characteristics shared with the approaches already mentioned, rather than their low input character, so it is not included here.⁷²

Sustainable land management includes all approaches that conserve soil and water. The World Overview of Conservation Approaches and Technologies includes hundreds of soil and water conservation technologies and approaches from over 40 countries. A major objective is to achieve greater security of production, and productivity increases range from 30% to 170%. The greatest positive impact of sustainable land management in terms of food security and poverty can be expected on small farms, with yields of around 1 ton per ha. Major challenges include high labour requirements, which may be prohibitive for labour-poor households.

Conservation agriculture works on the basis of reduced or no tillage, growing cover crops for mulching and crop rotations. It has expanded massively in Latin America, where it has reduced the oil-based costs of tractor cultivation. It also reduces the risk of crop failure by retaining soil moisture and produces generally higher net returns. The benefits are less dramatic where agriculture is not mechanised, but nevertheless significant. Challenges include competing uses for biomass (livestock feed, fuel) and significant demand for labour in using digging sticks, mulching and hand weeding. Herbicides may be unaffordable and have environmental consequences.

Agro-forestry – trees with a clear on-farm function – is practised on hundreds of millions of farms, especially in the humid tropics. It boosts subsistence production with only labour inputs. Fertiliser trees can double or treble yields and reduce chemical fertiliser use by 75%. However, there are constraints to the uptake of modern agro-forestry systems: the systems can be hard to learn; markets for tree products are not always well established; and women may not be able to access the technology if they do not control land and trees. Agro-forestry is sometimes seen as a niche, institutionally separate from the agricultural mainstream.

Organic farming is a holistic production system optimising health and productivity of plants, people and the environment. Products may be eligible for certification in the market, and the system is governed by detailed production, marketing and ethical standards, with certification schemes in over 40 countries. Millions of small farmers follow organic principles but are not certified, as the cost is too great or they may not know about it. Organic yields are on average 180% of those of conventional comparators,⁷³ where they are lower, yields may nevertheless show less variation, and diversification on farm assures against total crop failure. Returns to labour can be higher than on conventional farms, partly because there is no purchase of expensive agro-chemical inputs. Challenges relate to the knowledge intensity of organic farming, the availability of local resources for composting and recycling on farm and the need for open grazing systems.

⁷¹ IFAD (2011) *Rural Poverty Report* Rome: IFAD. Chapter 5.

⁷² Tripp, R (2005) *Self-sufficient agriculture. Labour and knowledge in small scale farming*. London: Earthscan

⁷³ Badgley, C et al (2007) 'Organic agriculture and global food supply' *Renewable Agriculture and Food Systems*, Vol 22

Box 22: Precision conservation agriculture, Zimbabwe⁷⁴

PCA is a sustainable land management technology based on the combination of four basic principles: (i) minimum tillage – use of small planting basins which enhance the capture of water from the first rains and allow efficient application of limited nutrient resources with limited labour input; (ii) the precision application of small doses of nitrogen-based fertiliser (from organic and/or inorganic sources) to achieve higher nutrient efficiency; (iii) a combination of improved fertility with improved seed for higher productivity; and (iv) use of available residues to create a mulch cover that reduces evaporation losses and weed growth.

Alongside its direct impact on soil productivity, PCA is particularly suited in contexts of labour shortages, as it spreads labour for land preparation over the dry season and encourages more timely planting, resulting in a reduction in peak labour loads during planting.

The impact of this technology on yield can be very high: an increase of between 50% and 200%, depending on rainfall regime, soil type and fertility and market access. More than 50,000 farm households apply the technology in Zimbabwe. In Southern Africa, the International Crops Research Institute for Semi-arid Tropics (ICRISAT), FAO and NGOs promote PCA strategies, focusing on low potential zones with the most resource-poor and vulnerable farm households.

Scientists now widely accept the need for sustainable agriculture, or sustainable intensification,⁷⁵ although definitions of this vary. However, few governments have yet moved their agricultural development strategies wholesale in this direction. They are perhaps waiting for more evidence that sustainable agriculture can meet agricultural development objectives. This is gradually becoming available.⁷⁶

3.6 Policy and programme implications: summary

To be effective in reaching the poorest, and to be sustainable, policies and programmes should be based on a set of underlying principles, as de Schutter and Gaëtan (2011) suggest:

- (i) Making sure that appropriate approaches are designed to target the poorest households, which constitute more than half of hungry people;
- (ii) Being aware that prioritising the redistribution of public goods such as extension services, storage and rural roads can have an even higher impact on agricultural performance than overemphasising the use of fertilisers;
- (iii) Mainstreaming local knowledge and innovations, and supporting endogenous platforms of exchange (farmer-to-farmer, farmer-led documentation, rural radio, etc.) by NGOs and proactive extensive services;
- (iv) Strengthening community participation in the design and implementation of sustainable agricultural programmes;
- (v) Rethinking public procurement in other sectors so they contribute to agricultural development, for example linking school feeding programmes with local agricultural systems based on local innovations; and
- (vi) Revising the process and indicators of agricultural performance evaluation by putting more emphasis on indicators related to resource efficiency, impacts on hunger and malnutrition, empowerment of communities, valuing of local innovation and impacts on ecosystems and biodiversity.⁷⁷

Building strong and sustainable rural food systems requires policies and programmes that acknowledge and support sustainable local innovations of soil and water conservation and natural resource management. In this perspective, documenting and disseminating these technologies and

⁷⁴ http://www.wocat.net/fileadmin/user_upload/documents/Books/SLM_in_Practice_E_Final_low.pdf

⁷⁵ International Assessment of Agricultural Science and Technology (2007) *Agriculture at a crossroads: Synthesis Report*.

⁷⁶ See, for example, *International Journal of Agricultural Sustainability* 9(4) (2011), available free at <http://www.ingentaconnect.com/content/earthscan/ijas/2011/00000009/00000001>

⁷⁷ De Schutter, O. Gaëtan, V. (2011) The New Green Revolution: How Twenty-First-Century Science Can Feed the World. *Solutions Journal*. Volume 2 | Issue 4 | Aug 2011.

innovations should be the key priority of any policy. Agricultural extension systems should be reframed with a strong emphasis on setting up knowledge management systems on local innovation and technology. This is particularly important in contexts where investment in research has decreased considerably and access to conventional technology is difficult. The design and implementation of this knowledge should value the informal communication channels the poorest people use, including neighbours, religious and cultural associations and rural weekly markets. Farmer-to-farmer exchange visits and local innovation fairs are further devices. More formal channels, such as rural radio, farmer-led documentation methodologies and local learning groups can also be explored. FFSs represent one tried and tested approach (see Box 18).

Agricultural agencies need to shift to a more flexible approach to achieving productivity increases, recognising diversity in physical and socioeconomic environments. This means placing soil and water conservation, farm mechanisation and indigenous knowledge firmly alongside seed and fertiliser promotion. Specifically:

- Agricultural agencies need to take an innovation systems approach to their work, and target this to poor households.
- The leading constraints for disaggregated groups of poor households should be the analytical starting point for designing interventions.
- Soil fertility and water conservation should be at the core of agricultural agencies' work.
- Sustainable agriculture and indigenous technology approaches need to be mainstreamed. This will also work in addressing climate change.
- A strong gender-based approach will improve productivity outcomes, in particular:
 - Promote a broad spectrum of soil fertility-enhancing measures.
 - Extend information to women as well as men.
 - Enhance women's control over land.
 - Involve women in innovation processes.
- Reframe agricultural extension, especially in areas where conventional technologies are inaccessible or where research systems have ceased to function well, towards exploiting indigenous knowledge and local innovation.
- Develop new measures to back the transition to green/climate-smart agriculture:
 - Commission new or refocus existing research.
 - Stimulate PPPs.
 - Include transition in local development planning.

Table 2 in Section B10 lists some of the macro policy challenges in mainstreaming a sustainable agriculture approach, and suggests strategies to address these.

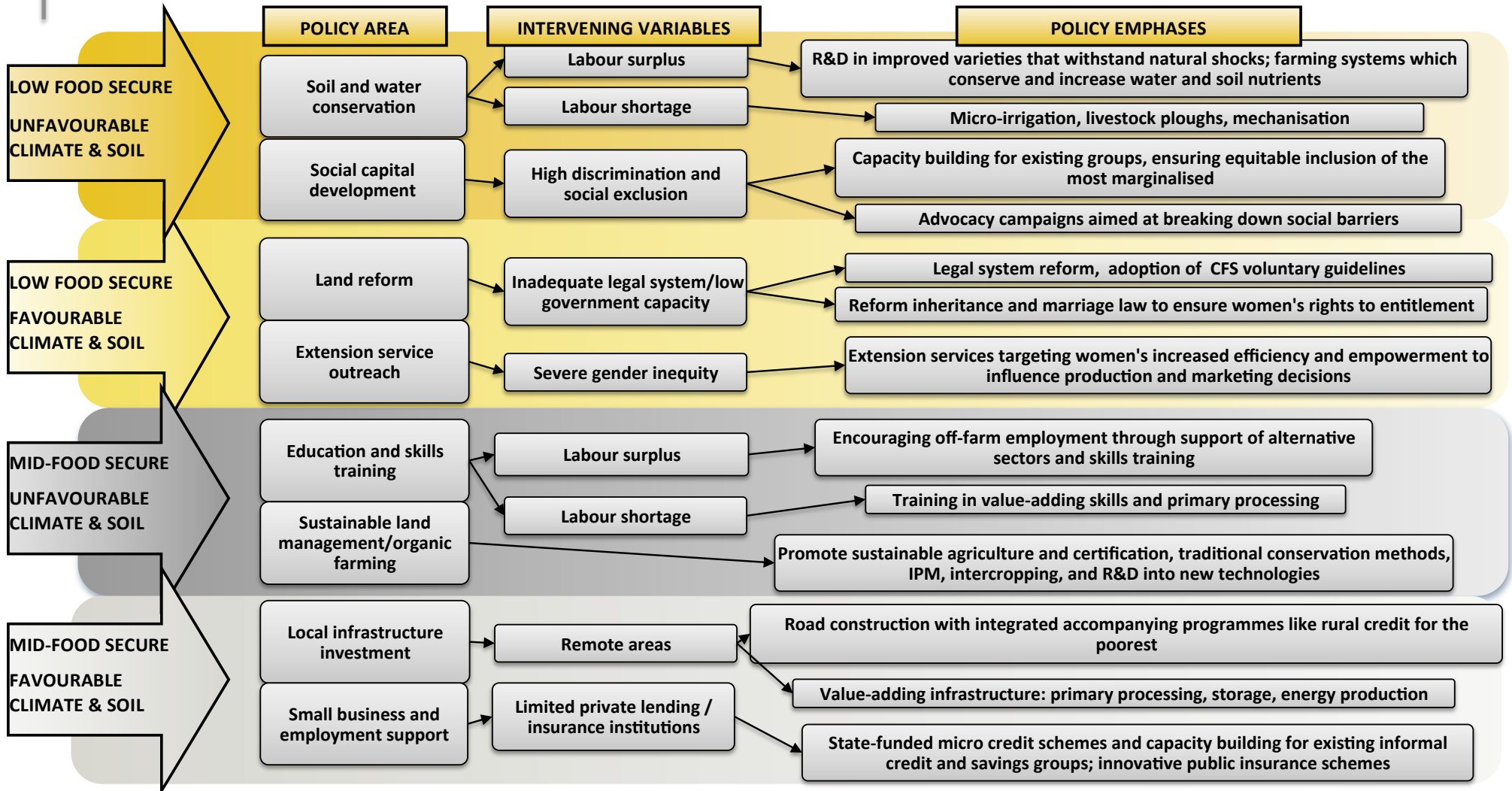
The follow *policy guidance map* (and each concluding the policy cluster of this guide) provides brief reflection on which policy emphases are most appropriate in the various categories of country (see Annex 1 for the country categories). In countries with low food security and unfavourable soil and climate – the most difficult situations – the policy emphasis would be on research and development in farming systems that maximise conservation of soil and water and resist drought or other natural hazards; and/or on targeted and appropriate mechanisation and irrigation to enable poor farm households to escape poverty. This would be supported by investment in group action among poor and discriminated households to take advantage of economies of scale to save, insure and access credit, and create the solidarity needed to resist discrimination. Protecting the poorest people through

social protection is advisable, as insurance is unlikely to be feasible, and they will not be eligible for credit. Where the climate and soils are more favourable, but food security is still low, the poorest households will need protection against land grabbing; women need protection against asset stripping, and extension services need to develop mechanisms to target women and poor households particularly.

Appropriate local infrastructure investments are important in all situations – the returns to road, electricity and telecoms investments will of course be greater in higher potential countries or regions.

Where food security is less of a dominant concern the options become broader: since markets and the public sector both function better, more sophisticated market based -solutions are appropriate such as certification schemes enabling small producers to tap into better or more secure prices for their products and more sustainable agricultural practices. Education and skills training becomes a major policy area, with upgraded traditional apprenticeship schemes where labour is plentiful, and perhaps new sustainable farm apprenticeships focused on sustainable agriculture and on farm processing where labour is scarce. Where soils and climate are good, agricultural growth will be easier to kick-start and sustain, and it will also be more feasible to develop a vibrant nonfarm economy. This can be supported through small business advisory services, which should include advice and training on labourer's rights.

Asset Policy Guidance Map



The markets cluster

The evidence base tells us that well-functioning markets that do not discriminate against chronically poor people perform a vital task in facilitating the escape from poverty, for those who have the assets. There are some well-known policy implications of this. Adequate public expenditure and supply of infrastructure are the critical factors underpinning for well-functioning markets. Rural roads, electricity, telecommunications and strategically planned urbanisation are an important part of the mix, especially as they reach the villages and neighbourhoods where the poorest people live. Other infrastructural investments, such as ICTs, show promise, but the evidence is not available to claim significant poverty eradication potential.

Market arrangements that offer a degree of security for vulnerable producers who are likely to experience agriculture as an impoverishing as much as a wealth-enhancing force are critical. While this is an area where further action research is needed, we give the example of contract farming (Section B5). Whether pro-poorest market arrangements are developed through contract farming, cooperatives, joint public–private initiatives or other organisational forms, the same disaggregated value chain analysis can be applied.

Finance markets have often been dysfunctional, but it is now known that the financial services chronically poor people need are savings and insurance opportunities. The solutions are available; they just need to be implemented in a context-sensitive way (Section B6). The organisations that are most critical in shaping markets so they work for the chronically poor are farmers' and other producers' organisations (Section B7).

Labour markets are treated as a separate policy cluster, given the importance of labour for the chronically poor, especially in Asia but increasingly also in Africa.

4.1 Pro-poorest value chain analysis

Significant progress has been made in the analysis of global and other value chains, in terms of how they, and changes in their arrangements, affect poor people. Two resources are particularly useful in doing this: Mitchell and Coles' *Markets and Rural Poverty: Upgrading in Value Chains*⁷⁸; and Garloch's Briefing Paper on a US Agency for International Development (USAID) initiative: 'Pushing the Frontiers of Inclusive Value Chain Development'⁷⁹.

While this is a rapidly evolving area of action and research, with inadequate evidence available about what works from which to draw general propositions, some useful directions can already be discerned. First, 'horizontal coordination' – the linking up of poor producers to defend and advance their interests vis-à-vis the interests of others in the value chain – is a promising strategy (addressed in Section B7 on 'Shaping Markets'). If markets are going to work for the poorest, such organisations need to understand and represent their interests. This is often quite a challenge, especially where the poorest participate in value chains as labourers rather than as own account producers.

Second, vertical coordination – the development of new relationships of contract and/or alliance up and down the value chain, often originating in attempts by leading firms to reorganise supply chains to increase their own market share or profitability – can work for the poorest producers. Leading firms are those that have the power to restructure a value chain, and in global value chains have often been the buyers for major retail distributors (supermarkets). However, backed by greater consumer awareness and corporate responsibility by producers' organisations and interlocutors for poor producers or labourers, and with good analysis of the positions of the different actors up and down a

⁷⁸ IDRC, & ODI. (2011). *Markets and Rural Poverty*. (J. Mitchell & C. Coles, Eds.) (Earthscan.). Abingdon, New York.

⁷⁹ Garloch, A. C. (2012). *Pushing the Poverty Frontiers of Inclusive Value Chain Development*. Retrieved from <http://microlinks.kdid.org/es/library/pushing-poverty-frontiers-inclusive-value-chain-development-briefing-paper>

value chain, it is possible to improve the positions of and returns to the poorest actors in the chain, despite the power imbalances between the leading firms, other actors and the poorest. Contract farming can be an example of this happening.

However, the power imbalances in the value chain mean that significant corrections are likely to be required. The evidence so far suggests this would be easier in local and national rather than global value chains, as here the poorest people may have better chances of producing to the quality standards required.⁸⁰ This brings the challenge of developing consumer awareness within developing countries, which should be possible given the rapid development of an educated middle class. Consumer awareness is needed to put pressure on companies in terms of what they pay and how they treat their suppliers, their labour hiring policies and their social and environmental standards. And governments need to be willing to lead by example, in terms of setting standards for their own procurement policies, so they can also put pressure on firms to treat their poorest, least protected suppliers and create decent employment. Local media will play a substantial part in revealing companies' low standards and generating consumer awareness. Sikhula Sonke, a South African advocacy and capacity-building farmer women's group, for example, has advocated nationally through media campaigns as well as lobbying government and employers to achieve collective bargaining agreements for farm workers. Their intention is to give voice to the vulnerable farm-labouring women of South Africa and their campaigns have had direct outcomes in terms of policy formation, as well as bringing a local focus to the plight of farm labourers for local consumers.⁸¹

Where women have control over household budgets, as in much of Southeast Asia, generic, non gender-specific interventions in value chains, where women participate significantly, will benefit them, as household incomes increase, or vulnerability to market risk declines. This might involve removing constraints such as taxation and trade laws, introducing new functions to add value and improve processes in women-dominated industries, and improving horizontal (producers' organisations) and vertical co-ordination (relationships within the chain).

Where women do not have control over family budgets and do not benefit from the more generic approaches, work should be done to change laws and policies that discriminate against women; to enhance women's access to education, information and social and political capital, which affect their ability to organise and bargain; to introduce new value chains appropriate to women's available resources, including the time they have available; and to increase women's representation in organisations. In either case, the scope for increased access by women should consider aspects of market operation where they are typically disadvantaged compared with men: access to motorised transport, which would enable shared marketing of crops to more distant places; storage or partial processing of farm products; and access to a cold chain where necessary, to increase the value of products and enable sales at favourable points in the annual cycle. Greater access by women to markets can also be facilitated through better child care facilities, separate latrines at market places and improved physical security at markets and on the way to markets.

4.2 Market-enhancing local infrastructure development, with special reference to remote rural regions

Access to organised and competitive markets has been identified as a major factor in enhancing the returns from agriculture, given the quality and quantity of productive resources. Conversely, physical remoteness is found to be an important cause of chronic poverty, especially in agrarian communities. Better connectivity, especially through rural roads, has therefore been recognised as an important prerequisite for reaching out to at least some of the chronically poor, although electrification is also important for agricultural and local economic diversification and employment creation (Section B10).⁸²

⁸⁰ Coles, C., Mitchell, J., Owaygen, M. and Shepherd, A. (2011). 'Conclusions', Ch. 10 in Mitchell, J. and Coles, C. (eds) *Markets and Rural Poverty: Upgrading in Value Chains*. London: Earthscan.

⁸¹ See www.ssonke.org.za/index.php?option=com_content&view=article&id=53&Itemid=27

Improved access to markets is critical not only to get better prices, but also to access better information, including technology innovations. It also helps in widening job opportunities in non-farm activities.

Rural roads

There is remarkably little evidence on how, and how much, rural roads reduce poverty. Improved rural roads increase access to public services such as health, education and extension and to urban centres and it is said that ‘good roads reduce poverty’, as do extension services. They reduce transport costs and link remote areas more effectively to nearby markets so as to improve information transfer and can potentially generate greater competition from intermediaries and processors. Research from 15 communities in Ethiopia between 1994 and 2004 argued that these policy responses benefit both the chronically poor and better-off households to the same extent.⁸³ However, whether poor people’s incomes and wealth increase when improved roads are built depends on conditions in markets: prices, proximity to market outlets and networks. For the poorest, it is the village paths and roads, culverts and access roads that reduce the time spent on domestic tasks.⁸⁴ There is also good evidence that improved village infrastructure assists poor people in escaping poverty, and reduces chronic poverty, for example in India (and see Box 23). However, there is little policy emphasis on this level of road development, and this could be corrected.

Box 23: Nepal ropeways⁸⁵

In Nepal, ropeways are constructed from villages to roads or marketing centres, meaning more high-value produce can be sold at higher quality and prices, and considerable savings on transport costs and time. In one case, where a cost benefit analysis was done, the time and transport costs saved over two years were equal to twice the investment cost. While porters’ loss of income has to be set against the gains of others, overall income increases have been substantial. Some poor households have rented land to take advantage of these opportunities. Part of the success here has owed to a complementary investment in agricultural extension.

In Ethiopia and many other countries, it is feeder roads that have received significant investment, and these have also made a substantial difference to poor households.⁸⁶ This level of road is better provided for by public policy, with specialised departments and proper public expenditure budgets. Roads constructed and maintained in a labour-intensive manner have additional employment benefits. An example of the effective and sustainable use of labour-based methods for poverty reduction is the Nepal Rural Access Programme, which targets poor people for employment (including poor female household heads and women traditionally employed as long-distance porters, whose livelihood will suffer from road construction) during agricultural off-peak times without compromising other livelihood activities. Workers should contribute to parallel credit and savings schemes that allow them to move to livelihood alternatives once road construction is finished.⁸⁷

Box 24 suggests the mere provision of a road may not by itself enable poor people to improve their livelihoods. Integrated projects are needed, whereby road providers’ team up with those who can analyse how to improve poor people’s livelihoods and others who can act on this. This was the lead finding of an ADB multi-country evaluation.⁸⁸ Agricultural agencies are clearly potential partners for road agencies: joint programming, if not implementation, is necessary. A second finding of the evaluation was that poverty reduction needs to be made an explicit goal of roads projects – it often is not.

⁸⁴ Hettige, H. (2006) *When do rural roads benefit the poor and how? An in-depth analysis based on case studies Manila*: Asian Development Bank, Operations Evaluation Department.

⁸⁵ Practical Action (2012) *Ropes of hope Kathmandu*; Fisling Gravity Goods Ropeway: Economic Analysis (March 2009 to December 2011), Practical Action.

⁸⁶ Dercon, S., Hoddinott, J., and Woldehanna, T. (2008) *Growth and Poverty in Ethiopia: Evidence from 15 communities 1995-2004* Chronic Poverty Research Centre, Background Paper.

⁸⁷ Hettige (2006): p34.

⁸⁸ Ibid.

Box 24: Third Local Roads Project, Yogyakarta, Indonesia⁸⁹

Failure to take special care in designing rural infrastructure programmes in a way that produces benefits for the poorest and not just for those who already hold the precursory assets necessary to capitalise on them could result in further marginalising poorer groups and expanding inequality gaps. Integrated roads projects that include access to credit, technical training and market linkages will more likely benefit the poorest intended beneficiaries than a simple roads project.

The Asian Development Bank (ADB) Third Local Roads Project (TLRP) project in Yogyakarta province in Indonesia sought to improve existing district road access to promote economic growth in remote regions, particularly among smallholder farmers. The areas targeted had high proportions of 'poor' and 'very poor' households, as defined by monthly expenditures and access to food. As a standalone roads project, benefits accrued primarily to 'better-off' households 'who were able to take advantage of the opportunities that improved access to outside markets and networks provided'.

Complementary microcredit and farmer extension services targeting the poorest could have helped these groups build the initial asset base required to participate in the economic activities created through improved transport links to nearby markets. Without them, marginalised farmers may find it even more difficult to compete locally as inequities broaden.

Where there is already a high density of roads, it is more a question of making better use of the existing network. This is where investment in the tracks, paths and culverts comes in, as does the development of intermediate forms of transport that are more affordable than motorised forms.

Energy and electricity

Energy poverty has only recently been given high-profile policy recognition,⁹⁰ seen as contributing to all the Millennium Development Goals (MDGs).⁹¹ Electricity consumption is well correlated with Human Development Index (HDI) change.⁹² The basic energy requirements to escape poverty are small, and ensuring basic energy needs in developing countries would cost less than the rich countries' current subsidies on fossil fuels.⁹³ But progress on reducing energy poverty has been slow, partly because of a lack of research and attention to the issue. Improved off-grid energy sources have particular potential for poor people,⁹⁴ but there have been significant technology uptake problems (e.g. in improved cook stoves).⁹⁵ It is known that the basic energy requirements to escape poverty are small, but national energy policies are virtually devoid of poverty programming.⁹⁶ There is very limited understanding of the impacts of different energy options on human capital, or their human capital requirements, and even less knowledge about the impacts of the different available options on farm and non-farm employment and asset accumulation. In addition, there is almost no understanding of the institutional implications of achieving poverty eradication and climate change objectives simultaneously through investment in the energy sector.

⁸⁹ Ibid.

⁹⁰ Practical Action (2010) *Poor people's energy outlook*. Launch of universal energy access target by the UN Secretary General in 2010, also High Level Meeting of the Africa-EU Energy Partnership, Vienna, Sept 2010.

⁹¹ GNESD (Global Network on Energy for Sustainable Development) (2007) *Reaching the Millennium Development Goals and beyond: Access to modern forms of energy as a prerequisite*. GNESD–UNEP and Practical Action (2010) *Poor People's Energy Outlook 2010*.

⁹² Pasternak (2000) in Gaye, A. (2007) *Access to energy and human development*. Human Development Report Office Occasional Paper. UNDP, New York.

⁹³ Gaye, A. (2007) *Access to energy and human development*. Human Development Report Office Occasional Paper. UNDP, New York.

⁹⁴ South Centre (2008) *The Role of Decentralised Renewable Energy Technologies in Adaptation to Climate Change in Developing Countries*.

⁹⁵ Bacon, R. Bhattacharya, S. Kojima, M. (2010) 'Expenditure of low-income households on energy: Evidence from Africa and Asia'. *Extractive Industries for Development Series, No. 16*. World Bank, Washington, DC.

⁹⁶ GNESD (Global Network on Energy for Sustainable Development) (2007) *Reaching the Millennium Development Goals and beyond: Access to modern forms of energy as a prerequisite*. GNESD–UNEP.

Renewable energy technologies show particular promise as they generate off-grid electricity: the specifics vary according to resources and capacities, existing energy infrastructure and population distribution. In most cases, there is a low level of development and a low priority in policy. For poor people, non-electrical technologies satisfying household needs for cooking, water heating, heating and water pumping are also much appreciated, and have substantial time-saving and health benefits (Box 25). In some countries (e.g. Brazil), large-scale renewable energy projects also provide employment. Manufacturing, operation and maintenance, resource extraction/production and processing are also substantial employers. Among the poorest, it is likely that necessary inputs (such as dung in the case of biogas) will not be immediately available. In such cases, a more integrated programme that couples energy production with livestock support, for example, would be required.

Box 25: Biogas production – the Madhya Pradesh Rural Livelihood Project⁹⁷

Small-scale energy production can be done in a way that makes use of agricultural waste, which not only minimises environmental impacts but also brings the cost of inputs close to zero. Biogas technologies, typically very cost effective to implement, have additional benefits for women in particular when they are used to replace cooking fires fuelled by wood, reducing the negative health impacts from indoor cooking stoves and eliminating the time requirements and safety risks involved in firewood collection.

The Indian Ministry of New and Renewable Energy and the Madhya Pradesh Agriculture Department are helping villagers develop their own biogas plants using methane captured from cow dung. Government ministries provide 70% of the funding and the communities the remaining 30%, through a loan. Training on maintenance has been provided, and local masons have been taught to build the plants themselves. Since biogas production is not new to the area (failed projects preceded this one), it was necessary to market the technology and provide complementary user training, which increased uptake of the technology, especially among women.

Clear national frameworks for renewables, as developed in Brazil, China and South Africa, maximise investment. Stable incentive frameworks are essential here. Innovative financial arrangements are needed to get over the high upfront investment costs of most technologies. Integrated development programmes work better than isolated, energy technology-led projects, and this has implications for agricultural programming. Agricultural agencies can help get the best out of biofuel investments (Box 26) or promote efficient use of biomass in the home.

Box 26: Getting the best from biofuels

In addition to having the potential to address the climate change mitigation agenda, growing biofuels diversifies agriculture, provides a new cash crop with a ready market and is capable of generating rural employment, especially when products are processed locally. Agricultural agencies can shape the incentives that encourage investors to process and buy from small farms or labour-intensive medium and large farms. The big debate concerns their impact on food security, such as on the extent to which the use of maize and other food crops as feedstock contributed to food price rises in 2008 and beyond. At most, this was 'to some extent', but that is enough for governments to be wary of over-subsidising maize-based ethanol production. However, increased incomes for poor people enable them to gain access to more food. Governments should thus not necessarily be biased against biofuel investments, provided the benefits in terms of poor people's incomes and employment are worked out and negotiated with investors and there is a strong critical analysis of appropriate feedstocks and production models.

Energy is also central to controlling carbon emissions. Growing carbon emissions from greater populations represent the biggest contribution developing countries will make to greenhouse gases during the coming decades. Energy reform and technological dissemination and innovation represent a major agenda item for climate agreements, but these have not focused strongly on the potential poverty impacts. Providing access to the 1.6 billion people without access to electricity and providing liquefied petroleum gas to the 2.4 billion people using traditional biomass would lead to only a small increase in emissions, which could be reduced towards zero if non-fossil fuel sources were used. The time savings from reduced collection of firewood, which could be invested in agriculture, would be justification alone for agricultural agencies promoting alternative energy sources.

⁹⁷ MPRLP. (2010). Making biogas work for poor communities. Madhya Pradesh Rural Livelihoods Project.

4.3 Gendered policies and programmes

In the absence of infrastructure, women and girls are 'living infrastructure' carrying water and taking away rubbish and excrement, with time, opportunity and health costs attached. Time saved can be used productively and for leisure, and can benefit the whole community. There are many rural infrastructure needs, and it is hard to prioritise them. Taking a gendered perspective may result in changed priorities or sequencing, for example focusing on fuel supplies rather than electricity first or improving water supply and sanitation rather than building a road. Giving women a voice in decision making may lead to changed emphases. Some such decisions may seem to be anti-agriculture, but on second reading are simply different ways of supporting increased agricultural productivity. Once decisions about resource allocation are made, women's involvement in infrastructure design increases the viability and success of the programme. Active involvement of women in management committees often needs to be sponsored, as women have so many competing time commitments.

4.4 Remote regions

The problem is particularly acute in large countries with a low-density population in rural areas. A large number of agriculture-based economies, especially in Africa, face severe difficulties in this respect. A significant (if unknown) proportion of the world's chronically poor live in such regions, covering large tracts of dry land as well as forest-based economies in Africa and Asia. Providing connectivity to these areas is physically and financially challenging. An attractive policy option could therefore be to identify pockets of high-potential agriculture where markets could reach out, on a selective basis, to a subset of (not all) cultivators, through various kinds of contractual arrangements, and provide infrastructure in relation to these pockets. This approach is selective and can therefore be exclusionary, but is a way of getting over the policy obstacles to investing in remote regions.

4.5 Small towns

Infrastructure development needs to take into account that, for markets to function in remote areas, they often need urban development, with hotels and other services needed for business operations.⁹⁸ This means a different, and possibly politically competing, set of priorities: for main roads, railways or air traffic-connecting cities, investment in city infrastructure itself; securing property rights to encourage investment; coordinating public and private actors to encourage agro-based industry clusters; and possibly conserving or developing sites to encourage a tourist industry that would provide hotels.

Dynamic small towns also make commuting an attractive option for rural workers, including women, and help push up agricultural wage rates, which will be good for the growing numbers of women agricultural workers.

Many countries do not have policies to promote small towns and cities – this would be a first step. Such promotion needs to be attuned to context rather than top down, involve local actors and create flexible organisational coalitions to achieve implementation. It is not clear how well such strategies can be applied in underdeveloped/remote regions.⁹⁹

⁹⁸ Chronic Poverty Research Centre (2008) *Escaping Poverty Traps: the 2nd International Chronic Poverty Report* www.chronicpoverty.org

⁹⁹ Adedayo, A. and Yusuf, O.R. (2004) 'Cooperatives and Poverty Alleviation in Rural Settlements of Kwara State, Nigeria'. *Savana* 19(2): 123-31.

Box 27: Sending towns versus receiving towns¹⁰⁰

A comparison of two small towns in the Philippines demonstrates the different outcomes that can be realised in small towns that rely on development through out-migration (remittances) and immigration (receiving labourers from nearby regions).

Mabini, a 'sending town', is a farming and fishing community that has developed into a small urban centre through earnings from emigrants overseas. Having left because of local poverty, ex-residents send money equal to two to three times the local wage. While this has led to increased local cash flow, it has also meant fewer farmers and fishers are supporting local food production, meaning increased reliance on imports. It has also had unequal impacts on households, as families with the resources to send a relative overseas benefit most, and at the same time has driven up local prices for resources such as land, with negative effects on the poorest.

Conversely, Guiguinto, a 'receiving town', has experienced internal migration, attracting the urban and rural poor from neighbouring areas. This is particularly because of the town's increasingly diversified economy, with a concerted emphasis on agriculture. Local government has supported this economic growth while also providing social services to protect vulnerable migrants, including the provision of low-income housing. By maintaining a strong agriculture sector, the town has also maintained self-sufficiency in locally produced food items.

This example shows how an explicit policy focus on small town development can attract new workers while also generating a lower risk, more diverse local economy. It also shows how failure to do develop small towns can shift the productive workforce elsewhere, leaving the remaining population at greater risk with less food produced locally and remittances distributed unequally.

4.6 Policy and programme implications: summary

Agricultural agencies are often charged with aspects of infrastructure development, and as this enables agricultural development, need to take a keen interest in the work of other infrastructure agencies. Likewise, as infrastructure by itself does not produce improved livelihoods, joint programming, cross-agency implementation and integrated projects are at a premium here.

- Adequate investments in village transport infrastructure and feeder roads enable greater returns from assets. Wherever possible, this should be done using labour-based methods of work in the agricultural off-season.
- Maximising existing roads with accessible intermediate forms of transport and linking footpaths and culverts to take poor people to the roads are cost-effective alternatives to large road building projects.
- Working jointly with road agencies to achieve livelihood outcomes through synergies between roads and agriculture is more effective than working in parallel.
- Working jointly with energy agencies to develop off-grid sources of electricity based on renewable energy is efficient where there is low grid coverage and expansion is not on the horizon.
- Responding to households', and especially women's, demands for improved energy sources for cooking, heating and lighting, and involving women in determining infrastructure development priorities, is essential.
- Development of clear national frameworks for renewable energy, with stable incentives, ensures the maintenance of public priorities throughout individual projects.
- Where public resources are not immediately available for broad rural infrastructure development, initially supporting agri-business clusters is an efficient starting point.
- It will be important to boost infrastructure in small towns in remote regions, to support the development of the region as a whole and generate employment opportunities.

¹⁰⁰ Basa, C., Villamil, L., & Guzman, V. D. (2009). Migration, local development and governance in small towns: two examples from the Philippines. *Working Paper Series on Rural-Urban Interactions and Livelihood Strategies No. 17*. International Institute for Environmental and Development.

5. Market organisational structures

The array of possible market relationship structures that might be engaged in agriculture is endless, but some models have proven more beneficial for poorer smallholders in terms of the levels of risk they present, the economies of scale they demand, the quality standards and regularity of output they require and the familiarity with existing local structures they maintain. No single organisational structure works best for all vulnerable farmers, as local conditions and product specificities make this aspect of farm marketing highly contextual. This section presents selected farm business models that have been successful for poorer smallholders in particular contexts. It does not give an exhaustive list of options, nor are the outcomes presented in case studies suited to all contexts. Policy design needs to account for local conditions when it comes to intervening in existing local market structures.

5.1 Contract farming

Secure markets are attractive to poor smallholder farm households as they enable them to reduce dependency on price movements in international markets. Contract farming is the main arrangement that provides some security: a farm household has an established relationship with a purchasing company, and possibly with an intermediary farmers' organisation. These relationships enable a sense of trust to develop, especially in terms of the purchase of a crop. Output prices are announced at some point before the harvest, although the closer this is to harvest, the less security is provided. Security also comes from pegging the price to a standard (e.g. an industry price index, which is more stable than spot market prices).

Contract farming, and out-grower schemes in particular, harness the synergies that arise out of small-scale farming on the production side and economies of scale on the processing side, thus helping establish sustainable production systems. Farmers can follow price trends and hone their expectations. Quality standards and payment by weight (rather than by volume) also help create a transparent market process. This way, contract farming can act as a vehicle for investment in rural regions and hence help optimise value chains and long-term food security, as it enables farmers to retain a fair share of the economic growth derived from rising agricultural commodity prices, which makes it a lever for rural poverty reduction. Also, by integrating the local population and its resources (land/labour) into production systems, it can counteract the phenomenon of land grabbing.

It is widely held that only high-value or perishable crops are amenable to contract farming, because it is here that purchasers have sufficient incentive to invest. But evidence shows that a wide variety of crops, dairy products and livestock can be produced successfully on contract. Meanwhile, contract farming is typically developed between buyers and large farms, which can mean security of supply, but again the evidence is that small farms can also be and often are part of successful contract farming arrangements. This is often aided by means of an intermediary farmers' association, or an individual producer, or even a commercial agent who collects produce for the company. Relationships of trust are difficult to establish, a strong policy framework may be required to encourage companies to act in a trustworthy fashion and to eliminate untrustworthy or incompetent companies from the market. Nevertheless, contract farming can succeed in a wide variety of regulatory and contract enforcement settings. Rising demand for the optimisation of agricultural value chains will lead to an increase in contract farming in developing countries. At the same time, buyers in contract farming are interested in establishing contractual relationships on an increasingly long-term basis, and are demonstrating growing willingness to invest in farmer training and servicing.

For contract farming to contribute to sustained escapes from poverty, other interventions may be needed. For example, farm households need farm equipment and access to land and water to enable them to produce enough food crops for subsistence that they can devote land to commercial crops. The example from Tanzania speaks to this (Box 28). Asset-poor farm households are otherwise at a disadvantage. An alternative approach is to encourage *decent* employment on medium and larger farms, so smallholders can get good farm work in addition to running their own small farms (See Sections B).

Box 28: Contract cotton farming in Tanzania

In 2011, the government of Tanzania was in the process of extending contract farming in the cotton sector from a pilot programme to become universal practice. This involved organising companies so that only a limited number operated in any district, to avoid excess competition. It also involved regulating companies buying cotton so as to exclude rogue or incompetent companies. Cotton producers – all smallholder farm households in the western cotton-growing region – were supported by NGOs, led by Technoserve, to form farmer groups and grow cotton in ways that would help achieve quality standards and good productivity levels. Marketing arrangements were drawn up in a very inclusive way, but the major constraints for the poorest half of the farming population participating effectively in these included not possessing ox ploughs, so they could not prepare their land on time, and not being able to access ox carts to transport manure to the fields (or in some cases the manure itself). Without a parallel asset development programme, the poorest would benefit mainly as casual wage labourers, but the wage labour market outside the cotton sector in the western cotton-growing region is not very active. Another constraint was the risk of crop failure. This risk was substantial in an area subject to volatile rainfall and pest attacks. A pilot programme of weather-based insurance was to be explored.

Role of government in support of contract farming

Governments can set floor prices or revenue-sharing agreements more generally and provide help (e.g. financial incentives) with achieving quality standards – all these are ways of ensuring that risks are shared equitably between companies and contract farm households. They can first study international best practice in a particular crop or output. They can also make sure legal provisions ensure companies behave responsibly towards contracted farmers, and contracted farmers have redress if this is not the case. There may be other third parties involved in ‘holding the ring’ – trusted neutral bodies that can arbitrate between companies and contracted farmers.

Companies contracting with farm households calculate the cost of the investments they have to make for the contract to work. It is clearly to the advantage of the poorest farm households to include the maximum benefits, including extension, inputs on credit, product insurance and so on, and in the companies’ interest to minimise investment. This is one of the reasons it helps to have a strong farmers’ association at the negotiating table. But even a strong farmers’ association will struggle to make the case for the poorest farm households and for farm workers. This suggests that governments can also play a useful role at the table.

India is a country where there are many examples of both successful and unsuccessful contract farming. Recently, producer companies have provided an alternative model (Box 29).

Box 29: Producer companies in India

Drawing on vast experience of farmers’ and producers’ cooperatives, the Indian government in 2002 introduced a new organisational arrangement in the existing legislation of the Indian Companies Act, to promote farmers’ collectives, which can also operate as a business entity. Simply put, the producers’ company is a cooperative of producers of primary products, registered under the Company’s Act.

This has offered yet another option for primary producers to gain from the various market operations in agriculture without being exploited by middlemen and without the political interference which has characterised cooperatives. The government is committed to providing initial support to facilitate effective functioning of such companies through soft loans, capacity building and overall institutional support. The Ministry of Agriculture has set up the Small Farmers Agri-business Consortium as a nodal agency to collate and coordinate support from various agencies, including financial institutions to help producers’ companies. NGOs are invited to help set up this new initiative.

This approach holds promise for a fairly broad-based, farmer-owned and democratic local institutional arrangement that could revitalise rural economies. Whereas these companies may not be able to take care of the large-scale investment needs in agri-infrastructure, it is envisaged that larger entities could be created either by federating a number of smaller companies or by forming a limited company under the existing Act.

The initial response has been quite favourable. There have already been some success stories from producers’ companies in different parts of the country. However, in the larger system of supporting agencies, such as financial institutions, it may take some time to work out a fresh mechanism to engage with these new entities, which represent a somewhat complex mix of cooperatives and business enterprises.

Participation as farm workers

The poorest households are likely to participate in contract farming as wage labourers. Some may have permanent contracts, but most are likely to be part of a casual wage labour force, whether on large, medium or small farms. Sometimes, these households start out as producers in their own right, but are unable to maintain quality standards and so drop out. Where the labour market is buoyant, their wages, combined with incomes from other land- or non-land-based activities, may be enough to sustain escapes from poverty. But this means that the companies, the contract farmers, third parties (like NGOs) and ultimately the government, as the ring holder behind contract farming, need to monitor wages and other conditions of work if contract farming is to contribute significantly to eliminating poverty (see Section B8). Contracting companies can also set minimum wage standards and subscribe to a 'decent work' ethic.

5.2 Cooperatives

Farming cooperatives and local farming group collectives have played a significant role in farm marketing the world over, but their organisational structures are diverse and their potential for poverty reduction among the poorest often lack a strong evidence base. The potential intermediate benefits of such organisations, such as creating platforms for common resource allocation and monitoring, are even less studied. Deciphering which cooperative models have been most successful in garnering market power for the poorest smallholders is a relatively straightforward evaluation project that local policy designers may consider.

The clearest incentive of farmer cooperatives is that they allow smallholder producers with relatively small output levels to aggregate to sell in higher quantities and thus compete for better terms of trade and attain better bargaining positions. Other possible benefits include risk sharing, input procurement pooling to minimise costs and collaboration on land and resource rights attainment. A study of Nigerian agricultural cooperative memberships found that credit access through group membership had the greatest impact in terms of poverty reduction.¹⁰¹ A cooperative's success or failure in relation to affecting its poorest members' livelihoods will depend on the particular needs of group members. There is a role for policymakers in informing cooperatives of these distinct local needs through further impact studies that show the direct benefits of cooperative membership for the poorest.

Box 30: Agricultural Cooperatives in Ethiopia (ACE)

The Agricultural Cooperatives in Ethiopia (ACE) programme, implemented by Agricultural Cooperative Development International/Volunteers in Overseas Cooperative Assistance (ACDI/VOCA), aims to improve the efficiency of Ethiopian agricultural cooperatives by expanding their linkages with private sector buyers, diversifying into new products and services as well as assisting in the development of complementary savings and credit cooperatives. The programme seeks out pre-existing farmers' groups that have a demonstrated business-focused record rather than building entirely new structures. Members are provided with skills and capacity development training and infrastructure support. The programme also employs gender mainstreaming activities, HIV/AIDS awareness and resource conservation training.

Evaluators of the programme have heralded this integrated cooperative development approach, which includes a suite of training programmes, as a success, with members reporting higher incomes and increased food security. These evaluations do not, however, account for the distribution of benefits across the rural communities they serve, posing concerns about the equity of inclusion in the programme. Even with equitable inclusion, it is additionally necessary to monitor group performance to ensure internal inclusion in decision making and overall benefit enjoyment.

Cooperative structures also have a record of failure in many areas, particularly where political involvement has skewed local incentives or where elite capture has taken place.¹⁰² The history of

¹⁰¹ Adedayo, A., & Yusuf, O. R. (2004). Cooperatives and Poverty Alleviation in Rural Settlements of Kwara State, Nigeria. *Savana*, 19(2), 123–131.

¹⁰² Bernard, T., Spielman, D. J., Taffesse, A. S., & Gabre-madhin, E. Z. (2010). Cooperatives for Staple Crop Marketing: Evidence from Ethiopia. Washington, D.C.

failed compulsory farmers' groups, for example, has shown that, without local ownership and autonomy, buy-in will be limited and capitalisation from members low.¹⁰³ Producer, marketing and credit cooperatives may lack coordination among one another, whereas integrated services such as cooperatives with a credit service component would be more effective than a producer cooperative on its own.¹⁰⁴

5.3 Public-private partnerships

PPPs offer the potential for increased funding to poverty-reducing technologies. R&D in higher yielding and weather shock-resistant varieties can be a complementary business strategy between agricultural departments and commercial agri-businesses. This will help avoid duplication and reduce financial strain for public agencies, thus allowing them to focus more on other vital agricultural investments. However, it has been found that projects undertaken through these partnerships rarely strategise their outputs with the end user in mind, that is, poor smallholder farmers. New technologies need to be appropriate in terms of costs and characteristics so they are marketable to poor smallholders. Marketing strategies for these new technologies benefit from partnering with local organisations to reach the poorest.¹⁰⁵ Government ARD agencies are ultimately responsible for ensuring that these pro-poor strategies are taken.

Partnerships may also be appropriate in local infrastructure investments like roads, energy production and primary processing, sorting and cleaning facilities. The incentive for private investors in what are typically taken to be public goods is that these developments would reduce transportation and related marketing margin costs associated with sourcing from remote regions and from smallholders unable to meet regular deliveries of consistent quality standards.

An emerging area of PPPs is in the development of wholesale markets in small towns and urban centres. A number of purely public wholesale markets have failed to maintain adequate facilities and continuous investment in upgrading and to keep up to date with emerging market trends.¹⁰⁶ Broadening wholesale market investment and oversight to include private partners could propel continuity in investment over time and contribute private expertise to market trend analysis, keeping public wholesale markets competitive and adaptable to changing global trends.

5.4 Policy and programme implications: summary

Contract farming is applicable and can be managed successfully across a wide range of country circumstances, even in conflict-affected countries, which is remarkable. This is perhaps because its success hinges most on the roles companies and agricultural producers play – more than on that of the government. However, trusted neutral third parties are needed to mediate between companies and producers, and the government is usually best placed to play this role. Specifically:

- Pro-poor value chain analysis is a well-developed tool to determine areas ripe for horizontal and vertical coordination so that powerless smallholders and labourers can capitalise on existing markets. A value chain analysis focused on gender, poverty and environmental implications provides a good basis for negotiations between parties.

¹⁰³ Pinto, A. C. (2009). *Agricultural Cooperatives and Farmers Organizations - role in rural development and poverty reduction*. New York: UN Department of Economic and Social Affairs. Retrieved from <http://www.un.org/esa/socdev/egms/docs/2009/cooperatives/Pinto.pdf>

¹⁰⁴ Chambo, S. A. (2009). *Agricultural Co-operatives: Role in food security and rural development*. New York: UN Department of Economic and Social Affairs.

⁸⁵ Dorsey, J., & Assefa, T. (2005). *Evaluation of Agricultural Cooperatives in Ethiopia (ACE) Program Activities*. Washington, D.C.

¹⁰⁵ Spielman, D. J., Hartwich, F., & Grebmer, K. V. (2010). Public-private Partnerships and Developing-country Agriculture: Evidence from the International Agricultural Research System research. *Public Administration and Development*, 30(4), 261–276.

¹⁰⁶ Warner, M., Kahan, D., & Lehel, S. (2008). *Market-Oriented Agricultural Infrastructure: Appraisal of Public-Private Partnerships*.

- There exists much policy space for advisory work to promote out-grower schemes and similar models of contract farming. This can be to reinforce farmers' business and management capacities so as to strengthen their negotiating position vis-à-vis buyers. This can be done through promotion of better networks between small-scale farmers and agri-business by providing advice on the conceptual design and implementation of contract farming.
 - The participation and strengthening of farmers' organisations is also necessary if farmers' interests are to be well represented in order to reduce transaction costs. There may be situations where government must intervene by setting floor prices or enacting fair competition regulations.
 - Governments need to ensure pricing is flexible in contract farming, both to deter farmers from side selling in conditions of extreme price volatility and to ensure they are given certain guarantees by the contractually agreed buyers at the same time.
 - The benefits of cooperatives for their poorest members bear further investigation. Internal structures may prevent fair distribution. Capacity-building services can help minimise the risks facing the poorest smallholders and make sure they are able to benefit.
 - Governments should monitor farm workers' wages as a 'rain-check' on the poverty consequences of contracts.
 - PPPs can be used to fund infrastructure projects, the development of enhanced technologies and the creation of wholesale markets. Strong public involvement throughout the process is necessary to ensure the poor end users of such investments are accounted for throughout the lifespan of individual projects.
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6. Finance markets: the importance of savings and the challenge of providing pro-poor farm financial service

The poorest people have the least access to financial services precisely because they are poor. They have to spend a great deal of time and money managing everyday finance gaps, thus savings opportunities are vital to enable them to smooth their consumption and keep resources for difficult periods and future needs. They are often especially important for women who might otherwise have to surrender cash earnings to other members of the family. Agricultural development agencies have focused on credit for agriculture, which is often difficult for the poorest households to access. Creating savings opportunities has been greatly neglected at all levels – global and national. Depositing savings into a financial organisation is risky for a person with very few: inflation may undermine any interest paid; organisations close, or do not administer funds properly. Deposits must be secure. Farm households can make good use of credit opportunities, but this is barely available, except through contract farming arrangements (for inputs) and for farmers who have collateral – registered land, housing or other property they can mortgage.

Financial services have particularly targeted women, on efficiency (contribution to growth in production, repayment performance) as well as equity, empowerment and poverty reduction grounds. It is women who are typically members of the savings groups that have been a lifeline for poor households in so many rural societies and supported many household and agricultural enterprises. Group activities are empowering as well as functional, and can support social change. They can also be the basis for interacting with other financial or market organisations.

Microcredit organisations have also targeted women, largely because their repayment performance is higher. Supporting women's enterprise through microcredit is thought to channel greater resources to children, as in some societies women spend their income on the family to a greater extent than men. All of this has led to concerns: credit is also debt ('credit that kills'), which women can be saddled with repaying; savings are also foregone consumption, and groups can use peer pressure to attach excessive pressure to savings and repayment regimes. In addition, bailiffs acting for financial organisations or private moneylenders can take assets from households that fail to repay on time.

Women face specific risks because of gender discrimination and cultural norms: their caring role means they may not be able to earn normally when children, parents or partners are ill, so premiums are at risk; their property is especially vulnerable to theft and their informal businesses to harassment by authorities. As low income earners, they are also less able to invest in risk-reducing technologies; they are themselves more susceptible to certain diseases, including HIV and AIDS; and unequal control over property puts them at risk when divorced or widowed. Box 23 summarises some key questions for product design.

This guide emphasises savings and insurance as critical for the poorest households. Women save in order to protect money from immediate consumption, and to have a resource not subject to the control of their in-laws, although this protection may not always be enough to stop predatory family members. Compulsory formal savings can help in this regard, although they can also displace local, informal savings schemes that may be more appropriate – user friendly and flexible – and savers are not always paid interest on their deposits. However, credit assessment should be based on repayment capacity rather than on savings mobilised.

Savings-led groups are more sustainable than credit-led groups. Box 22 raises some design issues for savings products. There is a particular need for innovation in pensions (long-term savings for old age), in which area there are few products on offer.

Micro-insurance is a rapidly developing field, with experimentation currently ongoing.¹⁰⁷ This brings its own risks (e.g. of organisations folding). Agriculture is one of the key areas where new insurance products are being tried (see Section B2), especially for crops and livestock, sometimes through weather-based indexing.

6.1 The evidence on promoting savings

This is an area where more evaluation is definitely required. Whereas evaluations of microcredit are not conclusive about whether poverty is reduced, the only randomised control trial research on savings has shown very positive impacts, at least for women (Box 31).

Box 31: Evidence from a randomised control trial in Kenya¹⁰⁸

Using financial diaries, women micro-entrepreneurs who opened savings accounts, which, despite paying no interest and charging for withdrawals, increased their personal spending per day from \$0.68 to \$0.96 and food spending from \$2.80 to \$3.40 and invested more in their businesses. The accounts also helped the women accumulate money for major purchases. The pattern did not hold for men: apparently, women were able to resist their own impulses to spend money and deflect family requests for money. How much more could be achieved by means of a perhaps more ethical interest-bearing account?

We know special efforts are required to avoid excluding the poorest from savings groups. BRAC has a long learning experience (Box 32). This example illustrates the challenges of working with the ultra-poor, who are almost always chronically poor.

Box 32: Including the poorest – Challenging the Frontiers of Poverty Reduction (CFPR)¹⁰⁹

This innovative integrated grant-based approach starts by building a very poor person's economic base – their assets – and supplementing these with a monthly stipend, training and 'follow-up' on enterprise development, with an emphasis on getting the correct enterprise–beneficiary match; health support to reduce shocks from costly illnesses; and group development. It does not assume that participating in a savings group is possible without such other support. The programme has also mobilised local elite support. BRAC's own programme evaluators found that the CFPR was well targeted through community-based and BRAC staff methods, with substantial benefits and good outcomes. The key to success lay in building up a cadre of compassionate staff to implement the programme, able to listen, empathise and counsel on a wide range of personal issues that can otherwise get in the way of economic progress.

6.2 The evidence on farm credit

Small farmers depend on private and informal credit, with the high interest rates charged corresponding to the high levels of risk involved. Poor farm households try to avoid becoming indebted; credit is sometimes taken as a last resort rather than as part of a business development strategy.

The now conventional view is that 'the perceived failure of credit markets to provide funding for worthy agricultural activities can often be traced to inadequate public investment in legal and physical infrastructure, enforcement mechanisms, and commodity risk mitigating arrangements that would make lending to agriculture a more profitable undertaking'¹¹⁰ This supplies a governance reform and public investment agenda for governments that want to increase the supply of farm credit. Creating a

¹⁰⁷ Micro-insurance is a financial arrangement to protect low-income people against specific perils in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved (see Churchill, 2006).

¹⁰⁸ Dupas, P. and Robinson, J. (2010) 'Savings constraints and microenterprise development: evidence from a field experiment in Kenya, NBER Working Paper 14693, quoted in Banerjee, A. and Duflo, E. (2011) *Poor Economics: a radical rethinking of the way to fight poverty* New York: Public Affairs, p. 188.

¹⁰⁹ Matin, I. (2008) *Crafting a graduation pathway for the ultra-poor: evidence from a BRAC programme* Chronic Poverty Research Centre, Working paper 109.

¹¹⁰ Yaron, Jakob (no date) Rural Finance in Developing Countries
<http://www.rojasdatabank.info/12agrisym/agrisym39-52.pdf>

proper institutional framework where agencies (banks) mobilise savings that are lent to customers is also critical. The agricultural credit agencies of the past often did not mobilise savings because this was not part of their mandate. Because loans were politically determined, they were subject to massive defaulting, especially around elections.

Ha-Joon Chang has authoritatively questioned this conventional approach, arguing that developing country governments must be free to subsidise farm credit as well as other farm inputs, and to protect markets, just as now-rich countries have done.¹¹¹ At a macro level, it is often argued that the banking sector does not understand the nature of agricultural production, which requires a different funding structure. This often results in calls for a separate entity or fund directed purely at agriculture.

Controversy continues to surround which forms of subsidies to financial markets deter competition or disincentivise repayment and which result in sustainable long-term functioning credit and insurance markets. This issue becomes further problematic when considering credit markets for the poorest, since public supports are often deemed necessary for their entrance into formal markets. The question therefore becomes how public subsidies can be employed in a way that does not replace competitive credit and insurance but ensures the poorest do not become trapped in loan repayment cycles that cannot be sustained. Subsidy programmes must consider the justifications for intervention and determine the exact cause of market failure they are trying to address. A recent World Bank Discussion Paper argues that subsidies in the form of grants should be limited to 'very poor people who are too vulnerable to take on the risk of a loan, poor people who are beyond the reach of financial institutions, and poor people with some assets and earning capacity but unable to earn enough to pay the investment costs within a reasonable time frame'.¹¹²

Well-designed programmes can in any case contribute significantly to farm productivity and incomes, as demonstrated by the agricultural credit systems in the Republic of Korea and Taiwan, where the repayment rate exceeds 90%:

'These high recovery rates have frequently been ascribed to strong village cooperative systems and social cohesiveness that have provided repayment incentives and enforcement mechanisms. Together with a small number of successful projects in other parts of the world, these systems have shown that although agriculture is subject to higher risks than other sectors, satisfactory repayment rates can be achieved if the right incentive and enforcement structure exists. Successful group lending programmes have shown the importance of factors such as homogeneous borrowing groups, which are jointly liable and assume some of the managerial and supervisory responsibilities, having a common bond other than credit, and denying access to future credit to the whole group in case of default by any member. Important factors for success of credit cooperatives include bottom-up institutional development, extensive training at all levels, reliance on savings mobilisation and equity contribution rather than external funds, slow expansion of cooperative activities, and strict monitoring and auditing'.¹¹³

However, homogeneity carries the risk of all members' income sources being affected by the same shocks, against which an agency would need to insure members.

In order to include the poorest people in such programmes, credit-supplying agencies would need to undertake some of the approaches developed by BRAC to ensure they can cope with the requirements of savings group membership and enterprise management.

¹¹¹ Chang, H-J (2009) *Rethinking Public Policy in Agricultural: Lessons from distant and recent history* Rome: FAO, Policy Assistance Series 7

¹¹² Meyer, R.L. (2011) 'Subsidies as an Instrument in Agricultural Finance: A Review'. Discussion Paper. Washington, DC: World Bank.

¹¹³ Ibid p 37-8.

6.3 Policy and programme implications: summary

The focus of financial services for the poorest people needs to be on savings and linked insurance products. The best village-level groups are led by savings, not credit.

- Good practice in savings design is gendered and is aware of the differences among poor people in terms of their needs and capabilities.
 - The poorest people may need a grant-based approach offering an appropriate combination of relief, assets, training and support, to prepare them for participation in financial services.
 - Even then, credit agencies can be expected to exclude the poorest people, who need other financial support, including social protection as well as savings and insurance.
 - The national framework for banking should require that banks both save and lend, and that savers' deposits are safe.
 - State banks can work effectively for agriculture, and subsidies can also work to kick-start lending to the unbanked. Care should be taken, because these may not be necessary.
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7. Shaping markets

Establishing and enhancing access to markets are often not sufficient to reduce chronic poverty for agricultural households. In fact, it is good to bear in mind that markets often contribute to impoverishment and chronic poverty as much as they may help households escape poverty. The question of whether or not markets work to reduce poverty depends very much on who has the power to shape them, how and for whom.

Processes of economic globalisation have increasingly concentrated power in the hands of global corporations involved in agricultural production and trade. Today, corporate actors control resources and shape agri-food value chains as never before. Although some corporations attempt to promote social and environmental practices within their core business models (e.g. by encouraging beneficial producer associations or certification schemes), the uneven power relations between these actors and smallholders, farm workers and even states often lead to adverse impacts for poor and vulnerable rural populations. There are countless examples of private actors polluting or degrading resources central to rural livelihoods, dispossessing rural people of their land, transferring risks down value chains (making it difficult to secure fair prices and living wages for rural people) and pressuring states to lower their social and environmental standards¹¹⁴. Where corporations influence policies and markets to the detriment of the poor, there is a need to redress power imbalances and focus on strengthening the roles of other actors, such as the government and farmers' organisations, to shape markets in ways that are beneficial and accountable to poor and vulnerable rural populations.

7.1 Role of the state

In the context of increasing liberalisation, state actors often find it difficult to introduce regulations or enforce sanctions on irresponsible corporate behaviour¹¹⁵. Although voluntary codes of conduct may exist, they provide few checks and balances on irresponsible business behaviour¹¹⁶. Effective strategies to ensure corporate practices benefit, rather than hurt, the rural poor depend on the extent to which governments are willing and able to back the rural poor over corporate actors; enable communities to access legal resources and critical legal information; and create or implement progressive legal frameworks. Some of this role falls within the sphere of influence of agricultural agencies, even if they are not always the regulatory bodies.

Agricultural agencies can support responsible agri-business leaders and help spread positive business practices to other private actors. Irresponsible business may need stricter sanctions and regulations, as called for by civil society organisations. Agricultural agencies may also introduce incentives for more sustainable production and some combination of mandatory and voluntary regulation, which may be more attractive to countries with limited resources for strict enforcement. The extent to which corporations respond in a progressive way depends on a mix of external factors (technological opportunities, competitor strategies, public and consumer pressure or public regulation) and internal factors (availability of finance, quality of leadership, overall corporate competencies and its target markets). The effectiveness of strategies certainly depends on the extent to which a company is vulnerable to such actions (i.e., how national or international scrutiny and media attention affect sales or brand reputation) and its approach to citizen participation. However, a mix of incentives and pressures that target these factors is more likely to be effective¹¹⁷.

7.2 Supporting farmers' organisations

Policymakers can support the mobilisation of farming communities and farmers' organisations. On their own, individual farmers do not have the political or economic resources or power to make demands on policymakers, or effectively negotiate with big corporations. However, by joining together, in the form of farmers' organisations, even the poorest farmers are able to achieve greater policy responsiveness and corporate accountability, and thus help shape markets that work in more beneficial and equitable ways.

¹¹⁴ Christian Aid (2004); Green (2008); Sklair (2001).

¹¹⁵ Bebbington and Thompson (2004); Garvey and Newell (2004).

¹¹⁶ Newell (2005); Jenkins (2005).

¹¹⁷ Jansen and Vellema (2004).

Farmers' organisations in Africa and Asia are diverse in terms of size and mission: some are very small, with a limited geographical or social scope; others act at national or international levels on a range of issues. Farmers' organisations contribute to shaping pro-farmer (and pro-poor) markets by concentrating on policy advocacy, technology change or market access, or some combination of these. Effective farmers' organisations are able to represent the concerns of small farmers and influence agricultural policies at national, regional and international levels; advocate for and drive agricultural innovation and technology for farmers; provide valuable information to farmers in a timely way; help encourage shifts to more sustainable agriculture; have an impact on income and asset generation for their members; ensure members obtain a fair price for products and help negotiate beneficial contracts; identify new markets and create opportunities for employment (Box 33); provide their members with safety nets; and position agriculture as an appealing activity for younger generations. On the whole, farmers' organisations have a critical role to play in representing the voices and interests of farmers and shaping markets in ways that work for the rural poor.

Box 33: Organic farmers' organisations

Demand is driving the fast-growing global market for organic products. Organic farming has the potential to improve food security and provide income to the poor to accumulate assets or handle social needs. It offers an alternative model of agriculture that draws on farmers' traditional knowledge and social networks and responds to the climate change challenge by focusing on the sustainable use of local resources.

Organic farmers' organisations have been the driving force behind the development of the organic market around the world. They provide advice and certification services, offer platforms for networking and knowledge sharing and promote farmer-driven agricultural research. Local farmers' organisations are members of the International Federation of Organic Agriculture Movements (IFOAM). To help their members make the most of market potential, IFOAM has established the Intercontinental Network of Organic Farmers Organisations (INOFO), a professional network comprising members from all continents. The efforts of IFOAM and INOFO to disseminate alternative, low-cost certification systems known as 'participatory guarantee systems' have led to the rapid increase of grassroots organic farmers' organisations, especially in the developing world, where thousands of poor farmers can now obtain organic certification more easily.

Farmers' organisations have spread and grown in influence in recent years, but policymakers can support them to become even more effective and equitable by creating an enabling environment. For this to occur, governments need a responsive bureaucratic system with an inclusive and participatory policy formulation process, which requires the development and realisation of operational platforms and mechanisms. This may take different forms, such as including farmers' representatives in governance bodies of agricultural technical agencies; setting up mechanisms for regular consultation with farmers' organisations; establishing vocational training or educational programmes on the management of farmers' organisations, especially emphasising awareness of legislation on land and trade policies; and including legitimate representatives of farmers' organisations in government delegations taking part in international negotiations.

Support may also be given to help farmers' organisations increase their capacity to respond to a diversified set of needs (advocacy, capacity building, marketing services, information, etc.); set up governance structures and rules based on genuine participation of their key constituencies as well as an accountable and professional management system; and build a clear vision and identity and keep their autonomy and independence regarding the state and other external organisations. Policies can also help farmers' organisations respond to new threats and opportunities. For example, in the context of climate change, there needs to be increased emphasis within farmers' organisations on supporting members to reduce their agricultural carbon footprint.

The focus should be on strengthening already existing farmers' organisations rather than attempting to set them up. When government agencies try to create farmers' organisations, these tend to lack legitimacy and usually disappear when the programme terminates or the agency withdraws. If policymakers are involved in setting up farmers' organisations, they should leave the management and strategic orientation up to its members and limit their role to coaching or advising.

Farmers' organisations must expect that institutionalising a new governance culture that is more responsive to the rural poor will meet resistance, whether by corporate players or by the government. In many countries, independent farmers' organisations are considered a political threat, particularly

when they challenge government policy. In these cases, governments may present a barrier to, or even actively undermine, their development. Governments may attempt to dismantle them and create puppet organisations that align with state positions, thus compromising the ability of farmers' organisations to adequately represent the views of their members. Consequently, governments have never sufficiently valued their contributions on agricultural policy issues.

In Senegal, the farmers' organisation Conseil National de Concertation et de Coordination des Ruraux (National Council for Consultation and Coordination for Rural People, or CNRC) has encountered government resistance in the past decades, and this is certainly not an isolated case. In response, farmers' organisations may need to consider adopting strategies used by the CNRC, such as engagement with regional organisations to influence regional policies, which can then be translated into national policies; building alliances with other civil society organisations to build a strong critical mass the government cannot overlook; and participating in regular consultations with bilateral and multilateral organisations to exert wider influence.

Policymakers can support efforts to increase representation in farmers' organisations by and for the poorest and most vulnerable, including poor women. There is a notable absence of women's voices here, and IFAD has found it has to organise separate working sessions with women to get their voices heard in its Farmers' Forum. Supporting the formation of women-only organisations or branches of organisations may provide an alternative, as will facilitating stronger links with farmers' organisations that better understand the challenges and nuances of achieving greater gender equality (Box 34).

Box 34: Realising gender parity in a transnational farmers' organisation¹¹⁸

La Vía Campesina is a transnational peasant movement, considered by many to be the most important transnational social movement in the world. It brings together hundreds of member organisations from around the world and works to defend small-scale agriculture against corporate-driven agriculture practices, which it sees as responsible for destroying people and nature. When the organisation first started in 1993, all elected coordinators were men and the situation of rural women was neglected. The percentage of women attending conferences throughout the 1990s was low, at around 20%.

Recognising the need to address this imbalance, the Women's Committee was created. This led to an International Assembly of Women Farmers and a demand by women members to ensure the equal participation of women in the organisation. In 2000, when the movement adopted a rule requiring gender parity of representation at all levels, they were the only known transnational rural movement with parity at the highest levels. This landmark decision forced its constituent member organisations at regional and national levels to make changes to their own internal structures, to work on strengthening the role of women and to rethink their work from a gender perspective.

Despite significant progress towards formal gender equality, La Vía Campesina has found it difficult to achieve 'true' equality. Although women have the same number of spaces as men, in reality they miss more meetings than male delegates, whether because of home and family commitments or because of power differences within member organisations. The organisation has since shown a more nuanced understanding of how gender issues operate within the organisation and made a new commitment to resolve them: 'we commit ourselves anew, with greater strength, to the goal of achieving that complex but necessary true gender parity in all spaces and organs of debate, discussion, analysis and decision-making in La Vía Campesina, and to strengthen the exchange, coordination and solidarity among the women of our regions' (La Vía Campesina, 2008).

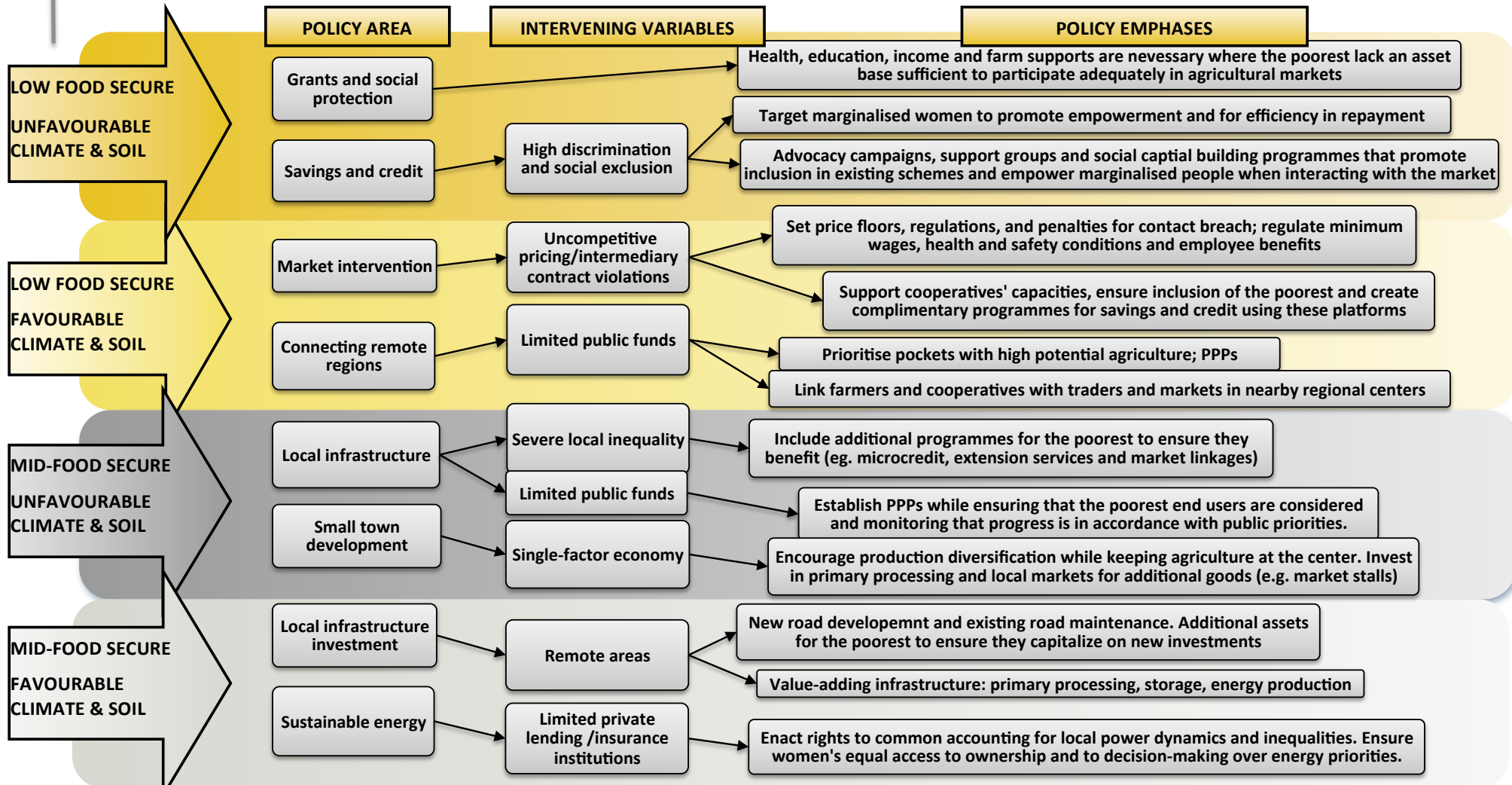
7.3 Policy and programme implications: summary

In a situation where corporate actors control resources and are shaping markets as never before, the prime role of agricultural agencies will be to redress power imbalances. Specifically, they can:

- Encourage more responsible corporate governance through a mix of incentives and pressure;
- Create an enabling environment for farmers' organisations to make them more effective, and strengthen their role, to ensure greater accountability to the farming community;
- Support efforts to increase representation of the poor and women within farmers' organisations.

¹¹⁸ Martínez-Torres, M.E. and Rosset, P.M. (2010) 'La Vía Campesina: The Birth and Evolution of a Transnational Social Movement'. *Journal of Peasant Studies* 37(1): 149-75.

Market Policy Guidance Map



The labour cluster

Farm workers are a new constituency for agricultural agencies in many countries – one which public policy greatly neglects. There is a big gap in the armoury of policies against chronic poverty. There are four areas for policy responses and programmes for farm workers: education and awareness campaigns and education on child labour; development of voluntary codes of practice for businesses, which focus on or include farm workers' terms and conditions of employment, rights and entitlements; legislation on minimum wages; and public works schemes which provide a wage floor in a rural economy. Enhancing employability through education is the least controversial of these policies, and is addressed in a separate section. Farm workers' wellbeing, and farm households' ability to escape poverty, depends significantly on whether the non-farm economy is in good health, with urban and non-farm wages significantly affecting farm wages. As such, promoting the non-farm economy also features in this cluster.

8.1 Farm workers: a new constituency for agricultural agencies

One-third of the world's workers are employed in agriculture, most of them in developing countries. These include some of the least secure and most marginalised and isolated workers. Many are women: globalisation, high-value production and the casualisation of labour are increasing the number of women employed in the sector. For example, vegetable production requires up to five times as much labour as cereals. There has also been a rapid expansion in contract labour, and child labour is still common in agriculture, with an alleged 130 million children below the age of 15 working in the sector. This promotes the intergenerational transmission of poverty. Agri-business or farmer interests typically capture agricultural agencies, and farm workers rarely get a look in terms of official programmes and objectives and are poorly represented by unions. This needs to change. In looking for lessons, it is useful to see how farm worker interests have been included in countries with large populations of farm workers, such as Brazil, India and South Africa.

Box 35: South Africa, Western Cape Sub-programme on Farm Worker Development

The objective of this programme is to enhance the image and the socioeconomic conditions of farm workers by providing them with skills to improve their quality of life. The Western Cape has approximately 189,000 farm workers and is home to almost 24% of the country's farm workers. This is an indication that farming in the province is relatively more labour intensive than in elsewhere in South Africa. Geographically, Western Cape farm activities are very large and diverse, and therefore it is important to uplift and assist farm workers on all levels. In general, farm workers are isolated from mainstream social interaction and do not have regular access to life skills training. Furthermore, in most cases they lack awareness of the dangers of substance abuse and the effects this may have in terms of the breakdown of the social fabric in their communities. It is therefore essential to build pride among farm workers as they contribute to the success of the sector. The strategic goals of the Farm Worker Development Sub-programme are (i) to improve the quality of life of farm workers through social awareness campaigns; (ii) to create training opportunities for farm workers and farm worker communities; and (iii) to coordinate the involvement of different government departments in farm worker development.

These objectives are very moderate and unobjectionable. South Africa has legislation to protect farm workers from eviction from their homes on farms and to protect their human rights, with official agencies (including the Department of Lands and the Human Rights Commission) as well as civil society organisations dedicated to this. Official responses will be stronger where there is organised defence of farm worker interests (Box 35). Farm workers are a very difficult group to organise as they are geographically spread out, very low paid and dependent on their employers. New forms of farm labour, contract labour in particular, is, if anything, even harder to organise. There is therefore a role for the state here.

Box 36: A farm workers' union, civil society and political alliance against exploitation¹¹⁹

The Commercial, Stevedoring, Agricultural and Allied Workers Union (CSAAWU), the Mawubuye Land Rights Forum, the Trust for Community Outreach and Education and the Democratic Left Front launched the Speak-out Campaign on 27 November 2011 at a mass meeting in Robertson, some two hours from Cape Town. This aims to bring an end to the oppression and exploitation of farm workers and farm dwellers by building solidarity, strength and hope among the rural working class. Farm workers and farm dwellers spoke at the meeting of the inhumane living and working conditions they faced each day.

Since its launch, farmers have attacked the campaign. CSAAWU shop stewards and workers have been dismissed in the Robertson area for 'insubordination' for handing out campaign fliers. Workers on four farms took illegal strike action for three days, standing in solidarity with their shop steward, making real the slogan 'an injury to one is an injury to all'. Another shop steward was dismissed at Lamontanara cheese factory, allegedly to intimidate other workers and to try to break CSAAWU and the campaign.

On 18 December, the Speak-out Campaign held a second meeting, with workers once again speaking of health and safety. It has already started putting pressure on farmers and workers are forcing change. On Uityk farm, the farmer has restored electricity and is in the process of upgrading a worker's house that was unliveable. On Vinkrivier farm, upgrading of houses has begun, some transport has been provided and it has been agreed that workers can pay for their electricity directly rather than through the farmer, who used to charge more to make a profit. Reportedly, some farmers say they are making these improvements as 'favours' to workers on the condition that workers resign from the union. However, workers are standing strong, saying decent housing, water and electricity are basic necessities and they will not be threatened or bribed into leaving the union.

Box 37: Five suggestions on value chain programme options

Value chains need to proactively examine labour conditions and wages, and issues such as upgrading labour skills and processes, not instead of focusing on smallholders but alongside this. Wages and working conditions for contract farm workers should be negotiated by the contracting agency as part of the terms and conditions, and contract farming policy should provide for this. Similarly, while choosing crops for smallholders, the labour intensity and employment generation potential of crops should be kept in mind for the benefit of farm workers.

Even organic, fair trade and ethical trade movements need to do more. It is imperative to monitor and improve wages and work conditions for workers in such contexts. Training must be a part of smallholder policy, not only to enhance labourers' earnings but also to improve farm productivity and output quality and cut production costs.

Smallholder farming needs to involve workers creatively on farms so they can give their best as co-workers or partners. The innovative potential of workers needs to be recognised too, but this means innovations and technology must be sensitive to workers' needs. In fact, with many crops, such as tea and rice, there are still no innovations that make the plucking of tea leaves easier or the transplantation of rice less onerous. These are needed to reduce the backbreaking work of landless workers – most of whom are women, adolescent girls and children. There could also be a focus on appropriate and affordable machines for custom planting and harvesting and other activities on small farms although this might be regressive in labour-surplus regions.

There is a focus on collectivising smallholders; there should be a similar effort to collectivise labour, to help empower rural labour, which is crucial for sustainable poverty reduction, with separate collectives for women workers. Recently, groups of landless women in India have carried out group farming and marketing. Meanwhile, in Kerala, there have been moves to train and build the capacity of farm workers, which have led to the regeneration of common and waste land, more employment and higher incomes for workers, as well as better availability of labour for landholding farmers for operations like paddy transplanting or harvesting.

Women have started to play a more significant role in farm labour. The developmental implications of this are significant in terms of family welfare, education and the health of both women and their children. Therefore, it is necessary to choose enterprises, crops and activities that make farm work, machines and tools more gender sensitive. Activities like poultry farming and growing chickpeas and rice offer more opportunities for women than the growing of crops like cotton or jatropha. Promoting

¹¹⁹ Pambazuka News (2012) 'Western Cape Farm Workers and Dwellers Speak Out'. Joint Statement, 12 January.

better remuneration for women workers can help reduce poverty much faster – not least because women tend to spend what they earn more productively on family needs.

8.2 Child labour

Farm workers' children often miss out on education, which means special targeting is called for. Beyond primary school, scholarships and boarding schools can help relieve the intergenerational transmission of poverty, but the quality of schooling is also critical, at both primary and post-primary levels. Adult education of farm workers themselves is also critical, for example to health. Farm workers work with hazardous agro-chemicals and machinery, and uneducated workers are exposed to dangers, with few tools to deal with them.

Child labour is common in agriculture, and children sacrifice education and future prospects for the often dismal wages and poor working conditions of casual farm work. Providing a decent education can be made an employer's obligation in law, but most employers of farm labour in developing countries are in the informal or unregulated economy, and such legislation would not affect them. Nevertheless, it sets a useful standard. Migrant children are in a particularly difficult situation, as whatever education they manage to acquire is constantly disrupted. In the US, they often do not get through high school; even here, legislation on these issues – the Children's Act for Responsible Employment – is awaited.¹²⁰

Some agricultural sub-sectors have been singled out as being particularly at risk of employing child labour. A great deal of global attention was focused on the cocoa industry in West Africa at the turn of the century, resulting in international consultations leading to the Harkin-Engel Protocol. This agreement, signed by a number of key international stakeholders, bound governments and industry to adopting measures to ensure that cocoa was grown and distributed in a way that did not violate international child labour laws.

There are two decades of experience in implementing voluntary codes of practice on labour standards, albeit little evaluation. A study of the Ethical Trading Initiative (ETI), highlighted in Box 38, suggests clear benefits in terms of outcomes but less clear advantages to workers in terms of ability to organise and claim rights. This is because employers treat the codes as technical requirements to be satisfied, rather like quality standards, as opposed to a means of improving the achievements of workers' rights and status.

Box 38: Evaluation of the Ethical Trading Initiative

The clearest benefits, which apply to permanent as well as casual workers, are in health and safety information and training, fire safety, personal protective equipment, safer use of chemicals, lighting and ventilation, toilets and drinking water. Some worksites have reduced working hours, but this had occasionally led to reductions in pay. Codes have not led to a substantial increase in income, although there have been cases of suppliers paying into state insurance or pension schemes, which could reduce workers' vulnerability. Such employment benefits have extended only to permanent or regular workers, with contract and casual labourers excluded. The latter are often also not picked up in social audits.

Benefits in terms of 'process rights' (freedom of association, collective bargaining, discrimination, use of child labour) have been restricted to those related to child labour, which has largely been eliminated by firms signing up to the ETI, for fear of loss of custom. Women, ethnic minorities and migrants have continued to complain of discrimination. Codes of practice have had no impact in terms of unionisation or the right to bargain collectively.

An obvious implication is that social audits need to make special efforts to address the issues of casual and contract labour. Moreover, policymakers who understand the labour market situation in a country could make useful inputs into the development of such codes of practice.

¹²⁰ See www.hrw.org/support-care

Other codes of practice – organic or environmental – rarely include strong labour codes in their standards. Some companies have used joint certification to get around this, but there are very few such products on the market as yet. Governments generally approve such standards: they could require the collaborative development of standards across certification schemes, so that only one joint standard applies, and the inclusion of labour codes of practice in this. Even fair trade does not yet give *adequate* consideration to workers' interests and rights. For example, certified Darjeeling tea plantations do not share any of the additional fair trade premiums with plantation workers.¹²¹

There is a significant gender wage gap in farm work and agro-processing; in India, it is at 20-30%. Women's casual, low-wage, low-skill work with limited security leads to violence against them and exposure to issues related to health and safety. Supervisors may demand sexual favours for job security, for example. There are often no provisions or opportunities for redress on occupational health and safety issues. Young girls who work are especially at risk.

New associations and movements against child labour and for fair trade have the power to influence labour conditions. Companies' corporate social responsibility codes are important instruments for establishing standards of decent work. Fair trade and the ETI provide models of standards, although not all codes benefit men and woman equally.

Policy and programme designers largely ignore gendered labour impacts. Gender analysis needs to be applied rigorously to all labour market interventions, given that women are increasingly occupying the lowest paid, least secure jobs. Some countries also still require laws specifically to protect women, such as on non-discrimination and maternity benefits, in some cases because they have not passed laws giving effect to the International Labour Organization (ILO) treaties they have signed. Where laws have been passed, they require affirmative action strategies to implement them.

8.3 Minimum wages

Setting a minimum wage is a policy tried in many countries, especially in OECD countries and Latin America. It has the attraction that it apparently does not cost anything. But it has had mixed results; it can raise incomes for the poorest, but can also reduce employment. Studies in the US suggest that resulting increases in unemployment outweigh reductions in poverty, and also that the measure is not well targeted – most of the benefits flow to the less or non-poor. In the UK, a 2001 study indicated that most of the benefits would flow to the second and fifth deciles (the first decile covers pensioners and people out of work). Other evidence suggests a stronger positive impact on the poorest in remote rural areas than on those in urban or non-remote areas.

In developing countries, it is largely Latin American middle-income countries that have an active policy discussion on the minimum wage, as it has been a frequently pursued policy there. Again, the results have been mixed. A minimum wage can have positive impacts in the informal economy in middle-income countries (as in several Latin American countries in the 1990s),¹²² but other studies have found its impact to be restricted to the formal sector, which employs a minority of workers. In Honduras, a 2006 study found the minimum wage had reduced extreme poverty elasticity by -0.18 and all poverty by -0.10, but had not affected small firms. In Nicaragua, there was a good impact on employed workers' households within 20% of the poverty line, but no impact elsewhere in the distribution.¹²³ In Peru, there was a positive impact at up to 0.6 of minimum wage and none in the informal sector.

¹²¹ Besky, S. (2010) 'Colonial pasts and Fair Trade futures: changing modes of production and regulation on Darjeeling tea plantations' in Lyon, S. and Moberg, M. *Fair Trade and Social Justice: Global Ethnographies* New York University Press.

¹²² Saget, C. (2006) *Fixing Minimum Wage levels in developing countries: common failures and remedies*.

¹²³ Enrique Alaniz, Gindling, T. H. Terrell, K. Wages, Work and Poverty in Nicaragua. CEPR and IZA, Discussion Paper No. 5702. May 2011.

Theoretically, minimum wages can both increase and decrease poverty, depending on the elasticity of labour demand. If it is low, the volume of employment is not affected and poverty can decrease. If the public policy value attached to reducing extreme poverty is high, minimum wages can be a useful policy measure.¹²⁴ What does evidence from elsewhere suggest?

A 2005 simulation in Indonesia suggested only about 17% of the additional earnings from the 2003 minimum wage hike flowed to poor households and another 34% to the near-poor, whereas half of the benefits accrued to non-poor households – so it was not a well-targeted measure. In terms of net benefits, only one in four poor households gained through higher incomes; three out of four poor households lost through higher prices (see Box 39 for more recent evidence).

In Mozambique, a high-quality 2002/03 labour force survey revealed a large wage variation between rural enterprises. Employers seem free to set rates, and many of these are piece rates. Larger enterprises pay higher wages, but all are below the statutory minimum, indicating significant enforcement problems. Small farms pay low and irregular wages. More than one-quarter of jobs are 'bad' – with very low and irregular pay, sometimes in kind. This means unions and labour inspectorates need building up. Women workers may be disadvantaged educationally and in assets, and teenage marriages take women out of education into the labour force. Policy suggestions here include fiscal and incentive support for labour-intensive rural enterprises:

'The benefits of the provision of infrastructural investments and credits are likely to be maximised if they help expand large farm enterprises that employ a sizeable number of rural workers, and are more likely to pay decent wages. Instead, donor policies are often mistakenly fixated on supporting small farmers, who pay only low and irregular wages, and on providing micro-credit for self employment, especially for women workers. Such micro-credit reaches relatively few women, and often not the poorest, and it usually fails to produce meaningful structural change'.¹²⁵

In this situation, a minimum wage is hard to implement, and other such measures are needed first.

Box 39: Minimum wages in Indonesia¹²⁶

Governors of provinces and districts in Indonesia set minimum wages on an annual basis after considering recommendations from provincial and district wage councils, heads of districts and mayors. Minimum wages can also be sector based. Wage councils base their recommendation on the value of a decent living standard, which is determined largely through surveys carried out in traditional markets on prices of the 49 items included in the basket. Wage councils also include representatives from the local offices of the Central Bureau of Statistics.

Minimum wages act as a floor wage, that is, district or municipal minimum wages cannot be lower than the stipulated provincial level. Contrarily, a ministerial decision implicitly acknowledges that the minimum wage is not a floor wage, as it allows firms that cannot immediately afford it to postpone full payment for a certain period of time and/or to adjust wages to decent living standard rates by following certain procedures.

The Indonesian experience since the 1990s tells us that minimum wage legislation can be used as much to cap wage increases as to provide a floor under wages, and that different interests (unions, corporations, local governments) see the issue in different ways. Compliance is a key determinant of the extent to which increases in minimum wages translate into increases in average wages.

The standard trade-off researched is between minimum wage increases and total employment. However, the Indonesian evidence suggests that an increase of 10% in the minimum wage leads to a small decrease in industrial employment and a smaller increase in agricultural employment, with women and skilled workers moving disproportionately into farm work, although these effects last only a year or so. The evidence does not support minimum wages providing the poorest workers with a better deal.

¹²⁴ Kanbur, R., and Fields, G. (2005) *Minimum wages and poverty*. Cornell University.

¹²⁵ Ministry of Labor (Mozambique), National Statistics Institute (Mozambique). Mozambique Integrated Labor Force Survey 2004-2005.

¹²⁶ World Bank (2010) *Indonesia Jobs Report: Towards Better Jobs and Security for All*, Jakarta p 96.

In India, which has the largest agricultural workforce in the world, it is investment in infrastructure that has driven the slow equalisation and upward drift of agricultural wages over the decades, as better infrastructure induces greater non-farm employment. Real wage rates and poverty ratios are better for non-farm workers than for farm workers, so non-farm economic development helps push up farm wages.¹²⁷ The Maharashtra Employment Guarantee Scheme effectively set minimum rural wages during the 1980s through to the 2000s, and this model underlies the national employment guarantee (see Box 40).

Box 40: Maharashtra Employment Guarantee¹²⁸

MEGS guarantees that every adult who wants a job in rural areas will be provided with one in unskilled manual work on a piece-rate basis. Rates are set consistently at a minimum wage rate and the scheme is financed through taxes and state government contributions. The scheme is designed in a way that minimises administrative costs and disincentive effects that are typically associated with targeted transfers that might allow non-poor people to take advantage of social protection benefits.

Analysis has shown that the EGS had a positive effect on prevailing agricultural wages, both in gains in agricultural productivity which led to increased demand for labour and by leading to a higher reservation wage owing to guaranteed employment in off seasons.

Limitations of this scheme have been intensive registration procedures required to ensure targeted individuals benefit in addition to long distances travelled by beneficiaries to reach remote work-sites. Rigorous registration procedures may be unavoidable to ensure the poorest beneficiaries are targeted, but more effective site selection for programmes in the poorest areas could help to reduce travel distances and more effectively reach the poorest who may be constrained by transport options.

Instituting a minimum wage is one of the easiest things legislators can do for the poorest. If it is done sensitively to conditions in the labour market, and in the expectation that it is the poorest who will benefit, the evidence is that it can make a difference. However, implementation and enforcement are not easy, and other support (infrastructure, policies supporting labour-intensive growth, the development of unions and labour inspectorates) is needed before it can become a reality. Making a solid investment in a regular public works programme will help provide a floor under wage level for the poorest.

A minimum wage can help address chronic poverty, but wage levels are often not the only issue. First, where farming is being mechanised, labourers can often only get a few days' work a month, which means they remain vulnerable even if the wage rate per day is above a minimum level. Second, contract labour is usually organised on a piece-work basis, and it is often the case that young labourers are taken on but older and less able workers are excluded.

Meanwhile, labour force surveys collect data on wages but are infrequent. Agricultural agencies wanting to know whether their policies and programmes are working for the poor need to monitor agricultural wages on a regular basis. In the past, this has been a difficult, expensive exercise. But with widespread mobile phone availability, there are opportunities for inexpensive real-time wage monitoring, through a network of wage monitors reporting change on a regular basis. This could be extended to cover working conditions more generally.

¹²⁷ Bhalla, S. et al. (2006) 'Rural Casual Labourers, Wages and Poverty 1983 to 1999-2000' in Mehta, A. and Shepherd, A. *Chronic poverty and Development Policy in India* New Delhi: Sage

¹²⁸ Gaiha, R., & Imai, K. (2006). The Maharashtra Employment Guarantee Scheme. *Inter-Regional Inequality Facility Policy Brief 6*. Overseas Development Institute: London.

8.4 An employment guarantee or a public works schemes?

The discussion here is dominated by India's Mahatma Gandhi National Rural Employment Guarantee (MGNREGS), which has boosted the agricultural wage by 5%, making it a significant poverty-reducing measure. The effect is gender neutral and favours unskilled labour (Berg et al., 2012). Other impacts have included modest increases in consumption, some increases in asset ownership, especially livestock, greater observance of the minimum wage and an increase in village infrastructure leading to increased agricultural productivity. A decrease in migration in the poorest six states is widely attributed to MGNREGS. All this has happened even though the target of 100 days work guaranteed has not nearly been achieved. Meanwhile, the cost of providing a right to work has been less than 1% of gross domestic product (GDP). The scheme has become a cornerstone of the social contract under successive Congress-led governments in the 2000s.¹²⁹

This makes an employment guarantee a potentially powerful measure for improving the incomes of the poorest people. There is an active debate in India about the success of the scheme, and many of its design features. Any policymakers wishing to develop an employment guarantee would be well advised to immerse themselves in these.

Interestingly, in Sub-Saharan Africa outside South Africa, although employment conditions are roughly similar to those found in many parts of rural India, there are no employment guarantee schemes. Public works programmes are either social protection measures aimed at household level or have the objective of boosting rural growth and employment through labour-intensive infrastructure. They are often food-for-work programmes and donor funded, sometimes in response to emergencies, and are not generally designed to address chronic poverty. Wages paid vary greatly from one programme or country to another (20-140% of gross national income (GNI) per capita). Having a cash transfer programme operating alongside a public works programme to include households that find it difficult to send people to work is now seen as good practice, as in Ethiopia, Malawi and Zambia.¹³⁰ However, the literature suggests that, overall, public works programmes are not effective tools to fight chronic poverty unless they are provided on a regular basis so people can rely on them; in sufficient quantity in terms of the length of employment created; and with adequate wages – otherwise the benefits are simply too small to make a substantial difference. This suggests that developing programmes with the characteristics of an employment guarantee (if not providing the legal guarantee itself, which low-income countries may be reluctant to do) is the way to go.

Ethiopia's Productive Safety Net Programme (PSNP) is perhaps a partial exception. Although not a guarantee, it has been a constant and massive presence over a period of time, although it is intended that it will eventually disappear as a programme. Designed as an alternative to annual food aid programmes, it has succeeded in substituting for these to a large extent. It has succeeded in improving poor people's food security, one of its objectives, especially where households have received at least half the transfer they were supposed to (the programme has been widely under-resourced) and/or have received attention under one of the Ethiopia's Other Food Security Programmes designed to boost production. Designed to protect poor households' assets from sale in hard times, it may have done so, although beneficiaries have not experienced faster asset growth than comparable groups. So, again, this has been a significant success, costing about \$500 million per year and benefiting 7 million households.¹³¹ There is no evidence as yet on whether the programme has raised rural agricultural or casual wage levels.

The PSNP has two components: public works and direct support to households without labour resources. The latter component was designed especially to include older and disabled people. This sort of complementary programme is necessary if all chronically poor households are to be reached.

¹²⁹ Mehta, A. et al. (2011) *India Chronic Poverty Report: Towards solutions and new compacts in a dynamic context* Delhi: Indian Institute of Public Administration and Chronic Poverty research Centre.

¹³⁰ McCord, A. Slater, R. (2009) *Overview of Public Works Programmes in Sub-Saharan Africa* London: Overseas Development Institute.

¹³¹ Gilligan, D. Hoddinot, J. and Tafesse, A. (2008) *The impact of Ethiopia's Productive Safety Net Programme and its linkages* Washington D.C.: IFPRI Discussion Paper 839.

Even successful programmes rarely raise household incomes above the poverty line, although they do help close the poverty gap. A further implication is that employment guarantees or public work programmes need to be accompanied by other programmes providing addressing other critical constraints preventing people escaping poverty.

8.5 Policy and programme implications: summary

Agricultural agencies wanting to contribute as strongly as possible to the eradication of poverty need to show more interest in farm workers – their poorest constituency. Most are informally employed, casual workers or contract labourers, and jobs are low paid and insecure. Women and children often occupy the lowest paid, most insecure jobs. In this context, agricultural agencies can:

- Make sure poor farmers' and farm workers' children get an education, which will minimise child labour. Where conditional cash transfers are available, this should help. In more regulated economies, labour inspectorates can inspect enterprises with respect to child labour legislation and the implementation of international conventions countries have signed up to.
- Encourage responsible employers to see codes of practice as a means to improve the working conditions of the poorest workers. They can encourage certifying bodies and employers to include casual and contracted workers in social audits and inspections and can insist on joint certification by different standards bodies (e.g. organic and fair trade) so as to achieve economic, social and environmental benefits and so farmers get used to dealing with only one set of standards.
- Advocate a minimum wages policy if they think it will really affect the wages of the poorest. This depends on the state of the labour market in a particular context, as well as the institutional context: whether compliance is likely, whether unions and labour inspectorates are there to reinforce the policy and whether there are other pressures in the same direction – for example the presence of public works programmes. In situations where a supportive institutional environment is not present, a minimum wages policy is a waste of time, although it might be politically attractive.
- Arrange for the monitoring of casual and contract wages using mobile telephony and labour market monitors. This should be possible even with limited governmental capacities in labour market interventions.
- Develop or expand public works programmes, which, if properly executed, are well able to put a floor under agricultural casual wage levels and reduce the poverty gap.

Agricultural agencies will need to develop new capacities to take this agenda on board – they will need better information on farm workers, wages and employment conditions. They will also need to see themselves as neutral arbiters between employers and workers in negotiations over codes of practice and their implementation.

More significantly, they will need to develop a different self image, one tied to serving farm workers as well as farmers, acknowledging that many smallholders also spend time labouring for wages, and press agri-business firms to be more responsible employers (as well as more responsible to their suppliers and environmentally). If farmer and agri-business interests 'capture' agricultural agencies, they will struggle to achieve this. Having an organised farm worker lobby would help, but this is rarely the case. Working on the less controversial aspects of the agenda – gathering information, for example – would be a good start. Armed with knowledge, advocates for farm workers' interests could then develop their arguments and attempt to persuade ministers and civil servants on these. Politicians too could recognise that many of their constituents depend on wages as much as prices, and show significantly more interest in the conditions in which rural labourers work.

9. Employability

A number of factors, such as low education levels, poor health and discrimination, affect the ability of rural workers to obtain favourable job opportunities, whether in the farm or the non-farm sectors. Education and skills training can serve as one of the most effective ways of increasing employability and helping people escape poverty. Social protection programmes and anti-discrimination policies may be necessary to help those who face short- and long-term disadvantages in employability.

9.1 Education and skills training

Evidence shows that greater education and skills enable rural people to access good employment opportunities¹³². For rural women in particular, education is positively correlated with stable agricultural employment and participation in high-productivity employment, increasing their chances of entering formal labour markets and even accessing urban employment.¹³³

Ideally, education and training programmes should focus on building skills and employability in both farm and non-farm activities, as most poor households in rural areas need to access multiple jobs that span these sectors. Choosing to focus training on farming activities may also serve to enhance the status of farming occupations for the young. Learning new skills/techniques for sustainable farming in particular is becoming increasingly important.

For populations with good primary education, policymakers can emphasise developing technical and vocational skills relevant to the labour market. However, it is important that such programmes also strive to be accessible and not require a basic level of literacy or qualification. As primary schooling has been limited in many parts of Africa and Asia, especially for women and the poorest, these groups should not be barred from benefiting from education and training programmes to enhance their employability – although this may require a big investment in literacy. It would also encourage education programmes to develop more experiential pedagogies, focusing on practical workplace training rather than classroom teaching alone. Employment-based training programmes have been the most successful.

For the informal sector, improved apprenticeship programmes could be an effective (and cost-effective) source of skill development, and are likely to be more accessible for the poor than formal technical and vocational training programmes.^{134 135}

Even with opportunities for education and training, there remain segments of the rural workforce that cannot benefit from new sectors, or regions where the total wage income is moving upward. Although the movement of some from the farm to the non-farm sector may create additional space for the remaining workforce to find work, possibly on more favourable terms, evidence shows that the benefits are not evenly shared.

The poorest often still struggle to access programmes aimed at increasing employability and face persistently low or declining employability owing to a number of factors, such as location, ageing, illness, disability or having to care for dependants. In these cases, certain types of social protection need to be considered. Expanding coverage of unemployment insurance can play a vital role in reducing vulnerability arising as a result of temporary changes to an individual's employability, such as ill-health. Pensions can help protect ageing populations: researchers noted that a newly

¹³² <http://www.ifad.org/rpr2011/report/e/rpr2011.pdf>, pg.213.

¹³³ <http://www.ifad.org/rpr2011/report/e/rpr2011.pdf>, pg. 206.

¹³⁴ Walther, R. (2011) "Building Skills in the Informal Sector"

<http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/pdf/gmr2012-ED-EFA-MRT-PI-08.pdf>

¹³⁵ King, K. (2011) "Eight Proposals for a Strengthened Focus on Technical and Vocational Education and Training (TVET) in the Education for all (EFA) Agenda"

<http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/pdf/gmr2012-ED-EFA-MRT-PI-06.pdf>

universalised pension scheme in South Africa helped increase the socioeconomic power of older people.¹³⁶ Evidence also shows that universal health insurance is one of the most promising ways of reducing vulnerability.¹³⁷

Box 41: Improving informal apprenticeship systems¹³⁸

Informal apprenticeship systems are considered the most important source of skills training in Africa and South Asia. They are a socially accepted way of transmitting technical skills as well as business cultures and networks across generations. However, sometimes informal apprenticeships are exploitative and do not respect the principles of decent work, with apprentices working long hours, having little or no right to time off, receiving low or no allowances or wages, having no social protection and facing strong gender imbalances.

Recognising the potential of good quality apprenticeship schemes for increasing employability and helping young people get decent work, the ILO provides these key messages for policymakers to improve informal apprenticeship systems:

- (i) Capitalise on the existing system: foster improvements from within the existing system, for example by encouraging small business associations to play a primary role.
- (ii) Strengthen the apprenticeship contract: at a minimum, contracts should specify details of working time; expected and maximum duration of the apprenticeship; the conditions that determine its completion; the respective rights and duties of the craftsperson and apprentice; the duration of a trial period; issues of liability; and how conflicts or breaches of contract are to be dealt with.
- (iii) Bring new skills into informal apprenticeship: this may be through providing courses in technical, business or teaching skills for master craftspersons, by forging links with larger enterprises to enhance access to new technology or materials or by encouraging rotation systems that allow apprentices to move to different workshops and develop a broader skills base.
- (iv) Enhance the quality and reputation of informal apprenticeships: some small business associations have introduced skills tests post-apprenticeship to set quality standards within a trade; other trades have tried to harmonise training content. Skills standards and keeping logbooks can enhance the recognition of skills and help apprentices find a job on the completion of their apprenticeship.
- (v) Improve equal access to informal apprenticeship: this requires addressing stereotypes to make the recruitment process open to women and other disadvantaged groups, encouraging women entrepreneurs to accept apprentices and supporting these groups to approach master craftspersons for training opportunities.
- (vi) Include informal apprenticeship in the national training system: consider linking informal apprenticeship with formal training provision. Bangladesh, Benin, Burkina Faso, Mali, Niger and Togo are piloting dual apprenticeship schemes to incorporate new elements into informal apprenticeship.
- (vii) Take a step-by-step approach: recognise that upgrading an informally organised system requires time. However, it is important to build trust between trainers and learners in both the formal and informal training system and to strengthen the capacity of small business associations and groups representing the interests of those involved.

These measures are about more than just improving skill provision to enhance individual employability. Good quality apprenticeship schemes also help perpetuate and consolidate productive micro and small enterprises. This puts them in a better position to respond to changes in economic conditions so they are more likely to grow and create jobs.

Given the significant changes expected in agriculture in the context of climate change, and the knowledge intensity of the sustainable agriculture approaches discussed in Section B3, agricultural education will be critical in the coming years. Since apprenticeships seem to work, why not use climate financing to support a widespread sustainable farm apprenticeship scheme, targeted at younger and poorer farmers? This could be modelled on Working Weekends on Organic Farms (www.woof.org).¹³⁹

¹³⁶ http://www.chronicpoverty.org/uploads/publication_files/CPR2_Background_Papers_Braunholtz-Speight.pdf

¹³⁷ <http://www.odi.org.uk/resources/docs/7522.pdf>

¹³⁸ http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_167162.pdf

¹³⁹ See www.woof.org

9.2 Role of discrimination

Throughout Africa and Asia, large numbers of the chronically poor face significant barriers to favourable employment on the basis of their group rather than individual identity.¹⁴⁰ Deeply ingrained forms of discrimination result in low employability prospects for groups of people, which policies aimed at building individual skills cannot address alone. In these circumstances, there must also be an effort to introduce anti-discrimination policies. Unfortunately, evidence on the impact of these policies on chronic poverty is weak.

In countries where legal rights for discriminated-against groups are still lacking, there may be a need to introduce formal legislation against discrimination in labour markets. However, the mere existence of such laws is insufficient. Ensuring equality in the workplace also relies on discriminated-against groups understanding and fighting for their legal rights and a strong system of legal enforcement and justice.

Realising a more equal labour market also requires that employers adhere to anti-discrimination laws. This may require introducing public education programmes to influence cultural attitudes and perceptions of group identity, aimed specifically at employers. The evidence suggests that 'organic processes of change through direct everyday contact and "learning by doing" have a significant impact', and so working with these processes to affect cultural change may help challenge discrimination¹⁴¹. Policymakers can also support existing initiatives by companies that make the effort to hire discriminated-against groups, as in Box 42.

Box 42: The private sector takes the lead in training and hiring people with disabilities¹⁴²

MphasiS is a global information technology and business process outsourcing company headquartered in Bangalore, India. As of 2009, the company employed 36,000 professionals and reported annual revenues of \$903.5 million.

Recognising the 'talent and competency [that] exist in all groups of people', the company's senior leaders made the decision to actively employ people with disabilities. Choosing a strategy of focused targeting, it collaborated with the Diversity and Equality Opportunity Centre, an Indian NGO, to execute Project Communicate. This was a three-month pre-employment training programme targeted at people with disabilities from rural areas with a secondary school education. Trainees were provided with a series of English language and computer courses to prepare them to work in an office environment. Since the start of the programme, 90 trainees with disabilities have completed the programme and secured jobs with MphasiS or other companies.

The company's commitment to hiring people with disabilities has led to an increase in the number of disabled workers within the company from 56 to 350 over a three-year period.

Introducing reservations or quotas for both political and economic representation could be an effective way of empowering discriminated-against groups in the labour market. Quotas in government employment and legislative bodies were introduced in India more than 50 years ago for members of the Scheduled Castes/*dalits* and Scheduled Tribes. This has resulted in a substantial increase in their presence in government employment and some 'more symbolic but potentially culturally important achievements, such as the first dalit President in 1997 (K R Narayanan)¹⁴³. That said, such policies have failed to have a significant impact on the poverty of these groups relative to the rest of Indian society.

¹⁴⁰ http://www.chronicpoverty.org/uploads/publication_files/CPR2_Background_Papers_Braunholtz-Speight.pdf

¹⁴¹ http://www.chronicpoverty.org/uploads/publication_files/CPR2_Background_Papers_Braunholtz-Speight.pdf

¹⁴² http://www.ilo.org/wcmsp5/groups/public/@ed_emp/@ifp_skills/documents/publication/wcms_150658.pdf

¹⁴³ http://www.dfid.gov.uk/r4d/PDF/Outputs/ChronicPoverty_RC/other-braunholtz-speight-discrimination.pdf

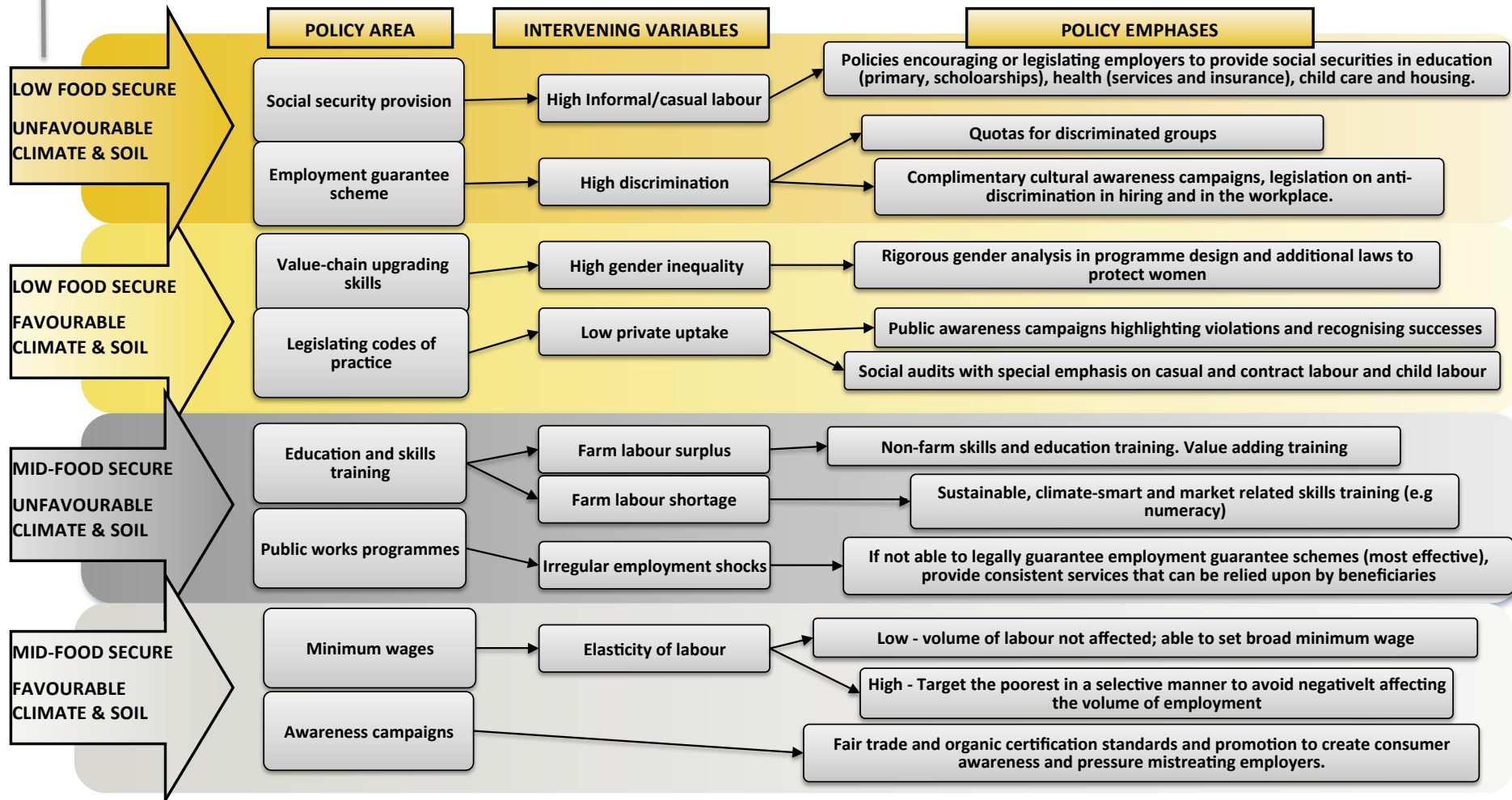
For such groups to get a better deal in the labour market, there is no shortcutting around substantial improvements in education. Again, agricultural education could be a part of this, since most discriminated households are agricultural. Farm apprenticeships focused on sustainable agriculture (see Section B9.1 above) could help bring about dignity and a wider social purpose for farming and land management, which it currently lacks.

9.3 Policy and programme implications: summary

What can agricultural agencies do to enhance skills and reduce discrimination? This should be a straightforward and uncontroversial area of policy, but this is not what we find in technical and vocational training. From the perspective of eradicating poverty, there appears to be only one promising direction for policy, which is to reform and expand existing informal apprenticeship systems, so they provide decent work as well as work experience and on-the-job training. The formalisation of informal apprenticeships is an experimental approach, and needs careful evaluation. Agricultural agencies could get involved in supporting such systems, both within agriculture, especially in recognition of the sector's carbon emission capture role, which needs to be supported by a lot of training, but also in the non-farm sector, where agricultural agencies are responsible for non-farm rural development.

Positive discrimination or affirmative action may also improve employability for minority or discriminated-against groups, although the evidence here is lacking. What is clear is that legislation by itself is not enough: it needs to be supported by popular movements and careful monitoring by independent bodies. Movements and independent bodies are more likely to be more vibrant in middle-income countries than in low-income countries.

Labour Policy Guidance Map



Critical policy areas beyond agriculture

This is a guide on how agriculture, and agricultural agencies, can address chronic poverty. It is not a rural development guide. However, agricultural agencies can also make critical contributions to areas beyond their direct control. These would include social protection, where agricultural agencies are often involved in organising public works schemes or employment guarantees, and gender equality, where agricultural agencies can exploit their links with farm households to make sure women are given more equal treatment. These issues have already featured quite strongly in this guide. Three further issues are highlighted here: developing the non-farm economy; contributing to local institutional development; and contributing to macro discussions and strategies on economic growth. Each is the subject of a policy brief to accompany this guide.

10.1 The non-farm rural economy

The non-farm sector is an extremely important complement to agriculture. It figures strongly in the stories of most of the farm households that have escaped poverty. While its development depends on the growth of agriculture, it typically does provide higher income-earning opportunities than agriculture, in terms of both self-employment and wage employment. There are several approaches to promoting the non-farm economy appropriate to different contexts. Table 2 summarises these.

Table 2: Strategies to promote the non-farm economy, by country food security category

Policy	Country category	Implications
Stimulating demand Agricultural income growth; infrastructure development; social protection; migrant support measures	Lowest and low food security/unfavourable climate	<ul style="list-style-type: none"> Priorities: improving agricultural incomes, integrating local markets to reduce impact of local shocks, social protection and gender equity measures to reduce inequalities Business promotion and investment climate measures are unlikely to have much impact unless demand is addressed first A big expansion of migrant support programmes
	Middle and upper-middle food security	Investment climate improvements likely to yield results because demand is present
Investment climate improvements Remove tax and regulatory thresholds that discourage business growth beyond the micro or small; effective utilities and energy supplies; security improvements and anti-corruption measures	Lowest and low food security/unfavourable climate	<ul style="list-style-type: none"> Build infrastructure to integrate markets, reduce impact of localised shocks and add to market opportunities Beware urban enterprises out-competing rural
	Middle and upper-middle food security	Full investment climate improvement agenda
Business promotion Tax incentives; special investment funds and credit facilities; training and mentoring for entrepreneurs, managers as well as workers; development of associations	Lowest and low food security/unfavourable climate	<ul style="list-style-type: none"> Agri-business small and medium enterprise promotion a priority to stimulate agricultural incomes Selective infrastructure improvement to support agri-business
	Middle and upper-middle food security	Full business promotion agenda

Note: Country categories are from the International Food Policy Research Institute (IFPRI) food, climate, ecological and trade security categorisation of countries. See: Yu, B., You, L. and Fan, S. (2010) *Toward a typology of food security in developing countries* IFPRI Discussion Paper 945

However, there is often an institutional vacuum concerning the rural non-farm economy. It either falls between stools – with government agencies dedicated to one aspect or another of its promotion – or it is moved from pillar to post. For example, in Mozambique, the rural development department moved

from being an autonomous unit to being in the Ministry of Agriculture, then moved to the Ministry of Planning and Development and then into the Ministry of State Administration. It has tended to operate more as a project management unit rather than a strategic policy-setting or coordinating institution, so it has not really achieved what it needs to.¹⁴⁴ Given its strong links with agriculture, it makes sense for the non-farm economy to be institutionally located in the Ministry of Agriculture so that initiatives can be easily coordinated.

10.2 Local institutions and democracy

This is the new frontier in the eradication of poverty, previously been pursued through national-level policies. The success of most national policies relies on local organisations being involved in, if not leading, implementation, and requires a degree of local participation. Local contexts vary considerably in terms of the factors that enable escape from poverty, prevent impoverishment and address chronic poverty. Local expertise and local progressive alliances across different centres of power are necessary if the interests of the chronically poor are to be represented effectively to policymakers. While elite capture of local resources is a common problem, there has been growing realisation that progressive local alliances are possible.

Traditional institutions – chieftancies, religious authorities, land allocation authorities, etc. – may discriminate against the asset accumulation strategies of the chronically poor. Together with local associations and elected representatives in local government, these are all key decision makers. Agricultural agencies can play a role in bringing these different institutions together in support of policies and programmes that will address chronic poverty, if necessary challenging the conservatism of traditional authorities. Key to this is a well-functioning local democracy.

What are the key factors in improving local democracy? Great local leaders are the first thing; other critical factors determining responsiveness are free and fair elections; easily accessible information about what the local government is doing – without information poor people cannot take action; and participation in local government and civil society (local groups, etc.). Agricultural agents can be central to all of these.

10.3 Employment-generating growth and the agricultural paradigm

Labour is often the main asset the poorest people have to exchange in the market. Jobless economic growth is therefore not much use to them: strategies that generate employment are at a premium. Agriculture remains a critical provider of employment and self-employment opportunities; this has been recognised, and there have been many calls since 2000 to increase public and private investment in the sector, with new initiatives particularly since the 2008 food price spike.

Agricultural agencies can play a stronger part in macroeconomic debates if they can demonstrate confidently how it is that agriculture can help poor people move out of poverty, prevent impoverishment and address the causes of chronic poverty. This guide has suggested something of a paradigm shift in agriculture from one of a Green Revolution to an asset- and employment-based approach to agricultural development. Furthermore, in a world where environmental sustainability has shot up the agenda, agricultural agencies need to demonstrate that agriculture can grow and contribute to mitigating climate change and achieving wider sustainability all at the same time. The approach suggested here is consistent with a much greater appreciation of environmental sustainability.

Table 3 indicates how some of the challenges in moving to this new approach can be met.

¹⁴⁴ Thanks to Anna Locke for this information.

Table 3: Challenges and responses in developing a new sustainable, poverty-eradicating agricultural paradigm

Challenge	Response
Use of a systems approach	Farming systems research was tried in the 1980s and 1990s and abandoned because it was too complex. What are required are shared concepts across the different specialties and a looser collaborative/network approach to development work, rather than a restructuring of services.
Context-specific R&D and extension	Build on the available approaches (e.g. participatory research, adaptive research) to make these services more responsive to demand and context. Significant progress has already been made here by many agencies.
Area-based approach	This has been practised by some agencies (e.g. watershed management) and many countries now include agriculture as part of an area-based local government service. There is good experience to build on. There may be boundary issues to resolve.
New emphases on intermediate farm mechanisation, farm workers, regulating agricultural markets and the non-farm economy	These may require new or strengthened departments in ministries of agriculture, or collaborative relationships between agricultural agencies and agencies closer to the topic – labour departments, ministries of commerce or rural development.
Time to bear fruit	Considerable political education is required. International support is critical – the international agricultural agencies (FAO, IFAD and ILO) increasingly agree with this agenda and can support national efforts.
Changes in property rights, e.g. promotion of rental systems and other ways of expanding access to land for the poorest	Many countries have already embarked on this route, even though it is sometimes long and complicated.
Favourable pricing	Initially, this has been achieved through certification (organic/fair trade) and price premiums in export markets. The challenge is to extend this to developing country consumer markets. Consumer education is critical.

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Annex 1. Food, climate, trade and ecological security categorisation of developing countries¹⁴⁵

			Low soil fertility		High soil fertility	
			Unfavourable climate	Favourable climate	Unfavourable climate	Favourable climate
Low food security	Trade insecure	Low food production	Eritrea, Kenya, Niger, Tanzania, Yemen, Zambia	Burundi, Central African Republic, Democratic Republic of Congo, Liberia, Rwanda, Sierra Leone, Solomon Islands, Uganda	Democratic Republic of Korea, Ethiopia, Malawi, Mozambique	Bangladesh, Comoros, Guinea, Haiti, Madagascar, Togo
	Trade secure	Low food production	Angola	Cambodia, Laos, Republic of Congo	Zimbabwe	Swaziland
Low food security	Trade insecure	Low food production	Djibouti, Guinea-Bissau, Mali, Namibia, Pakistan, Palestine, Sudan	Cameroon, Côte d'Ivoire, Ghana, Nepal	Benin, Gambia, Senegal	Dominican Republic, Guatemala, Honduras, Nicaragua, Sri Lanka
	Trade secure	Low food production	Bolivia, Botswana, Chad, Peru	Colombia, Venezuela, Vietnam	India, Lesotho	Panama, Philippines
Middle food security	Trade insecure	High food production		Belize, Guyana, Paraguay		Dominica, Vanuatu
		Low food production	Jordan, Mongolia, Timor-Leste	Suriname	Burkina Faso	Antigua and Barbuda, El Salvador, Georgia, Jamaica, São Tomé and Príncipe
	Trade secure	High food production		Thailand		Costa Rica, Ecuador
		Low food production		Indonesia, Myanmar, Netherlands Antilles	Nigeria	Gabon, Seychelles, St. Vincent and Grenadine
Upper-middle food security	Trade insecure	High food production	Lebanon		Syria	
		Low food production	Algeria, Egypt, Mauritania, Saudi Arabia, South Africa		Cape Verde, Mauritius, Morocco	Bahamas, Barbados, Cuba, Fiji, Grenada, Kiribati, Maldives, New Caledonia, Samoa, St. Kitts and Nevis, St. Lucia
	Trade secure	High food production	Chile, China, Iran,	Brazil, Malaysia	Argentina	Uruguay
		Low food production	Kuwait, Libya, Mexico, Tunisia	Brunei, Trinidad and Tobago		
High food security	Trade insecure	High food production				
		Low food production				French Polynesia
	Trade secure	High food production				
		Low food production	United Arab Emirates			

¹⁴⁵ Yu, B., You, L. and Fan, S. (2010) *Toward a typology of food security in developing countries* IFPRI Discussion Paper 945.

