



Social protection and resilient food systems: The role of Integrated Livelihoods Approaches

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Abbreviations

APRLP	Andhra Pradesh Rural Livelihoods Project
BMI	Body Mass Index
CLP	Chars Livelihoods Programme
CFPR	Challenging the Frontiers of Poverty Reduction
IEP	Infrastructure and Employment Programme
IFSP	Integrated Food Security Programme
MLDP	Meket Livelihoods Development Project
MDV	Millennium Development Village
MERET-PLUS	Managing Environment and Resources to Enable Transitions to More Sustainable Livelihoods Through Partnership and Land User Solidarity
MPRLP	Madhya Pradesh Rural Livelihoods Project
PRP	Protracted Relief Programme
WORLP	Western Orissa Rural Livelihoods Project

Executive summary

This paper explores evidence on the impacts of integrated livelihoods programmes on resilient food systems, focusing specifically on impacts on the availability of food, access to food and the utilisation of food, all in the context of specific shocks and stresses. The paper draws on evidence from four types of integrated programme: i) DFID-funded livelihoods programmes in India focusing primarily on promoting rural agricultural production and enhancing skills for female farmers working in the agricultural sector and in Ethiopia the MERET-PLUS programme focussing on soil and water improvements; ii) “graduation” model programmes in Bangladesh implemented by BRAC (CFPR) and DFID (CLP), a similar programme in Zimbabwe (PRP) and recent pilots in Haiti, India and Pakistan which transfer a lump-sum asset to women coupled with skills training and health care; iii) the Millennium Development Village (MDV) programmes in Africa and Asia which seek to promote agricultural production alongside improvements in health and education; and iv) the GTZ-funded Integrated Food Security Programme (IFSP) in Malawi and Save the Children’s Meket Livelihoods Development Project (MLDP) which include agriculture, water, income generation, and health interventions alongside income and/or food transfers.

Geographically there are distinct patterns in programming: the major integrated livelihoods programmes – where one programme delivers a number of components to the same programme beneficiary – are found predominantly in South Asia with, notwithstanding a range of smaller pilots, very little coverage elsewhere in the world. Integrated livelihoods programmes have been spearheaded in India and Bangladesh and are based on the principle that addressing poverty needs a multi-dimensional, integrated, and participatory approach: poor households are not just income poor, they face a number of constraints in both the economic and social spheres which keep them trapped in poverty. There have also been similar approaches taken in countries in Africa but in general these have less explicit focus on the graduation objective seen in South Asia.

Across the four types of integrated livelihood programmes, evidence from programme evaluations suggests that programmes have had a positive impact on reducing the vulnerability of household to food insecurity, in particular seasonal food insecurity. Studies show these findings largely from qualitative evidence of beneficiaries self-reporting an increase in the number of meals that they are able to eat (or a reduction in the number of meals that they miss).

Evidence of the programmes’ final impact on nutrition (measured by stunting, wasting or Body Mass Index indicators) however, is much more mixed. A study from the Millennium Development Villages reports a reduction in stunting across nine village sites (out of fourteen village sites in ten countries) (Buse et al., 2008) and there is evidence of a significant reduction in stunting in Mulanje district of Malawi, where the IFSP was implemented (Webb, 2011). Evidence is inconsistent from the “graduation” model programmes despite findings of improved diet and food security: the Fonkoze CGAP programme in Haiti for instance, found a reduction in severe wasting among beneficiary household children from baseline to 24 months but reports suggest that moderate malnutrition actually increased from 18 months to 24 months (Huda and Simanowitz, 2010); studies from CLP demonstrate some improvements in women’s Body Mass Index (BMI) but no significant differences in under 5 wasting and stunting between beneficiary and treatment groups (Goto and Mascie-Taylor, 2010; Mascie-Taylor, 2010). Only one of the DFID-funded livelihoods programmes (Western Orissa) explicitly examined programme impact on anthropometric indicators, and found the programme had not resulted in improving child wasting indicators (programme beneficiary children rate were similar to the state average) (Sambodhi, 2009 cited in Holmes, DFID conference report 2010).

Across all the types of programmes, the evidence demonstrates that a key contributing factor to reducing household vulnerability to food insecurity is increased agricultural production and productivity. In some programmes – notably DFID-funded India, Zimbabwe’s PRP, the MERET-PLUS in Ethiopia, Malawi’s IFSP and MDVs where agricultural productivity is a main programme objective – programme interventions have resulted in increases in the production of additional crops (in the *rabi* season in India), improvements in land-based productivity resulting in increased yields and a greater diversification in agriculture. These results have been achieved through the combined and integrated approach to rural livelihoods, including improved animal husbandry, forestry, aquaculture and horticulture, small-scale, participatory soil and water conservation techniques, improved soil fertility and improved water-holding status, improved use of technology in the India programmes (Reid in DFID conference report, 2010), the use of conservation agriculture and improved agricultural technologies in Zimbabwe, and the early introduction of fertiliser, improved seeds and intensified agricultural service systems specifically in Ethiopia, Ghana, Malawi and Uganda in the case of the MDVs and the IFSP (Pronyk et al., 2012; Buse et al. 2008; Webb, 2011).

While the primary focus of the “graduation” model programmes is to generate income through assets such as livestock, programme evaluations still report an increase in agricultural productivity due to complementary programme interventions in vegetable / homestead gardening. In the case of CLP, for instance, beneficiaries receive skills training in homestead gardening as well as the provision of quality seeds and fruit saplings, help developing compost pits and in marketing of surplus products.

Another key finding is the importance of increased food availability through community-run grain and seed banks in the MLDP and the DFID-funded projects (MPRLP, WORLP and APRLP) to respond to predictable seasonal and unpredictable shocks and stresses. An important function of the grain banks are that they are able to respond much more quickly to local food shortages than centralised food security programmes (see also Maunder, 2013 in this series).

Increased incomes from programme interventions are another key factor which promotes household food security, in particular facilitating better access (and in some cases utilisation) to food. Across the different types of programmes, various programme components are reported to contribute to this impact. In particular, households from the BRAC graduation model (CFPR and pilots) report increased expenditure on food. In the case of CFPR this is attributed to the availability of the regular cash stipend during the first 18 months of programme participation, and a stronger asset base generated by the programme’s transfer. Similarly, reports from the DFID-livelihoods programme suggest that the availability of consumption credit at the same time as generating income from diversifying livelihoods is a key contributing factor smoothing consumption over food insecure periods. In CLP, Bangladesh, the availability of short-term public works programme (and also found in DFID-funded APRLP) is seen as a critical factor which ensures consumption smoothing in the *monga* season (for more detailed discussion on public works see McCord, 2013 in this series).

While two of the types of integrated livelihoods models (MDVs, MLDP and “graduation” model) also include “social” type trainings and awareness (such as nutrition education, hygiene awareness such as washing hands, and water and sanitation interventions) it is difficult to assess the extent to which these components have contributed to food security. There are possible explanations for this. One is that although education and awareness is given to beneficiaries, they do not put it into practice. The other is that it is very difficult to separate out the impacts of different components in an integrated programme, as a report on the MDVs suggests: “As a complex intervention operating across many sectors, definitive statements about the specific mechanisms of mortality reductions are not possible. In the agricultural sector, the early introduction of fertilizer and improved seeds resulted in a two to three-times increase in staple crop yields, potentially contributing to gains in food security and lower levels in childhood stunting in Millennium Village sites. Finally, major improvements in access to safe water and sanitation might have generated additional synergies” (Pronyk et al. 2012).

1 Introduction

Integrated livelihoods programmes are initiatives that include at least two or three components which might include transfers (such as cash, food or agricultural inputs), coupled with economic and / or social support (such as training on economic activities or social development awareness-raising meetings on health, nutrition and sanitation for instance). Such programmes have evolved over the last couple of decades largely in South Asia (particularly Bangladesh and India) with a few programmes in sub-Saharan Africa. They are often time and labour intensive and are largely supported financially by international donor agencies.

Global food price spikes and limited household purchasing power in the face of sustained poverty have reoriented attention once again to food insecurity. Understanding the causes of food and nutrition insecurity beyond issues of availability have led to the identification of four pillars which encompass a resilient food system: (i) increasing availability, (ii) improving access, (iii) improving nutritional adequacy of food intake (utilisation) and (iv) enhancing crisis prevention and management. In particular, availability refers to both production and what can be acquired through markets, whether national or international; access includes the ability to purchase food, but also to obtain it as part of informal (e.g. within-household) or formal (e.g. food aid or regular food transfers) entitlements; improved utilisation of food depends on improvements in diet, but also on improved nutritional knowledge, good sanitation and health (including prevention of diseases and parasites); and crisis prevention aims to maintain food security across the three pillars above in the context of crises and emergencies.

The objective of this paper is to identify how integrated livelihoods programmes can contribute to more resilient food systems. It does this by examining the theoretical pathways by which such programmes can contribute to each of the four pillars of food security, and discussing the evidence from a selection of programmes (based on available evidence) to assess how far the theoretical claims contribute in practice. The paper is structured as follows. Section 2 first provides a brief overview of the integrated programmes discussed in this paper, presenting their main aims, objectives, design and implementation features. Section 3 then discusses the components of a resilient food system in more detail, identifying the possible theoretical pathways in which the integrated components can contribute. Section 4 then examines the evidence from each type of integrated programme supporting the food system pillars. Section 5 draws conclusions and policy implications from across the programmes.

2 Overview of programmes

The programmes reviewed in this paper can be grouped into four categories (see Table below for programme details). The first group of integrated programmes follow a type of “graduation” model, whereby a large value asset transfer (usually livestock) is received by beneficiaries (most often women). At the same time as the asset transfer, beneficiaries receive a number of complementary programmes and services, including skills training (which includes how to look after the asset, market-based skills), a monthly cash stipend, a savings scheme, free access to health care, social development training and awareness (such as nutrition education, awareness on hygiene). Within approximately 18-24 months, it is expected that beneficiaries will “graduate” out of the programme. In the case of the BRAC models, the expectation is that beneficiaries will take up micro-credit to further their economic activities. This category also includes the PRP in Zimbabwe, which was modelled on the BRAC programme.

The second category includes the DFID-funded livelihoods projects in India. Projects in Andhra Pradesh, Madhya Pradesh and Orissa (amongst other states) aimed to improve rural livelihoods through increasing agricultural production and productivity of rural farmers. The programmes targeted women. The integrated components included agricultural inputs and improved farming practices (including crop intensification and diversification), watershed interventions, capacity building and technical support for self-help groups; micro-finance and community seed banks. This group also includes the WFP MERET-PLUS programme, which mainly focuses on improved management of soil and watershed interventions, with the addition of a food-for-assets component.

The third group consists of the Millennium Development Villages projects implemented in fourteen villages across ten countries in sub-Saharan Africa. The project implements interventions in five sectors: i) agriculture: agricultural inputs (improved seeds, fertilizers), farmer training, access to loans and savings; ii)

health: water and sanitation interventions, basic health education, increasing dietary diversity, nutrition interventions at clinics, schools and at household and community levels; iii) education; iv) infrastructure; and v) business development.

Finally the fourth category includes both the Meket Livelihoods Development Project (MLDP) in Ethiopia and the Integrated Food Security Programme (IFSP) in Malawi, which comprised a number of agricultural, water, health and income generation interventions, with the addition of a cash/food transfer. These are similar to the first category of programmes, but without the explicit emphasis on graduation.

Table 1: Overview of programme details

Name of programme	Programme objectives	Programme components	Implementation arrangements	Coverage (and target group)	Total cost (and average annual cost)	Conceptual pathways to food security
BRAC CFPR	Assist the ultra poor to graduate from extreme poverty, get access to mainstream development programmes and establish sustainable livelihood improvement	Asset transfer (e.g. livestock); Subsistence allowance/stipend; Skill development training; Community support including social awareness education and village committees to secure assets, protect members and mobilize resources in times of crisis; Health care services for two years	Funders include DFID, AusAID. Implemented by BRAC.	Bottom 8% of population selected through PRA and door-to-door surveys. STUP phase 1 was implemented in 15 districts with 100,000 beneficiaries. STUP phase 2 is being implemented in 40 districts with 300,000 beneficiaries (divided into STUP I and II)	Unavailable	Availability: Increased productivity and income through asset transfer, skills training Access: Increased income through IGA (of asset), training, stipend, savings, community support results in increased expenditure on food and consumption smoothing in crisis Utilisation: improved knowledge on nutrition and hygiene practices, improved health through access to health care
CGAP-Ford Foundation Graduation pilots	Ultra poor equipped to help themselves 'graduate' out of extreme poverty within 2 years	Consumption support: small cash stipend or goods in kind; Savings through microfinance institution; Skills training; Asset transfer (participants' choice); Regular monitoring and coaching	Partnerships with financial service providers, NGOs and government safety net programmes	Community-led participatory wealth rankings and household surveys to identify the poorest Fonkoze (Haiti): 150 families, scaled up to over 2000 in 2012; Bandhan (India): 10,000 women from 45 villages; SKS (India): about 2500 HHs; Pakistan: scaled up to 40,000 HHs in 2012;	Unavailable	Access: Increased income through IGA (of asset), training, stipend, savings, community support results in increased expenditure on food and consumption smoothing in crisis

Name of programme	Programme objectives	Programme components	Implementation arrangements	Coverage (and target group)	Total cost (and average annual cost)	Conceptual pathways to food security
				Honduras: 800 HHs in 40 communities across 10 districts; Ethiopia: 500 HHs in 10 sub-districts		
CLP	Improve the livelihoods, income and food security of up to one million of the extremely poor	Income-generating asset; Homestead gardens and market development (M4P) activities; Access to clean water and sanitary latrine; Raising of homestead above flood level Stipend payments for 18 months Access to village savings and loans; Access to a social development group with 18 months training; Livelihoods training and inputs; Vouchers to access health services	Jointly funded by DFID and AusAID, sponsored by Bangladesh Ministry of Local Government, Rural Development and Co-operatives, implemented by Maxwell Stamp PLC in cooperation with local NGOs	67,000 households living on island <i>chars</i> supported. Eligible if no ownership or access to land, no regular source of income, not included in another programme, and owning total asset of less than Tk 5,000 (£40)	£78 million over 6 years (average annual cost of £13 million)	Availability: Increased productivity and income through asset transfer, skills training and access to land Access: Increased income through IGA (of asset), training, stipend, savings, homestead gardens, community support results in increased expenditure on food and consumption smoothing in crisis Utilisation: improved diversity of diet through homestead gardens; improved knowledge on nutrition and hygiene practices, improved health through access to health care
PRP Zimbabwe	To reduce extreme poverty and the proportion of people who suffer from hunger in Zimbabwe.	Agricultural (provision of subsidised inputs, improved technology, conservation farming, community gardens) Microfinance	Funded by DFID, coordinated and managed by GRM International, implemented by international and local	Reached 1.5 million beneficiaries in Phase I and 2 million in Phase II (about 15% of total population).	Phase I: over £30 million Phase II: approx. £55 million	Availability: Increased productivity and income through asset transfer, improved agricultural practices

Name of programme	Programme objectives	Programme components	Implementation arrangements	Coverage (and target group)	Total cost (and average annual cost)	Conceptual pathways to food security
		WATSAN Home based care Social transfers (cash/food) IGA support	NGOs	Beneficiaries selected according to livelihood zone profiles identified by the Zimbabwe Vulnerability Assessment Committee		Access: Increased income through IGA, savings in ISALs, community support results in increased expenditure on food and consumption smoothing in crisis
DFID-funded programmes in India	Promotion of sustainable livelihoods for the poorest	Agricultural inputs and improved farming practices including crop intensification and diversification; Watershed interventions Capacity building and technical support for self-help groups; Micro-finance Community seed banks	Works with local governments, village assemblies and self-help groups	APRLP: 830,000 households MPRLP: 123, 300 households WORLP: 145,000 households OTELP: 5,932 households	APRLP: £45 million over 8 years (£5.625 m/yr) MPRLP: £17 million over 8 years (£2.125 m/yr) WORLP: £32 million over 10 years (£3.2 m/yr) OTELP: £12 million over 10 years (£1.2 m/yr)	Availability: increased production and productivity through agricultural & watershed interventions; availability of seed banks in times of crisis Access: increased household income through improved livelihoods, consumption credit; Utilisation: Improved availability and access of locally grown food result in more nutritious and diversified diets Crisis prevention: Food grain bank reserves; improved production to buffer seasonal food insecurity
MERET-PLUS	Improve food security	Watershed revitalisation Improved soil management techniques	WFP in partnership with Government of Ethiopia	382,000 beneficiaries across 350 sites in chronically food insecure	Unavailable	Availability: increased production and productivity through

Name of programme	Programme objectives	Programme components	Implementation arrangements	Coverage (and target group)	Total cost (and average annual cost)	Conceptual pathways to food security
		Food-for-assets		districts		agricultural & watershed interventions; Access: food-for-assets
Meket Livelihoods Development Project	To encourage experimentation and diversification of the rural economy against a backdrop of safety nets	Public works; Cash transfers; Market development; Grain and seed banks; Livelihood diversification; Promotion of child care (improved hygiene and nutrition)	Training and facilitation by Save the Children Implemented by local stakeholders	About 40,000 beneficiaries in the Meket woreda	Total budget: £3.8 million over 3 years	Availability: increased production and productivity through agricultural & watershed interventions; availability of seed banks in times of crisis Access: increased household income through improved livelihoods, consumption credit; Utilisation: improved knowledge on nutrition and hygiene practices,
IFSP Malawi	Improve food security and nutrition	Agriculture: improved technologies, seeds, fertilizers Water: irrigation, water-point management Income generation Food-for-work Food preparation Health interventions Family planning	Funded by GTZ	185 villages (roughly 40,000 households) in Mulanje district (one of the most vulnerable, lowest-performing regions in Malawi)	Unavailable	Availability: increased production and productivity through agricultural & watershed interventions; Access: increased household income through improved livelihoods, consumption credit; Utilisation: improved knowledge on nutrition and hygiene practices,

Name of programme	Programme objectives	Programme components	Implementation arrangements	Coverage (and target group)	Total cost (and average annual cost)	Conceptual pathways to food security
Millennium Villages	Achieve the MDGs by 2015 in the poorest regions of rural Africa	Interventions in five key sectors Agriculture: agricultural inputs (improved seeds, fertilizers), farmer training, access to loans and savings Health: water and sanitation interventions, basic health education, increasing dietary diversity. Nutrition interventions at clinics, schools and at household and community levels Education Infrastructure Business development	Country governments plan and execute. Africa regional centres manage operations. Funding, includes foundations, public and private sector	Over 500,000 people in communities of 5,000-70,000 people across 10 countries in sub-Saharan Africa	(\$120 per person per year, totalling approx. \$60 million annual cost)	Availability: increased production and productivity through agricultural inputs, trainings, access to finance Access: increased household income through improved livelihoods, access to finance and savings Utilisation: improved health; increased availability and access of locally grown food result in more nutritious and diversified diets

3 Contribution of integrated livelihoods programmes to food and nutrition security: Theory

In theory integrated livelihoods programmes can contribute to a resilient food system in a variety of ways (see Table 1 above). A framework for understanding the dimensions of food security relate to food availability, access, utilisation and crisis prevention and management.

The most direct pathway to support **food availability** from integrated programmes comes from the projects which focus on increasing production and productivity of food. The use of grain reserves or seed banks is also a potentially important mechanism to buffer seasonal (or emergency) shortages which have been a focus of the India livelihoods programmes and the MDLP programme in Ethiopia.

The potential for integrated programmes to support **food access** is significant. There are two key mechanisms here: i) increased agricultural production and productivity of subsistence crops; and ii) increased incomes from diversifying livelihoods, generating incomes from assets, and having better access to financial services including the transfer of the stipend, savings, and credit.

The pathways by which integrated programmes can contribute to the third pillar, **food utilisation**, are less obvious than the previous two. Direct pathways can be assumed to contribute positively to improved utilisation where programmes include nutrition education, awareness of hygiene practices and health care. Possible other pathways could include the consumption of better quality, more appropriate, and more diversified nutritious foods made available and accessible through increased production and / or increased income.

In terms of **crisis prevention and management**, the Protracted Relief Programme in Zimbabwe was designed to provide a long-term and flexible response to a chronic food crisis, moving away from shorter-term, humanitarian measures based on food aid alone. Other integrated programmes aim to increase productivity and enable households to have a regular stream of income (either through income generating activities, direct cash/food transfers or short-term public works programmes) to buffer the impacts of food shocks and predictable seasonal stresses.

We now turn to look at the evidence from programme evaluations on whether these linkages occur in practice.

4 Programme impacts: Evidence on food and nutrition security

In this section we examine evidence from across the three types of integrated programme categories on the extent to which they contribute to the four pillars of the resilient food system. We start by looking at programme impacts on food security and nutrition indicators, and then look at the ways in which programmes support food availability, access and utilisation, as well as how they relate to crisis prevention and management.

4.1 How do integrated livelihoods programmes support a food resilient system: availability, access, utilisation and crisis prevention and management?

Increased agricultural production and productivity

The strongest finding across the majority of the programmes (with the exception of BRAC's CFPR programme) is that agricultural production and productivity have increased. This is discussed as a key factor

contributing to household reduction in vulnerability to food insecurity, but it is not clear in the literature exactly how this is attributed to improved food security methodologically¹.

Increased production and productivity is a result of a number of different programme components. In the case of the Fonkoze project in Haiti, for instance, programme beneficiaries received strong encouragement to use their savings and profit (from the programme) to invest in cultivating existing land and / or buying land for vegetable gardens (Huda and Simanowitz, 2010).

In CLP, 66,000 families in 2009 were reported to be producing surplus vegetables sold locally or into the market, having significant impacts on household income (Marks and Vignon, 2009). Homestead gardening is a complementary activity to the asset transfer: beneficiaries receive skills training as well as quality seeds and fruit saplings, help developing compost pits and in marketing of surplus products and advice on family nutrition (Marks and Vignon, 2009). Moreover, CLP participant households also have improved access to land through the allocation of khas land (state-owned land) or utilisation of income generated from the sale of assets to obtain access to land (either by leasing or purchase) (CLP, Personal Communication, July 2013).

In contrast to the Fonkoze programme and CLP above, where the asset transfer is the main feature of the programme rather than increased agricultural production and productivity, the DFID-funded programmes, the PRP in Zimbabwe, the MERET-PLUS programme in Ethiopia, the IFSP in Malawi and the Millennium Development Villages project have a central focus on improving agriculture as a key programme objective.

Box 1: Impacts of BRAC CFPR

Food expenditure

CFPR II: Per **capita food expenditure increased (from Tk. 26.5 to Tk. 28.2)** for treatment group whilst remaining about the same for the control

Calorie intake

Increase in calorie intake well above poverty line for selected households. Increased from 1750 kcal/day/capita in 2002, to 2145 kcal/day/capita in 2004 for selected households. Remained unchanged for the non-selected ultra poor

Consumption of nutritious foods

In 2004, **quality** and quantity of **food intake had significantly improved** for beneficiary households compared to non-beneficiaries; **Reduction in cereal consumption and increased consumption of vegetables, eggs, meat and fish**

Negative coping strategies

Persistence of occasional deficit in food (understandable considering the context of the three districts of this survey – acute shortage of employment opportunities for day labourers is a regular phenomenon during October and November;

CFPR II: Incidence of not being able to manage adequate food more than 5 times in the last month declined from 1.8% to 0.5% for treatment group (2007-2009)

Number of meals consumed

Fall in households self-reporting chronic food deficit (programme participants who couldn't eat for a whole day) **from 60% in 2002 to 15% in 2005;**

CFPR II: Proportion of treatment HHs **able to manage at least 2 square meals regularly increased from 46% in 2007 to 82% in 2009**, compared to 36%-56% for control group

Source: Das and Shams, 2011; Matin et al., 2008; Haseen, 2006; Rabbani et al., 2006

Across the DFID-funded livelihoods projects (see Box 2 for state variations) there have been increases in the production of additional crops (in the *rabi* season) and improvements in land-based productivity resulting in increased yields and a greater diversification in agriculture. These have been a result of a number of the programme features, including improved animal husbandry, forestry, aquaculture and horticulture; small-scale, participatory soil and water conservation techniques, improved soil fertility and improved water-holding status (Reid in conference report, 2010); and improved technology (50% of women in core villages of Western India Rainfed Farming Project reported reduced drudgery through use of appropriate technologies (Reid in conference report, 2010)).

¹ We don't always know if food security has improved due to increased consumption of crops or increased income from selling produce, or a combination of both.

Similar results are found in the Millennium Development Villages project, which have seen increased yields and crop diversification.² Pronyk et al., (2012) report a 2-3 times increase in staple crop yields as a result of the early introduction of fertiliser, improved seeds and intensified agricultural service system (specifically in Ethiopia, Ghana, Malawi and Uganda) (Pronyk et al., 2012; Buse et al., 2008). In Malawi, the uptake of improved technologies and management practices, including the use of better seeds and fertilizers and the expansion of irrigation, led to higher crop yields, which continued to increase since the programme ended in 2004. For instance, maize production increased from 1.2 to 3.8 metric tons per hectare from 1995/96 to 2008/09 (Webb, 2011).

In Zimbabwe's PRP, there was a strong emphasis on conservation agriculture, which has been shown to increase cereal yields by about 700g per hectare. This, together with sustained household input support led to rapid productivity gains among beneficiary households (Jones et al. 2005).

Agricultural productivity also increased for beneficiaries of MERET-PLUS in Ethiopia. A combination of soil fertility and water rehabilitation measures increased crop diversification, yields and the production of a surplus to sell for profit. In 2008 nearly 90% of beneficiary households reported higher food availability. However, as mentioned above, it is important to note that other factors may have influenced the availability of food, including income and food transfers from this or other programmes (WFP, 2009).

Box 2: Impacts on agricultural productivity from selected India programmes

Evaluations from Andhra Pradesh, Madhya Pradesh and Western Orissa show significant increases in agricultural productivity.

In APRLP results were found in crop intensification and diversification resulting in higher yields: Farmers recorded 17-125% increase in greengram yields from micronutrient-treated plots compared to normal; 13-230% increase in maize yields; 21-70% increase in castor yields; 35-257% for sorghum; and groundnut yield increased by 28%. These results have been a result of the interventions components including: watershed interventions which increased the number of months of water availability; the reduction in fallowing of lands was due to better irrigation ; agricultural inputs were purchased with loans; beneficiaries were provided with improved seed varieties; integrated nutrient and pest management, improved crop husbandry practices carried out for certain crops. 87% of small farmer households reported increase in agricultural returns but low uptake of new practices.

In Madhya Pradesh, 62% of marginal farmers reported increased agricultural productivity from existing land, better irrigation and double cropping.

In Western Orissa, crop and livestock production increased from 10 to 50% partly due to intensification and application of flood irrigation; changing land use patterns (growing of second crop and cultivating former wasteland areas); and improved seed exchange and onion storage. 89.1% of people below the poverty line reported increased household income from new opportunities.

Source: ICRISAT, 2004 APRLP Project Completion Report; TARU report; Holmes in DFID conference report

Increased availability of food through grain and seed banks

MPRLP and WORLP in India, as well as MLDP in Ethiopia report that the creation of grain banks is an important factor contributing to food security during the lean months. In Ethiopia, grain and seed banks acted as a buffering mechanism, protecting the depletion of assets during crisis periods. They also reduced the need for poor households to provide their land for crop sharing due to a lack of seeds (JaRco). MPRLP and WORLP have "devoted substantial resources" to the establishment of grain banks, largely managed by women's self help groups. The members borrow grain during lean periods and return it with interest during the harvesting period.

Reid (in DFID conference report, 2010) reports that these grain banks are an important mechanism at the community level to tackle long term food insecurity, in particular the problem of transient hunger during lean periods and against starvation during natural calamities. Reid reports that an important function of the grain banks are that they are able to respond much more quickly to local food shortages than centralised food security programmes.

The success of the grain banks are seen to be a result of strategic planning and effective management, involving the local community and especially SHGs (Ibid.)

² Increase in yields (85-350%) in four countries reviewed (Ethiopia, Ghana, Malawi & Uganda) (ODI, 2008); In Ethiopia – yields with inputs were 126% higher in 2006 and 54% higher in 2007 than those without inputs; Ghana – increase in total maize production of 327%; Malawi – maize yield increased by almost 350% (ODI, 2008)

In APRLP village-based seed banks have also been used to ensure economic viability and long-term sustainability. Key features of this component include bringing in seeds of different crops and their varieties by distributing breeders'/foundation seeds of sorghum, pigeonpea, soybean and pearl millet during *kharif* and wheat during *rabi*; negotiating with warehouses to provide storage space at concessional rates; building linkages with financial institutions for enhancing buying power of SHGs; training SHGs in cleaning, grading and testing the quality of seeds; building the capacity of SHGs in bookkeeping and accounting; elevating seed banks into agro-service centres by encouraging them to trade in chemical and biofertilizers, biocontrol agents and hand-operated agricultural implements; and encouraging custom hiring of tractors, sprayers, irrigation pumps and harvesters.

Increased incomes

Increased incomes as a result of project activities are also seen as a key factor explaining positive impacts on household food security, and reducing the vulnerability of households to seasonal food insecurity. Here we find BRAC CFPR largely attributes impacts on food security to the cash stipend but also to a stronger asset base generated by the asset transfer. Self-reported findings from beneficiaries suggest that households with a stronger asset base are less likely to suffer severe food shortage: physical assets have the highest correlation with food sufficiency and severe food shortage (compared with financial, human, natural and social assets) (Rabbani et al., 2006). Moreover, an ethnographic study found that the consumption stipend is used by a "significant majority" to smooth consumption levels: some households use the stipend specifically during the lean season for daily meals; others use the stipend to add variety to their meals (Hashemi and Umaira, 2011).

Beneficiaries interviewed in Zimbabwe also reported being able to afford two meals a day for themselves and their families either from food or cash transfers. The cash payment was not only used for consumption but was also invested in micro-enterprises in a few cases. A central component of the PRP is the internal savings and lending model which enables households to invest in income generating activities and thereby increase their household income and acquire productive assets. Similarly, in Ethiopia, the Cash for Work beneficiaries under the MLDP spent the majority of the cash received on food and other household needs. Furthermore, larger families that received more money were able to invest more in asset creation, particularly livestock. However, delays in rainfall or periods of drought meant that assets were depleted in order to cope with food shortages, highlighting the point that other, complementary interventions are necessary to buffer against shocks (JaRco).

Somewhat surprisingly positive findings on vulnerability to food insecurity and correlations with assets are not found in the Haiti (although positive correlation is found with the stipend in this project) and SKS pilot projects. In Haiti, this is attributed to beneficiary "engrained" behaviour: members who multiplied their goats and other animal assets were found to experience similar levels of food insecurity during the lean season as those without a strong asset base because of an engrained idea that assets should only be sold in emergencies and for investments (Huda and Simanowitz, 2010). In SKS, India, reports suggest that gains from livestock income were fully offset by lower earnings from agricultural labour (Morduch et al., 2011) suggesting that at the beginning of the programme (possibly before a particular threshold of income is generated from the assets) beneficiaries need additional support.

Increased income through livelihood diversification is reported in the DFID-funded programmes as a key contribution to food security (as a result of improved yields and increased cropping intensity, higher livestock productivity and aquaculture (Farrington in DFID conference report, 2010)), as is the availability of consumption credit (DFID, 2010). Similarly to BRAC CFPR's stipend, it appears that the combination of access to regular income (through a stipend or consumption credit) is important at the same time as households start to diversify their livelihood asset / income base.

The availability of short-term public works programmes in the CLP programme (and also found in APRLP, IFSP and MERET-PLUS) is seen as a critical factor ensuring consumption smoothing in the *monga* season (for more detailed discussion on public works see McCord, 2013 in this series). The seasonal cash-for-work programme (Infrastructure and Employment Programme (IEP)), for instance, has been found to increase incomes and reduce negative coping strategies during *monga* (Conroy, 2008; DFID conference report, 2010).

4.2 Utilisation

There are two main ways by which integrated programmes could improve nutrition and utilisation outcomes. The first is through the complementary "social" trainings, awareness raising and health components

integrated into some of the programmes. The second pathway would be a direct result from improved availability and access of food seen from the evidence discussed above.

First, while three of the types of integrated livelihoods models (MDVs, MLDP and “graduation” model) also include “social” type trainings and awareness (such as nutrition education, hygiene awareness such as washing hands, and water and sanitation interventions) it is difficult to assess the extent to which these components have contributed to food security. There are possible explanations for this. One is that although education and awareness is given to beneficiaries, they do not put it into practice. For example in Ethiopia, although mothers repeatedly reported receiving training on hygiene and sanitation, routine visits found very little changes in practice. It was also found that although mothers were advised to eat more during pregnancy and lactation, very few would take additional food due to cultural norms (JaRco). The other is that it is very difficult to separate out the impacts of different components in an integrated programme, as a report on the MDVs suggests: “As a complex intervention operating across many sectors, definitive statements about the specific mechanisms of mortality reductions are not possible. In the agricultural sector, the early introduction of fertilizer and improved seeds resulted in a two to three-times increase in staple crop yields, potentially contributing to gains in food security and lower levels in childhood stunting in Millennium Village sites. Finally, major improvements in access to safe water and sanitation might have generated additional synergies” (Pronyk et al., 2012).

Second, few studies have actually rigorously evaluated³ the impacts of programmes on anthropometric nutritional indicators of child stunting, wasting and (adult) BMI. For those that do, the evidence on impacts appears to be mixed or in some cases minimal.

An evaluation of the Millennium Development Villages demonstrated a reduction in stunting across nine village sites (there are fourteen village sites in ten countries) (Buse et al., 2008). However, comparing the five-year period before the intervention with the three years after project initiation (2002-2009), no changes in rates of wasting among children younger than 2 years of age were found (Pronyk et al., 2012).

The Fonkoze CGAP programme in Haiti found a reduction in severe wasting among CLM children from 13% at baseline (summer 2007) to 4% at 24 months (summer 2009) (Huda and Simanowitz, 2010). However, reports suggest that moderate malnutrition actually increased from 4% at 18 months to 14% at 24 months (Huda and Simanowitz, 2010).

Box 3: Impacts of CGAP Projects

Food insecurity

Haiti: CLM members suffering from **food insecurity with hunger declined by over 50% from 98% at baseline to 41%** after 24 months. Food secure members increased from 1% at baseline to 25% at 24 months.

Increased food expenditure

SKS: Beneficiaries **increased their average expenditure on food consumption from 442 to 500 INR** per month;
Bandhan: Treatment **households spend an average of Rs. 63 more on food** (and fuel), (statistically different from zero above a 1% confidence level)

Food stocks

SKS: **97% of participants (414 of 426) had one month’s worth of food stock**

Consumption of nutritious foods

Bandhan: increase in food consumption across all food groups but **largest % increases in fruits & nuts, dairy, meat & eggs**

Number of meals consumed

SKS: **Reduction in incidence of children cutting or skipping meals** (attributed to the intervention), but not persistent over the long run (quantitative research (village-level randomised trial));
West Bengal: pre-program, 5/20 members ate **3 meals a day and did not skip meals**. This increased to **15/20 members** at the end of programme;
Pakistan: **62% eat at least 2 meals per day**

Source: Huda and Simanowitz, 2010; Huda, 2008; Banerjee et al., 2011; Chanani & Kumar 2010; Murdoch et al. 2011; Kabeer et al., 2012

³ Using baselines or control groups, for example.

Evidence from the CLP programme in Bangladesh shows some BMI improvements for women (where CLP1 mothers (beneficiaries who entered the programme between 2006 and 2009 and are no longer in the CLP programme) had better nutritional status as defined by Body Mass Index (BMI, mean +0.6 units) and weight (1.5kg heavier) than CLP2.1 mothers (new recruits into CLP who hadn't yet received the asset transfer. However, close to 40% of both CLP1 and CLP2.1 mothers had Chronic Energy Deficiency (BMI < 18.5); mean haemoglobin was very similar and over 47% of CLP1 and CLP2.1 mothers were anaemic (Mascie-Taylor, 2010); but no significant differences in under five year old children's nutritional status between CLP1 and CLP2.1 households and over 50% of both CLP1 and CLP2.1 children were stunted, close to 50% underweight and 20% wasted (Mascie-Taylor, 2010).

The IFSP in Malawi led to an improvement in child nutrition: stunting decreased from 61% at baseline in 1995/96 to 41% in 2002 and the rate of severe stunting fell by 16%. Although child wasting also appeared to have improved, malnutrition continues to be a concern in the district (Webb, 2011).

Evidence from WORLP in India showed no programme improvement in child wasting rates (where child wasting rates for the project districts as well as for control were found to be close to the state average (Sambodhi, 2009 cited in Holmes, DFID conference report 2010)).

Unfortunately the literature does not provide explanations where there is conflicting or mixed evidence, and it remains unclear as to why anthropometric indicators do not show significant improvements when diet and food security have improved. Indeed, almost all the programmes have assessed the effect of the intervention based on household self-reporting on indicators of food security such as number of meals consumed, number of days the household is food secure, types of food consumed, and expenditure on food. For the majority of programmes these types of indicators have demonstrated consistent and positive programme impacts, especially in the context of reducing household vulnerability to predictable seasonal food insecurity (see Table 2 in Annex).

Crisis prevention and management

Aspects of integrated livelihoods programmes which contribute to crisis prevention and management include grain banks and short-term public works programmes, which have been discussed above. Cash transfers can also smooth consumption in times of crisis.

Given the situation of protracted political and economic crisis in Zimbabwe, the PRP was designed to be flexible, enabling the use of appropriate interventions to respond to the current need. During periods of hyperinflation and high food prices, when the value of cash diminished dramatically, food transfers were deployed instead to cover the food gap. The value of the asset transfer was also increased during the course of the programme, in order to increase households' buffering capacity in the event of drought or other shocks (for detailed discussion on cash transfers see Holmes and Bhuvanendra, 2013 in this series). Evidence of the impacts of the programme from its final evaluation however, is not yet available.

5 Conclusion and Policy Implications

Integrated programmes have the potential to contribute to all four pillars of a resilient food system. In practice, evidence suggests that such programmes may be more appropriate as mechanisms to smooth seasonal food insecurity than as an intervention to address longer-term nutritional needs. There is little sound evidence in place which demonstrates positive results on nutritional outcome indicators, such as stunting, wasting and BMI (although CLP has started to collect more robust data using these indicators). Instead, programme beneficiaries tend to self-report improvements in food security, defined as eating more meals per day, increasing expenditure on food, increasing calories consumed and (to some extent) improving the quality of diet.

Reducing vulnerability to seasonal food insecurity has mainly been a result of increased availability of and access to food, through increasing production and productivity, improving community food storage (grain banks), smoothing and increasing incomes as a result of monthly stipends, use of consumption credit, and diversifying livelihoods. In particular, short-term labour opportunities (public works) and grain banks are seen as important tools to reduce seasonal (or emergency) food insecurity in the CLP and DFID-funded India programmes, as well as the MLDP and MERET-PLUS in Ethiopia.

Improving food availability and access has been a result of the integrated approach taken within these programmes. This includes both *layering* programme components so that beneficiaries receive multiple interventions at once as well as, in some cases, *sequencing* these interventions (such as agricultural inputs or asset transfers, skills training and monthly stipends) in recognition of the need to address the multidimensionality of poverty faced by poor households.

Key messages and policy implications

- 1 The integrated approach – which uses layers or sequenced programme interventions – demonstrates positive effects on improving food availability and access: In this review, tentative evidence suggests that layering and sequencing the following types of components have been beneficial to food security outcomes: i) impacts on increased productivity and production appears to be a result of combined components such as agricultural inputs, technology and skills training ii) the provision of consumption smoothing stipend / consumption credit at the same time as households are starting to generate income from the longer-term asset base and livelihood diversification; and iii) the ability to reduce seasonal risks through the provision of additional targeted interventions (such as public works, grain reserves) at particular times of the year.
- 2 Integrated programmes show positive results on smoothing consumption, particularly for predictable seasonal deficits where programme interventions can be planned for in advance: Integrated programmes which incorporate specific interventions to reduce vulnerability to seasonal food insecurity include short-term public works, community grain banks and a focus on diversifying livelihoods. It is important also to note however, that increased assets base do not necessarily act as a buffer – evidence from the Haiti show that households were reluctant to sell their assets, and continued to reduce quantity and quality of food to cope with food insecurity.
- 3 There is little evidence yet on the effectiveness of integrated programmes to help households' resilience to larger unpredictable shocks: however, evidence does suggest that where cash components are used in the context of food price crisis decreases in purchasing power can be seen, so there is a need to consider index-linking or cash / food / voucher combinations. Moreover, there is some evidence that "thresholds" matter, but we still know relatively little about what those thresholds are (evidence from Zimbabwe for example suggests that increasing the value of the asset was a significant element in improving household resilience to shocks, but more evidence on this is currently unavailable)
- 4 Despite increased availability and access, there is not a strong link to improved nutrition outcomes: even when there has been a focus on integrated components such as health care, sanitation, and nutrition awareness raising, only a few programmes show significant results on nutrition indicators such as wasting, stunting and BMI. It is not clear from the literature why this is, and merits further investigation.
- 5 More focused M&E needs to be integrated into integrated programmes to understand the impacts on food security outcomes (especially in the context of final outcomes on nutrition): this includes more strategic assessments of the programme components to help the design of future programmes, especially in the context of food security.
- 6 Many programmes target women but we know relatively little about sustainability of programmes and impacts on gender equality more broadly: With some exceptions (e.g. CLP and CFPR) there has been relatively little investigation on the impacts of programmes on gender equality, despite a focus on women as recipients on the basis of their experiences of poverty. Given the strong links between women's empowerment and food and nutrition security, assessments of programmes' impacts on key dimensions of gender equality (such as control over income, decision-making, childcare practices, divisions of labour in the household, time poverty) are critical to understand in more detail the linkages and bottlenecks between programme impacts in terms of increases in food availability / access and nutrition. A key question also remains, however, as to the sustainability of integrated programme interventions, and their ability to break households out of poverty in the medium to longer term.
- 7 Specific design features, such as the scale of the programme and length of programme intervention need to be considered: most integrated programmes that are discussed here are relatively small scale programmes funded by donors and implemented by (international or local) NGOs. Many of the programmes are relatively expensive compared to other social protection interventions because of the

large value of transfers, the multiple programme components and the intense investment in programme staff time with beneficiaries (in terms of training, social awareness raising etc.). However, proponents of integrated programmes argue that these features are a pre-requisite for supporting households to move out of poverty. The intense nature of these programmes does raise specific considerations about the potential replication and scaling up of these types of programmes in other contexts.

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