

# New decision tools to target restocking efforts

## Validated RNRRS Output.

Decision-support tools are now available to help NGOs, donors and governments identify which households and communities would benefit most from restocking efforts. Restocking projects can greatly improve the food and livelihood security of vulnerable farmers and pastoralists. However, the impact they have on poverty is often low because they are badly targeted. By learning lessons from past projects, the new support tools could help to avoid this in the future. The tools are now being used by a wide range of practitioners, working with many different kinds of stakeholders around the world—ranging from pastoralists in Mongolia and refugees in Bosnia, to smallholders in South Asia suffering as a result of avian influenza.

Project Ref: **LPP22:**

Topic: **7. Spreading the Word: Knowledge Management & Dissemination**

Lead Organisation: **University of Reading, UK**

Source: **Livestock Production Programme**

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### *Description*

## **LPP22**

## Research into Use

NR International  
Park House  
Bradbourne Lane  
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ME20 6SN  
UK

## Geographical regions included:

[Bolivia](#), [India](#), [Kenya](#),

## Target Audiences for this content:

[Livestock farmers](#),

**A. Description of the research output(s)***1. Working title of output or cluster of outputs. Knowledge Dissemination*

R7402: The Development of Decision-Support Tools for Restocking Programs

*2. Name of relevant RNRRS Programme(s) commissioning supporting research and also indicate other funding sources, if applicable.*

Livestock Production

*3. Relevant R numbers (and/or programme development/dissemination reference numbers covering supporting research)*

R7402/ ZC0109

LDG, University of Reading, Reading, UK  
USAID, Washington DC  
IFAD, Rome, Italy

*4. Describe the RNRRS output or cluster of outputs being proposed and when was it produced?*

*Cluster:* Project R7402 was undertaken as part of a cluster of outputs focusing on the creation of decision support tools, particularly in relation to pastoralist and transhumant populations. The project was active from 1999-2001.

*Premise of Research:* Restocking projects directly improve the food and livelihood security of vulnerable farmers and **pastoralists**. Historically, however, the literature on restocking has been largely uncritical and with little information available to guide agencies about the potential issues and constraints of programmes. Previous research [1] has demonstrated the impact of projects on poverty reduction is low, due to the poor targeting of beneficiaries and communities (Heffernan, 1997). However, there were exceptions and for a minority of households, the study found that restocking had a major impact on poverty levels. And among these households the distinguishing factor appeared to be high levels of **motivation** for livestock keeping.

Conversely, on the project level, it became clear that lessons learned from restocking projects were often lost with the individuals and organisations involved and not available to the wider community. Therefore, by creating **decision support tools**, the study enabled NGOs, donors and governments to determine those households and communities who would most benefit from restocking. And thereby, accrue the greatest impacts on poverty. Equally, the tools would improve the sustainability and cost-effectiveness of programmes.

In response to these issues, R7402 was underpinned by the following core questions:

1. Is motivation for livestock keeping a key factor in restocking project success?
2. And if so, how can motivation for livestock keeping be measured among southern farmers?
3. What is the current state of best practice in relation to restocking projects and programmes?

To answer the above questions, R7402 explored restocking projects in Kenya, Bolivia and India and further reviewed the documents of over 85 projects as part of the best practice review. Outputs included a handbook of best practice, a thesis on motivational assessment, a report on motivation among destitute pastoralists (utilising tools from socio-psychology and linguistics) in addition to a variety of decision-support tools to aid practitioners in the field. Therefore, the outputs ranged from testing new theories, to exploring new methodological approaches to the creation of practical tools to aid project design, implementation and evaluation.

At the time of the project, motivation or indeed, underlying attitudes and values, was not a factor that had traditionally been explored by development projects and programmes in relation to their clients. Equally, tools from socio-psychology and linguistics had rarely been applied in a development context. In this manner, the study informed a large number of research projects both in the UK and overseas in the application of socio-psychological methodologies and the importance of motivation to development.

[1] See the ESCOR-funded study: The Socio-Economic Impact of Restocking Projects in Northern Kenya (1997).

5. *What is the type of output(s) being described here?*

*Please tick one or more of the following options.*

<b>Product</b>	<b>Technology</b>	<b>Service</b>	<b>Process or Methodology</b>	<b>Policy</b>	<b>Other Please specify</b>
			x	x	

6. *What is the main commodity (ies) upon which the output(s) focussed? Could this output be applied to other commodities, if so, please comment*

The output is focused on one aspect of livestock aid: restocking. However, in totality, the outputs comprise a holistic methodology for assessing and subsequently improving the poverty impacts of development interventions at the individual, community and project level. For example, the tools devised to assess motivational factors for livestock keeping may be adapted to the uptake of other technologies. Indeed, the study found that the role of motivation is perhaps the most critical but largely ignored factor in relation to understanding why certain technologies are adopted and other are not. Equally, the twofold approach to best practice, in which particular methods are devised to address specific issues, may be helpful in other sectors and or in relation to other forms of aid.

Further, as restocking is re-emerging as the intervention of choice post-disaster, the outputs are relevant to the wider global community of humanitarian aid workers.

7. *What production system(s) does/could the output(s) focus upon?*

*Please tick one or more of the following options. Leave blank if not applicable*

<b>Semi-Arid</b>	<b>High potential</b>	<b>Hillsides</b>	<b>Forest-Agriculture</b>	<b>Peri-urban</b>	<b>Land water</b>	<b>Tropical moist forest</b>	<b>Cross-cutting</b>
x						x	x

While mainly aimed at pastoralists, the findings also are relevant to restocking as micro-credit among subsistence farmers. Equally, the outputs demonstrate the complexities of aid to households who move between production systems (i.e. from pastoralist to peri-urban) and both the external drivers and internal factors involved.

8. *What farming system(s) does the output(s) focus upon?*

<b>Smallholder rainfed humid</b>	<b>Irrigated</b>	<b>Wetland rice based</b>	<b>Smallholder rainfed highland</b>	<b>Smallholder rainfed dry/cold</b>	<b>Dualistic</b>	<b>Coastal artisanal fishing</b>
x	x		x	x		

Restocking projects and programmes have been implemented across the globe among nearly all livestock production systems. Therefore, while the project outputs focused on projects in Kenya, Bolivia and India, the outputs have a much wider applicability to global livestock systems.

9. *How could value be added to the output or additional constraints faced by poor people addressed by clustering this output with research outputs from other sources:*

At present, there are two broad areas in which value can be added to existing outputs:

1. Emerging issues such as that relating to compensation and livestock insurance in relation to restocking urgently require decision-support tools. As the recent e-conference on compensation for Highly Pathogenic Avian Influenza (HPAI) indicates, there is presently a general confusion over the best way forward and how to implement compensation and restocking activities in the small holder sector after culling for HPAI. The issue has global implications as HPAI is now endemic in small-scale poultry sector in many countries in the South.
2. Training in Post-Disaster Rehabilitation: Specific training tools for practitioners faced with rehabilitation of the livestock sector post-disaster could be developed which incorporate indices in relation to Animal Genetic Resources (AnGR). Indeed, during the 20<sup>th</sup> century over 600 species of domestic animals became extinct with an additional 574 now considered rare (Thrupp, 2000). Therefore, decision-support tools are required both pre and post restocking in relation to AnGR.

The outputs of the study could be clustered with projects relating to decision-support tools, policy and practice. In relation to the RNRRS portfolio, project outputs could be aligned with the following:

Crop Post-Harvest Programme: Pest Management Tools and Strategies (R6311, R6684, R7686, R8265); Knowledge Management (ZB0308).

Natural Resources Systems Programme: Community-led Improved NRM (R8362), Strategies for Scaling up Processes (R6525), Scaling up through communication (R8363).

Animal Health: Diagnostic and Decision-Support Tools (R7596, R7597), Influencing Animal Health Policy.

Livestock Production: Small Holder Dairying Toolbox (ZC0261), Smallstock Toolbox (ZC0243), Participatory Livestock Research (ZC0289).

### *Validation*

## **B. Validation of the research output(s)**

### *10. How were the output(s) validated and who validated them?*

Validation of the outputs was undertaken by the project team in conjunction with research partners. Activities were divided into three areas:

- Validation of Best Practice: To validate best practice, as described above, 85 projects were reviewed. A matrix ranking framework was created to compare and contrast projects with regard to key parameters such as community and individual level targeting, procurement and distribution of livestock and monitoring and evaluation.
- Validation of the Decision Support Tools: The decision support tools were validated during over 200 participatory exercises undertaken in 94 communities across three districts in Kenya, six provinces in Bolivia and three States in India. The tools were tested for interaction levels, relevance and adaptability to differing production systems.
- Validation of the factors important to motivation for livestock keeping was undertaken utilising a factor analysis. In total, 701 restocked households (553 restocked and 148 non-restocked as a control group) in Bolivia, Kenya and India participated in the study.

Table 1: Project Participants

<b>Country</b>	<b>Number of Participating Restocked Households</b>	<b>Control Group (Non-restocked)</b>	<b>Restocking / Micro-credit Project</b>
Kenya	66	26	Samburu District Development Program, OXFAM, Catholic Mission, Arid Lands, Freedom from Hunger.

Bolivia	325	15	Heifer Project International, Projecto Fomento Lechero, CARITAS, CIPCA, ADEPLECH.
India	162	107	Heifer Project International /ACORD, Indian Rural Development Program, CARITAS.
<b>All</b>	<b>553</b>	<b>148</b>	

Findings from the factor analysis were as follows. In Kenya, a single factor accounted for 16% of total variance in the dataset, which was marked by high loadings on social psychological variables as well as livelihood and income variables. As such, the study demonstrated that social psychological variables of participants were related to livestock keeping behaviour. For example, urban, non-livestock related aspirations were related to a negative or uncertain attitude toward pastoralism. Values towards education and livestock keeping were also linked. For example, participants who lacked motivation toward livestock keeping generally desired all of their children to be in school. These individuals also tended to be more predisposed toward other activities and generally had higher income levels.

In Bolivia, the factor analysis also demonstrated that social psychological factors were related to livelihood strategies. Dairy production appeared to account for a lot of variation among the participating households. Indeed, those producing and selling milk were associated with urban self-aspirations and the desire for their children to seek work in the city. Thus, livestock were viewed as a stepping stone to a more financially secure urban life.

In India, the factor analysis revealed a positive association between male-headed households, cattle and buffalo ownership and employment. Debt accrued from livestock ownership was a factor that had a negative influence upon motivation for livestock keeping in India, which was not an issue in the other countries.

In this manner, the study demonstrated that motivation for livestock keeping should be a key criterion for targeting in restocking.

#### 11. Where and when have the output(s) been validated?

*Please indicate the places(s) and country(ies), any particular social group targeted and also indicate in which production system and farming system, using the options provided in questions 7 and 8 respectively, above*

The decision-support tools were validated across the range of clients, actors, production systems and geographies.

For example, in Kenya, study participants had been made destitute by both droughts and raids and survived mainly on non-livestock activities. Cultural groups include: Samburu, Turkana, Pokot, Tugen and Somali pastoralists. Female-headed households also comprised a large portion of the study set. Projects ranged from small-scale Church-based interventions to large-donor funded projects.

Conversely, in Bolivia, the study took place in the lowlands. Two of the study areas were in 'colonisation' zones i.e. Yapacani and San Julian established after the collapse of the mining industry in the 1980's. Over 50% of the study participants had moved from the Altiplano and settled in their present location during the last 10 years due to the subsidised land offered by the Department. Thus, projects involved ranged from NGO initiated to those sponsored

by the government.

Finally, in India, the study group in Rajasthan was comprised of women's groups supported by an international NGO. Conversely, in Tamil Nadu, households had been the subject of a government settlement scheme and had been forced out of their traditional livelihood as nomadic entertainers or ('Adhiyars'). In Orissa, households had been restocked after the Super-Cyclone of 1999.

Thus, across the study zone, projects varied in design, number of animals given and targeting strategy. At the household level, the drivers of restocking varied from droughts and raids (Kenya) to induced resettlement (Bolivia) and largely forced resettlement (India).

Table 2: Output Validation: When and Where

<b>Nation</b>	<b>District/ Province/ State</b>	<b>Households</b>	<b>Project</b>	<b>Production System</b>	<b>Social Group</b>	<b>Year of survey</b>
<b>Kenya</b>	Samburu	57	Samburu District Development Program,	Semi-Arid, Small Holder Rain-fed	Destitute Dry Pastoralists	1999
		59	Oxfam	Semi-Arid, Small Holder Rain-fed	Destitute Dry Pastoralists	1999
		51	Catholic Mission	Semi-Arid, Small Holder Rain-fed	Destitute Dry Pastoralists	1999
	Baringo	47	Arid Lands, Freedom from Hunger	Semi-Arid, Small Holder Rain-fed	Destitute Dry Pastoralists	1999
	Garissa	18		Peri-urban, Small Holder Rain-fed	Destitute Dry Pastoralists	1999
		<b>92</b>				
<b>Bolivia</b>	Yapacani	13	Heifer Project International	Tropical Moist Forest, Small-holder rain-fed	Migrants	2000
	San Julian	56	Heifer Project International	Tropical Moist Forest, Small-holder rain-fed	Migrants	2000
	Cabezas	58	CARITAS	Tropical Moist Forest, Small-holder rain-fed	Migrants	2000
	El Torno	23	CARITAS	Tropical Moist Forest, Small-holder rain-fed	Migrants	2000
	Charagua	43	CIPCA	Hillside, Small-holder rain-fed	Poor Subsistence Farmers	2000

	Chuquisaca	Proyecto Fomento Lechero, ADEPLECH	Semi-Arid, Smallholder rain-fed dry/cold	Poor Subsistence Farmers	2000
	147				
	<b>340</b>				
<b>India</b>	Rajasthan	Heifer Project International /ACORD	Semi-Arid, Smallholder rain-fed dry	Poor Subsistence Farmers	2001
	104				
	Tamil Nadu	National Rural Development Program	Semi-Arid Smallholder Rain-fed Dry	Destitute Pastoralists	2001
	43				
	Orissa	National Rural Development Program/ CARITAS	Tropical Moist Forest, Smallholder rain-fed Humid	Poor Subsistence Farmers	2001
	122				
	<b>269</b>				
<b>Total</b>	<b>701</b>				

### *Current Situation*

#### **C. Current situation**

12. *How and by whom are the outputs currently being used? Please give a brief description (max. 250 words).*

The outputs of the study have been requested from practitioners working with communities ranging from pastoralists in Mongolia to Bosnian refugees to smallholder households in South Asia impacted by Avian Influenza. The project has also informed donor thinking and prompted a critical review of IFAD's restocking project utilising the criteria listed above (see [http://www.ifad.org/lrkm/theme/input/ifad/ifad\\_2.htm](http://www.ifad.org/lrkm/theme/input/ifad/ifad_2.htm)). Project findings have also been presented at USDA, OFDA and FAO.

Further, at present, a web-based survey has been sent to over 80 practitioners and policy makers involved in restocking and pastoral development. Preliminary findings from survey indicate a positive attitude toward restocking with caveats regarding targeting and understanding community level dynamics. Hence, it appears that there has been uptake the general recommendations offered in the best practice manual.

13. *Where are the outputs currently being used? As with Question 11 please indicate place(s) and countries where the outputs are being used.*

The outputs of the study have informed both the wider discourse on pastoral drought mitigation strategies. The methodological outputs have also informed a number of DEFRA-funded studies.

An internet search revealed that the study has informed more than 40 publications on restocking praxis to date including:

Global Livestock CRSP (see McPeak, 2005)

UNDP, World Bank, UNEP: World Resources (2005) (see Chapter 2: Ecosystems and the Livelihoods of the Poor).

UNDP (Managing Drought in the Low-rainfall Areas of the Middle East and North Africa (see Hazell, Oram, Cheherli (2001).

ODI Pastoral Development Network (see ODI.org)

USAID (See ENCAP Program: Environmental Guidelines for Small-scale Activities in Africa Chapter 7: Livestock)

OFDA: See recommendations for rehabilitation of the livestock sector

FAO: See recommendations for post-disaster rehabilitation of the livestock sector

*14. What is the scale of current use? Indicating how quickly use was established and whether usage is still spreading*

The scale of current use has not been estimated. Nevertheless, there has been wide interest in the restocking book and requests for the book are received on a weekly basis by the study team.

*15. In your experience what programmes, platforms, policy, institutional structures exist that have assisted with the promotion and/or adoption of the output(s) proposed here and in terms of capacity strengthening what do you see as the key facts of success?*

Three reasons can be attributed to the adoption of the outputs:

1. At the level of the field, at the time of the project, there was an increasing recognition that restocking projects should have positive livelihood impacts, but in practice, were not living up to expectations. Hence, the research resonated with the experiences of practitioners at the time. In this manner, the creation of easy to use decision-support tools met practitioners' demands.
2. At the institutional level, working with donor collaborators facilitated the subsequent uptake and adoption of outputs across a wide range of multi and bi-lateral agencies. As donors were investing high levels in restocking, the project accommodated concerns over costs/benefits and sustainability.
3. At the global level, there is presently a renewed interest in restocking as a key means of post-disaster rehabilitation (donors) and also in relation to small-scale development projects (NGOs). Thus, by disaggregating the different roles of restocking for the institutions and practitioners involved, the study informed the global debate on restocking as a form of relief, rehabilitation and development.

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*Current Promotion*

**D. Current promotion/uptake pathways**

*16. Where is promotion currently taking place? Please indicate for each country specified detail what promotion is*

*taking place, by whom and indicate the scale of current promotion.*

#### ITDG Book Sales and Distribution:

Over 600 copies sold or distributed since publication.

#### Media Interviews:

Radio 4 Belfast: Breakfast show on 'Giving a goat for Christmas'

Guardian Article: On Restocking

Radio 4: Interview on restocking projects and programmes

Radio Interview: Wren Media

New Agriculturist Article

Presentations: USDA, FAO on restocking

Invited Participant: FAO e-consultation on Avian Influenza pandemic and issues relating to restocking, FAO e-consultation on Pastoral Mobility and Post-disaster interventions.

*17. What are the current barriers preventing or slowing the adoption of the output(s)? Cover here institutional issues, those relating to policy, marketing, infrastructure, social exclusion etc.*

#### Barrier 1: The Present Popularity of Projects

While ostensibly the popularity of restocking is driving interest in the project outputs, there is a negative aspect to this renewed interest. Indeed, at present, there has been a rapid growth in 'charitable giving' sector that enables members of the public to choose the specific intervention that their donation will support. And this 'on-demand' approach to charity has driven an increase in restocking. Indeed, members of the public can now choose to 'give a goat for Christmas' as campaigns by CAFOD and Oxfam proclaim while other organisations offer a range of restocking options i.e. a goat to a poor household in Africa to a dairy cow for a family in South America. Hence, at the NGO level the number of projects has increased dramatically. However, the outcome of this success is the involvement of many of organisations new to livestock aid/restocking who may view projects as a means to generate revenue with little interest in the long-term sustainability.

#### Barrier 2: The Need for Rapid Action Post-Disaster

After disaster there is generally great pressure on aid agencies to rapidly initiate projects. Historically, these pressures have forced quick, rather than considered action, with poorly designed restocking projects and programs as a result. Equally problematic, there is a high turnover rate of field practitioners, particularly in the emergency sector. Therefore, institutional memories for projects and programmes are often low.

#### Barrier 3: The Pro-Production Paradigm of Livestock Development

The pro-production livestock development paradigm, in which poverty alleviation and enhanced livestock production are viewed synonymously, leaves little scope to explore the value and role of domestic AnGR in production systems. As such, there is a critical need to enhance awareness of the issue among development practitioners. Issues of bio-diversity for both domestic animals and plants remain very much on the margins of

development praxis. Therefore, tools are required in a post-disaster situation to enable practitioners to quickly determine the potential impact on AnGR and the trade-offs in introducing new species and/or breeds.

*18. What changes are needed to remove/reduce these barriers to adoption? This section could be used to identify perceived capacity related issues.*

#### Barrier 1 and 2: Enhancing Understanding the Complexities of Restocking Projects

There is an urgent need to better explicate the complexities of restocking for those actors and agents new to restocking. As such, additional training, workshops and web-based learning and dissemination mechanisms to reach a wider audience of practitioners both North and South are required. Indeed, the project team is presently exploring the creation of a web-based tool that directly responds to restocking design and implementation issues. Equally, greater involvement of the media i.e. TV, radio and the web are required in order to enhance public understanding of the potential implications of poorly designed projects and programmes.

A further area requiring better explication regards compensation schemes post-disaster and the role of restocking particularly in relation to the current HPAI pan-zootic.

#### Barrier 3: The Pro-Production Paradigm of Livestock Development

Further exploration of the impact of restocking on AnGR is needed. ITDG publishing has expressed interest in a second edition of the restocking manual which further explores the key issues raised above in addition to those related to AnGR.

*19. What lessons have you learnt about the best ways to get the outputs used by the largest number of poor people?*

In relation to the aforementioned actors, adoption of research outputs relies heavily on awareness raising and engagement.

Key lessons learned by the project team are as follows:

1. Changing perceptions requires direct evidence. Therefore, the project by providing both an overview of best practice and validated decision-support tools provided an evidence-based set of factors and tools.
2. Engaging decision-makers requires multiple strategies. The project produced and disseminated 'key sheets' with core project findings to policy makers and practitioners, in addition to reports, presentations and manuals.
3. Policy changes in the lifetime of a project are often indiscernible, therefore, outputs aimed at influencing policy should have a longer-shelf life i.e. books rather than simply reports and journal articles.

Thus, in order for the poor to reap the benefits of restocking, policy makers and practitioners need to design and deliver effective and sustainable projects. The study outputs have been dedicated to meeting this need.

## E. *Impacts on poverty to date*

### 20. *Where have impact studies on poverty in relation to this output or cluster of outputs taken place?*

The literature on the impacts of restocking presently focuses on the following three areas:

#### a. Impacts on Poverty

The early literature on restocking was often positive [2], nevertheless, little evidence was offered in relation to impacts (Heffernan, 1997; 2000). With the advent of the sustainable livelihood framework, restocking fit well into notions of supporting a livelihood asset with further benefits to the social and human capital of the households involved. However, both the formal and informal discourse on the topic was largely in opposition to the reality on the ground. Anecdotal evidence suggested that projects were often manipulated by elites with corruption rife. Restocked animals were often sold or consumed with little long term impact on the households involved.

During the mid to late 1990s, the first evidence regarding the actual, rather than the perceived impacts, of restocking began to emerge. It was clear that projects suffered a number of problems that marred livelihood gains. Indeed, targeting was a key area of difficulty as was timing regarding the sourcing and distributing of stock. A cost-benefit analysis further revealed the low sustainability of projects (Heffernan, 2000). To date, a number of studies relating to poverty impacts have been undertaken:

Heffernan, C. 1995. *Restocking Current Perspectives*. PhD upgrade document. University of Reading, Reading, UK.

Heffernan, C. (1997). *The Socio-Economic Impact of Restocking Destitute Pastoralists in Kenya*. Report for ESCOR. DFID, London.

Heffernan, C. (1999). *Livestock, Destitution and Drought: The Impacts of restocking post-disaster*. VEERU, University of Reading, Reading, UK.

Heffernan, C. (2000). *The Socio-Economic Impact of Restocking: Findings from Kenya*. PhD Thesis. The University of Reading, Reading, UK.

[2] See Kelly (1993); Oxyby (1994); Toulmin (1994).

#### b. Impacts on Motivation

As detailed above, motivation for livestock keeping has been found to be a key factor to the success of restocking. The following documents offer evidence regarding these impacts:

Heffernan, Nielsen and Misturelli (2001). *Restocking and Poverty Alleviation: Perceptions and realities of livestock keeping among poor pastoralists in Kenya*. Livestock Development Group, University of Reading, Reading, UK [www.livestockdevelopment.org/documents.htm](http://www.livestockdevelopment.org/documents.htm)

Heffernan, Misturelli and Nielsen (2004). *Restocking Pastoralists: A manual of best practice and decision support tools*. ITDG Publishing, Rugby, UK.

Nielsen, L. (2004). *Motivation and Livestock-based Livelihoods: Findings from Kenya, Bolivia and India*. PhD

Thesis. The University of Reading, Reading, UK.

### c. Impacts on AnGR

Within the literature, the affects of restocking on AnGR, is beginning to emerge. Heffernan (2006) in a model details the impact of restocked herds on indigenous breeds over time. The author found that the long-term impacts on AnGR will be ultimately determined by the breeding strategies of farmers and the attitudes and perceptions toward local breeds. The model, utilising a hypothetical restocking project, illustrated that with heavy selection, after 3 generations 34.5% of animals at the community level will share genetic material with the initial restocked herd. Conversely, with random sire selection, the figure drops to below 20%. Thus, restocking can quickly have a large and irreversible impact on AnGR at the community level.

Documents include:

Heffernan, C. (2006). The Impact of Restocking in Acute and Chronic Emergencies. Livestock Development Group, University of Reading, Reading UK  
 Heffernan, C. and Goe, M. (2006). The Impact of Disasters and Emergencies on AnGR: A scoping document. Report produced for FAO. FAO, Rome, Italy.

### Emerging Debates

Finally, the Avian Influenza pan-zootic with the mandatory culling of millions of birds, is forging a new global discussion regarding compensation and restocking (see Hancock, 2006). Critical to this new debate is the ability to map households impacted by livestock disease and disaster. In this manner, restocking praxis is entering a new phase where geo-referencing and the tracing of animals has become critical.

*21. Based on the evidence in the studies listed above, for each country detail how the poor have benefited from the application and/or adoption of the output(s):*

Clearly effective restocking supports livelihoods and can directly aid poverty alleviation. Nevertheless, a key constraint impacting the long-term livelihood benefits of projects and programmes relates to sustainability. In poorly designed projects, the duration of impacts was often very short. Livestock were rapidly sold or eaten thereby many households saw little more than an immediate, short-term rise in income levels. Thus, although projects were designed to meet development aims and objectives, many unintentionally acted as a mechanism for short-term relief.

While an assessment of livelihood impacts ex-post, after the dissemination of best practice and decision support tools was not part of the original project, this is an area in which action research could be undertaken. Without such a study, general assessments of livelihood impacts could be derived utilising data on the socio-economic impact of livestock keeping on the poor.

Nevertheless, there are some assumptions that may be made in relation to gender impacts. Restocking is not a gender neutral intervention. Women in the South are largely charged with livestock caretaking. Many female-headed households participated in the study and interestingly, more women than men viewed restocking as a way

out of poverty. Women also viewed livestock as a means of enabling their children to attend school. However, women also face the largest labour constraints in relation to restocked herds. Thus, while restocking this population holds the most promise for supporting vulnerable households, projects must recognise and accommodate the many challenges faced by this group.

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#### *Environmental Impact*

### **H. Environmental impact**

#### *24. What are the direct and indirect environmental benefits related to the output(s) and their outcome(s)?*

*This could include direct benefits from the application of the technology or policy action with local governments or multinational agencies to create environmentally sound policies or programmes. Any supporting and appropriate evidence can be provided in the form of an annex.*

The environmental impacts of restocking are often theoretical rather than actual. While in the early literature the overall notion was that restocking enabled destitute herders to return to a pastoral lifestyle, the evidence has demonstrated that this was often not the case. Indeed, by targeting destitute settled households, the environmental impact of many projects was likely to be negative as the motivational assessment has demonstrated that a return to nomadism was not desired.

Appropriate and well-targeted programmes could, however, be beneficial to the environment. In semi-arid areas, pastoralism is the most suitable land use. Therefore, by enabling those households to continue in a preferred lifestyle, restocking can ultimately support sustainable rangeland use. The best practice manual explores environmental impacts and details decision-support tools for practitioners prior to and post restocking. Indeed, environmental screening tools are offered as part of the recommendations for monitoring and evaluation. Hence, the outputs of are environmentally positive.

#### *25. Are there any adverse environmental impacts related to the output(s) and their outcome(s)?*

There should be little adverse environmental impacts in appropriate restocking. As mentioned above, inappropriate restocking can potentially add to rangeland degradation.

#### *26. Do the outputs increase the capacity of poor people to cope with the effects of climate change, reduce the risks of natural disasters and increase their resilience?*

Sustainable restocking projects should enable households to better cope with future adversity. Indeed, well-designed, projects should lift households above the poverty-line and thereby decrease their vulnerability to negative events.

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