Report on Workshop in Sucre 30th June to 4th July 2003

Understanding small stock as livelihood assets: indicators for technology development'

(R7823 / ZC0167)

Andrew Dorward

Summary

A three and a half days workshop brought together the UK, Mexican and Bolivian management team members working on the project 'Understanding small stock as livelihood assets: indicators for technology development' (project R7823 / ZC0167). The purpose of the workshop was to provide an opportunity for the team to consider the lessons from experience with the general approach taken by the project and with the processes of indicator development and to formalise methods for indicator development. By the end of the workshop the review of experience had allowed the development of a formal set of tools for indicator development (see annex 1) and application for both ex ante and on-going M&E of livestock development activities. These were favourably evaluated by a group of livestock development specialists working with Bolivian campesinos.

1 Structure of the workshop

The workshop lasted three and a half days: during the first three days the project team worked together to develop indicators and field methodologies, building on insights from the August workshop and subsequent field and modelling experience. For the final half day the team was joined by a group of 8 livestock development workers working in different technical programmes within Bolivia. This provided an opportunity to share and test the methodologies and indicators developed in the previous three days.

Monday 30th June:

- Introduction, objectives (AD)
- Progress with indicators (AD, SA)
- Bolivian and Mexican presentations (ESV, YN, JR)
- Discussion of key lessons across the two presentations

Tuesday 1st July:

- Development/ design of indicators and field methods

Wednesday 2nd July:

- Continued development/ design of indicators and field methods, leading to preparation of presentations for day 4
- Some discussion of training materials design – scope, content, & media (video?), personnel

Thursday 3rd July :

- Presentations and discussions with livestock development specialists

2 Workshop participants

Monday 30th June - Thursday 3rd July:

Simon Anderson	Imperial College, London
Andrew Dorward	Imperial College, London
Yolanda Nava	CICA, Mexico
Oscar Ordonez	CALL Project, Bolivia
Rodrigo Paz	LPP In Country Coordinator
Jonathan Rushton	CEVEP, Bolivia
Ernesto Sanchez Vera	CICA, Mexico

Thursday 3rd July only:

Rommy Viscarra	CEVEP, Bolivia
Henry Lizarraga	CIAT, Bolivia
Julio Sanches	CEFEMA, Bolivia
Leonardo Zambrana	CEFEMA, Bolivia
Corsino Huallata	CALL Project
Irene Christensen	Danida/ PASACH, Bolivia
Franz Rojas	CIAT, Bolivia
Victor Hugo Roman	PASACH, Bolivia

3 Introduction and objectives

3.1 Purpose of the workshop

The workshop was built into the original project plan to provide an opportunity for the team 'to consider the lessons from field testing of spreadsheet models, indicators and participatory field methods' and to report 'experience from each area in order to learn lessons about the benefits and difficulties of the general approach, about the processes of indicator development and application in the field, and about how the generic approach and its application to specific situations may be improved'.

The workshop is a critical step in the final stages of producing the *project outputs*:

1. Indicators of the contribution of small stock keeping (and other asset based livelihood activities) to the livelihoods of the poor developed and tested
2. Participatory field methods for assessing the contribution of small stock to livelihoods of the poor in specific situations developed and tested.
3. Training materials on the role of small stock on livelihoods of the poor, the conceptual framework and on indicators and participatory field methods for assessing the contribution of small stock to livelihoods of the poor prepared and disseminated (in English and Spanish).
4. Researchers, NGO and development workers, and extensionists (from collaborating and associated institutions in Bolivia and Mexico) trained in the role of small stock on livelihoods of the poor, the conceptual framework, and indicators and participatory field methods.

These outputs have to be seen in the context of the project aims:

> 'To develop, test and disseminate simpler indicators and participatory field methods to assist researchers, field workers and peasant farmers in analysing the contribution of changes in small stock keeping to the livelihoods of the poor. This will be achieved through

- ♦ Development of appropriate **indicators** and **participatory methods** for assessing the contribution of small stock to livelihoods of the poor in specific situations for use in *ex ante* appraisal of small stock technology contributions to livelihoods and hence prioritisation (and design) of potential interventions to support small stock keeping in the livelihoods of the poor, and in participatory monitoring and evaluation.
- ♦ **Identification of key research and intervention areas** for improving the contribution of small stock keeping to the livelihoods of the poor.

The workshop precedes the final project activities:

3.1 Produce training materials on the role of small stock on livelihoods of the poor, the conceptual framework and on indicators and participatory field methods for assessing the contribution of small stock to livelihoods of the poor

4.1 Training workshops for researchers, NGO and development workers, and extensionists in the role of small stock on livelihoods of the poor, the conceptual framework and on indicators and participatory field methods.

3.2 Prior Achievements

To date the project has already made a number of achievements with:

- advanced understanding of the role of livestock in the livelihoods of the communities we are working with in Mexico and Bolivia
- initial conceptualisation of processes and issues for indicator development for use by both livestock keepers themselves and researchers and extensionists working with them
- field experience of the value of the conceptual approach taken by the project (for example the emphasis on asset functions and on characteristics such as convertibility)
- development of a wealth of data and information about the livelihoods of the people we are working with and about the varied and complex roles of livestock within them
- gathering of useful experience regarding the strengths and weaknesses of field methodologies, particularly those used over the last few months
- gathering of useful experience regarding the strengths and weaknesses of the spreadsheet model, as an analytical tool in its own right, and in its contribution to our understanding of livestock roles and indicators

3.3 Questions to address in the workshop

The Toluca team have reported on their experience in following up the last workshop with a range of field methods (see reports in May 2003). This raises many questions which needed to be addressed during the workshop – some of these questions are addressed in this report:

1. What have been the benefits, the strengths and weaknesses of (a) the field methods used and (b) the wider project approach and conceptualisation of small stock roles and development in the livelihoods of poor livestock keepers?
2. What have been the strengths and weaknesses of the specific methodologies used to gather information – and what criteria should be used in evaluating these methodologies?
3. The latest round of field methods focussed on livestock, but this followed previous work which was much more holistic and examined the whole range of people’s livelihood activities and assets. How viable would our later focus on livestock have been without the understandings gained from the prior livelihood work?

4. Using our experience so far, what would we do/ recommend others to do if starting up work with a new community on small stock development?
5. Can we develop a sequence of techniques and indicators to use, for example first looking at the context in terms of community / area characterisation and livelihood opportunities (figure 1 in the August workshop report), using this to identify likely roles for livestock in different peoples' livelihood strategies (figure 2 in the August workshop report), and then providing a menu of fairly simple field techniques and indicators to be used (in sequence) for different situations/ objectives?
6. Can we develop very specific indicators (and field methodologies for their use by different stakeholders) that (a) capture different key roles of livestock in different livelihood strategies , (b) can be used *ex ante* to identify potential options for change and/or (c) can be used in on-going and *ex post* to monitoring and evaluation of progress?
7. What specific and general lessons have we learnt about critical research and intervention opportunities and priorities for improving the contribution of small stock keeping to the livelihoods of the poor?

The first four questions are more reflective questions and should provide the foundation from which we address the last three questions.

4 Progress with indicators

Andrew Dorward drew together lessons from work so far. In terms of the general conceptual framework, the following were highlighted, arising mainly from the August 2003 workshop :

- the identification of broad livelihood strategies and enterprise contributions (hanging in, stepping up and stepping out) and their relationship with natural resource and market potential
- the mapping of priority functions onto these livelihood and enterprise strategies
- the identification of particular conversion processes achieved by livestock keeping activities
- further conceptual work is needed to draw these together into the asset function framework

The conceptual base allows us to identify likely priority topics or descriptors for indicator development:

- Critical periods
- Livestock and other asset holdings
- Dependency ratio
- Labour income sources
- Concentration/ diversification of assets and income
- Seasonality of income
- Lumpiness of assets
- Gender control of assets & income
- Risk of loss of assets and incomes
- Market dependence/ involvement
- Natural resource dependence
- Livestock dependence

Using the Toluca spreadsheet model, quantitative indicators had been developed for a number of these topics. However, difficulties with achieving reliable enterprise and livelihood income estimates restrict the development of quantitative indicators based on income. Indicators which show the clearest differences across well being groups are total asset value, concentration indices for assets, income, concentration indices for male and for female labour allocation to different activities (but not household labour allocation to different activities), asset lumpiness, and main male activities shifting from hiring out of labour into animal keeping and cultivation as one moves for the poorest to the better off group. A number of other indicators showed differentiated the poorest group from the other two groups: the proportion by value of different livestock classes (high medium and low large stock holdings, as a proportion of total livestock holdings), a high proportion of female sheep, and almost no assets apart from land and livestock. The highest well-being group differed from the other two in terms of major female activities including other (non-household) activities apart from livestock keeping.

Simon Anderson drew attention to other livelihood assessment methods such as the 'livestock and poverty assessment methodology' of the Livestock Development Group at the University of Reading, and pointed out the need to build on such work both in developing the methodology and in developing training materials. Drawing on reports of field experience with the methods developed after the August workshop, he then related the main descriptors (listed above) to possible indicators and methods for use in the field. These should meet strong articulated demand from Bolivian policy makers for impact assessment indicators. To provide fresh insights, indicator development should be guided by the asset function and management conceptual framework. The methodology could usefully be structured around a set of livestock matrices which could be selected for particular circumstances using an approach to the RRAKS windows and tools approach.

5 Bolivian and Mexican presentations

Ernesto Sanchez Vera and Yolanda Nava presented findings from their work in Mexico on experience with the different methods for working with campesinos to analyse the contribution of livestock keeping to rural livelihoods. The methods used were: well being ranking, mobility mapping, social capital map, seasonal calendar, time line, livestock inventory, and species by function matrix. These methods each had specific strengths and weaknesses, but in general the set of methods was effective in verifying information from other methods/ sources; it fitted in well with the process of campesino experimentation; it promoted understanding & communication for both outsiders and local people, with good interaction between institutions around a common framework that integrated theory and practice. Local people also appreciated the methods for providing a relevant and useful qualitative and quantitative mix of data on their livelihoods which stimulated new ways of thinking about livelihood opportunities (some of them outside livestock). The methods are, however, demanding of skills and time and sometimes demand data which it is difficult to come by. Specific strengths and weaknesses of the different methods were also discussed.

Jonathan Rushton presented information generated during work with communities in Opoco and Perdenal in Bolivia. The presentation highlighted differences between the two zones. Opoco has only sheep and llamas and very little cropping activity. This and the lack of options in the local economy mean that many young people leave to work and study in the cities. Animals in these communities have an important role for household consumption (mainly sheep), but are also the main source of cash income. Llamas are also important in transport and as guarantees for obtaining loans – although terms of loans are highly unattractive. Pedernal has all species of animals apart from camelids and it also has very strong cropping activites. This zone is much more economically active and attracts new people and keeps young people. Animals are important for household consumption (mainly poultry), as a petty cash source for small expendiuture (poultry and pigs), investment of money, a source of adding value (Maize-pigs) and a source of cash for larger expenditure (pigs and cattle). Cattle are also important for guarantees.

Both study zones have similar investments and income from livestock per family, but the Opoco economy is more dependent on livestock, because the crop sector is weak and has few opportunities

This means that in Opoco families have to look outside the agricultural sector for opportunities to maintain basic welfare levels. At the moment Pedernal does not have these problems but this may change with higher population densities

6 Development/ design of indicators and field methods

Through a process building on concepts and experience raised earlier, attention focussed on three different elements in a system for developing livelihood indicators based on improved achievement of livelihood functions: setting the context, identifying the indicators, and identifying date generating methods to meet indicator requirements. Work proceeded through plenary sessions developing broad approaches, group work addressing specific issues and developing methodologies, and group work simulating and testing methodology application. By the end of the workshop a structured sequence of methods had been developed and tested by the project team and with livestock technicians (see section 8 below). This structured sequence is described in annex 1.

7 Training materials design

The final two outputs of the project are training materials on (a) the role of small stock in livelihoods of the poor and (b) on indicators and participatory field methods for assessing the contribution of small stock to livelihoods of the poor. These must be prepared and disseminated in English and Spanish. It was agreed that these need more generic than specific to particular systems or situations, and must take account of the need for tailoring of methods to specific circumstances. An appropriate structure would be a basic description of principles and concepts (for (a) above) and of principles and methods for (b), with illustrations of their application to and in different circumstances. A variety of media would be appropriate, including paper, a CD, a website, and a video. There would be difficulties in finding appropriate personnel to take on the tasks of material development within the budget and time available, and all project personnel will look for possible individual or teams to sub-contract appropriate parts of the work. This will need to be completed by the end of December. Material development, however, needs to build upon further field testing and development of the methods, and should also draw upon and be integrated with other sources

8 Presentations and discussions with livestock development specialists

On Thursday 3rd July the project and methodology developed was introduced to 8 livestock development specialists (listed under project participants) and then project staff facilitated the application of the methodology to field situations and communities with which the specialists were familiar. This was followed up with a discussion reviewing the value and use of the methodology.

The following major comments and lessons emerged from this process:

- There was general enthusiasm for the methodology as regards its purpose (to develop indicators), its practicality in the field, the insights it provided, and its usefulness for campesino groups and those working with them. There was interest in using it with different groups, and in extending it beyond its current narrow livestock focus to encompass a more holistic view of livelihoods.
- Specific suggestions were made as regards the methods, and a number of these are already included in the methodology as outlined in annex 1 (for example the use of a species by

function matrix at the start of the process, and difficulties in defining and distinguishing between some livelihood functions).

- It was noted that both campesinos and facilitators could have difficulties in distinguishing between some functions (for example income, insurance and buffering), and that the process was sensitive to the skills of the facilitator. It might also be useful to let the campesinos identify livestock livelihood functions, rather than having them pre-defined by the facilitator. Education, for example, needs to be related more strongly with investment and consumption functions, and there may need to be distinction between transport of freight and people . These issues need to be examined further in field testing and dealt with very carefully in the preparation of training materials.
- Care needs to be taken that the indicators relate specifically to livestock and their livelihood functions.

9 Follow-up and next steps

Following the workshop we need to develop and produce reports and training materials documenting and describing the findings and methods developed. The first stage is further field applications and testing of the methods developed, to feed back into modifications, adaptations and illustrations for use in the raining materials. This field testing will be conducted in the course of continuing work in Bolivia and Mexico. This will lead into a training workshop to be held under the CALL project.

Annex 1: Structured methods for indicator development

1 Introduction

The system for indicator development is developed for application in two different but related situations:

- *Ex ante* appraisal of the livelihood contributions of interventions affecting livestock keeping for prioritisation (and design) of potential interventions to support livestock keeping in the livelihoods of the poor
- Participatory monitoring and evaluation (M&E) of the livelihood contributions of interventions affecting livestock keeping

Ex ante appraisal may be conducted at different levels. 'Lower level' appraisals will be concerned with appraising the expected impacts of specific interventions on the livelihoods of different categories of people in specific communities. 'Higher level' appraisals, on the other hand, are required by organisations wishing to set broad or generic policies (principles and priorities) to guide livestock interventions across a range of different communities, often with different agro-ecological and socio-economic characteristics.

These two different levels of application use the same principles but they cannot use the same methods. Lower level appraisals should link directly with and involve the specific communities they are concerned with, and hence should aim for participatory appraisal processes and use participatory methods in indicator selection and development. They should also link in with participatory monitoring and evaluation processes to be used if and when interventions are implemented. Higher level appraisals, on the other hand, will not generally be able to link in with participatory appraisal processes in specific communities. In the description of indicator development systems we therefore treat these different levels of appraisal separately.

The process of indicator development for higher level and lower level *ex ante* appraisal, and for participatory monitoring and evaluation all share the same two step structure: first identification of client interests and objectives, and then development of indicators for appraising or evaluating achievement of client objectives. Since client objectives are generally achieved through the achievement of improved welfare of beneficiaries, indicator development requires understanding of the interests, opportunities and constraints of beneficiaries. The way that this understanding is acquired varies between higher level appraisal on the one hand and lower level appraisal and monitoring and evaluation on the other: in the latter two cases shared understanding is gained in a participatory process involving beneficiaries in specific communities. In higher level appraisal, however, this will not normally be possible, and secondary and more general sources of information are needed. These differences in information sources drive methodological differences in indicator development between higher level appraisal on the one hand, and participatory M&E and lower level appraisal on the other.

2 Conceptual framework

Underlying the process of indicator development defined in this paper is a basic conceptual framework which understands livelihoods in terms of the contributions of different assets and activities to a set of livelihood functions (see Dorward et al, 2001). Focussing on these livelihood functions when developing livelihood indicators has a number of advantages.

First it promotes a broader (and more realistic) understanding of the role assets and activities beyond production for market income, with implicit assumptions about the reliance on functioning markets to meet various livelihood needs. Analysis of livelihood functions explicitly recognises different activities' and assets' contributions to (for example) the ability to save (for different kinds of investment, for insurance and for seasonal consumption smoothing), the ability to consume particular products at particular times of year, or the ability to maintain social relations, in situations where market transactions cannot support saving or maintain consumption during particular seasons.

Second, analysis of activity and asset functions leads to the definition of particular asset or activity attributes that promote the achievement of different functions.

Third, the importance of particular functions, and of the asset and activity attributes that promote them, can be related to peoples' technical, institutional and market opportunities and constraints, to broad livelihood strategies that they adopt within broader processes of economic growth, and to the particular roles of activities within those strategies. Here a distinction is made between 'maintenance', 'stepping up', and 'stepping out' strategies. A maintenance strategy (for a livelihood as a whole or for an enterprise within it) is concerned to ensure that current levels of welfare are preserved, whereas both the stepping up and stepping out strategies are explicitly looking for livelihood improvement. However, whereas a stepping up strategy seeks livelihood improvement this by building up the current set of assets and activities, stepping out seeks to build up assets in order to allow a transition to a different set of activities that yield higher and/or more secure benefits.

3 Lower level *ex ante* appraisals and participatory monitoring and evaluation (M&E) of interventions affecting livestock keeping

The development and application of indicators for lower level *ex ante* appraisals and for participatory monitoring and evaluation (M&E) of the livelihood contributions of interventions affecting livestock keeping both involve five basic M&E processes:

1. Determination of client objectives: beneficiary group, nature & mechanisms of livelihood change
2. Determination of beneficiary group priorities & options
3. Selection of indicators where client objectives match beneficiary objectives and options
4. Determination of contribution of proposed intervention to indicators
5. Development of control and response systems

Below we briefly elaborate each of these M&E processes and then describe the field methodology developed to work through them.

3.1 Determination of client objectives

Basic and closely related questions that have to be asked here include

Who is/are the client(s)? There may be more than one client concerned with a particular intervention, and their interests may not exactly overlap. The questions below cannot be addressed without a clear understanding of the identity of the client(s).

What are their objectives and proposed means of meeting them? Objectives may be related to poverty reduction, the environment, economic growth, promotion of particular products. They may seek to achieve these through interventions that impact directly on target beneficiaries, or through interventions affect them indirectly (for example through new market opportunities). Further information on this question may be obtained by addressing a third question:

What is the focus of the client(s)? This question is closely related to the previous question. It may define objectives, for example by specifying particular target beneficiary groups (according to socio-economic, geographical or livelihood categorisation) and by specifying particular technical or other interests (such as, in the field of livestock, animal health, animal nutrition, or livestock markets). The latter issues are also concerned with means of meeting objectives, but here also the role (or activities) and capacity of the client(s) also need to be considered – is it concerned with research, or knowledge systems, or infrastructural development, for example, and does it work by financing work by others or does it work directly with beneficiary groups?

3.2 Determination of beneficiary group priorities & options

Once the beneficiary group(s) have been identified, the next task is to determine their livelihood priorities and options, with regard to the client interests (a tension may arise where client interests and objectives do not match beneficiary priorities – the steps outlined here should help to identify such conflicts and thereby open means of resolving them, but these will ultimately depend upon the flexibility of the client(s) and the nature of the conflicts). Consideration of beneficiaries' priorities and options needs to take account not only of their current situations, but also of interactions between expected changes in their situations (as regards objectives, resources, technical options, and natural, social, political and economic environments). This requires development of shared understanding of current and changing situations, of priorities, and of their relationship to different activities or potential activities of the client(s) and beneficiaries.

3.3 Development of indicators where client objectives match beneficiary objectives and options

Building on the shared understanding described above, it should then be possible to develop monitoring and evaluation indicators of two types, or at two levels. Higher level indicators are concerned with changes in 'functional achievements', the extent to which particular (high priority) asset functions are being achieved. These higher level indicators may be considered, in logical framework or project matrix terms, as purpose indicators, as opposed to the lower level, output indicators, which focus on the means of gaining higher functional achievement. The distinction between these two types of indicators, and the nature of these indicators, is illustrated later with examples. For each indicator, measurement and reporting methods need to be decided.

3.4 Determination of contribution of proposed intervention to indicators

Achievement of higher level purposes (the higher level indicators above) requires changes in livelihood activities and outputs (the lower level indicators above). Client and beneficiary actions needed to change livelihood activities and outputs need to be worked out and specified. These make the basis for agreement between the client(s) and beneficiary groups as regards joint action and external client intervention(s) to support these actions.

3.5 Development of control and response systems

The final stage in effectively developing an M&E indicator system is agreement about how information is to be used, with agreed processes for using the information to monitor progress (or lack of it) and for responding to problems or opportunities as they emerge. The nature of these processes will vary with client objective and procedures, beneficiary interests, and the nature of different interventions.

3.6 A livestock based field methodology for lower level ex ante appraisals

While the five M&E processes described above for the development and application of indicators for lower level *ex ante* appraisals can be separated conceptually, in practice there is considerable overlap and iteration between M&E processes 2, 3 and 4. We now describe a participatory methodology to help clients and beneficiaries works through these M&E processes. The methodology is based on a sequence of 5 activities. We now describe this sequence not as a blueprint of rigidly defined steps but as basic pattern of activities which can be modified, extended, or simplified to suit different situations. The five activities do not match the five M&E processes described above (due to the need to iterate between and within M&E processes), but in the description of each activity below we do attempt to relate the contribution of different parts of each activity to the five broad M&E processes.

The methodology focuses on livestock. This presupposes client interest in livestock (as is the case for a project located within the Livestock Production Programme) and in poverty reduction. It also presupposes that a set of relatively homogeneous beneficiary groups has been identified. The methodology then needs to be carried out with representatives of each of these beneficiary groups.

3.6.1 Activity 1: Current species by function matrix

Purpose: to identify the current livestock species and livestock keeping activities of beneficiaries, and the functions of livestock keeping for each species

Contribution to M&E Processes: Determination of beneficiary group priorities & options (2)

Activity: Construct a matrix for ranking species according to the current importance of their contribution to different functions.

Method: With the beneficiaries draw up a list of species kept by beneficiaries and then ask them to discuss the livelihood functions of keeping each type of livestock. This will allow a list of livelihood functions to be drawn up. Likely functions include provision of direct or indirect cash income, home consumption, buffering (saving against planned cash expenditure), insurance (saving or protection against unpredictable events), use as a guarantee (as collateral when borrowing money), animal traction for cultivation, transport (of goods or people), savings (for future investments), direct fulfilment of social obligations (in the family or village), and provision of manure for fertilising fields. Some of these may be difficult to separate out, but the process of discussing these livelihood functions or contributions can be very useful for both beneficiaries and facilitators. A matrix is then drawn up, with different livestock types in columns and the functions in rows. Livestock are then ranked against each function, with a blank of zero where there is no contribution, and higher numbers indicating more important contributions.

3.6.2 Activity 2: Function priority and indicator matrix

Purpose: to identify high priority functions, the reasons for their importance, processes of change affecting them, and indicators for measuring functional achievements

Contribution to M&E Processes: Determination of beneficiary group priorities & options (2), Development of indicators where client objectives match beneficiary objectives and options (3)

Activity: Using the functions identified in Activity 1 (the species by function matrix), construct a matrix which identifies high priority functions and then for these identifies the reasons for their importance, current changes in achievement or in the importance of these functions (and the reasons for these changes), and then indicators of achievement (with base and target measures of achievement). The layout of the matrix is shown overleaf:

Functions	Priority group	Reasons for importance	Current changes?	Reasons for change?	Indicators/ baseline/ target
F1	1				
F2	1				
F3	1				
F4	2				
F5	2				
F6	3				
F7	3				
….	3				

Method: With the beneficiaries discuss the different functions listed in the species by function matrix (activity 1) and classify them into 3 groups according to the relative importance of improvements in achievement (participants may suggest more than 3 groups). Now begin to construct a table with high priority functions in the left hand column. Now work on each column of the matrix in turn, only considering the higher priority functions. First indicate against each function its priority ranking. Then discuss for each function the reasons for its importance. Following this, consider ways in which the achievement or importance of achievement is changing or is likely to change for each high priority function (it is important here to check that the matrix includes any functions not currently important but likely to become more important in the near future) and the reasons for these changes. Finally, in the last column the group need to agree on indicators that can be used to measure changes in achievement of each function. These indicators must be specific to the kinds of activities that the clients and beneficiaries are going to work on together, but they must focus on the way that these activities are going to improve achievement on high priority functions. It may be difficult to identify relevant indicators that are relatively easy and cheap to measure. It may also be the case that this column cannot be completed until later, when some progress has been made with activity 5.

Examples of the sorts of indicators and questions that might be used as a basis for developing indicators for the achievement of different functions are given in the table at the end of this annex. These questions and indicators are purely illustrative and need to be modified to suit particular situations. It may be that some form of survey will be needed to measure actual conditions, or that information can be obtained from the knowledge of the group, from key informants, or from some organisation that keeps records. Whatever the case, this information will be needed to establish initial (baseline) conditions and will need to be obtained again later to allow monitoring of changes over time. It will be often be helpful to establish a target for improvement over baseline conditions.

Illustrative indicators and questions basis for developing indicators for the achievement of different functions

Income	Average annual income per person from livestock and product sales How would you rate your income from livestock? (*very satisfactory, satisfactory, unsatisfactory, very inadequate*) What proportion of your income comes from livestock? *(less than a quarter, quarter, half, three quarters, more than three quarters)*
Consumption	How often do you eat chicken? (w*eekly or more than once/week; monthly; occasionally)* How would you rate your home consumption from livestock? *(very satisfactory, satisfactory, unsatisfactory, very inadequate)*
Buffering (expected events, consumption smoothing)	How many months of the year do you have problems financing basic expenditures?
Insurance (unexpected events)	What is your ability to face a crisis demanding 500Bs? *(could pay without long term livestock system damage; could pay with long term livestock system damage; could not pay)* If you had a crisis demanding 50/100/500 Bs, what kind of animals would you sell? *(species, sex, age, sufficiency)*
Guarantee	What is the largest loan that you could raise using your animals as a guarantee? For each animal, can it be used as a guarantee, for how much?
Animal traction	% of households owning draft animals? How would you rate your ability to cultivate in good time all the land you could cultivate? *(very rarely a problem, occasionally some difficulty, frequently some difficulty, always a major difficulty)* Number of draft animals and tractors in the community and ploughing capacity versus land to be cultivated for critical operation
Transport	How would you rate your ability to transport goods when you need to? *(very rarely a problem; occasionally some difficulty; frequently some difficulty; always a major difficulty)* How would you rate your ability to travel in the locality when you need to? *(very rarely a problem; occasionally some difficulty; frequently some difficulty; always a major difficulty).*
Accumulation	For the species for which accumulation is important: % hholds increased herd/flock size last year? For the species for which accumulation is important: is there a minimum viable herd/flock size? What is it? % of families with a viable herd/flock size
Social	How would you rate your ability to meet social obligations which require livestock? *(almost always, usually, occasionally, hardly ever)* (gifts, sharing animals, fiestas, …)
Manure	How would you rate your ability to obtain sufficient manure for your crops? *(very rarely a problem, occasionally some difficulty, frequently some difficulty, always a major difficulty)* Number of animals in the community versus land to be fertilised Market & price of manure by species

3.6.3 Activity 3: Household animal inventory

Purpose: to identify in more detail the herd or flock structure and composition for each livestock species and significant changes over the year, to gain greater understanding of livestock keeping activities

Contribution to M&E Processes: Determination of beneficiary group priorities & options (2)

Activity: Construct a matrix showing the flock/ herd composition for species and its seasonal variation.

	Species1	Species4	Species3	Species…
Adult males Adult females, Young males Young females Etc…				

Method: Building on the species by function matrix (activity 1), list species in columns and major classes in rows. In each cell note down the number of animals kept. To capture seasonal variation it may be necessary to draw up a separate table for different seasons, or to note down in each cell particular seasonal events or changes.

3.6.4 Activity 4: Future species by function matrix

Purpose: to identify potential livestock species and livestock keeping activities of beneficiaries, the functions of such livestock keeping for each species, and alternative (non-livestock based) ways of achieving these functions

Contribution to M&E Processes: Determination of beneficiary group priorities & options (2)

Activity: Construct a matrix for ranking species according to the potential future importance of their contribution to different functions.

	Potential future importance in contribution to functional achivements				
Functions	Especies1	Especies2	Especies3	Especies…	Alternatives (non-livestock)
F1	Rank or score	Rank or score	Rank or score	Rank or score	Specify & Rank or score
F2	Rank or score	Rank or score	Rank or score	Rank or score	Specify & Rank or score
F3	Rank or score	Rank or score	Rank or score	Rank or score	Specify & Rank or score

Method: This activity largely repeats activity 1, but looks at the potential importance of livestock (and other activities) in achieving important functions. High priority functions can be taken from earlier activities (with appropriate discussion of the ways that functions' importance may change in the future), and then for each function different species *and* *alternative non-livestock keeping activities* should be ranked (or scored) with regard to their relative importance in fulfilling livelihood functions in the future.

3.6.5 Activity 5: Species indicator matrix

Purpose: to identify for each species its major functional contributions, constraints limiting those contributions, means of addressing those constraints, and indicators for assessing progress in activities addressing those constraints

Contribution to M&E Processes: Determination of beneficiary group priorities & options (2), Development of indicators where client objectives match beneficiary objectives and options (3), Determination of contribution of proposed intervention to indicators (4)

Activity: Construct a matrix showing each species' major functional contributions, constraints, interventions, and intervention indicators

Species	Function	Contribution	Limiting factors/ issues	Planned actions	Indicators, baseline & targets
Species1	F?	Detail…	Detail…	Detail…	Detail…
	F?	Detail…	Detail…	Detail…	Detail…
Species2	F?	Detail…	Detail…	Detail…	Detail…
	F?	Detail…	Detail…	Detail…	Detail…
Species3	F?	Detail…	Detail…	Detail…	Detail…
	F?	Detail…	Detail…	Detail…	Detail…
Species…	F?	Detail…	Detail…	Detail…	Detail…
	F?	Detail…	Detail…	Detail…	Detail…

Method: This last activity shifts the focus from improved achievement of functions to specific actions and indicators related to livestock species. Major species are listed in the first column, and against each a row is allocated for each high priority function to which it currently or potentially makes a significant contribution. These functions are listed in the second column, and the contribution of that livestock keeping activity to that function is summarised in the third column. For the next column the group should discuss the limiting factors that currently or potentially constrain that activity's contribution to functional achievement. This will be related to discussion for the next column – actions planned by the client(s) and the beneficiaries to address these constraints. The final column is used to specify indicators for measuring progress with these actions – these are the 'lower level' indicators discussed earlier in section 3.3. These might concern activity and output indicators (in logical framework terms). Examples might be the proportion of households adopting particular feeding or disease control practices, or changes in growth rates or mortality rates across beneficiary households. As with the higher level indicators discussed earlier, methods of gathering, analysing and presenting and using information need to be determined, together with baseline conditions and targets.

3.7 *Concluding comments, field methodology for lower level* **ex ante** *appraisals*

The field methodology for lower level *ex ante* appraisals and for participatory monitoring and evaluation (M&E) of interventions affecting livestock keeping has been described in some detail. As indicated earlier, this is not intended to be prescriptive, but to provide a set of tools which can be adapted and modified to different situations. The selection and sequence of activities is likely to change with prior knowledge of beneficiary priorities and options, or more restricted client objectives and options – and these will of course vary between *ex ante* appraisals and attempts to improve M&E of on-going activities. A significant amount of iteration is also likely to be needed between activities 2 and 5 as regards development of indicators and planned activities. The definition of functions is also likely to vary considerably between different situations.

4 Higher level *ex ante* appraisals

Higher level appraisals differ from lower level appraisals in that they involve a very different set of relationships between the client(s) and the beneficiaries, being much more general and abstract in the former case, and much more specific and concrete in the latter. This means that the detailed participatory field methods outlined for the lower level appraisals are not appropriate. Higher level appraisals therefore need to find alternative methods for determining beneficiary group priorities & options. These may involve information obtained from a variety of sources: key informants, surveys, rapid rural appraisal methods. This information still needs to be evaluated as regards the prioritisation of functions and the relationships between different activities and their contributions to functional achievements. This is a very challenging task, requiring a general characterisation of beneficiary groups and of the processes affecting them under a range of possible situations. Assuming a client focus on poverty reduction, we propose methods that relates the priorities and options of poor beneficiary groups to potential processes of poverty reduction and to the possible processes in their environment. This would utilize the conceptual framework outlined earlier, together with an understanding of livestock activities as they relate to tradable, non-tradables, and growth linkages and leakages (Dorward *et al.*, 2003).

References:

Dorward, A., J. Kydd, J. Morrison, C. Poulton and I Urey (2003) Markets, institutions and technology: missing links in livelihoods analysis. *Development Policy Review* 21 (3) 319-332

Dorward, A. R., S. Anderson and S. Clark . (2001) *Asset functions and livelihood strategies: a framework for pro-poor analysis, policy and practice* Proc. 74th EAAE Seminar, Livelihoods and Rural Poverty, Imperial College at Wye, September 2001