With welfare in mind

Animal welfare in international development programmes
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This report is based on work undertaken by Bill Swann, veterinary consultant in animal welfare and a member of the Companion Animal Welfare Council. He has implemented programmes of animal welfare assessment for draft animals in numerous countries including India, Pakistan, Kenya and Egypt.
Ensuring good welfare

To have good welfare, animals must have good health, both physically and mentally. They should be free from pain, injury, disease, frustration, deprivation and fear.

Three things affect a managed animal’s welfare. They are:
- any risks to its health and wellbeing
- the steps taken to avoid or deal with those risks (risk management)
- the steps taken to improve its health and wellbeing (positive welfare)

Traditional animal welfare protocols have focused on the resources considered necessary for good welfare, such as hygienic, comfortable accommodation and skilled, sympathetic handling. But a more effective – though challenging – approach is an outcome approach to look at the effect of any system on the animals themselves. Outcome approaches may be difficult for assessors or programme designers who are used to resource-based standards, but can be more valuable than traditional approaches. It is important not to import off-the-shelf systems, but to take account of what works in different places and species, so that effective local practices that have evolved over time can be incorporated, and appropriate adjustments can be made where necessary to improve animal welfare.

It also means fully understanding the risk factors in any existing system, but any assessment should be done in conjunction with the local community to avoid mistakes, loss of confidence and trust, and waste of resources (see page 16 for more about risk assessment).

Why think welfare?

Farm and working animals are sentient. Because they have the capacity to suffer or feel good, we have a responsibility to treat them well. It also makes sense for communities to treat the animals they rely on well, so that they are fit and healthy, and can continue to fulfil their vital role as providers of food, clothing, companionship or transportation. Good animal welfare programmes can run alongside and complement human health and welfare programmes, and have spin-off benefits, such as providing potable water, better sanitation and controlling insect vectors.

Understanding animals’ needs, and the risks to their welfare, is the first step in developing a welfare programme that incorporates them as valued components of a community – which is often how they are seen by those communities – rather than as inanimate resources. Humane treatment of animals is consistent with humane treatment of children, women and other vulnerable groups.

Benefits of good welfare

Implementing an effective system for good animal welfare should lead to three key outcomes:
- animals are healthy, enjoy good welfare and are treated humanely
- animal-owning communities benefit from their animals enjoying good welfare
- outcomes for and relationships between communities, funding agencies and the local implementation organisation are fair and sustainable
Animals in communities

Animals are very important to people in developing countries. They provide around half the work energy used in agricultural production across the world, compared with 30 per cent by people and only 20 per cent by motorised methods. They also provide food, hides and wool, as well as other useful by-products on which communities depend.

International development programmes aim to improve the lives and livelihoods of people in the developing world. Participatory methods of determining people’s needs are well established. Those needs often include demands for more or better livestock, animal food, equipment and veterinary services.

Development agencies may respond to these demands by facilitating the provision of resources, or developing interventions to increase productivity and efficiency or target diseases.

But they may overlook the vital role of animals in the community, and miss the importance of the way people interact with them. Animals often share living accommodation or are closely integrated with family routines and activities.

Added to this, both animal owners and development agencies may not understand animals’ needs for fitness and health.

People’s livelihoods in the developing world are vulnerable, and can be threatened by introducing livestock systems that rely on specialised technology, fuel, pharmaceuticals and other resources local people cannot afford. Equally, they can be threatened by the continuation of poor welfare systems, where animals may be unfit or unhealthy (reducing yield).

A better understanding of the needs of animals and the risks they face can lead to better animal welfare systems and sustainable benefits for local people.

When a major earthquake struck Pakistan’s North West Frontier Province in 2005, aid agencies provided robust shelters for mountain-dwelling people. But the local people used the shelters for their cattle, resorting to makeshift structures for themselves. Village elders explained that their animals were too important for future livelihoods not to be given priority.

When disaster strikes

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Understanding animal welfare

Animal welfare science aims to understand what an animal needs. Sentient animals should feel good and enjoy positive experiences. There is sometimes confusion as to what is meant by animal welfare. To understand animal welfare, both physical and psychological components need to be considered. Animal health is an essential component of animal welfare, but good welfare is much more than good physical health. An animal’s welfare depends on variables in:

- environment
- resources provided
- interaction with other animals, including humans
- breed
- physical capability
- disease
- injury
- experience
- learning and adaptability
- opportunities for play
- foraging
- exposure to weather
- exposure to threats

The key to good welfare is to manage any risks, and to put in place measures that improve welfare. To do this, it is necessary to understand both the behaviour and biology of the species and breed, and the risk factors in any situation. Though many domestic animals have been selectively bred to thrive in man-made environments, factors such as high stocking densities or poor environmental control can lead to poor health. And if animals cannot exercise, play or socialise, they may not feel good. But risks and opportunities for good welfare vary from place to place, and each situation needs to be looked at carefully.

Written animal welfare standards tend to focus on providing resources, such as adequate food, water, light, space, medicine and so on. Sometimes they also stipulate the skills and human resources necessary for good welfare. But such standards vary from organisation to organisation, and cannot guarantee good animal welfare in every case.

Looking at what animals actually experience is the key to effective animal welfare systems. This means observing them directly, and measuring how they feel, how fit they are, and how healthy they are. Only then is it appropriate to adjust systems to improve their welfare.

Looking at the variables

Good farming systems balance productivity and convenience of management with good welfare. Whilst animal welfare is always bad in intensive systems, it must not be assumed that animal welfare is always good in extensive farming systems. The individual system of management and even individual farm holding, will have its own spectrum of risks, risk management strategies and opportunities for positive welfare. Consequently individual animal management systems should be evaluated for welfare outcomes prior to any intervention, however well intentioned.

One size does not fit all

If a group of dairy cattle managed in a certain way has a low prevalence of lameness and good foot health, there is no reason to introduce a ‘best practice’ lameness prevention system, derived from experience elsewhere. All too often, external experts have changed animal husbandry in line with preconceived western ideas, ignoring local knowledge that may have built up over generations, and may be just as effective in guaranteeing good animal welfare.

From smallholding to intensive farming

There are varying types of livestock production in developing countries, ranging from family-owned or tenanted smallholdings where productivity could be poor, to intensive, high-productivity systems based on European and American models. Intensive systems usually involve one company breeding, rearing, slaughtering and marketing large numbers of animals. The husbandry systems they use are entirely foreign to the locality, often relying on imported foodstuffs, energy and cheap labour. Sometimes they lead to a change in local land use. More is usually produced than is needed locally, so produce is exported, leading to high transport and distribution costs. Intensive systems may be imported from countries where animal welfare is protected by robust legislation, but this may be weaker in the developing countries that adopt them.

Sustainable intensification principles encourage the steady development of farming methods, but stipulate that local people should be the main beneficiaries. Animal welfare – which depends on good human-animal interaction – must be at the heart of any sustainable programme. The aim of animal welfare modules in international development programmes should be to increase community knowledge and skills, based on sound animal welfare science principles.

Human-animal interaction

A major criticism of intensive farming systems is the detachment of workers from animal welfare concepts. With increased mechanisation, more animals depend on fewer staff, who have fewer skills and less training. High turnover in generally low-paid jobs leads to poor awareness of animals’ needs. Good human-animal interaction, based on an awareness of welfare principles and risk management, is key to sustainable development. Involving communities means local skills are enhanced and retained.
Getting the right people in place

Implementation organisations, which could be government or non-government agencies, need certain qualities and capacities to be able to implement animal welfare programmes. They must be able to:

- appreciate, design, plan and implement indirect and participatory intervention strategies appropriate to local conditions
- carry out, or source, welfare and risk assessments, applying an appropriate method of causal analysis
- use information from the data that has been collected
- understand that animal welfare is a scientific discipline, which can be assessed and approved through sound, tested methodology

A preliminary evaluation protocol is recommended to assess the tangible and subjective qualities of implementation organisations before they take on the management of animal welfare programmes (see appendix B, page 32).

A BROADER PERSPECTIVE

Development organisations are often unfamiliar with animal welfare programmes. Their interventions usually aim to prevent diseases, which, while important, is only one aspect of welfare improvement. Good welfare, where animals are fit, healthy and feel good, promotes sustainable production and disease resistance. Animal welfare is a science, and can be assessed and improved by tried and tested means.

An ethical approach

Implementation organisations should take an ethical approach that includes some of the suggested headings below, though each situation will vary. Anyone involved, including external consultants, will need to agree to meet these ethical responsibilities.

- Avoiding pain and fear in animals: There should be agreed veterinary clinical standards that include effective pain management.
- Sympathetic handling and management of animals: The Five Freedoms (see below) should be understood and practised, and compassion to animals encouraged throughout the assessment and intervention processes. Euthanasia should be used in cases of unmanageable pain or suffering.
- Respect and compassion for people: The intervention may change a cultural practice, but should not disrespect people's culture or religion, and everyone should be treated equally.
- Consent and privacy: Informed consent should be obtained from owners before doing any work with their animals. Their privacy and personal information should be protected.
- Fairness and equality: Organisations should avoid preferential treatment, and treatment should only be based on animal need, not on the status of the owner.

THE FIVE FREEDOMS

The Five Freedoms were drawn up and defined by the UK's scientific advisors to the agriculture minister, the Farm Animal Welfare Council (FAWC). These have provided the basis for measuring an animal's welfare and their framework has been incorporated into the 2006 Animal Welfare Act in the UK, the 1999 Animal Welfare Act in New Zealand and provides a benchmark for the detailed RSPCA standards on which the higher welfare food assurance scheme Freedom Food is based.

- FREEDOM FROM HUNGER AND THIRST: by ready access to fresh water and a diet to maintain full health and vigour
- FREEDOM FROM DISCOMFORT: by providing an appropriate environment including shelter and a comfortable resting area
- FREEDOM FROM PAIN, INJURY OR DISEASE: by prevention or rapid diagnosis and treatment
- FREEDOM TO EXPRESS NORMAL BEHAVIOUR: by providing sufficient space, proper facilities and company of the animal’s own kind
- FREEDOM FROM FEAR AND DISTRESS: by ensuring conditions and care which avoid mental suffering
The impact of interventions

As part of the intervention planning process, implementation organisations should be aware of the likely impact of the programme. This should include the following issues, as well as others specific to the location and circumstances.

| Health and safety | The implementation organisation is responsible for the health and safety of staff, stakeholders and communities. It should avoid risks to human or animal health for example from zoonoses, dangerous waste and poor hygiene. Correct restraint should be used with animals and training provided in the use of equipment, vehicles and drugs. Vaccinations and insurance should be used as appropriate. |
| Community stability | The implementation organisation should assess the impact of interventions on the target communities, particularly in terms of financial input and social structures. It should avoid replacing existing chiefs and leaders, displacing local tradespeople or disrupting community groups. |
| Environmental impact | There should be an environmental impact audit, looking at how the environment and wildlife could be affected by inappropriate use of antibiotics and anthelmintics. Waste (drugs, chemicals, carcasses and clinical waste) should be disposed of sensitively, and the risks of activities such as diverting water supplies or clearing forest considered carefully. |
| Accountability | There should be formal responsibilities, such as financial accountability to funding agencies, compliance with local laws, and transparency of activities. Interventions should encourage people to improve animal welfare themselves, not create dependency. |

Developing a strategy

Components of international development programmes that will have an impact on animals should aspire to one principal vision:

- to improve the welfare of animals essential to community livelihoods.

Organisational objectives may say that programmes should be applied in areas of greatest need. Generally these are the areas where animal owners are vulnerable due to their living or working environment, their incomes are below recognised poverty indices, and where animal welfare may therefore be at greater risk.

The strategy should include the following components as part of its project cycle:

- An assessment of animal welfare, which measures health and behavioural indices – use prevalence data and severity estimates (see page 15) to decide on priorities for improvement. This may be carried out as part of a wider analysis with the animal-owning communities.
- A risk assessment to find out what local factors contribute to the welfare problems identified.
- Action to minimise risks, using direct, indirect or participatory approaches.
- Monitoring of these intervention activities.
- Evaluation of animal-based outcomes.
- Use of the evaluation results to inform the planning stage of the next project cycle.

Steps to follow

- Welfare assessment
- Prioritisation
- Risk assessment
- Planning
- Intervention
- Implementation and monitoring
- Evaluation (welfare assessment)
Assessing animal welfare

In traditional farming communities, livestock keepers will have learned by trial and error to manage their animals in a way that meets their productivity needs. Nevertheless, some local beliefs can perpetuate practices that are detrimental both to productivity and to welfare. So it is important to look objectively at the impact of existing systems – both good and bad – on animals. This means seeing animals as stakeholders in a participatory evaluation.

The following aspects of an animal’s condition (parameters) can be evaluated:

- demeanour
- reaction to people
- expression of behaviour
- opportunities for socialisation, exercise and foraging
- body condition and hydration
- prevalence of locomotory disorders (lame, foot condition, conformation)
- prevalence of integument disorders (skin lesions, eye lesions, coat/feather condition)
- prevalence of gastrointestinal disorders
- injury
- species-specific observations.

Before finalising the parameters to be measured, it is good practice to consult health and animal-health professionals, academics, veterinary surgeons and others. This may be formalised using a protocol such as Delphi. Participatory analyses with local animal carers and owners will clarify what animal issues are considered important locally. Focusing on the welfare of animals essential to people’s livelihoods attracts a lot of interest. During this and the risk assessment period, agencies will build relationships with communities and animal health professionals by involving them in the process throughout.

Before the assessment, identify and quantify a target population of animals that are all managed by the same system. Select a representative sample, to ensure your conclusions are valid and resources are used efficiently.

**THE VALUE OF OBSERVATION**

Ideally the welfare assessment system should use parameters that can be used by any trained observer rather than relying on animal health professionals for a diagnosis. This broadens both the number of people who use outcome-based welfare assessments and the scope for animal owner participation. Introducing programmes that are not appropriate can be detrimental to animal welfare in the long run. For example, a standard de-worming programme, introduced on a presumptive diagnosis, could damage the balance between the animal’s immunity, susceptibility to other parasites and subsequent re-infestation levels. And some anthelmintics could damage the environment, being toxic to dung-recycling invertebrates. Targeted de-worming of animals such as those with diarrhoea can reduce environmental effects.

Prioritising areas for improvement

Once you have collated and analysed your information, rank issues in terms of their importance to the animals. Use a matrix, gauging prevalence against severity and duration. For example, a condition with a low prevalence, but which causes considerable suffering and death of animals would rank higher than one that is prevalent, but less significant to the animals.

A second round of decision making can look at strategic importance and the feasibility of change. At this stage, it may be discovered that an issue ranked as highly important to animals requires long-term participation with communities, so a lower-ranked issue can be prioritised as well, giving a quick win that will boost confidence with the local community.
Assessing risk

Risk assessment, or root cause analysis, is an accepted part of community development programmes12. The aim is to avoid interventions based on assumptions. This can be a sensitive area with local animal-health professionals and others, as there are likely to be established views about the causes of welfare problems. Suggesting that existing solutions are inappropriate or ineffective can lead to tension, as reputations and livelihoods may be threatened. But a high prevalence of issues ranked as important usually indicates that local solutions are not working.

Risks can be environment, animal, resource or human based (see examples below).

<table>
<thead>
<tr>
<th>Environment based</th>
<th>Ground conditions</th>
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<tbody>
<tr>
<td></td>
<td>Climate</td>
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<tr>
<td>Animal based</td>
<td>Genetics</td>
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<td></td>
<td>Disease specific to species</td>
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<td>Age</td>
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<td>Suitability for purpose</td>
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<td></td>
<td>Susceptibility to injury</td>
</tr>
<tr>
<td>Resource based</td>
<td>Availability of food, water, shelter</td>
</tr>
<tr>
<td>Human based</td>
<td>Handling</td>
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<tr>
<td></td>
<td>General knowledge</td>
</tr>
</tbody>
</table>

Various tools can be used for risk analysis. Multi-dimensional statistical analysis tools can help to make full use of all the data collected.

There are usually many risks that could contribute to any particular welfare issue. For example, a low body condition score could be linked to nutrition, disease, productivity and work, frequency of feeding, environment, reduced fat reserves, lameness, or any combination of these. Apathy could be the result of dehydration, overwork, metabolic stress, beating, social isolation or other causes.

The first stage of a risk assessment is to identify as many of the potential risks as possible – this may require specialist input. Risk assessment specialists can use the information to develop a risk assessment protocol, which they will use in the field to investigate which potential risks are significant and which are not. Any species is subject to specific risks to their welfare, but the conditions in which animals live influence the type and level of risk they face. Determining this – known as a risk profile – is the purpose of the field assessment.

Risk profiles are specific to the location assessed, which could be an individual farm, village or production system. But it may be possible to develop and influence indicators by other factors such as seasonal workload variations, allowing comparisons between similar situations in different regions or farms.
Taking action

Results of risk assessment data carried out by the community should be taken into account when embarking on any intervention programme. It can be tempting to see problems in isolation and act, in order to be seen to be doing something. But making mistakes at an early stage can lose communities’ trust and confidence, as well as wasting resources. Problems rarely have simple solutions. Sometimes they are the result of complex risk interactions, and fixing one apparently simple and straightforward aspect may make it difficult to manage the rest.

The implementation organisation should look at the risk factors to be targeted, and the local culture and conditions, and select the most suitable operational delivery system. At the planning stage, decisions should be made about how the intervention will be implemented, and what the balance of indirect and participatory approaches should be.

A direct intervention, which does not involve animal owners and other stakeholders, is unlikely to be effective. A combination of indirect and participatory approaches is more likely to result in better animal welfare. Indirect approaches aim to change owner/user behaviour by harnessing the support of influencers, such as government departments (legislation, grants) or tradespeople (incentives). Participatory approaches use engagement with animal owners and users, to try to change what they do. Again, it is important to develop an individual programme of intervention that suits local cultures and circumstances.

The success of interventions will be revealed ultimately in improved animal welfare. For some issues such as dehydration or beating this may be rapid; for others such as chronic lameness it may not happen in the current generation of animals.

**INTERVENTION APPROACHES**

**Direct**: taking action without involving local people.

**Indirect**: using influencers to encourage people to change their behaviour

**Participatory**: engaging people and working with them to change what they do

Collective action by animal owners and carers, and other stakeholders is key to improving the welfare of animals working in brick kilns in Pakistan.
Monitoring and evaluation

Monitoring means checking and recording that all the activities in your plan are being carried out so that improvements can be made where necessary. This information will be used in evaluations at specific points during the programme, and at the end. Evaluation means establishing whether what you have done has achieved its purpose. It is also useful in lesson learning for existing or further interventions (see page 12).

A monitoring and evaluation strategy needs to include evaluation of the outputs, which are expected achievements or activities. It is the collective achievement of these outputs that lead to overall success of the programme.

Specify in the programme plan when any activity starts and develops indicators for animal welfare standards and community interaction. Progress on these indicators can be measured against a baseline established at the start of the activity. When writing the intervention plan include measurable, timed milestones as action points, based on the resources you expect to use or the level of owner/user/stakeholder involvement. They could include set-up achievements – such as renting an office, buying vehicles, contacting communities – and developmental milestones, such as target communities reached and engaged. If you are going to recruit and train local people, put recruitment milestones in the plan and indicators to evaluate training programmes.

Set goals for each intervention, and if possible, plan to observe a control population of similar animals nearby, living in similar circumstances. At agreed stages, check whether the programme’s activities are achieving the expected results, and whether any welfare improvements can be attributed to them. Also, note any changes in welfare priorities, or new risks as a result of changes in practices or circumstances on the ground.

In the case of a participatory strategy, you can evaluate interim achievements by measuring changes in

- the owner/users’ behaviour and understanding of risks
- resource provision
- anything else specified in the intervention

With an indirect approach, it may be necessary to take account of third-party behaviour and resource changes in your evaluation.

QUICK WINS AND LONG-TERM GAINS

Expected improvements in welfare may not happen for the animals living at the time of the intervention. It is therefore critical to maintain confidence by evaluating interim achievements, such as changes in owner behaviour, regularly.

It is important to monitor these individual achievements on the way – they all, collectively, contribute to ultimate success, and achieving each one as expected indicates progress and boosts confidence among funding agencies, communities and workers.

But these interim successes should not be confused with the programme’s final outcomes, which should be improved animal welfare. The final stage of evaluation is to measure these ultimate outcomes, using your welfare assessment protocols, once behaviour change or other goals have been achieved. The purpose is to discover whether the programme is delivering the expected changes in animal welfare.

By pointing to changes in owner behaviour and better animal welfare, you should be able to show how strongly the two are linked. You may be able to build further confidence in the programme if you have been observing a control group.

The funding agency, implementation organisation, communities and external evaluators should share responsibility for evaluation. All parties should demonstrate understanding and ownership of the plan. Some organisations use measures to indicate how effectively all parties work together in partnership (see appendix B, page 32).

Owners are the primary decision makers for their animals, so it is important for the success of animal welfare projects to involve them in monitoring and evaluation.
Quick guide to writing a plan

**Aims**
There should be clear aims, each achievable within a set time.

- Three common aims for animal welfare programmes are:
  - Animals are healthy, enjoy good welfare and are treated humanely.
  - Animal-owning communities benefit from their animals enjoying good welfare.
  - Outcomes for communities, fundraising organisations and implementation organisations are fair and sustainable.

**Outputs**
Outputs – or interim achievements – should be defined from the aims. The aims mentioned above could have the following outputs.

- **Aim: animals are healthy, enjoy good welfare and are treated humanely.**
  - The status of animal welfare in the target population is known.
  - The risks to animals’ welfare are understood.
  - Owners demonstrate a caring relationship with their animals, understand animal welfare concepts and risk, and willingly implement changes or act to manage risk and improve welfare.
  - Disease is prevented or minimised.
  - A high-health status is established and maintained.

- **Aim: animal-owning communities benefit from their animals enjoying good welfare.**
  - There is sustainable beneficial change, including better productivity, income and social benefits. The World Bank has produced several case studies in developing countries of business success due to improved animal welfare in programmes.
  - All stakeholders value the work of the programme.

- **Aim: relationships between communities, fundraising organisations and implementation organisations are fair and sustainable.**
  - Responsibilities are balanced between agency and stakeholders.

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To measure outputs, you will need:
- Effective methods for assessing animal welfare and risks/root causes, underpinned by applied animal welfare science principles (validity, repeatability, simplicity, responsiveness to change, whole-animal assessment).
- Animal-owning communities willingly participating in demonstrations, training days, associations, courses and registrations – individual owner participation is only likely to have a limited effect on the success of any project.
- Owners developing their beliefs, attitudes and behaviour towards animals.
- Increased awareness of risks by owners, and how to manage them leading to changes in animal welfare, related knowledge, attitudes and practices.
- All communities understanding the aims of the programme and the benefits available.
- Changes in owner behaviour.

Indicators of behaviour change will be specific to the individual programme, but could include:
- Preventive programmes established for disease eradication or control.
- Surveillance and monitoring for new and endemic disease threats.
- Owners recognising disease symptoms and taking appropriate action.
- More animal-health services available and being used.
- Effective emergency veterinary care, using the best local resources.

Veterinary services, good husbandry and work practices are all essential to maintain good animal health. Veterinary services are also essential to treat emergencies for working animals. Livestock in intensive production systems may rely on vaccines or antibiotics for good health. Managing endemic and epidemic disease is of particular importance in animal-owning communities. Indicators that would show success could include communities recommending welfare promotion activities to others or other stakeholders becoming involved in the work.
Any participatory animal welfare programme aims to empower local people to take responsibility for their own animals. Good animal welfare is beneficial to livelihoods and should aim to continue beyond the life of the given programme.

You will need to log all the programme’s expected outputs and outcomes at the initial planning stage and compare with the actual outputs, outcomes and impacts recorded during the evaluation. Your indicators should be Specific, Measurable, Agreed, Realistic and Timed (SMART) – see appendix A (page 29) for an example.

- Outputs are the achievements of activities you devise at the planning stage (see above).
- Activities are actions that result in outputs, such as community meetings, information sharing, animal welfare training and discussions about risk assessment and management.
- Activity milestones are measurable actions, such as number of meetings, demonstration days, levels of interest and attendance.
- Monitoring measures progress; it is day-to-day confirmation and recording that activities are happening and that milestones have been passed. This is carried out by the implementation organisation.
- Expected outcomes are what you expect the actions you take to achieve in terms of change. They could include things like owners displaying more sympathetic behaviour towards their animals or being aware of and using services provided by the programme. They are evaluated by the implementation organisation or an external evaluator, and should involve beneficiaries of the programme.
- Expected impact should be improved animal welfare, as a result of the effective management of risks.
- Evaluation measures change from the baseline and can include examination of activity monitoring records and output records. Direct evaluation of community risk and problem-solving ability may be necessary. You should set milestones in progress towards, as well as indicators of, programme outcomes.

**Indicators**

Develop indicators that will tell you when an output has been achieved, and help you assess what the interim, or final outcomes of the action are. Make sure your indicators are SMART and easy to use in the field.

**Monitoring and evaluation**

Make sure programme staff include recording of activities and level of participation as part of their daily or weekly routines. Agree how often you will carry out evaluations of specific parts of the plan at the beginning. Annual reviews carried out by the implementing organisation are often part of the annual programme funding cycle. External evaluations – usually carried out every 3–5 years – link indicators to outputs to show progress towards overall outcomes. Programme outcomes may be evaluated every five years. Programmes can take up to 10 years or longer to achieve their aims.
Some welfare assessment systems

A welfare assessment programme for working equine animals used a sophisticated, scientific approach as a tool to help identify the main problems facing animals working in the developing world. This can help improve animal welfare, food, hides and wool, as well as other products on which communities depend.

The programme, developed and implemented by The Brooke Hospital for Animals (The Brooke) and the University of Bristol, began in 2001. The study used around 5,000 animals in Afghanistan, Pakistan, Egypt, India and Jordan, representing around 135,000 animals in those countries. Further work was done in Kenya, Ethiopia, Guatemala and The Gambia.

Testing was carried out to assess whether animal-based observations could be repeated over time\(^1\), and a field manual was produced to help standardise them. Brooke staff in each country were trained to take part in assessments.

Each animal was assessed and its data entered into online forms kept on a University of Bristol-managed database. This allowed analysts to see the prevalence of welfare problems in each locality, and to look at correlation between these and the type of work, age of animal and other variables\(^2\).

The teams then prioritised welfare issues, using a matrix to test prevalence against severity and duration (see page 15), with severity being judged by veterinary staff using knowledge from local animal welfare scientists.

A risk assessment protocol was designed for a pilot study in Jordan. Trained staff in each country carried out further risk assessments in precise localities – usually working communities or villages. The data gathered was managed by the University of Sheffield, which analysed significant risks and their interactions. This could reveal, for example, that a harness may be a risk only when used in certain ways, and in particular places with certain physical characteristics.

The data contributed to the design of participatory interventions, taking account of local conditions, practices and cultures. At the time of publication, implementation of these is starting in some areas.

LESS PAIN, MORE GAIN

Donkeys used to transport bricks in Egyptian brickworks were found to have a high prevalence of severe skin wounds, caused by their harnesses. New harnesses and carts had made no difference to their welfare. Risk assessment showed that they were capable of pulling the loads they were given, but that loose sand and low cart tyre pressures were effectively doubling the effort required. They needed a particularly big effort to get the carts moving, and this was when the harnesses were hurting them. One intervention, made as a result of other information and agreed with individual kiln owners, was to employ someone to maintain the carts and keep the tracks clear. Drivers were also encouraged to help the donkeys get going with a push.


Freedom Food is the UK’s only farm assurance scheme solely aimed at improving animal welfare\(^3\). It is underpinned by species-specific welfare standards\(^4\) set by the RSPCA. Freedom Food farms have to implement the RSPCA welfare standards, which are assessed and independently monitored. But these standards relate mainly to input resources, such as the amount of space or type of environment that must be supplied. However, the RSPCA recognised that measuring outcomes as well would provide more information about the effects of the input standards on animals and greater transparency and harmonisation within the scheme. It would also allow greater understanding of welfare issues on individual farms.

Welfare assessment protocols were developed for dairy cattle, pigs and poultry following RSPCA-funded research by Bristol University\(^5\).

The aim of the research was to develop key species-specific welfare indicators for these animals, and a process for using the indicators to measure welfare on-farm. The process includes:

- measurement of key welfare indicators on a farm visit
- adoption of targets for each indicator, showing when intervention is needed
- action plans showing what needs to be done if an indicator reaches intervention level
- a mechanism for producers to compare their welfare outcomes with their peers.

Welfare outcome assessments measure the health and welfare of the animals kept under the scheme. They help to show whether animals reared on Freedom Food farms really are benefiting, and potentially allow for comparisons with animals kept in other systems. They also help producers focus on any areas of health and welfare that might need particular attention on their unit.

\(^1\) Pritchard J C. 2005.
\(^2\) Swann W J. 2006.
\(^3\) www.freedomfood.co.uk
\(^4\) www.rspca.org.uk/welfarestandards
\(^5\) Bristol University: www.vetschool.bris.ac.uk/animalwelfare
The species-specific measurements could be adapted and used to evaluate the effects on animal welfare of husbandry systems for which standards do not exist. Assessment protocols for animal welfare could therefore be used effectively in developing countries.

The new system of on-farm welfare assessment system started to be trialled on Freedom Food farms in January 2008. Data are already being collected but analysis of results and inter-farm comparisons are not expected until 2009.

COMPANION ANIMALS

In 2008, the UK's scientific advisors to the government on companion animals, the Companion Animal Welfare Council (CAWC), produced a report on welfare assessment in pet animals. This was in response to a new piece of legislation, the Animal Welfare Act 2006. Under this law pet owners have a responsibility to ensure the welfare of animals in their care is met. This is broadly based on the Five Freedoms (see page 11) and includes issues such as giving a suitable diet, a suitable environment and protection from pain, injury and disease.

CAWC discusses setting up indicators such as behavioural, physiological, societal ones as indicators of welfare and recommends a national evidence base for pet animals. This could be developed in the future into welfare indicators for companion animals.

APPENDIX A: sample output evaluation

The table below shows how the progress of a programme can be tracked. The indicators will vary according to the programme. Human behaviour change is difficult to measure and requires prolonged qualitative assessments. This means checking that activities are happening in daily life (in context) rather than during visits by implementation organisation staff. Assessing how owners perceive and interact with their animals is difficult to arrange in a repeatable and natural way but is a key parameter. A well-designed programme will often include peer group assessment of welfare-related behaviour amongst community groups.

<table>
<thead>
<tr>
<th>PLANNED OUTPUT</th>
<th>INDICATOR</th>
<th>EXPECTED BENEFIT</th>
<th>SMART</th>
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</thead>
<tbody>
<tr>
<td>a. Effective welfare and risk assessment protocols, applied in the field, using trained and accredited assessors.</td>
<td>a.1 Number of trained personnel. a.2 Number of animals risks assessed relative to animal populations.</td>
<td>Effective welfare and risk assessment of expected animal numbers. Numbers of animals reached appropriate to inputs.</td>
<td>a.1 Yes a.2 Yes</td>
</tr>
<tr>
<td>b. Individual owner participation in animal welfare programmes and animal-owning communities that actively and willingly participate in demonstrations, associations, training days, courses and registrations.</td>
<td>b.1 Number of owners in each community programme taking part in group activities. b.2 Number of communities engaged in welfare programmes.</td>
<td>Numbers of owners and communities involved as expected.</td>
<td>b.1 Yes b.2 Yes</td>
</tr>
<tr>
<td>c. Owner beliefs, attitudes and behaviour towards individual animals (their own and other peoples).</td>
<td>c.1 Questionnaire. c.2 Observation of animal handling.</td>
<td>Basic understanding of animal welfare reflected in handling and other behaviour.</td>
<td>c.1 Yes c.2 Difficult to design observational indicators.</td>
</tr>
</tbody>
</table>

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19 Main D C J. 2007. Bristol University, Division of Farm Animal Science, personal communication.
20 www.cawc.org.uk
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<tr>
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<th>EXPECTED BENEFIT</th>
<th>SMART</th>
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</thead>
<tbody>
<tr>
<td>d. Increased owner awareness of risks, including risks of disease, injury and harm and how to manage them.</td>
<td>d.1 Questionnaire d.2 Agreements with owners/communities on how to manage risks</td>
<td>Understanding of risks appropriate to the intervention and willingness to manage them.</td>
<td>d.1 Yes d.2 Yes</td>
</tr>
<tr>
<td>e. All communities in the operational areas know the aims of the programme and the services, resources and other benefits available.</td>
<td>e.1 Questionnaire</td>
<td>Owners understand the reasons for managing risks and the resources and support available to them.</td>
<td>e.1 Yes</td>
</tr>
<tr>
<td>f. Owner behaviour changes that reflect increased awareness of risk management and observed willingness to act to manage risks.</td>
<td>f.1 Observation of behaviour change appropriate to the intervention. f.2 Resource uptake or use</td>
<td>Effective management of risks.</td>
<td>f.1 Difficult to design behaviour change indicators. f.2 Yes</td>
</tr>
<tr>
<td>g. The establishment of preventive programmes for eradication or control of disease.</td>
<td>g.1 Programmes agreed by specialists and implementation staff trained. g.2 Disease prevalence reduced</td>
<td>Reduction of disease</td>
<td>g.1 Yes g.2 Yes</td>
</tr>
<tr>
<td>h. Surveillance and monitoring for new and endemic disease threats.</td>
<td>h.1 Surveillance programme agreed and staff trained. Sentinel veterinary points set up.</td>
<td>New and endemic threats monitored.</td>
<td>h.1 Yes</td>
</tr>
<tr>
<td>i. Owner recognition of disease symptoms and willingness to take appropriate action.</td>
<td>i.1 Questionnaire i.2 Owner reports to veterinary/other centres.</td>
<td>Owners contribute to surveillance and disease management</td>
<td>i.1 Yes i.2 Yes</td>
</tr>
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<th>EXPECTED BENEFIT</th>
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<tbody>
<tr>
<td>j. Increased local availability and use of animal health services.</td>
<td>j.1 Number of community-based veterinary/other centres/professionals and AHWs. j.2 Client registration.</td>
<td>Effective community-based veterinary health service.</td>
<td>j.1 Yes j.2 Yes</td>
</tr>
<tr>
<td>k. Effective veterinary emergency care, which swiftly and effectively uses the best local resources.</td>
<td>k.1 Case records. k.2 Mortality</td>
<td>Fewer losses from emergency health problems.</td>
<td>k.1 Yes k.2 Yes</td>
</tr>
<tr>
<td>m. Communities begin to develop their own activities and adopt services/activities previously run through external agencies as their own. Community members organise their own events.</td>
<td>m.1 Number of events/activities managed by communities.</td>
<td>Dependency of external agency intervention reduced</td>
<td>m.1 Yes</td>
</tr>
<tr>
<td>n. Communities recommend welfare-promoting activities to other communities.</td>
<td>n.1 Questionnaire in adjacent areas. n.2 Demand for services.</td>
<td>New community groups sensitised to programmes.</td>
<td>n.1 Yes n.2 Yes</td>
</tr>
<tr>
<td>o. Other stakeholders such as merchants and professionals become involved in community-based work.</td>
<td>o.1 Questionnaire o.2 Observed uptake of resources and services.</td>
<td>Inclusive programme that makes use of locally available businesses.</td>
<td>o.1 Yes o.2 Yes</td>
</tr>
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</table>
APPENDIX B: evaluating implementation organisations

Use the following checklist to assess the suitability of implementation organisations for animal welfare intervention programmes.

**Ambition**

Realistic ambition is more important than the size of the organisation. You will need to know its organisational structure and governance, as well as practical issues, such as the number of animals and animal-owning communities it has access to.

**Commitment**

The organisation should be committed to the programme and willing to participate. Use an attitudinal assessment to gauge how well it will buy in to protocols.

**Reputation**

The organisation’s reputation may help confirm its values, integrity and effectiveness. Governments, NGOs and local stakeholders could help here. You need to find out what the communities to be targeted think about the organisation.

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<tr>
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<tbody>
<tr>
<td>p. Communities should show evidence of becoming self-sufficient and self-supporting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>q. Reduction of programme costs to a sustainable level or zero</td>
<td>q1. Costs survey</td>
<td>q1. Yes</td>
<td></td>
</tr>
<tr>
<td>r. External inputs to programmes should be sustainable</td>
<td>r1. Costs survey</td>
<td>r1. Yes</td>
<td></td>
</tr>
</tbody>
</table>

**Philosophy and values**

- There should be a clear philosophy, such as aiming to improve animal welfare and benefit poor communities. This should have an accompanying set of values. Both should support the following sentiments:
  - Development must happen from within communities.
  - Sustainable change comes from willing participation by owners/users.
  - Sustainability also comes from ethical pressure from third parties, creating economic drivers.
  - Compassion and respect for animals and people are paramount.
  - Animal welfare is a science that can be measured and improved through tried-and-tested means.
  - Working in partnership is the best way to deliver success.

The organisation’s values should be reflected in its policies, promotional material, activities and relationships with others.

**Institutional factors**

- Check the structure, governance and management of the organisation. You need to see evidence of effective decision making, planning and implementation, and internal monitoring and feedback. Make sure there are adequate IT and communications resources, and enough trained staff with appropriate skills. Look for a healthy, activity-based, optimistic culture at all staff levels.

**Capacity**

- If the programme specifies more resources than the organisation has in place, make sure it has the management capacity to cope with additional staff and/or equipment. You also need to make sure these are available locally.

**Integrity**

- You can evaluate this by comparing what the organisation is currently doing with its mission and vision for the work. Evidence of effective financial management of existing and previous programmes will help — you may need references for this. And sustainability is essential to integrity. Look for effective and ethical fundraising strategies.

**Legal status**

- The organisation must be registered or eligible to register as required by any local legal bylaw or regulation.

**Accountability**

- Minimum standards should be in place, such as annual independent audit of accounts, and existing project evaluation.
APPENDIX C: further reading and references

There are numerous references to welfare assessment of farm animals in the scientific literature. The journal Animal Welfare has a good introduction to the subject. For information about the application of welfare assessment using direct animal observation in the field, there are two principal sources. The first is the scheme operated by the University of Bristol, referred to on page 27. The second is the working animal assessment system referred to on page 26. Some useful abstracts are given here.

ANIMAL WELFARE ASSESSMENT IN FARM ASSURANCE SCHEMES
D C J Main, A F Webster and L E Green

Abstract
Assuring the consumer on animal welfare is a key objective for many UK farm assurance schemes. This assurance is usually delivered by ensuring producers adhere to standards which define many aspects of animal husbandry. Assessors currently use welfare assessment as a tool to identify non-compliances with the minimum resources defined in the standard. However current assessments are based almost entirely on the provision of resources and management consistent with good welfare, they give little attention to the outcome, welfare state itself. We describe an approach to the development of a reliable scheme for the direct assessment of welfare state. Even if this cannot be used for routine farm visits it should be able to be used to audit the impact of existing schemes on animal welfare and develop improved protocols for future schemes. We suggest that these should give increased emphasis to the management of health and behaviour.

APPLICATIONS FOR METHODS OF ON-FARM WELFARE ASSESSMENT
D C J Main, J P Kent, F Wemelsfelder, E Ofner and F A M Twuitten

Abstract
Animal welfare assessment at group level is a scientific discipline that is rapidly developing. The interest in welfare assessment systems is based on an ethical concern for the welfare of farm animals. The scientific community plays an important role in delivering an appropriate repeatable, valid and feasible framework for these assessments. Consideration of the potential applications of these techniques is important for deciding upon the requirements of specific assessment systems. This paper provides a brief overview of the different types of applications, which can be categorised broadly into research, legislative requirements (non-voluntary), certification systems (voluntary) and advisory/management tools. These applications may have various goals: quantification of welfare, provision of welfare assurance or welfare management. Assessment systems vary in many characteristics, such as whether they are animal- or resource-based, and whether they are based on single or integrated scores. Different applications will require different elements of these features.

ASSESSMENT OF THE WELFARE OF WORKING HORSES, MULES AND DONKEYS, USING HEALTH AND BEHAVIOUR PARAMETERS
J C Pritchard, A C Lindberg, D C J Main and H R Whay
Preventive Veterinary Medicine, 69 (3), p.265–283, Jul 2005

Abstract
Working animals provide an essential transport resource in developing countries worldwide. Many of these animals are owned by poor people and work in harsh environments, so their welfare is a cause for concern. A protocol was developed to assess the welfare of working horses, mules and donkeys in urban and peri-urban areas, using direct observation of health and behaviour parameters. In this study, 4905 animals used for draught, pack and ridden work in Afghanistan, Egypt, India, Jordan and Pakistan were assessed between December 2002 and April 2003. The data showed that donkeys were more likely than mules or horses to demonstrate avoidance or aggressive behaviour towards an observer, while horses were most likely to make a friendly approach. Fewer than 8% of working equines had abnormal mucous membranes, ectoparasites or poor coat condition. Body lesions occurred predominantly in the areas of the breast/shoulder, withers and girth in all three species, with mules having the highest prevalence of lesions in these areas (21.5, 21.3 and 28.4%, respectively). Among horses and donkeys, the prevalence of these lesions was influenced by the type of work carried out. Lesions on the head, neck, ribs, flank and tail base were seen in less than 10% of animals. Across all three species, approximately 70% of animals were thin, having a body condition score (BCS) of 2 or less on a scale of 1–5 (1, very thin; 5, very fat) and more horses were in very thin condition (BCS 1) than mules or donkeys. Over 75% of animals demonstrated limb deformities and abnormalities of gait. The results of this study are being used as the initial stage of a long-term strategy to inform priorities for welfare interventions in working equines and to establish a welfare benchmark. Subsequent stages will rank the welfare concerns identified, assess the contributing risk factors and implement specific interventions to address these risks. Following intervention, success in improving welfare will be measured by repetition of this protocol and comparison with the benchmark.

TAIL-BASE LESIONS IN DONKEYS CARRYING TOURISTS IN JORDAN: RISK FACTORS AND TOURIST ATTITUDES TO DONKEY WELFARE
C C Burn, M Farajat, A A M Twaissi, J C Pritchard and H R Whay
International Society for Applied Ethology, 2007 Congress, Merida (Yucatan), Mexico, 30th July – 3rd August 2007

Abstract
Tail-base lesions are an important welfare concern in working donkeys. This study was carried out in urban and peri-urban areas, using direct observation of health and behaviour parameters. In this study, 4,903 animals used for draught, pack and ridden work in Afghanistan, Egypt, India, Jordan and Pakistan were assessed between December 2002 and April 2003. The data showed that donkeys were more likely than mules or horses to demonstrate avoidance or aggressive behaviour towards an observer, while horses were most likely to make a friendly approach. Fewer than 8% of working equines had abnormal mucous membranes, ectoparasites or poor coat condition. Body lesions occurred predominantly in the areas of the breast/shoulder, withers and girth in all three species, with mules having the highest prevalence of lesions in these areas (21.5, 21.3 and 28.4%, respectively). Among horses and donkeys, the prevalence of these lesions was influenced by the type of work carried out. Lesions on the head, neck, ribs, flank and tail base were seen in less than 10% of animals. Across all three species, approximately 70% of animals were thin, having a body condition score (BCS) of 2 or less on a scale of 1–5 (1, very thin; 5, very fat) and more horses were in very thin condition (BCS 1) than mules or donkeys. Over 75% of animals demonstrated limb deformities and abnormalities of gait. The results of this study are being used as the initial stage of a long-term strategy to inform priorities for welfare interventions in working equines and to establish a welfare benchmark. Subsequent stages will rank the welfare concerns identified, assess the contributing risk factors and implement specific interventions to address these risks. Following intervention, success in improving welfare will be measured by repetition of this protocol and comparison with the benchmark.
lesions beneath their tails. The lesions were apparently associated with using improvised rump straps, but interventions by an equine charity The Brooke, to improve the straps, had limited success. Therefore, they commissioned the current assessment to explore risk factors for the lesions. The exploratory nature of the study means that findings will be used to generate hypotheses, rather than to test them, but they will also help inform new intervention strategies.

Methods
Observations and questionnaires were used to collect data, ranging from those directly related to the strap, to those concerning donkey health and the attitudes of tourists and of each donkey’s attendant. Analyses included logistic regressions and descriptive statistics.

Results
Padded straps were associated with more severe lesions than unpadded ones, but only if they were tightly fitted (Odds ratio = 1.50; n = 84; P = 0.028). Questionnaire results suggested that padding caused the lesions, rather than being a response to them, because only 5/86 donkey attendants suggested using padding for treating lesions. Unclean straps were also associated with worse lesions than clean ones (Odds ratio = 0.19; n = 84; P = <0.001). Questionnaires suggested that most tourists did not consider donkey welfare when choosing which animal to hire.

Discussion
Padding is often recommended to prevent straps from rubbing, but when straps overlay soft tissue (like the rump) rather than bony prominences, it can harm the skin, rather than protecting it. Removing padding and regularly cleaning straps could be an effective, low-cost, sustainable intervention at Petra and elsewhere.

References
**Recommendations**

- Animal welfare, including animal health, should be an essential part of all community development programmes in those rural areas of the developing world where people depend on livestock farming or keeping.

- Animal welfare assessment, based on scientific principles, should be used to determine the needs of animals and risk assessment should be used to identify the significant risks that contribute to sub-optimal welfare.

- Interventions should be incremental and reflect the findings of risk assessments.

- Interventions to improve animal welfare should generally be participatory with indirect support where necessary so that animal-owning communities acquire the knowledge and develop the skills necessary to sustain improvements and better husbandry.

- Animal welfare programmes should be implemented alongside and as an integrated part of general livelihoods improvement programmes.

- Animal welfare components of livelihoods improvement programmes should be monitored and evaluated to ensure that expected outcomes are achieved.

- International development agencies and funding bodies, both governmental and non-governmental, should be aware of the importance of animal welfare in community development and should be aware that methods of assessing and evaluating animal welfare are practical and capable of field application.

- An inclusive ‘Animals in International Development Group’ should be created, bringing together animal welfare and international development organisations and academic institutions, with the aim of promoting and developing animal welfare assessment, improvement and evaluation as fundamental components of livelihoods and community development programmes. The group would also have amongst its aims raising awareness of animal welfare as a key pillar of community development and livelihoods programmes, influencing major funding organisations and facilitating the work of existing animal welfare organisations involved in international development programmes. The group should also work closely with government international development departmental staffs. In the first instance, it is likely that the group would need to be funded by the international animal welfare sector. It could also have a role in commissioning necessary research.

Brooke animal-health care workers often work with owners and local communities, training them in basic treatments, preventive measures and nutrition to ensure good future animal welfare.