

Food and Agriculture Organization (FAO) / The Brooke

Electronic Consultation

on

The role, impact and welfare of working (traction and transport) animals

1st - 28th February 2011

Electronic Consultation - Report

FAO/ The Brooke 1st – 28th February 2011

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Summary

The Electronic Consultation on the role, impact and welfare of working (transport and traction) animals was held during February 2011 and aimed to consult a wide range of actors to gather evidence on the role and impact of working animals in livelihoods, identify necessary actions to raise their profile and improve their welfare.

One hundred and fifty-six people from 52 countries registered for the e-consultation. More than 40 participants contributed to the online discussion and 79 documents on working animals were shared and posted on the FAO Gateway to Farm Animal Welfare. This report provides a summary of the contributions, including topics that were strongly represented, innovative suggestions, proposed actions, preconceptions and knowledge gaps. Findings from the e-consultation, together with those of a further consultation to be held at the 5th Pan Commonwealth Veterinary Conference in March 2011, will be taken forward to inform an FAO/ The Brooke Expert Meeting on working animals, which will take place in Rome during June 2011. The Expert Meeting will reflect on the objectives of the e-consultation and the outcomes of the Conference to identify necessary actions to raise working animals profile in agricultural and rural development programmes and to improve their welfare.

Introduction

The main objectives of this e-consultation were to gather evidence on the role and impact of working animals in livelihoods (food security, poverty alleviation, income generation, access to services, gender equity and others) and identify necessary actions to improve their welfare and to raise their profile in agricultural and rural development programmes.

The e-consultation provided an opportunity for scientists, development workers, governmental institutions and non-governmental organizations, and the international community at large with an interest in working animals and their welfare, to share their knowledge and experiences.

The e-consultation addressed the following themes:

Weeks 1 and 2: The current state of knowledge on the contribution of working animals to livelihoods (food security, poverty alleviation, income generation, access to services, gender equity and other aspects) worldwide.

Week 3: Existing standards and guidelines, case studies and best practices addressing working animal health and welfare.

Week 4: Policies and legislation and recommended further actions at national and international level.

Records of the e-consultation, weekly summaries of contributions and documents (a wide range of materials including papers, publications and data) submitted by participants during the consultation period are available on the FAO Gateway to Farm Animal Welfare at <http://www.fao.org/ag/againfo/themes/animal-welfare/blog/en>. They are also listed at the end of this report. Relevant information, data and ideas collected from participants will also be used to prepare background documents for the expert meeting mentioned above.

Acknowledgements

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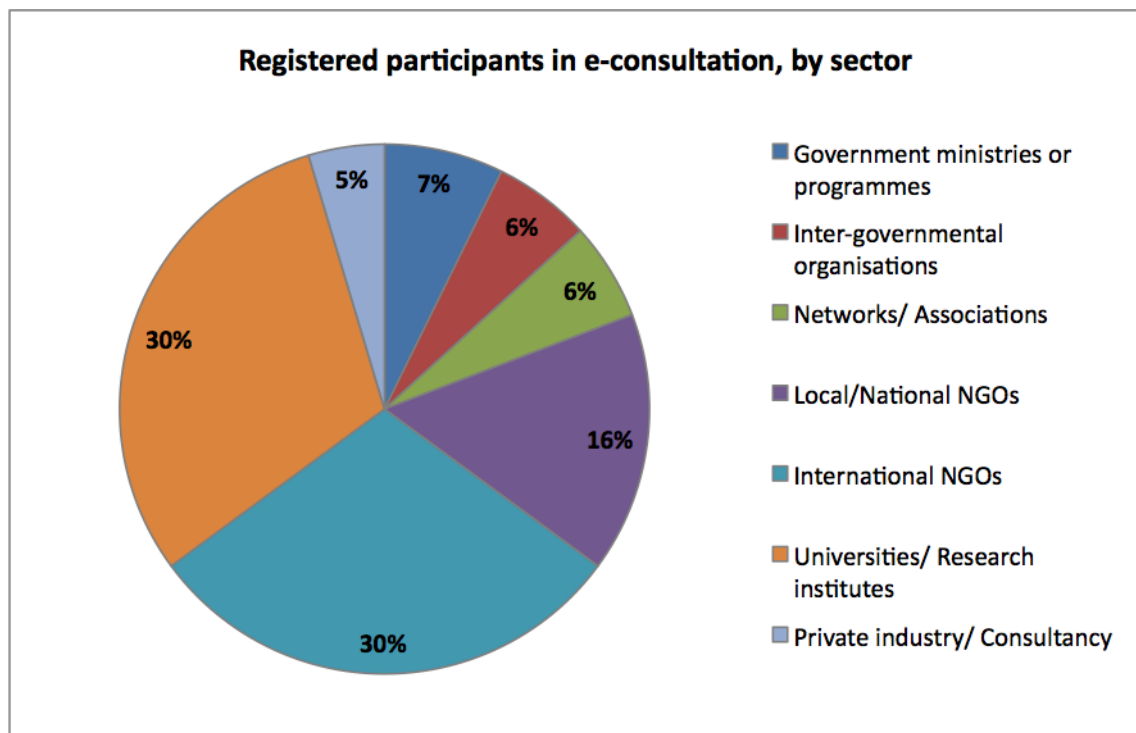
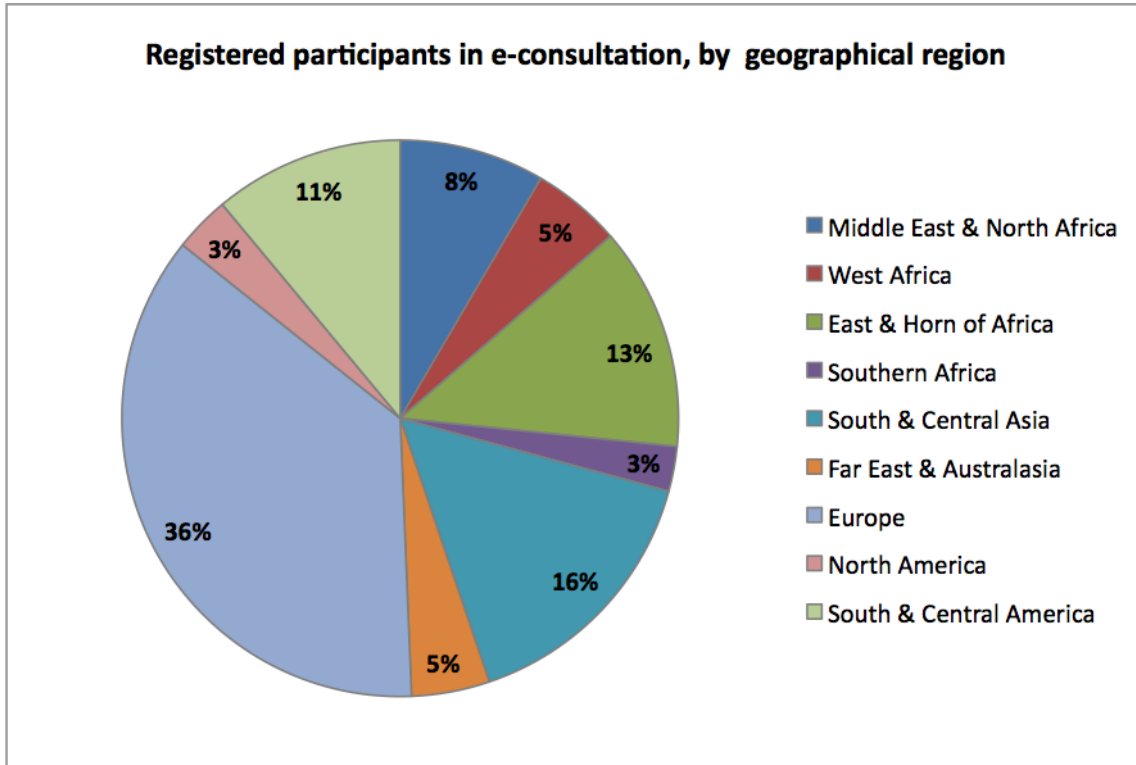
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Registered participants in the e-consultation

A full list of participants registered for the e-consultation can be found at the end of this report.



Registered participants' areas of expertise

Area of expertise or interest	Number of mentions ¹
General veterinary/ Animal health	41
Animal welfare	37
Draught animal power/ Traction animals/ Working horses	19
Rural development/ Community development/ Livelihoods/ Food security	17
Livestock production systems/ Livestock management	16
Epidemiology/ Infectious and zoonotic diseases/ Laboratory diagnostics	10
Veterinary anatomy, pathology, physiology, parasitology, virology	8
Natural resource management/ Conservation/ Sustainable agriculture/ Eco-farming	8
Training/ Education	7
Industrial engineering/ Farm mechanisation/ Appropriate technology	6
Public health/ Food hygiene	6
Research	5
Legislation/ International standards/ Policy development/ Public sector reform	5
Ethology/ Animal behaviour/ Training	5
Audit/ Monitoring and evaluation/ Welfare assessment	4
Cattle/ Buffalo/ Dairy	4
Animal science/ Animal nutrition	3
Harness	3
Indigenous breeds/ Breed conservation	2
Management/ Logistics/ Human resources	2
Camels	1
Other	6

¹ Some participants mentioned more than one area of expertise or interest

Theme 1: Livelihoods

Weeks 1 and 2

Participants were asked to share their knowledge firstly on the contribution of working animals to livelihoods worldwide with a focus on food security, poverty alleviation, income generation, diversification of livelihoods, access to services and gender equity. Secondly, information was requested on how these contributions are evolving as societies and economies undergo changes and what consequences this may be having both on people and on animals. A number of experiences and analyses were shared by participants from Asia, Europe, Africa and the Americas.

Topics discussed	
Uses of working animals to support income generation	Examples included income generation through water pending, brick making, mining, construction work, goods transport and support to agriculture, including crop tillage and dairy farming. Cases from Kenya described employment creation for youth, especially young men, through being employed to drive donkey carts for others or through hiring donkey carts to start their own small transport enterprises. In Pakistan, donkeys are fundamental to many people's livelihoods and seem to be better treated in rural settings compared to urban areas. They will remain an important contributor for smallholders' livelihoods for the foreseeable future. With the rise of oil and food prices, donkeys provide services that are much cheaper than motorised transport but there are indications that they are now being worked much harder than before.
Use of working animals to reduce drudgery and support women's and children's labour	Donkeys are particularly useful in reducing the burden of women in daily chores such as transporting water, firewood and farm produce, and can also provide an income for women through enabling access to markets for surplus produce. Uses of working animals were discussed in relation to a recent FAO report on gender dimensions in rural agriculture ² . A suggestion was that draught animals could also be used to power stationary machines such as running a generator for battery charging or direct lighting and driving a water pump or a maize grinder.
Economic evaluation of the work done by working animals	There are challenges in getting accurate population statistics for working animals and considerable challenges in assessing their economic value to a country. However, a project in Bangladesh, case studies at the household level (Kenya) and a study of their contribution at farm level (Guatemala) demonstrate not only that economic value can be determined but also that there are clear economic benefits from ownership of working animals. A comparison of the costs of tractors, donkeys, oxen and hand power from South Africa demonstrated that donkey power was the most affordable option for smallholder farmers.

² Gender dimensions of agricultural and rural employment: differentiated pathways out of poverty
<http://www.fao.org/docrep/013/i1638e/i1638e.pdf>

Lack of recognition of the contribution of working animals to livelihoods by governments and policy-makers

The contribution of working animals to livelihoods is generally not clear at Government level and more information is needed to understand why most governments and development partners do not integrate working animals into their statistics, including the added value they bring to livelihoods in financial and social terms. Using these animals may be perceived as a threat to a positive, modern national image, as attitudes towards working animals, such as donkeys, may be changing in some countries and may be linked to other/external changes.

Complex relationship between the status of working animals and their owners

Despite ownership of a working animal often enabling a family to benefit practically or economically (such as running a small business), these animals may be perceived as a low status or unattractive option, at family, community and/or national level. This may be due to the fact that in some contexts they are the main source of income for the most vulnerable tranche of the population, landless people. In some countries, working animals are overlooked or excluded from government animal health schemes in the same way that their owners are overlooked or excluded from government social schemes. In India, working equids are owned by different groups of people who derive most of their livelihoods through these animals, going from the poorest to people who do seem to be food secure, but all of these different groups have little or no voice. As the issues related to both these working animals and their owners do not seem to be adequately addressed at policy level, they are also neglected in terms of animal health services and livelihood security provision by both government and development programmes.

Evidence of the relationship between the wealth of a family and donkey ownership also varies in different contexts. Even in countries where donkeys are relatively expensive, they may still be seen as a poor person's animal.

A study in the Mid-Atlas mountains of Morocco shows how the status of working animals has evolved along with the introduction of surfaced roads and motorised vehicles although in areas which are more difficult to access, working equines are still very much used.

The cultural context may play a fundamental role in how working animals are perceived. For example, in India, oxen and cows are highly respected because they are considered sacred in the Hindu religion, while in Kenya, donkeys are traditionally perceived negatively, influencing how their owners and users are considered by society at large. In the Northwest of China, donkeys are now being valued for their meat and their hides rather than their work roles.

Renewed interest in using working horses in Europe

There are many reasons for the renewed interest in working horses in Europe including sustainability of agriculture and forestry, maintaining biodiversity, reducing food miles and carbon emissions, encouraging self-reliance and reducing consumption of resources. The benefits of living in harmony with nature and of the social integration opportunities provided by working animals were also discussed. Due to a changing environment, working animals may actually be the future of transport rather than 'backwards' or old-fashioned (see the 'Policy and legislation' theme for further discussion on environmental benefits of working animals).

**Working cattle and
water buffaloes**

Bovine species are widely used for ploughing and carting. Participants contributed both livelihoods and health information from Guatemala and Bangladesh (see list of documents). In India, farmers who own between two and four acres (0.8-1.6 hectares) of land use working bulls, cows and buffaloes for tillage, which they can afford to maintain as opposed to machinery such as tractors. They get better yields than when working the land by hand, thanks to the draught power of the animals and use of their dung as fertiliser and thus considerably improve their food security and livelihoods.

Livelihoods: gaps in existing knowledge highlighted during the e-consultation

Many livelihood-related questions were asked by contributors and within documents posted on the FAO Gateway to Farm Animal Welfare and emailed to participants. These included:

- The need to better inform governments and development partners by developing a tool or tools for estimating the monetary value of draft power and other contributions from working animals, to be used at an individual or family / household level.
- A lack of methods for calculating the contribution of working animals to national economies in countries where animal population data are scarce or unreliable.
- Further elaboration of a draft document contributed from South Africa which summarised how different species of working animal should be worked and cared for differently according to their different physiology and needs.
- More information about working bovine species (cattle/ oxen, buffaloes, yaks) and camelids is needed.

Theme 2: Health and welfare

Week 3

This theme aimed to identify existing standards and guidelines, case studies and best practices addressing working animals' health and welfare.

Topics discussed

Should organisations or governments spend finite resources where there is a better chance of animal welfare improvement or where the welfare need is greatest?

This question brought a number of responses. Participants addressed this question at the level of (i) the individual owner seeking treatment for his/her animal, and (ii) the organisation making strategic decisions on expenditure.

(i) One suggestion was that when animal owners are responsible for the problem, they could pay for treatment at the time and then be refunded incrementally as their animal's condition improves. A related question was also asked: Should veterinary treatment be stopped when the cost of the treatment goes beyond the market value of the animal?

(ii) On the organisational level, it was suggested that groups of animals with severe welfare problems or high risks to welfare should be included in programmes to address moral obligations to work with the neediest animals and also to take on board programmatic challenges as part of organisational strategies. Attempts can be made to balance the resource allocation between areas where there is a better chance of improvement, and areas where the animals are in poor welfare and the situation is hard to improve. Pilot projects will create the necessary learning to address challenging welfare issues in the future by experimenting with new methods and approaches. The starting point for this is to understand the different animal welfare/ risk categories in the area, then targeting and developing different strategies appropriately.

Addressing working animal issues in a sustainable manner, by taking into account the livelihood considerations of their owners

It is important not to overlook the key concerns affecting marginalised people when the bulk of the discussion and resulting interventions focus on the animals. Behind every working animal (regardless of its welfare status) is an individual, family or household whose day to day life is affected by multiple issues which impact tangentially on the working animals. Building a picture of the livelihood concerns of the average owner/user would contribute to understanding the resultant effects on working animal welfare and (hopefully) lead to sustainable animal welfare and development outcomes. Questions which could be asked include: What are the correlations between livelihood systems and the corresponding welfare status of working animals? If marginalised people have their livelihoods substantially supported through tailored sustainable development interventions (e.g. social protection, micro-credit schemes etc), what (if any) knock on effects would be seen on their animals' welfare risks and outcomes? There is still a risk that by not addressing underlying causes, the same situation will exist for decades to come. The focus, while remaining primarily on animals, should therefore be broadened to incorporate the wider issues surrounding the promotion of sustainable livelihoods and development, through cooperation with multilateral development partners focused on implementing sustainable programs e.g. EU INTERREG programs.

Targeting end-users in order to improve welfare

As well as owners and users, those who benefit from working animal services could be targeted, including:

- Tourists, both those using animals directly and those staying in hotels built with bricks carried by donkeys (could be achieved via hotel star ratings). This would involve collaboration with the Ministry of Tourism.
- Consumers of Central American coffee and other products (in some countries most have been carried on pack animals)
- People getting married in India (use of ceremonial horses)
- Water consumers, including hotel owners
- Rice millers
- Hardware shop owners
- Soft drinks distributors
- Fair trade labelling

There is a need to integrate the involvement of other stakeholders including the law enforcers, local administration, the relevant government ministries (not only the Ministry of Agriculture), the general public, animal health service providers, local councils and others.

Assessment/ measurement of welfare

Ideally, it would be useful to agree on what are the most important welfare parameters that we can assess, assuming that despite context considerations there are some commonalities. These should be agreed and measured together with animal owners and users, along with giving them the tools to empower them to self-define and assess welfare and use this information to make improvements. This process should include capturing and analysing changing trends at a regular interval to ensure sustainability in improvement of welfare status.

Welfare is often equated with health, possibly because health is easier to measure than the broader concept of welfare.

Several examples of working animal welfare and needs assessments submitted from India included the condition of working cows, bulls, buffalo and donkeys in three districts of Andhra Pradesh, a rapid assessment of recent trends in horse-cart based livelihoods in Bihar, and the scenario of working equines in Uttar Pradesh including five main livelihood types and the process of forming Self Help Groups (see document list).

Education on working animal health, welfare and utilisation

Veterinary training programmes have been elaborated by several organisations in order to ensure better welfare for working animals. More information on existing veterinary schools' curricula would allow a better understanding of where and how to improve veterinary training. As a result of a stakeholders' forum, the University of Nairobi has included animal welfare and donkey health modules into the current veterinary curriculum, as well as guest lectures and establishment of a working equine resource centre at the university. Training programs include:

- community partnership and PLA-type skills (participatory learning and action);
- practical training skills;
- education, extension and development theory and practice;
- how to work with para-veterinarians of all types;
- how harness works and how to manufacture harnesses that do not injure the

animal;

- animal welfare (still inadequately covered in most veterinary curricula);
- human-animal relationships and how to explore this neglected field.

Modular e-learning was suggested as an important way for veterinarians to access training on working animals.

There is also a need for short-term vocational training directed to extension workers and other (e.g. NGO) staff involved in rural development programmes in smallholder farming areas.

Animal traction should be included as one of the sources of power in curriculum development for farming systems and other economic empowerment education.

Veterinary treatment

Specific information was requested on treatment of working donkeys, and examples of currently updated websites that gather available information were provided by other contributors³.

Harness interventions

The roles of professional services for working animals were discussed (particularly in relation to harness-making) and compared with the use of para-professionals or provision of training to owners in the use of local materials to make and repair their own equipment. Both have costs and benefits in terms of quality, accessibility, affordability and other aspects of sustainability. There appears to be a shortage of professional, local harness-makers and other artisans, which could be attributed to the general loss of training and skills related to draught animal power, as mentioned elsewhere.

Using participatory tools and methods with animal owners and users

Participatory Rural Appraisal (PRA) tools have been used to identify the role of women in caring for working equids, leading to the creation of separate male and female Self Help Groups amongst villagers in India. Experience has shown that the women's groups fared better than the men's and were able to use their savings to improve both the livelihoods of the households and the welfare of the animals. Participatory research on improved feeding with local feed resources and knowledge in India helped poor animal owners to reduce their daily feeding costs while improving nutritive requirements for their equids. A case was cited using participatory identification mechanisms and tools to reduce wither wounds in horses by changing the size of the banglas (saddle trees)⁴.

Human-animal relationships

It would be useful for social scientists and education workers to 'tune in' more to animals and the roles they play in communities. There are many social scientists and educators doing excellent work with communities in challenging circumstances, but too often they forget to look beyond the people to the non-human animal members of the community.

The value of close companionship between humans and animals is overlooked.

³ The Gateway to Farm Animal Welfare: www.fao.org/ag/againfo/themes/animal-welfare/en/;
IVIS (free website for vets) www.ivis.org/home.asp; Wikivet website: en.wikipedia.org/wiki/WikiVet
The Donkey Sanctuary, UK : www.thedonkeysanctuary.org.uk

⁴ These and other examples of PRA tools adapted to the animal welfare context are described in: van Dijk, L. Pritchard, J.C., Pradhan, S.K. and Wells, K. (2011) "Sharing the Load: a guide to improving the welfare of working animals through collective action", available from www.developmentbookshop.com

Animal-assisted therapy (including with working animals) can be very valuable for physical, mental and social problems.

Animal handling and training

A sequential association has been established between stockperson⁵ attitude and behaviour, animal behaviour, welfare, and productivity in several farm species, as well as between stockperson attitude and behaviour and fear levels⁶. Scientifically validated learning theory has been used to train horses and working elephants rapidly, effectively, and more humanely than some traditional methods. The wealth of wisdom gained through personal experience and cultural inheritance of animal handlers can be identified by observation and interview of those acknowledged by independent parties as particularly effective handlers. This has been done in cattle and sheep by a group with animal behaviour, veterinary, farm safety and communication skills, resulting in identified techniques to encourage safer, more effective and more humane handling. Similar techniques for the capture and analysis of good practice could be applied to working animals. There is also an opportunity to identify human characteristics and cultural values that enhance the welfare and productivity of transport and traction animals as well as their handlers.

Bibliographies, current studies and upcoming publications

An interesting bibliography provided a lot of information on draft animal studies, mostly conducted by the University of Edinburgh's Centre for Tropical Veterinary Medicine. Many of the papers quoted cover nutritional research and highlight the importance of proper feeding to enhance working animal health and welfare. Several studies have been conducted by the University of Bristol Veterinary School. One focuses on lameness of working equids in Pakistan and India, drawing a comparison between communities where there had been a participatory intervention and others where no intervention has been carried out. The papers linked to the studies will look at 1) the effectiveness of a participatory approach to managing an animal welfare problem (which the data suggest was quite effective) and 2) the risk factors which were contributing to lameness.

Health and welfare: gaps in existing knowledge highlighted during the e-consultation

- A large amount of knowledge and information exists on working animals, including studies done by armies and transport companies in the past and universities and NGOs more recently. There is a need to collect and render these documents readily available to interested people in user-friendly access areas.
- E-learning modules could make information more readily accessible within veterinary and other training institutes.

⁵ Person responsible for looking after the animal(s)

⁶ Hemsworth PH, Barnett JL, Coleman GJ (2009) The integration of human-animal relations into animal welfare monitoring schemes. *Animal Welfare*, 18: 335-345

Theme 3: Policy and legislation

Week 4

In week 4, participants were asked to propose adequate policies and legislation and to recommend any further actions at national and international level.

Topics discussed

Standards

The word ‘standards’ was understood in various ways by the different participants, for instance:

1. Guarantee of competence: veterinary professional standards
2. Quality: industrial standards for carts and harnesses
3. Voluntary prescriptions: levels of welfare which enable working animals to qualify for certification schemes
4. Legally enforceable definitions: the ones determined by byelaws relating to the use, health and welfare of working animals.

Participants noted a tension between the necessity for standards to be context-specific in order to be meaningful in specific situations and applicable in particular local contexts, and the need for these to be clearly-defined and measurable in order to be enforced by authorities. This entails taking into account the problems linked to enforcing standards such as: rigid enforcement, uneven enforcement (e.g. urban vs rural), discretion (positive and negative effects), ‘blind eye’, corruption, marginalisation of people who cannot afford to comply and/or a need to update standards frequently when changing laws, which takes a long time.

Trends in working animal populations and usage which could influence policy-making

There is a need to reflect on how to change the perception of working animals in the media, the general public and animal owners and users, depending on the context, in order to reinstate the specific values of using these animals while ensuring their welfare and their contributions to more sustainable livelihoods and better lives. This includes a good understanding and scientific analysis of their role in energy production and prevention or contribution of/to environmental pollution.

Factors influencing the use of working animals are multiple and often inter-related. Contributors identified the following as trends, with some occurring simultaneously in different regions of the same country:

1. People replace animals when motor power is available, affordable, profitable and socially acceptable. However, as fuel becomes less affordable, the use of draught animals (especially donkeys) is increasing in areas where new owners have taken an economic decision to sell pick-ups and motorcycles in favour of draught animal power.
 2. People replace animals when surfaced roads are built enabling better access for motorised transport.
 3. People replace human-powered tillage and transport with animals when they are available, adapted to the environment, affordable, profitable and socially acceptable.
 4. Working animals may be hired or bought and then sold for the ploughing
-

season, dependent on rainfall. Market prices of animals can fluctuate significantly during the ploughing and harvest seasons.

5. People retain labour-saving animal power, when it is profitable and socially acceptable and when there are no easy alternatives available.
6. Some people and organisations choose animal traction because it is environmentally or socially appropriate for organic farming and special applications of high status (including logging in Europe by FECTU members).
7. Public sector investment in animal traction research, education, training and promotion has declined in the past 25 years. There is little international research and few universities with adequate coverage of animal power issues.
8. International media increasingly portrays animal power as old-fashioned, frequently using animal traction to illustrate poverty and under-development. It seldom reports that it can be a possible solution for reducing current poverty. Young people influenced by media images may consider animal power to be too old-fashioned to be socially acceptable.

Oil consumption and energy equivalents

Official recognition of animal energy as a renewable energy source by the EU may allow a greater recognition of and support for working animals. Animal energy could have the same status as wind power, hydroelectric power and solar energy which have huge resources available for their promotion. There may be an opportunity to use the clean development mechanism of the Kyoto Protocol.

Real effort is needed to bring the sector up into the 21st century with more energy efficient and purposive cart designs (for example hybrids), ergometric harnessing, codes of practice concerning animal welfare and safety issues, appropriate curricula for professional and para-professional service providers, innovative applied research and design initiatives. These efforts could be paid for through making a good case about carbon footprint reduction. If reliable information and consistent standards for welfare were agreed, it may be possible to lobby for working animals to qualify as recipients of an added-value public carbon offsetting scheme.

Costs of energy and work produced by working animals should also be compared to the cost of energy and work produced by humans, which in itself is a convincing argument when promoting this activity. Calculating the detail of oil equivalents for the work animals do may need a physicist who really understands concepts like energy, momentum, friction, etc. and how to apply these practically in places such as brick kilns where weights of loads and distances carried are relatively easy to measure. A guess-estimate of the oil equivalent of the work done by the donkeys would be the amount of fuel the tractors use in the same task.

It seems important to develop small farms with energy produced by animals and integrated, sustainable, rotation farming, rather than the development of bio-fuels which require large cultivation areas that could be used to produce food for human consumption.

Networking for policy change

There are some important opportunities arising for moving working animals into policy frameworks and wider institutional changes occurring as a result of the MDGs.

Networking (formal and informal) is important so that people can together build a critical mass. ATNESA and FECTU are active networks. Draught Animal News is not active any more due to lack of funds.

With less and less relevant education available at all levels and in all disciplines relating to animal power, fewer people are learning about work animal issues. This will make it more difficult to formulate appropriate policies relating to their use in agriculture, transport and poverty reduction. Ill-informed policies will tend to marginalise the users of working animals.

Even if animal traction is very resilient without a supporting policy environment, there is a need for institutional change with the support of substantial evidence of working animals' contributions to agriculture, household livelihoods and renewable energy production while taking into account the priorities and specific "animal centred" interests and mandates of the different institutions involved in policy processes. This evidence should be shared between organisations to avoid duplication – a kind of "public good" for the promotion of working animals and the communities who depend upon them.

Examples of current successes in influencing policy

Some organisations have introduced animal welfare and donkey veterinary care into the paraprofessional Animal Health and Industrial Training Institutes (AHITI) in Kenya.

The South African Network of Animal Traction (SANAT) is urging all relevant Government Departments to include a positive policy towards utilisation of animal power. The Department of Transport has already adopted a policy document "Non-motorized transport". The South African Bureau of Standards has produced two documents, 'SANS 1025 - CD 1: Animal drawn carts and wagons' and 'SANS 1031 - CD 1: Animal harnessing – Requirements', both now available on their website. The inclusion of animal traction in the policies of these Government Departments should positively redefine the value of working animals so as to result in a faster pace of sustainable development. The Ministries or departments that should consider adopting this policy could include: Agriculture, Land Reform and Rural Development, Education, Forestry, Transport, Planning, Monitoring and Evaluation, Tourism. Governments could assist smallholder farmers and other developing entrepreneurs to obtain working animals and the correct equipment, provide training on the correct use of the equipment and provide aid in the form of facilitating access to credit or targeted subsidies. These could result in better crop yields and more productive business enterprise.

Anti-cruelty legislation

Participants provided examples of existing anti-cruelty legislation from Argentina and India.

Policy and legislation: gaps in existing knowledge highlighted during the e-consultation

- There is a need to develop a commonly agreed “glossary” or set of definitions for the word ‘standards’ and to find a balance between standards being context-specific and being enforceable in practice.
- We need a better understanding of reasons why governments, policy-makers, educational institutes and other decision-makers often take little or no account of working animals in their policies and practices. An improved understanding of policy actors and processes, especially in cases where attitudes towards the subject may be indifferent or even negative. Policy research which contributes to the understanding of what policy makers want to hear could be an invaluable first step for those trying to address the gaps. Once this is understood, strategies for evidence collection can be drawn up accordingly.
- There is an opportunity to promote the use of working animals as a carbon-friendly and sustainable energy source. This requires more evidence to demonstrate oil equivalents, more innovation in rehabilitating and modernising the image of working animals and further development of standards which would enable animal power to be included in subsidised renewable energy schemes and carbon offsetting.

Comments on the e-consultation

“Imagine how much we could reap if animal owners and users were able to make their own contributions to this e-consultation!”

– Fred Ochieng, KENDAT

“The e-consultation has been a very valuable exercise and should definitely be repeated.”

– Peta Jones, Donkey Power

“Thank you so much to the facilitators and contributors for this consultation. Hopefully this is the beginning of a promising networking.”

– Pit Schlechter, FECTU

“Thank you for this opportunity for exchange of ideas. I would be interested and keen to leave this forum open for the exchange of future ideas in the area of working animals and maybe opening the opportunity to discuss other topics in this area. For me, being able to read the cases, comments and documents has been great!”

–Gabriela Olmos Antillón, Royal Veterinary College/ Donkey Sanctuary

Documents submitted to the e-consultation (organised by topic)

These documents are available to download at www.fao.org/ag/againfo/themes/animal-welfare/en/

Theme	Document title
Document type	
General	
Publications	<p>Draught Animal Power. An Overview</p> <p>Draft Animal Power for Farming</p> <p>Draught animal power for production</p> <p>Draught Animal Power Manual - a training manual for use by extension agents</p> <p>Meeting the challenges of animal traction</p>
Scientific and technical papers	<p>A Contextual Overview of Draught Animal Usage in the Samstke Javakheti region of Georgia</p> <p>Major differences between work animals and food animals</p> <p>Draught animal energy research in India</p> <p>La traction animale en Afrique</p> <p>La traction animale dans le contexte en mutation de l'Afrique subsaharienne: enjeux de développement et de recherche</p> <p>The use and role of animal draught power in Cuban Agriculture: a field study in Havana Province</p> <p>Investir dans la traction animale : le conseil à l'équipement</p> <p>Environmental influences on the adoption of animal traction</p> <p>Évolution de la traction animale en Afrique de l'Ouest et en Afrique Centrale</p>
Miscellaneous	<p>Animal Traction in West and Central Africa: How to proceed after the disengagement of the State?</p> <p>Bibliography of published papers and reports on working animals – CTVM, University of Edinburgh</p> <p>Comparaison cheval-tracteur, consommation d'énergie et énergie récupérable</p> <p>La Traction Animale. Enjeux d'aujourd'hui</p> <p>Draught animals plough on</p> <p>Focus on... Draught animal power</p> <p>Revaloriser et développer le travail manuel et artisanal, qui développe les forces, le talent et l'intelligence et qui est aussi noble que le travail intellectuel</p> <p>CIRAD - Productions scientifiques sur la traction animale</p>
Multimedia	<p>Calles sin carretas: ¿Progreso o retroceso?</p>
Animal power and food security	
Publications	<p>Animal power for development and food security: issues and policy implications with particular reference to sub-Saharan Africa</p> <p>Livestock Production Programme & Crop Protection Programme - Final Technical Report - Improving production in the Teso farming system through the development</p>

	of sustainable draught animal technologies Livestock Production Programme & Crop Protection Programme - final technical report (extension) - Improving production in the Teso farming system through the development of sustainable draught animal technologies
Animal power and livelihoods	
Publications	Empowering farmers with animal traction Rural transport and traction enterprises for improved livelihoods
Scientific and technical papers	Improving on-farm transport using animal draught power in two hilly districts of Western Uganda
Publications	Use and management of donkeys in peri-urban areas of Ethiopia Intégrer la mécanisation dans les stratégies de développement durable de l'agriculture
Miscellaneous	Knowledge gaps on donkey use and livelihood improvement: KENDAT/Brooke Heshimu Punda experiences
Animal power and gender issues	
Miscellaneous	Agricultural implements used by women farmers in Africa - Findings of a study conducted in 1998 Women's farming in Africa: A case for donkey power
Working equids	
Publications	6th International Colloquium on Working Equids - Post-conference Report Proceedings of the Sixth International Colloquium on Working Equids Review and Reflection - The Brooke India Direct Operations: 2009 - 2010
Scientific and technical papers	Adaptation in donkeys Why donkeys should work Economic Valuation on the Impact of the Working Equine in the Peten and Chimaltenango Communities in Guatemala Horse Powered Traction and Tillage: Some Options and Costs for Sustainable Agriculture, With International Applications
Miscellaneous	Equine number and welfare within ATNESA countries Diagnóstico de situación de los equinos de trabajo en la zona urbana de Masaya Renaissance of working horses. Benefits of using horses in farming and forestry. Conference report. A case study on behavioral problem of a cart horse in Dhikana village of Baghpat, Uttar - Pradesh of India Equine carts of India Role, impact and welfare of working (transport and traction) animals Utilización actual de animales de los antiguos animales de trabajo The case for returning to real live horse power

<i>Projects</i>	<p>The Brooke: Peer-reviewed journal articles</p> <p>Summary of WSPA involvement in Gondar (Northern Ethiopia) working Equine project</p> <p>Proyecto de caballos de trabajo WSPA – Fundación el refugio animal</p> <p>FECTU and the context for work with horses in Europe</p> <p>The Gharry Horses of Gonder Project, Ethiopia</p>
Harnessing and equipment <i>Scientific and technical papers</i>	<p>Harness development or Under-development - Issues relating to the harnessing of equines in developing countries.</p> <p>Effect of cutting edge thickness and state of wear of ploughshare on draught force and heart rates of Sanga oxen in Ghana</p> <p>Investir dans la traction animale: le conseil à l'équipement</p>
<i>Miscellaneous</i>	<p>Harness Development intervention and its objectives</p> <p>What impact do skills training have? A tracer study of students of a saddlery, farriery and business skills training programme conducted in Lesotho in 2007</p> <p>Harnessing energy sustainably</p>
<i>Multimedia</i>	<p>Modern Horse Drawn Equipment</p> <p>Outils à traction animale</p>
Health and welfare <i>Scientific and technical papers</i>	<p>Coprological prevalence and intensity of helminth infection in working horses in Lesotho</p> <p>Frequency of nose and tail injuries in cattle and water buffalo at livestock markets in Bangladesh</p> <p>Effect of cutting edge thickness and state of wear of ploughshare on draught force and heart rates of Sanga oxen in Ghana</p>
<i>Miscellaneous</i>	<p>A baseline survey of health and welfare of working horses in Lesotho – owner knowledge</p> <p>A baseline survey of health and welfare of working horses in Lesotho - findings of clinical and tack examination</p> <p>Coprological prevalence and intensity of helminth infection in working horses in Lesotho - Tables</p> <p>Horse welfare survey report</p> <p>Moving from a treatment-focussed to prevention-focussed approach</p> <p>British Equine Veterinary Association (BEVA). Initial contribution to the FAO working animals consultation process</p> <p>Hobbling: An Equine welfare issue!</p> <p>Propuesta de ordenanza sobre salud y cargas máximas a llevar en unidades de transporte traccionadas por equinos</p> <p>Suggestions for improving welfare and productivity of transport or traction animals and their handlers based on Australasian experiences</p>

Behaviour change

Miscellaneous

Changes generated by community and training

Communities for horses in Nicaragua: a human behaviour change approach (1)

Communities for horses in Nicaragua: a human behaviour change approach (2)

Human behaviour change – Informe del primero Taller de facilitadores comunitarios, Bogotá, Colombia, Mayo 25 de 2010

Human behaviour change – Informe del segundo Taller de facilitadores comunitarios, Barrio Las Cruces (El Hueco) - Localidad de Santafé, Bogotá, Colombia, Mayo 28 de 2010

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