

**Recommendations**

- Organise community discussions between the group and other groups and members of the community where the Brooke is thinking of practising this intervention in the near future, as a means of sharing and scaling-up these practices.
- Pilot 'Traffic Light Intervention' to engage owners in regular follow-up of body condition improvement. This would allow them to assess body condition and wounds as a group, and identify any animals requiring increased attention.
- The organisation, in partnership with animal owners, should establish an award ceremony to motivate groups.

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**THE PEDAGOGY OF JUSTICE: EXPERIENCES FROM CAIRO****L. Iskandar**

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Educational systems in the south have not achieved what they were set out to achieve for their populations: people have not been engaged in sustainable economic growth, poverty eradication, human security, etc. It is clear that we require a fundamental rethinking of learning systems to confront the current challenges of poverty, exclusion, and illiteracy. Solutions are related to deep political failures which result in large numbers of impoverished adults having to send their children to work. But while these failures require interventions on a macro scale, solutions at the micro level can help children leap out of the poverty and exclusion cycle, allowing them to map a different future from the one their parents had to suffer.

Solutions draw on a multidisciplinary, bottom-up approach to develop learning systems which guide the delivery of educational opportunities to the dispossessed. Since one of the main reasons people are excluded from formal schooling is the necessity to go out to work, be it in fields, in workshops, or in the home, non-formal education inherently links the learning process to work-related and income-generating contexts. It anchors learning in local practice and indigenous knowledge of how to work, earn income, trade, access credit, and organize communities.

Non-formal education is grounded in the popular economy. It creates from that work arena a vast 'school' or 'learning space', within the informal economy. In large measure it revolves around self-employment such as street-vending or crafts co-operatives, barter, exchange, local production, and family-owned businesses, etc.

Such schemes allow youths to create their own paths towards sustainable development. Through practical skills training in the informal economy, one of the few means that are left to address the dire situation of excluded youths is invested in.

In Egypt, CID Consulting has been piloting experiments to transform informal sector working places into non-formal islands of learning. These have largely centred on recycling communities and brick-making factories in Egypt. The pedagogy of justice is adopted in these 'islands'.

Since education and development are inextricably intertwined, to produce change CID searches for points of intersection where these can be brought together. Starting from the premise that development is a long-term intergenerational process, we focus in a major way on adolescents and children. The basic research and design questions around which CID's work revolves are:

1. How can we provide people/working children with an opportunity to learn?
2. What kind of learning content do they need to acquire
3. How should we design the learning programme? Their labour is needed for basic family survival. Withdrawing them from that labour and having the family go hungry – them included – is not the answer.
4. How can we keep them learning within their trade and the market?
5. How can we uphold the positive aspects of their indigenous knowledge in their specific trade and alter the negative aspects?

We need innovative methods of non-formal basic education so that those who are caught in the poverty trap and cannot access formal schooling can still learn, contribute, and break out of the endless cycle of poverty and oppression. We adapt these methods to each specific group, its culture, its aspirations, its daily realities, and learning needs. This learning is upheld by UNESCO, practitioners, and international agencies. We decided to anchor learning in the local practice, the joy of working, the fulfilment of earning income, the dynamism of trading, accessing credit, and the imperative of organizing communities.

Clearly, we need to expand our notions of 'learning place' from the stifling strictures of a gated school and walled classroom, to that vast arena: the huge marketplace, the community, and the city.

**We need to start with the right questions:**

***e.g. what do girls and boys need to learn in order to grow up to be educated managers of their lives and their communities? How are we going to design this? Who will deliver it? Where will it be 'housed'? How are we going to assess it? What materials are we going to use to deliver the content?... etc.***

CID works to protect the practical, experiential knowledge of local communities from being neutralized and eradicated by formal learning systems. Responses to the current inequities and environmental problems facing the world will require a reshaping of the learning agenda and a refocusing of the learning content for all – the rich and the poor. Sustainable curriculum development has to be a dynamic process if we are to achieve sustainable economies, environment, and society

**The Egyptian girls' recycling school, Mokattam, APE, 1988**

The rag recycling centre [1] in the garbage collectors' neighbourhood of Mokattam is a non-formal learning and earning school. It builds on the expertise of girls and women in manual sorting of municipal household waste. It creates conditions of learning and work that are clean, dignified, safe, and artistically beautiful – just like the people who made them. It uses rags to design and implement a curriculum which incorporates elements of learning designed to empower learners. Revenues from sales of recycled handicrafts make the community enterprise financially viable.

The project demonstrates how designed interventions can succeed in addressing income poverty, educational deprivation, health and recreation, and community mobilization, but not the injustice issues which were at the core of the extreme marginalization of the z community.

**The Egyptian boys' recycling school of Mokattam, SoY, 2001**

The boys' recycling school was designed and launched by CID. and was first funded by UNESCO. A partnership followed with multinational companies which were suffering from their empty plastic containers being fraudulently refilled and resold on the Egyptian market. The school reaches an annual average of 100 children of waste collectors in the marginalized Mokattam neighbourhood, who lack access to formal school education. It is run by 8 teachers.

The programme is designed to incorporate education, work experience, environmental protection, poverty alleviation, and earning to create a matrix where actions improve an impoverished community on many levels. It creates a prototype linking the interests of the multinationals to the poor.

Direct cooperation with multinational companies protects their containers from brand-name fraud by recycling empty brand-name shampoo containers, recovered by the learners, who bring them to the school and fill out a form showing how many bottles they have retrieved. The multinationals pay for this as well as for the granulation of their containers, and the school resells granulated plastic to the recycling industry. The generated income from the sale of the granulate covers the salaries of the teaching staff.

**The Egyptian boys' school in brick factories, 2006**

Young migrant working children in brick factories come from the poorest of the poor of rural populations, from villages that possess an age-old knowledge and tradition of making bricks from Nile alluvium. Children engage in different tasks, such as brick loading, transporting on donkey-pulled carts, stacking, etc. They spend 5 days a week in the factory, and return to their villages over the weekend. They are recruited for this work by a local labour

contractor from the village who extends credit to their families when they need it, thus it is close to being bonded labour. The labour contractor is in charge of travel arrangements, wage payment, and logistics of the young children in the factory.

Children live and work in subhuman conditions marked by dirty rooms with no windows, nothing to sleep on but the untiled floor, no ventilation, and in shared premises with adult workers. They drink from the contaminated water tanks and have limited access to showers and the 1 latrine in the mosque. They purchase overpriced food prepared in a canteen on the factory grounds. There is limited lighting, no roads, and no health clinics in the area.

The project was initiated by CID Consulting in 2006 and funded by CIDA, the P-PICC Work Program, Sharkawy Law Firm, Rotary Sunrise, and individual contributions. The project reaches a total of 250–300 boys, and is implemented by 10 teachers. To date it has established 3 classes which draw learners from 24 out of the 350 strong cluster of brick-making factories. Learning content is designed to reflect the brick-making industry and specific animal health and welfare aspects of the work children do in the factories. It includes:

1. Literacy programme (Arabic language and numeracy)
2. Montessori programme for principles and art of construction
3. Public health, hygiene, and industrial safety
4. Computer literacy programme
5. Field trips and sports programme
6. Animal health curriculum (with Brooke Animal Hospital)

**Summary**

Typically, pedagogies of justice cover the following aspects of learning:

1. How to design ways for the marginalized to keep their grip on their market niches and their trade
2. How to equip learners with market-based skills springing from indigenous knowledge and practice
3. How to train teachers and design new learning content about the specific sector and economic activity in which learners are engaged
4. How to prepare ourselves for the imminent events which will affect our sector, e.g. carbon trading in the brick factories and renegotiation of the city's waste contracts in 2017

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**PROMOTING ANIMAL WELFARE THROUGH NURTURING EMPATHY IN  
SCHOOLCHILDREN:  
THE CASE OF RURAL COMMUNITY SCHOOLS, ETHIOPIA**

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### Introduction

Empathy is the ability to recognize and understand another being's perceptions and feelings. It is the ability to imagine and feel a part of the emotions being experienced by another – human or animal [2]. It may not be easy to develop one being's empathy for another being. It is believed that children's views about other beings are easier to mould while they are still forming their attitudes [6]. Nurturing empathy for working animals in schoolchildren has been one of the strategic objectives of the Donkey Sanctuary (DS) operating in Ethiopia.

Four-fifths of Ethiopia is rural and livelihoods depend largely on small-scale agriculture using animal power [5]. Oxen are used in cultivation while transportation of commodities is on donkey back. This is evidenced by a farmer's saying: 'A farmer without a donkey is a donkey himself.' In a country where animal power is the backbone of the economy, nurturing empathy at primary schools in rural communities is a way forward for animal protection practices. Good animal welfare practices are fundamental for improved production and productivity [7]. Animal protection is hardly mentioned in schoolchildren's education. DS empathy development education targets prevailing husbandry practices shown in Table 1.

**Table 1. Comparison of welfare status of working and companion animals using criteria set by rural communities in the respective regions: Oromia, Tigray, Amhara, SNNPRs, Ethiopia**

Welfare indicator criteria	Cattle (oxen)	Donkey		Horse/mule	Dog
		Cart	Pack	Cart	
Poor image, attitude	5	2	1	4	3
Beating, torching, poking	5	1	2	3	4
Overloading, no rest	5	1	3	2	NA
Bad harnessing, hobbling, tethering	4	1	2	3	5
Start work early in life	5	1	2	4	NA
Starvation, water deprivation, abandoned	5	1	3	4	2
Lack of shelter, resting area	5	1	3	4	2
Traditional therapy malpractices (branding, docking, drenching, bleeding)	2	1	3	4	5
Lack of intention to take sick to clinic	5	2	3	4	1
Limit to express normal behaviour	5	1	2	4	3

Rank	5th	1st	2nd	3rd	4th
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Source: survey report from regional projects

The criteria set by the community to evaluate the welfare status of domestic animals have some reference to the 5 animal freedoms [4]. In Table 1 the animal which suffers most from a particular malpractice is ranked 1st while the animal that suffers least is ranked 5th at each cell. The cumulative rounded rank is given at the end of the table. Accordingly, the community ranked donkeys to be in bad welfare compared to other animals considered.

The school education programme has short- and long-term objectives to address these problems. Short-term objectives are raising awareness, developing positive attitudes, kindness, and respect for working animals in schoolchildren, as well as developing the student–parent relationship in basic animal care and handling. Long-term objectives may include training primary school teachers in humane education, establishing clubs, and working with institutions of education towards the inclusion of humane education in the school education programme.

### Materials and intervention protocols

The Donkey Sanctuary launched a schoolchildren education programme in selected schools in the operation areas. It started predominantly as storytelling about mistreated animals – the donkey being a model animal. The target age group of children was 10–14 years [2], i.e. grade 4 in the rural primary school. The schools agreed to provide 40 minutes per month for 8 months per year. The charity has trained its own education officers to deliver the lessons and establish clubs. Some local schoolteachers participate in the club establishment initiative and are currently leading the clubs. The club is open for all pupils in the school. The delivery system is made participatory and dynamic using various external inputs and student creativities.

The materials for education are a handbook and a storybook. The handbook consists of 7 sequential lessons and an assessment section. The storybook is a collection of stories with questions and suggested answers at the end. In addition, laminated pictures, an atlas of the animal world, model toys, tooth brush, grooming utensils, packsaddles, horse shoes, digital records, films, etc. as appropriate to specific lessons are used. The layout of the handbook includes: interaction of humans and domestic animals, needs of domestic animals, importance of domestic animals, basic care of domestic animals, management constraints of working animals, health care for working animals, and community KAP (knowledge, attitudes, and practices) related to working animals followed by an assessment section. Empathy education is administered in such a way that children learn and build their knowledge from simpler ideas and activities to a more comprehensive and a practical activity. The flow of the presentation in the booklet is: aims, teacher's note, objectives, key learning points, materials needed, class activity, conclusion, and activities with parents.

### Outputs

A total of 3,000 pupils have been exposed to empathy education annually over the last 4 years. Lessons motivate students to establish/join clubs. The number of clubs is increasing from year to year (see Table 2). Most of the schools are from grades 1-8.

**Table 2. Number of students accessed by empathy enhancement programme in the 3 projects**



Project	Number of schools	Number of children in the schools	Number of pupils reached	Number of clubs established	Number of teachers actively engaged
Oromiya	14	10,000	1,957	3	9
Tigray	4(5*)	2,064	755	9	27
Amhara	4	1,650	550	4	32
Total	27	13,714	3,062	16	52

\*Through club's establishment only

Schoolchildren participated with full interest demonstrating diversified creativities. They developed stories, dramas, poems, songs, role play, and news in the mini-media, etc. (Table 3). They could identify good sense and nonsense about donkeys in the community. Dramas mainly compared bad owner behaviour and attitudes with those of a wise owner in the context of underlying community practices. The majority of poems praised the donkey's values in a rural family livelihood; debates compared the value of donkeys with that of oxen.

**Table 3. Resources developed by students following empathy education**

Projects	Poems	Dramas	Stories	Songs	News	Role play	Drawings	Rituals	Q&A**	Debate
Oromiya	20	3	0	2	3	2	100	0	0	1
Tigray	295	29	23	5	21	17	4	0	41	26
Amhara	32	4	1	1	14	3	2	5	1	2
Total	347	36	24	8	38	22	106	5	42	29

\*\*Questions and answers prepared by students for students

Other activities include visiting donkeys at markets and vet clinics, provision of water for working animals including donkeys, and developing slogans and stamping them on walls. Being in the rural community, such intervention was observed to have a direct effect on the children. Establishing clubs was a tedious exercise in the beginning; eventually it became a powerful tool to bring about change. The clubs advocating working animal welfare became the most popular and good examples for other clubs in the schools. See Figure 1. Schoolteachers found that the clubs did not only help them to extract students' talent but they also found the education more practical. The clubs developed a student-school-parent relationship.

Nurturing empathy in schools in project areas has tremendously increased the turnout for clinical services. Children tend to bring sick donkeys to the vet clinic and are instrumental in the spread of information about clinical services. As the education is not limited to equids, it also encourages owners to take other sick animals to nearby clinics. In Amhara region, there are signs of a reduction in some practices including hobbling (one leg off the ground), beating, overloading, traditional malpractices, and malinging of donkeys.

**Figure 1. Animal welfare clubs in action in the 3 regions**



Oromia: presenting a song to the school community, 2010

Tigay: Club members after a Q&A session, 2009

Amhara: Club members in front of an educational bill board, 2010

**Discussion**

The schoolchildren education initiative has been successful in the schools where the programme is attached nationwide i.e. Oromia, Amhara and Tigray. The school communities have readily demonstrated their cooperation, offering space and time to deliver lessons in humane education about working animals and promoting animal welfare through establishing clubs. The public have also praised the approach as promising and sustainable. Exploring the roots of kindness or cruelty to animals does not go beyond (school) children age [2]. The potential with children was demonstrated through creating diversified means of conveying animal welfare messages. The day-to-day interaction with donkeys and other working animals in the rural community might have enriched children's creativity. Strong messages were delivered through dramas, role plays, debates, and songs.

Most of the children were herders outside school, and the education was a direct challenge for themselves and their parents. However, a child kind to an animal will not be harmful to other children and this will limit family and society violence [1]. Some of the community malpractices related to animal welfare can be changed through schoolchildren. Children are constantly learning from parents, school, and communities, and their views about life are shaped accordingly. Currently many development organizations are creating a link with community schools in villages to convey messages across the community, particularly when the parents are illiterate.

**Lessons learned and the way forward**

Developing a generation kind to animals is one of the sustainable ways for animal welfare charities to enhance animal welfare, particularly in countries where the economy largely relies on animal power. Children are building-blocks for the next generation. The future norms and practices of a community largely depend on the way children are brought up today. Therefore, humane education in schoolchildren may be an important element of a structured community education programme. Otherwise, enacting local, national, or international animal welfare legislation without structured community awareness/education may be difficult to implement.

Nurturing empathy in schoolchildren could be a gate opener. The lessons students learn early in life will have a profound effect on how they define their frame of thinking about animals. The class and club activities allow a free learning environment and facilitate learning. The participation and later control of the clubs by schoolteachers may allow the charity to promote the programme more widely. The more people reached the closer we will be to achieving inclusion of humane education in the school curriculum. Humane education in primary schoolchildren should be an integral component of a long-term community empowerment programme. Our long-term objective is to include such education in the curriculum of schoolchildren in any form possible, be it a paragraph, a few passages, or a chapter as the programme allows.

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## EVALUATING THE EFFICACY OF AN EDUCATION PROGRAMME FOR RURAL DONKEY USERS IN ETHIOPIA: A RANDOMISED CONTROLLED TRIAL

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### Aim

A cluster-randomised controlled trial (c-RCT) was used to evaluate the effectiveness of 3 knowledge-transfer interventions on knowledge change about equid health, for rural Ethiopian working equid users.

### Background

There are estimated to be 1.8 million horses, 377,000 mules, and 4.3 million donkeys working in Ethiopia: the largest population of donkeys in Africa and the second largest donkey population in the world after China [1]. Their role in the socio-economics of the country is substantial, with the majority of the Ethiopian population dependent on traditional subsistence agricultural production [2]. There have been few studies evaluating the efficacy of knowledge-transfer methods for livestock owners in developing countries, and to the authors' knowledge no published work is available that evaluates the effect of knowledge-transfer interventions on the education of working equid users. Wounds are one of commonest health concerns to afflict working donkeys in many countries [3, 4, 5, 6]. The majority of these wounds are a result of human causes, which is in contrast to the majority of wounds on equids in developed countries that are predominantly due to accidental injury. These wounds are often caused by a combination of poorly fitting and designed tack or harnesses, beating with sticks, and improper management practices [7].

### Materials and methods

We designed and developed 3 knowledge-transfer methods for educating working equid owners in Ethiopia: a diagrammatic handout, an audio programme, and a village meeting with an animal health worker. The laminated 4-page A4 handout predominately used colour images, with limited text. The 12-minute audio programme was performed by local radio actors and comprised of a discussion between 2 livestock owners. The village meeting consisted of a standardised talk accompanied by poster displays and demonstrations. This meeting also included a short question-and-answer session. Content for these interventions was decided using work carried out prior to the c-RCT using Participatory Situation Analysis [8]. A c-RCT was designed to compare each method with the others and with a control group that received no knowledge transfer. We aimed to detect a change in knowledge between pre- and post-dissemination of 30% (e.g. increasing from 20% to 50% in the intervention groups). Sample size estimates indicated that 8 villages, each with 15 owners, per type of intervention tested would give sufficient power to detect the 30% change in knowledge with 95% confidence and 80% power.

Villages and livestock owners were randomly selected from the Oromia region of Ethiopia and the knowledge-transfer interventions randomly assigned to each village. Cluster randomisation was necessary to prevent 'contamination' between owners belonging to 1 village via sharing of information. All interventions underwent multiple stages of pretesting and reverse translation. Questionnaires were devised to evaluate the effectiveness of the knowledge-transfer interventions. The questionnaires containing identical questions were administered both pre- and post-dissemination to assess changes in knowledge levels. The questionnaires contained 12 specific questions on wounds and wound management based on 10 specific learning objectives. Each individual question

was scored based on the number of correct responses needed to be volunteered by the participant to get the question correct (between 1 and 4), and when summed, 12 questions provided a score out of a maximum of 28. Short-term follow-up questionnaires were administered 11–18 days after interventions, and long-term follow-up questionnaires 136–95 days after interventions. Data analysis to evaluate the change in knowledge of individual respondents between the different knowledge dissemination interventions utilised multilevel models allowing for clustering of individuals within a village.

### Results

In total, 516 participants from 32 villages undertook the pre-intervention questionnaire; 504 participants undertook the short-term post-dissemination questionnaire; 476 participants undertook the long-term post-dissemination questionnaire. This resulted in a 98% response rate to the short-term post-dissemination questionnaire and a 92% response rate to the long-term post-dissemination questionnaire. All interventions significantly ( $P < 0.001$ ) improved the overall change in score between pre- and short-term follow-up questionnaires compared to the control. The handout and village meeting had a significantly greater impact than the audio programme: they increased the score by approximately 9.5 marks whereas the audio programme increased the score by approximately 5 marks. At long-term follow-up a similar pattern was observed with all interventions significantly improving the overall change in score between pre- and long-term follow-up questionnaires compared to the control ( $P < 0.001$ ). However, the handout performed the best at long term with an increase in score of 10 marks compared to 8.6 for the village meeting and 4.0 for the audio. Of covariates collected at baseline only age and pre-intervention score had a significant effect on the outcome. The higher the pre-intervention score and the older the age of participant, the less the change in score at follow-up. However, although both had a significant effect on the outcome (change in score) they had a minimal effect on the interventions.

### Conclusion and significance

All interventions improved post-intervention knowledge of the target audience; however, the handout and village meeting improved these scores nearly twice as much as the audio programme. It is plausible that the handout performed better than the other interventions at the long-term follow-up because it was the only intervention that remained with the participants throughout the trial, enabling continued reference if required. The success of the village meeting at the short-term follow-up and again at the long-term follow-up may be due to the combination of both an oral presentation and demonstrations with visual images accommodating all levels of literacy and language issues within the groups of participants. Although the audio programme had the least impact on the change in score compared to the other interventions, its benefit lies in its potential to reach the largest number of owners with relative ease of administration.

This study demonstrates the application of quantitative studies, such as RCTs, to evaluate education programmes in developing countries. Due to their design, and the inclusion of a control group, RCTs provide the highest level of evidence of an effect and further use of these methods should be encouraged. Ethiopia, with its large population of equids, is ideally placed to benefit from appropriate education or extension programmes for the owners and users of equids. The results from this study may be beneficial to other populations of livestock owners, particularly in sub-Saharan Africa. However, it is likely that different issues associated with learning across different communities may exist, and these must be carefully considered when designing education programmes, and further testing in other populations is required.

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## TOWARDS THE DEVELOPMENT OF A MODULAR E-LEARNING SYLLABUS FOR WORKING EQUINES

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### Abstract

*E-learning is a powerful tool enabling lifelong learning in a variety of non-traditional settings [1, 2]. A number of online courses are available but currently none addresses the specific requirements of the vet practitioner or student dealing with working equines. The author suggests an approach to developing a relevant syllabus and the requirements and potential partners involved in establishing such a venture.*

### Introduction

Despite the importance of equines in the agricultural and transport infrastructure of many developing countries, there is often little attention devoted to learning about their general management and veterinary needs at many levels starting with animal health technicians, veterinary undergraduate training, and continuing through postgraduate phases. This may be due to a lack of recognition of the needs of equines and the inability to place them in a curriculum focused on production animals. There is a requirement for equine health and welfare issues to be considered relevant and important by the policy makers and government before this knowledge deficit is examined, and rectified sustainably, by those countries heavily dependent on the equine for transport and agriculture.

In the meantime, the training required to address the needs of equines is largely delivered in a number of ways by different NGOs working in this area. Some provide specialists to deliver focused continuing professional development (CPD) at various intervals to certain universities or clinics, and others may extend training to individual vets by a period of time in an institution away from their own country. Other NGOs rely upon 'volunteer' vets from a variety of sources, both university and private practice. There is also a large parallel emphasis on training animal health assistants/paravets in recognition of the often basic level of care needed to achieve substantial benefits in equine care. There is no professional body overseeing the delivery or content of CPD administered in this way, in contrast to the well regulated guidelines and requirements laid down by the Royal College of Veterinary Surgeons (RCVS) in the UK [3].

E-learning is a suitable tool that is already in use by health professionals in the medical field (e.g. 'e-learning certification in global health' delivered by Oxford University in partnership with African universities) [4], and can link institutions in developing countries with partners in the West bringing mutual benefit. In the veterinary field a number of universities have already developed e-learning networks, notably Edinburgh University's Centre for Tropical Veterinary Medicine (CTVM) [5], the Royal Veterinary College [6], and Liverpool University. Similarly, private CPD provision is supplemented in many cases by online learning content.

### Methods and delivery

It is proposed that the NGOs and other interested parties currently involved in the welfare of working equines (e.g. Donkey Sanctuary, Brooke, SPANA, BEVA Trust, WSPA, BVA, DFID, Oxfam, and GHDT) have the capability to collaborate in developing content suitable and specific for the needs of the vet or animal health technician employed in working equine care. Such a course could address many areas of interest to such organisations and need not be limited to the 'traditional' syllabus in developed countries. Hence knowledge relating to primary health care, participatory techniques, and welfare assessments might be embedded alongside the typical veterinary content of the course.

An essential component of syllabus development would be the involvement of practitioners with experience of working equines from the wide diversity of countries where they operate. The syllabus should aim to encourage best practice using techniques and products readily available, and not emphasise a dependence on the technological aspects of equine healthcare or the use of imported medication.

Courses could be developed to cover both undergraduate teaching and postgraduate lifelong learning. The ability to continue to progress a career in the field of working equines would be of considerable benefit in providing continuity, and raising the status and hence entry into this branch of the profession. Modules with a research training content may be useful for those individuals wishing to undertake further scientific study.

This model of CPD delivery requires the individual or organisational participant to have access to a computer and good broadband access, although this can be intermittent rather than continuous (e.g. cyber café environment versus home computer). It would be preferable to make the material available in a number of widely used languages, including English, French, Spanish, and possibly Chinese. While the student should have good written skills, IT skills can develop as the course progresses. The content can be delivered in a number of ways ranging from the didactic lecture-based formats to self-directed learning using guided tools. Discussion groups and chat rooms may provide a sense of community and shared learning experiences. Video content can be used to illustrate practical content or discuss puzzling cases. The practical nature of much veterinary work means that some form of 'summer school' could be advantageous to consolidate manual skills, but as the theoretical content would have been covered already, such practical courses could be intense and more cost effective.

It is suggested that initially such a syllabus is delivered through a pre-existing network, such as the African Universities Veterinary E-learning Consortium (AUVEC) [7] which has as its remit: 'a network for developing and delivering appropriate learning opportunities to animal health professionals'. Future developments could utilise or create a variety of networks as determined by need. AUVEC currently covers Ethiopia, Kenya, South Africa, Sudan, Tanzania, Uganda, Zambia, and Malawi; it has the potential to extend to West Africa and Asia as demand grows. This e-learning network recognises the need to support animal health professionals in their location of work to provide better services, and importantly not to have to attend full-time study taking them away from where the need for the service remains greatest. The AUVEC consortium is closely linked to Edinburgh University and has received expressions of interest from the Royal Veterinary College and Bristol Veterinary School for further involvement. Strong links with UK universities with educational expertise would provide an ideal environment to develop a working equine syllabus, and potentially link in with research ventures, benefiting all parties.

Setting up such a venture would require several consultations with stakeholders and meetings via a variety of methods (phone, skype, video conference, face to face), and costs would be mostly consumed by the salaries and time required. A start-up figure of £150,000–200,000 could be considered reasonable [8]. Much of the material required for such courses is already available but requires converting to a modular format.

An alternative approach could be to add components relevant to working equine practitioners to an existing equine science course. The MSc/Diploma/Certificate in Equine Science by distance learning available from the University of Edinburgh [9] is the type of course that could be modified to include different components, and preliminary discussions with the course director [8] have indicated a willingness to provide further modules or deliver specialist equine CPD as required, via the e-learning format.

### Conclusions

This proposal suggests that a unique collaborative venture between a number of partner organisations could be an opportunity to create a new and distinctive syllabus within the educational field of 'working equines'. As ideas, technologies, and methodologies evolve, e-learning content can be rapidly updated and changed to meet the needs of the practitioner. Such a model of learning can be affordable and flexible [10] and enable applicants who

cannot use traditional routes (e.g. those typically restrained by location, family commitments, or work) to access further study.

It is hoped that this short presentation will stimulate interest in, and discussion of, how such a proposal could become a reality.

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## NEWS ON SPANA/ MOROCCO'S EDUCATION PROGRAMME FOR THE PROTECTION OF ANIMALS AND NATURE

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The SPANA's education programme for the protection of animals and nature in Morocco comprises 2 components:

- The protection of animals
- The environment in general and biodiversity in particular

#### Education programme about the protection of animals

This programme concentrates on domestic animals – those that are treated by SPANA's mobile clinics or, for long-term treatment, those which are housed in a series of refuges dotted around the country. The animals include working animals (horses, donkeys, and mules) and companion animals (cats, dogs, and guinea pigs). The decision to invite schools into SPANA's refuges was made several years ago so, where room permitted, classrooms were built in which lessons could be held.

At first, the authorities were reluctant to support SPANA's proposed programme. This was because they doubted a visit to see domestic animals – particularly sick animals – would have any benefit for children. In order to overcome this, SPANA initially developed a lesson that included some elements of environmental education which was considered to be fashionable at the time, and this was used to entice schools to make a visit.

The schools came, but it was soon realised that the lesson being delivered was 'overloaded' and that SPANA was teaching mixed messages. However, the authorities had accepted the concept of working with SPANA by this time, so gradually the environmental sections were dropped and SPANA then created a programme based mainly on attitude and behavioural development, which is as follows:

- *Developing empathy.* 1 hour of classroom-based activities, in groups of 15 pupils, comprising 3 steps: transmitting knowledge, changing attitudes, and improving behaviour towards animals. To achieve these objectives, instructors use teaching worksheets with which students can carry out research on animals, and help combat prejudices through case studies and role play.
- *The 5 basic needs of animals.* A 1-hour activity taking place outside the classroom. It is led by a vet and includes a games session in which the students recognise and categorise the 5 basic needs of animals. It is followed by a guided tour of the animal refuge, where the students can watch vets visiting animals, meet and talk to animal owners, and learn about the conditions in which the animals are hospitalised, respecting their 5 basic needs.

Over time and with changes in educational policy in Morocco, the authorities now place greater importance on developing children's attitudes and behaviour, so a pattern of regular visits is once more underway. As each refuge has reopened to schools, training courses for teachers are held to explain SPANA's aims and objectives and the benefits of the programme for children. Now, 8,000 pupils and students, on average, come to SPANA's centres and the pleasure and enjoyment on the children's faces as they see, touch, and handle the animals is plain to see.

#### Education programme on the protection of the environment in general and biodiversity in particular

The second part of SPANA's programme is not dissimilar to the first in that it too is not just based on the acquisition of knowledge, but also helps to develop attitudes and behaviour. By teaching about the environment – the need for a natural balance, the importance of biodiversity, the value of a healthy environment, etc. – it is designed so that children will develop attitudes of care and concern. For example, they are encouraged not to degrade the



environment (drop litter, waste water, pick flowers, etc.) but to take care of it; and to be concerned when they see wetlands being drained or trees being chopped down. We want children to feel indignant at the wrongs in society, whether they are directed at animals or at nature, and we wish to guide them and show them how to act correctly to put things right.

So this part of the SPANA programme was established through agreements with the Ministry for Education and the department in charge of managing forests and protected areas, and is applied in the National Centre for Environmental Education (CNEE) which is located within a nature reserve of national and international importance (a Ramsar site). It was designed by a specially appointed committee, bringing together all parties interested in environmental education, and comprises 5 hours of practical teaching per group per day. It is split into 2 parts:

- The first part is the same for all school groups according to age: 4 hours long, it involves a guided visit to the forest and practical activities to do there, as well as tasks on exploring life in water, an introduction to bird-watching, and a guided tour of an interactive exhibition.
- The second part involves an option: 1 hour long, it comprises the development of a teaching module chosen by the teacher from the 16 modules prepared by the Centre. These modules are extracts from the school curriculum and correspond with the principal environmental themes addressed in school books.

Inevitably, in the 20 years in which SPANA's programme has been running there have been many problems to overcome, but we have also had some successes. First the problems:

- Persuading the authorities of the benefits is important (as above).
- Children only ever make 1 visit to a SPANA Centre. This means, once the children have become inspired and motivated, any follow-up has to be left to their class teacher, and direct contact with the children is lost. In some other countries in which SPANA operates (eg. Mauritania) schools within walking distance of a SPANA centre make several visits, so lessons can be delivered in some depth.
- Transport to SPANA's centres is difficult. At the CNEE, SPANA has its own bus, but few schools have their own transport and/or insurance and hired transport is difficult to obtain
- Resources are in short supply. Many schools have little or no materials or equipment for lesson follow-up. This is partly because information about animals in Arabic is limited and partly because schools cannot afford expensive resources – though this is a far greater problem in some of the other countries that SPANA works in.
- Monitoring and evaluation are complex processes. Whilst it is easy to record statistics, evaluating the impact of the lessons is much more difficult. An external running assessment was undertaken in our refuge at Marrakech and the result was positive (and is referred to in more detail by Diana Hulme in her paper 'Measuring the impact of SPANA's education programme in schools'). But measuring the impact long-term is more difficult as contact with the children taking part is lost once they leave the refuge.

However, there are some general and specific indicators that point to SPANA's programme being a success:

- SPANA has been accepted by the education authorities and they are keen to support our training courses for teachers and other events such as World Animal Day, Earth Day, and Wetland Day.
- According to the local education authorities, there is a queue of schools wishing to take part.
- It provides job satisfaction/fulfilment for SPANA's refuge staff.
- Children enjoy the contact with animals. There is evidence for this in the follow-up work done in their classrooms and sent to our centres for us to see.
- Visiting children appear less frightened of animals – particularly dogs – and enjoy contact with them in controlled circumstances.
- SPANA's logo is no longer the focus of derision, but is now understood.
- According to SPANA's vets, there is a much larger pet-owning population in towns, so gradually the benefits of the human–animal relationship is becoming better accepted amongst the general public.

## EMPATHY EDUCATION ABOUT WORKING ANIMALS IN PRIMARY SCHOOLS OF CENTRAL ETHIOPIA

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### Abstract

*The Donkey Sanctuary in Ethiopia launched an empathy education programme at 7 primary schools in 2005, to nurture school children's empathy with working animals. The objective of the programme was to enhance the ability of schoolchildren to build smooth relationships and positive attitudes towards animals, resulting in the creation of responsible citizens who are compassionate, kind, and love and have empathy with all animals. To show empathy is to identify with another's feelings. It is to put yourself emotionally in the place of another [1].*

### Introduction

Donkeys in Ethiopia are used for various activities such as pack transport, pulling carts in the Rift Valley, pulling water from deep wells in the Ogden area, ploughing in the lowland areas, threshing, and transporting sick animals and people to clinics [2]. The empathy education programme is a new initiative started in 2005/6. The programme runs side by side with veterinary services to improve the wellbeing of animals.

### Design and method

The approach used to conduct this study was a descriptive method and the work is designed in such a way as to indicate the importance of empathy education interventions. To get their ideas, views and experiences, the primary information was obtained from teachers and students by both qualitative and quantitative methods. Questionnaires and interviews were used for quantitative data, while observation and in-depth interviews were employed to collect qualitative information.

Out of 14 intervention primary schools, four were randomly selected as the study sample. A total of 90 children (20 from each of three schools and 30 from one school) were selected using random sampling techniques, giving 47 females and 43 males involved in the study. Four school principals and five teachers were also interviewed. The data was collected after three years of intervention.

To realize the educational objectives, selective participatory learning approaches were used during the intervention program, such as songs, preparation and presentation of news, role play, dramas, body mapping, problem solving approaches and group discussion methods.

**Figure 1. Participatory learning in empathy education**



Learning by songs



Role play



Body mapping



Group discussion



Drama



Pictorial presentation



Poetry



Orientation for club members



Children outside school



Club members visit DS project



Laboratory and surgery room



Experience sharing

**Results**

Assessment focused on 4 major aspects: knowledge; attitude, beliefs and behaviour; empathy of children towards donkeys; and how they valued their donkeys in their communities. The majority (96.6%) of the children had donkeys at home.

1. *Knowledge about donkeys.* Regarding their knowledge about donkeys, 82.80% had a good understanding about the importance of donkeys, their basic needs, major problems for donkeys, causes of wounds, and they could recognise the different signs shown by healthy and sick donkeys by looking at their physical condition. See Table 1.

**Table 1. Assessment of knowledge about working donkeys**

Question	Alternative responses	Respondents	Percent	
			positive	negative
1. Do you have a donkey in your home?	Yes	87	96.6%	
	No	3	3.3%	
2. What are the major activities performed by the donkeys in your community?	Fetch water	90	100%	
	Collecting crops	78	86.6%	
	Carry crops, firewood, cow dung, charcoal, etc. to market	88	97.7%	
	Take crops to mill	89	98.8%	
	Carry fertilisers, construction materials, etc. from the market to home	89	98.8%	
	Rent for business purpose	12	13.3%	
3. What do you think are the major things required for the donkeys to work hard and live healthy lives?	Food and water	90	100%	
	Rest, treatment, and harness	90	100%	
	Shelter and land to grassing	90	100%	
4. What do you think are the causes of wounds?	Beating	70	77.7%	
	No harness and hyena bite	90	100%	
	Overloading	62	68.8%	
	Fighting each other	79	87.7%	
5. How do you know if your donkey is sick?	Lame and doesn't want to work	89	98.8%	
	Biting person/objects	65	72.2%	
	Staying a long time in one place	86	95.5%	
	Depressed and drooping ears	80	88.8%	
	Stops eating and drinking	90	100%	
	Unusual signs are observed	49	54.4%	
<b>Average</b>			<b>82.80%</b>	<b>17.2%</b>



2. *Beliefs, attitude and behaviour towards donkeys.* The second dimension focused on how children interacted and communicated with their donkeys. Here 81.6% of the respondents considered the needs of their donkeys seriously rather than beating or taking aggressive action. But around 19.5 % of children responded negatively. They didn't have good information and made some mistakes in their daily practice. They beat their donkeys to communicate with them and make them work fast and even contributed to donkeys falling down as a result of overloading. These children were among those who did not have donkeys at home and had less contact with donkeys. In addition to this, they agreed with the traditional belief, 'Donkeys are not satisfied even if they are supplied with enough food.' See Table 2.

**Table 2. Assessment of attitude, beliefs, and behaviour of children towards working donkeys**

Question	Alternative responses	Respondents	Percent	Percent
1. Is it necessary to beat the donkey with a stick to make it work hard?			positive	negative
	Yes	6		6.6%
	No	84	93.3%	
2. Which method do you use to communicate with your donkey?	Beating	21		23.3%
	By voice	83	92.2%	
	Pushing/pulling	61	67.7%	
	Waving stick	20		22.2%
3. Have you ever seen wounds on donkeys?	Yes	90	100%	
	No	-		
4. If yes, where are the wounds you have observed?	Chest and ribs	80	88.8%	
	Tail sore, legs, and on back	90	100%	
5. Have you ever worked with the donkeys?	Yes	77	85.5%	
	No	13		14.4%
6. Have you ever seen a donkey collapse on the road while carrying a big load?	Yes	88	97.7%	
	No	2		2.2%
7. If you are the owner, how can you help such donkeys?	Change donkey	81	90%	
	Decrease the load	62	68.8%	
	Give donkey rest	53	58.8%	
	Beat donkey to stand up	6		6.6%

8. Do you think that donkeys can be trained to understand orders through training?	Yes	75	83.3%	
	No	15		16.6%
9. The donkeys are not satisfied even if they eat all the day.	I agree	58		64.4%
	Not agree	32	35.5%	
	Not sure	-		
<b>Average</b>			<b>81.6%</b>	<b>19.5%</b>

3. *Children's empathy with donkeys.* The third dimension focused on the empathy of children towards rescued animals. All respondents (100%) replied that they felt shock (sadness) when animals suffered from accidents, are sensitive in responding to these and accept that donkeys feel pain like human beings.
4. *Value of donkeys in the community.* Finally, regarding the value of donkeys in their community, many of the respondents (74.4%) replied that they valued their donkeys not for prestige, but because of the income they get from their donkeys when compared with other working animals. See Table 3.

**Table 3. Assessment of children's empathy towards working donkeys and how they value donkeys**

Question	Alternative responses	Respondents	Percent	Percent
			positive	negative
1. Do you think that donkeys feel pain like human beings?	Yes	90	100%	
	No	-		
2. What do you feel when you see a donkey has died in an accident?	Nothing	-		
	Sadness/shock	90	100%	
	Happy	-		
3. What do you feel when you see a donkey working with wounds?	Sadness/shocking/	90	100%	
	Happy	-		
<b>Average (empathy)</b>			<b>100%</b>	
1. Compare the value of donkeys in your community with other domestic animals.	High	84	93.3%	
	Medium	6	6.66%	
	Low	-	-	
	I don't know	-	-	



2. If your donkey has died what do you think will happen to your family income?	Nothing	-	-	
	Loss of income	90	100%	
	Prone to additional expense	88	97.7%	
	I don't know	-		
<b>Average (value)</b>			<b>74.4</b>	<b>25.5</b>

Encouraging information was also collected from school principals and teachers:

- The interest of children in being a member of a Donkey Club was increasing over time.
- Other classes were requesting to participate in animal welfare education during classroom sessions.
- There were requests for educational materials to be read in the library.
- Families witnessed that their children were starting to give their donkeys basic needs
- Children were committed to stop using the word 'donkey' as an insult.

In addition, students committed themselves to stop beating donkeys and had started to advise their parents on proper use of donkeys and how to contact the project for any urgent donkey problems. In this case, they were serving as a bridge between the project and their family to pass on relevant information.

#### Summary and Conclusion

Education is the most effective instrument to improve animal welfare and reduce animal suffering, cruelty, and improper use. Children can learn formally at school and informally from their life experiences. Even though it is not an easy task, it is possible to bring changes to people's attitudes, behaviour and beliefs by long-term education and commitment.

#### Recommendations

Children are the future generation, need attention and should be addressed at an early age for effective results. Children are the most important group within communities who need empathy education that focuses on knowledge, attitudes, beliefs and behavioural changes to promote animal welfare, formally or informally. Clubs are good opportunities to promote the animal welfare programme outside and inside the school and need to be encouraged in all primary schools. Awareness creation on animal welfare for teachers and school principals, and searching for alternative ways of including empathy education in the primary school curriculum, are critical issues to be worked on, in consultation with all concerned bodies.

#### Future strategies

- Capacity building for school communities by training
- Increasing the number of schools involved by focusing on knowledge, attitudes, beliefs, behavioural changes and empathy development
- Discussion with the Regional Education Bureau to expand empathy development for animals
- Increasing the number of clubs and encouraging them to use their potential
- Promoting animal welfare using mass media, posters, and leaflets

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## DS-WHW-UNAM JOINTLY TRAINING VETERINARY STUDENTS OF MÉXICO IN EQUINE PRACTICE: A WAY TO RAISE EQUINE WELFARE FOR LONG TERM

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#### Introduction

México occupies the first place in America's population of donkeys and mules and also the second place in horses. According to figures from the National Institute of Statistics, Geography and Informatics (INEGI), almost half of our equine population contributes enormously to production in the country side. Although their contribution to the Mexican economy has not been measured, it is easy to notice how valuable they are to the rural family. So if we consider that about 50% of the human population in Mexico lives in poverty, agricultural work could not be possible without equines because most of the lands for cropping are hills or mountain slopes.

Although contribution of equines is sizeable, the treatment they received is not as much as they deserve. Furthermore, being regarded as non-productive species, equines are not considered in Government's Programmes, a fact that meant for a long time public universities teaching veterinary medicine did not include equine subjects in their course programs, causing a lack of knowledge on working equine medicine and welfare; complicating the pursuing of welfare by itself and other institutions. Therefore, the intervention of qualified veterinarians promoting the health, protection and care of these animals is fundamental.

#### Description of DS-WHW-UNAM Programme

A good way to raise the reputation of working equines is showing future vets that these animals need help, protection and care; for that reason the Donkey Sanctuary, along with World Horse Welfare, has run a project to promote the welfare of working equines in collaboration with the Faculty of Veterinary Medicine and Animal Science (FMVZ) of National Autonomous University of Mexico (UNAM) for the last 25 years. However, just two years ago a branch of the DS-WHW-UNAM Programme has been working in the southeast of Mexico, settled in the Center for Teaching, Research and Extension in Tropical Animal Production (CEIEGT-UNAM) with a good approach to tropical equine problems.

The Programme allows vet students to carry out practical lectures or just collaborate as volunteers; while others participate in research and extension projects with the aim of going deeper into different equine issues and management problems. On the other hand, as soon as owners and professionals know that a veterinary service for equines is available in the area, they contact our team looking for help.

#### Helping working equines while gaining skills and awareness

Equine vets in the countryside are scarce and the professionals available are not interested in working with equines because it is normally regarded that equine medicine is expensive and hard. Thus, there is an area requesting attention for those vet students interested in promoting equine welfare while they could learn and practice.

**Table 1. Total number of working equines treated by DS-WHW-UNAM Programme Mobile Clinic during 2009.**

	Donkeys			Horses			Mules			TOTAL
	Female	Male	Total	Female	Male	Total	Female	Male	Total	
Presented animals	1751	3817	<b>5568</b>	1475	1915	<b>3390</b>	388	424	<b>812</b>	<b>9770</b>
Worming treatments	1714	3759	<b>5473</b>	1416	1844	<b>3260</b>	380	413	<b>793</b>	<b>9526</b>
Trimming	22	47	<b>69</b>	34	19	<b>53</b>	8	12	<b>20</b>	<b>142</b>
Dentistry	28	105	<b>133</b>	61	67	<b>128</b>	11	12	<b>23</b>	<b>284</b>
Harnessing	2	15	<b>17</b>	4	10	<b>14</b>	0	0	<b>0</b>	<b>31</b>
Vaccination	44	137	<b>181</b>	92	75	<b>167</b>	33	17	<b>50</b>	<b>398</b>
Nutrition advice	90	114	<b>204</b>	61	37	<b>98</b>	5	5	<b>10</b>	<b>312</b>
Skin	67	127	<b>194</b>	66	90	<b>156</b>	21	18	<b>39</b>	<b>389</b>
Respiratory	0	6	<b>6</b>	12	15	<b>27</b>	2	0	<b>2</b>	<b>35</b>
Digestive	3	1	<b>4</b>	2	2	<b>4</b>	1	0	<b>1</b>	<b>9</b>
Urinary	1	0	<b>1</b>	1	0	<b>1</b>	0	0	<b>0</b>	<b>2</b>
Reproductive	0	3	<b>3</b>	8	5	<b>13</b>	0	1	<b>1</b>	<b>17</b>
Metabolic	9	15	<b>24</b>	0	3	<b>3</b>	0	0	<b>0</b>	<b>27</b>
Musculoskeletal	9	14	<b>23</b>	19	24	<b>43</b>	2	3	<b>5</b>	<b>71</b>
Eye	1	6	<b>7</b>	2	4	<b>6</b>	2	2	<b>4</b>	<b>17</b>
Hoof	18	52	<b>70</b>	11	17	<b>28</b>	0	8	<b>8</b>	<b>106</b>
Surgery	1	91	<b>92</b>	3	100	<b>103</b>	0	15	<b>15</b>	<b>210</b>
Euthanasia	0	1	<b>1</b>	0	0	<b>0</b>	0	0	<b>0</b>	<b>1</b>
Postmortem examination	0	0	<b>0</b>	0	1	<b>1</b>	0	0	<b>0</b>	<b>1</b>
Total treatments	3760	8310	<b>12070</b>	3267	4228	<b>7495</b>	853	930	<b>1783</b>	<b>21348</b>
Owners			<b>3483</b>			<b>2118</b>			<b>619</b>	<b>6220</b>

The mobile clinic of DS-WHW-UNAM treats more than 10000 equines each year (Table 1). Most of the time students are working together with mobile clinic staff providing the correct treatment to them. So each animal treated means an opportunity to help and learn about basic equine medicine, surgery and management.

The Programme conviction is that equine medicine begins with proper handling and restraining techniques, as well as physical examination. However, most of the students joining the team have never been in touch with or are afraid of equines, whilst others feel somewhat vulnerable since equines are normally regarded as swift animals that can hurt people, so how to handle horses, mules and donkeys is the first step.

Another important aim of the interaction between the Programme and the students is to demonstrate to vet students that veterinary medicine is much easier than it sometimes seems to be in school and that we have to get used to working without sophisticated equipment, sometimes improvising tools in order to solve problems while always following equine medicine and animal welfare. This is because many students are trained at schools having all facilities including advanced handling and diagnostic equipment, so when they will face problems in the field where they are not going to be able to have all this equipment, they will be able to solve problems without any equipment.

As being part of the students that have been working in the Programme, we have become more concerned about equines' lifestyle and the role they play; firstly, because we had never realized the impact equines have on rural economics, secondly because we did not imagine the real equine's situation within the society, and finally because as vets we must be promoters of animal welfare. Another important thing is that most vet students have never had lectures about shoeing, harnessing and biting, so working together with saddlers and farriers allows us to understand the role that these aspects play on equine performance and doing those aspects well means the difference between keeping good welfare or not.

Fortunately there are many vet schools now interested in increasing knowledge on equine problems. So, since the team has influence in areas where some vet schools with no facilities are starting to become interested in teaching equine science, the Programme also collaborates with them. In this way the Programme has found an excellent manner to share experiences between vet students without waiting until a qualified vet comes to teach us, so this is a good way to feed back and keep good equine welfare.

The program accepts all kind of students such as undergraduates, postgraduates, community service students and recently qualified vets, most of them from UNAM and others from universities near the area; also, international exchanges are available. Table 2 shows the number of students that have visited the Programme in Veracruz and their origin during the first two years of being settled down. The number of students visiting the programme needs to be increase year on year, resulting in producing vet students concerned about equine welfare.

**Table 2. Vet students visiting or collaborating with DS-WHW-UNAM Programme - Veracruz Project during the last two operational years (May 2008 to May 2010)**

	Number of students	Coming from
Equine Science (curriculum)	67	UNAM
Rural development (curriculum)	42	UNAM
Reproduction (curriculum)	24	UNAM
Training experience	10	UNAM, Edinburgh
Exchange	3	UABC
Community Service	20	UNAM, UV
Preceptorship	2	UNAM
Preceptorship in research	4	UAZ, BUAP

DS, The Donkey Sanctuary; WHW, World Horse Welfare; UNAM, National Autonomous University of Mexico; Edinburg, University of Edinburgh; UV, University of Veracruz; UAZ, Autonomous University of Zacatecas; UABC, Autonomous University of Baja California; BUAP, Autonomous University of Puebla.

### Conclusion

Working equines are essential for "carrying on" activities in rural areas of Mexico; it would be irresponsible to say that their use is declining; hence, efforts to improve their conditions are required not only to ensure equine welfare, also because they are the economic engine of many people living in marginal rural communities.

Joining rural communities helping working equines, by showing either owners or people who don't have equines but coexist with them that they deserve to be well treated, and rewarded for the endeavor they put on each day activities, would improve the situation of both people and animals.

Finally, we have realized that focusing our practices on working equines allow us to size up their real conditions, showing us that as future vets we must focus on dignifying their position within society. Also, being aware of their needs it is not just a matter of performing surgery in the field, injecting a vein, rasping teeth, diagnosing lameness through nerve blocking or treating hoof abscesses; it is the process of developing generations of qualified vets concerned about working equines welfare.

## IMPROVING ANIMAL WELFARE BY EDUCATING SCHOOLCHILDREN: THE KENYAN EXPERIENCE

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### Abstract

*Working animals, primarily donkeys and oxen, play a crucial role in rural and suburban transport and farming systems in Kenya. Since mechanized agriculture and transport come with high purchase and maintenance costs, low- and middle-income households largely depend on animal power for transporting goods and farming.*

*Various interventions have been employed to address perennial problems, such as overloading, beating, poor harnessing, overworking, and speeding. In view of this, the role of continuous education of both adults and children has been intensified because this is a way that is bound to provoke attitude change among donkey users of present and future generations, thereby moving towards sustainability in the welfare of working animals.*

*Outlined in this paper is the experience of Kenya Society for the Protection and Care of Animals (KSPCA) in carrying out education of schoolchildren on animal welfare using the lifeskill approach because the school curriculum is rigid and does not cover the subject.*

### Introduction

There exists a close linkage between the livelihood of many children and working animals, notably the donkey. This is especially true in the rural and peri-urban areas of Kenya. Since donkeys are used for commercial purposes and provide essential transport in the rural and peri-urban economy, the children easily identify with them. Many children can afford school uniform, books, or food because their parents own or use a donkey. In essence, many children use donkeys in the evenings after school, during weekends, and school holidays.

It is this immediate connection that KSPCA, with funding from the Donkey Sanctuary, has tapped into to carry out a successful education programme targeting schoolchildren from the age of 10.

Education is a powerful tool in shaping the thinking and behaviour of both children and adults. Working on the premise that education is a lifelong process, the idea is to start early and give direction to the children's thought processes to enhance their empathy with, kindness towards, and general welfare practices with animals.

### School curriculum and animal welfare

The Kenya school curriculum is subject heavy both at primary and secondary level. This means there is a rigidity in the schedule, so accommodating new concepts or subjects such as animal welfare is difficult.

It is noteworthy that animals are studied in the school curriculum in Science at primary level [1] and Agriculture and Biology at secondary level, but this is not done from a welfare point of view. The donkey receives a passing mention in the curriculum and school texts [2, 3] which is near paradoxical when one considers its immense presence and contribution in the urban and peri-urban economies.

Since the mainstream curriculum does not lend itself easily to absorb extra subjects, innovative methods of delivery have been adopted to ensure that animal welfare messages reach the children. It is central to point out that schools acknowledge the importance of animal welfare, but are drawn back by the rigidity of the school academic schedule.



The curriculum, however, does accept and encourage extra-curricular activities to help the children attain holistic education. It is this window that has allowed us to deliver our animal welfare education using alternative methods that have been received enthusiastically in the schools.

#### Methods of delivery

Our programme uses the methods listed below to address animal welfare issues in the schools that we work in. An advantage is that these methods are less intrusive on the academic curriculum, and easily fit in during breaks in the school timetable, such as tea break and games:

- *Poems.* This supports the children's language development and communication skills, and imparts information on animal welfare.
- *Songs.* These enliven the lessons and assist in stimulating the children's interest in animal welfare.
- *Stories.* Storytelling contributes to the curriculum by building the children's confidence levels and analysis and decision-making skills because the plots of the stories are built on issues requiring the children to think deeply about issues concerning animals.
- *Wall murals.* The drawings help the children to think creatively and critically about issues affecting animals and enhance their feelings of kindness to animals.
- *School materials.* We regularly issue exercise books and balls imprinted with animal welfare messages. The materials act as school support items and the children associate them and the messages they carry with good care of animals.
- *Leaflets.* Our programme uses leaflets depicting animals as cartoon characters. Children easily identify with such cartoon strips and carefully follow the message of animal welfare that they portray.

The methods of delivery outlined above are participatory and focus on building lifeskills in learners. The World Health Organisation (WHO) defines lifeskills as 'abilities that help us to adapt and behave positively so that we can deal effectively with the challenges of every day life'. Our methods of delivery seek to inculcate in the learners the following lifeskills:

- *Critical and creative thinking.* This has enabled learners to look at issues critically, for instance they get to appreciate that each action (or inaction) has an effect: for example, if they fail to feed their donkeys, the animals are likely to lose weight and die, resulting in loss of income.
- *Empathy and self-awareness.* The children gain enhanced feelings of kindness to animals and become more aware of their environment.
- *Problem solving.* This skill has enabled children to confront situations facing them and think of practical options: for instance, when wild animals attack their donkeys at night, they put up enclosures or fence the homestead to keep the donkeys safe.
- *Decision making.* The children are able to make decisions when faced with situations: for example, they decide not to work their donkeys for more than 6 hours each day
- *Communication skills.* Through reciting poems, reading, and narrating stories, the children gain confidence in public speaking and improve their communication ability. This consequently adds to their language grades in class, leading to higher academic scores.

#### Observed impacts

We observed that lifeskills are of benefit because the children easily relate animal welfare issues with academic concepts and daily life experiences. One fine example is at Kagoto primary school where children and parents are working together with a local donkey users association in environmental protection and collaborating in protection of donkeys in their area.

We are also developing partnerships with local community-based organizations that link up with schools on animal welfare matters. One strong example is Madiany Community Development Programme, which runs school health

clubs in 50 primary schools. We have partnered with them and are reaching 21 schools with animal welfare messages through the clubs that meet at least once every month.

In 2 of the schools, Madiany primary and Gagra, some children have demonstrated a change of attitude by applying the lifeskills they have learned at home by persuading their parents to build simple shelters for their donkeys. They have also decided give their donkeys water at designated times daily and to avoid working them for more than half a day. Through the lessons in the school health clubs, many of the children are involved in tree planting and environmental cleanliness as a means of ensuring pasture for animals, and keeping the surroundings free from plastic bags and other waste that is harmful to animals.

At Kiangini primary school, a child made the decision to influence their parents to build a simple shelter using local materials.

At Kiamaina primary school in Nakuru North district, children are actively involved in talking to the donkey users and their parents about curbing overloading and beating of donkeys. The children made the decision to approach donkey users whose donkeys are overloaded and in a poor state and talk to them about animal welfare.

#### Objectives of primary education and national goals of education

The second objective of primary school education in Kenya is to 'enjoy learning and develop desire to continue learning' [4]. By using innovative and exciting methods to pass on animal welfare messages, our education sessions contribute towards achieving this objective.

Kenya's eighth national goal of education is to 'promote positive attitude towards good health and environmental protection' [5]. Our animal welfare lessons emphasize environmental protection and stress the link between animals and our environment, thereby contributing towards this goal and complementing the mainstream school curriculum.

#### Challenges in promoting animal welfare in schools

Some challenges have been posed in the course of promoting animal welfare in schools. One such challenge is that many headteachers and education officials are of the opinion that animal welfare is not important and has no place in the school context. In some cases, permission to gain entry into schools has been difficult to get, or entry even denied.

Another key challenge is follow-up of animal welfare lessons in schools that are spread all over the country and amidst a crowded curriculum that allows the children very little time for extra-curricular activities.

#### Conclusion

Lifeskills can be effectively used to improve animal welfare in society if well integrated in the children's regular school programme. They are sustainable because they blend easily into the children's leisure time and do not interrupt school timetables.

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## COMMUNITY SERVICE EXPERIENCE, VETERINARY STUDENT TRAINING, AND OWNER EDUCATION VIA CASTRATION CLINICS FOR HORSES OF ECONOMICALLY CHALLENGED OWNERS IN THE USA

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### Abstract

*The Castration Clinic program in Minnesota was developed through partnerships sharing the goal of improving the welfare of horses. The program serves a number of economically challenged horse owners by providing a free castration and educational opportunity. The horses are humanely castrated with appropriate pain management in a field setting. Education on horse health management is provided, and owners are provided further access to educational materials. Veterinary students participate in a unique community service event and develop both surgical skills on live animals and practical experience with equine anesthesia in the field. This program has received very strong positive feedback by all persons involved in the clinic, which is repeated on a semi-annual basis. This model could be readily replicated at other colleges of veterinary medicine.*

### Introduction

In contrast to many areas of the world, the United States is faced with a surplus of horses. Economic challenges for horse owners have led to unprecedented numbers of horses becoming unwanted and, in some cases, neglected and abused, overwhelming animal shelters and driving sales prices at public auction to extremely low values. Reduction in the number of unwanted horses can be achieved by more selective breeding and better owner education on horse health management. In a national survey, restriction of breeding to reduce the surplus of horses was cited as one of the 5 most appealing solutions to the problem, particularly for industry stakeholders and rescue/adoption facilities [1]. Castration also makes male horses more saleable. Concerns about the welfare of horses in the state of Minnesota in the north central region of the United States led to the formation of the Minnesota Horse Welfare Coalition in 2008. Members include veterinarians, extension agents, university faculty, humane agents, rescue owners and directors, attorneys, and volunteers.

North American colleges rely heavily on their teaching hospitals' caseloads for opportunities to develop and hone their hands-on skills for basic procedures. However, erosion of state support for the colleges has pushed pricing for routine procedures out of reach of many animal owners, impacting caseload. Review of medical records at the University of Minnesota showed only 8 routine castrations were performed at either the teaching hospital or its ambulatory clinic in the 12 months spanning October 2008 to 2009, all of which were performed in recumbency. Additional opportunities for veterinary students to practice this important skill as well as gain experience with field anesthesia were therefore needed, and incorporated into the Castration Clinic described below.

### Methods

Criteria for participation in the Castration Clinic were set to target horse owners who truly needed assistance:

Horses must be referred to the clinic by humane agents, equine rescue directors, or veterinarians, in situations where the horse owners are economically challenged and would otherwise be unable to have the castration performed. Additional requisites for program participation are that the horses need to be halter broken and to have 2 descended testicles.

Initially, a target enrollment of 20 horses was set for this half-day program, but since then the Castration Clinic has expanded to accommodate 24 horses. A local county fairground site is selected based on accessibility, availability of stalls and open lawn, plus cost. Veterinarians practicing predominately on horses are recruited through the Minnesota Association of Equine Practitioners to voluntarily supervise veterinary students performing the castrations. Humane agents, equine rescue personnel, and veterinarians are informed of the opportunity via e-mail and directed to enroll horses through the equine extension specialist on the organizing committee. Three forms are utilized to record information at the event: a survey for the horse owners to assess the impact of the clinic; a medical information form to capture horse demographics, medical history, physical examination findings including an estimated body weight (weight tape), anesthetic protocol utilized, and details of the surgical procedure; and informed consent for the procedure and waiver of liability. Aftercare instructions are given in written form to the owner at the clinic, as well as a number of educational brochures on horse health management. Publicity is generated through equine extension channels at the University of Minnesota and through local radio and newspapers. Medical supplies, including drugs for sedation, general anesthesia, local anesthetics, perioperative antibiotic, and tetanus prophylaxis are solicited from local distributors, and additional donations and grants are sought to defray costs.

Members of the University's Student Chapter of the American Association of Equine Practitioners (SCAAEP) sign up for the clinic with a limit in numbers parallel to the number of castrations, with priority given to students in their final year. An evening lecture reviews field anesthesia and equine castration procedures 2 days before the castration clinic. The morning of the clinic, 5–6 teams comprised of a veterinarian and 4 veterinary students are created, and stratified by student's year in the curriculum. Two veterinary anesthesiologists circulate between groups, supporting field anesthesia for equids under general anesthesia with injectable drugs. Two additional veterinarians and a veterinary technician provide additional assistance. Within the castration teams, students rotate roles to each perform at least 1 hemicastration, a baseline physical examination, and field anesthesia as well as to devise and implement a sedation and anesthetic protocol, assist with restraint, and prepare the surgical site. The method of each castration is at the discretion of the veterinarian with options of standing or recumbent procedures. Following castration, students assist in clean-up of the site, discuss aftercare with the owner, and answer other horse health questions.

### Results

At the first Castration Clinic, 18 stallions or jacks were castrated by 21 veterinary students under close supervision by 9 veterinarians from 4 different practices and the University of Minnesota. Sedation followed by local anesthetic or injectable general anesthesia was utilized. Each team experienced both standing and recumbent castrations, and each student emasculated at least 1 testicle. No clinical problems were observed; however, 1 horse reacted to its intravenous detomidine injection, presumably due to inadvertent intraarterial administration but recovered uneventfully. No subsequent problems were reported by any of the owners. The 9 participating veterinarians readily agreed to participate in planned future semi-annual castration clinics, and expressed enthusiasm for the opportunity to share their skills with the veterinary students. Additional veterinarians have volunteered to participate at future castration clinics, which will target 24 stallions on May 15, 2010. A third is scheduled for September, 2010.

All students responded to a 9-question survey distributed electronically following the first clinic. The educational value of the experience and the boost in self-confidence were rated highly. All 21 students indicated that they would be keenly interested in another similarly organized castration clinic. The most beneficial aspect of their experience



at the castration clinic varied: 17 cited hands-on experience, 6 listed working with practitioners, 2 sophomores most enjoyed seeing repetition of the procedure, 1 senior liked interacting directly with the client, and 1 junior mentioned helping solve the unwanted horse issue. All but 1 strongly agreed that he or she would like to volunteer to participate as a supervising veterinarian after graduation.

Almost half of the owners of the equids participating in the first Castration Clinic stated they would not have castrated their stallions without the clinic, underscoring the community need for this form of assistance. Consequently, the Castration Clinic is a semi-annual event, to be held in a variety of locations around the state.

### Discussion

Equine castration is a procedure that is performed at least monthly by veterinarians working on horses, and is therefore a core skill for veterinary education [2]. Students interested in equine veterinary careers recognize that they will be expected to be able to perform an equine castration with little to moderate supervision upon graduation. Given the infrequent opportunity to see, much less perform, an equine castration in final-year rotations, the Castration Clinic provides an excellent opportunity for the veterinary students to increase their hands-on learning skills, knowledge, and confidence. The participating veterinary students rated the experience very highly and yet were eager to gain more experience, supporting the plans to make the castration clinic a semi-annual event.

Ethical solutions to animal welfare issues may be crowded out of the core curriculum in veterinary colleges despite strong student interest [3, 4]. Teaching hospital collaboration with animal shelters to enhance veterinary student learning is not a new concept and has been effectively utilized for teaching basic small-animal physical examination, behavioral assessment, surgical, and anesthetic skills [5, 6]. The combination of community service, meeting an equine welfare need, and promoting better training of veterinary students is an effective mix. The Castration Clinic provides live-animal surgical experience without the use of laboratory animals or a non-survival model, which trigger aversion to participation in students [7, 8]. Physical practice with a routine procedure on a live animal, as well as observing both anesthesia and surgery on multiple animals enhanced student understanding of anatomy as well as their technical skills.

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## WORKING WITH UNIVERSITIES: THE KENYA EXPERIENCE

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### Abstract

*Donkeys are a major source of transport and draught power in rural and peri-urban Kenya. Yet, despite their overt importance, their welfare needs and contribution to the economy are not appreciated [1]. The Kenya National Livestock Policy draft of May 2008 does not recognize the donkey as 'livestock' and thus its contribution to the economy.*

*In Kenya, the University of Nairobi (UoN) is the only institution that trains veterinarians, while the government-owned Animal Health and Industry Training Institutes (AHITI) train animal health technicians and Egerton University runs an animal sciences programme. The low economical status attached to the donkey has consequently made these institutions give minimal or no emphasis on the donkey.*

*Below is a description of the efforts made by the Donkey Sanctuary (DS) funded Donkey Health and Welfare Improvement Project Kenya (DHWIP) at the Kenya Society for Protection and Care of Animals (KSPCA) through universities to best equip future clinicians and persons working with donkeys with information on animal welfare and donkey medicine and management practices; to promote donkey welfare; and to contribute towards the development of a knowledge base on working donkeys in Kenya.*

### Introduction

The UoN is the only university in Kenya currently offering a degree in veterinary medicine; for this reason most of the project's collaborative work has been with this institution. Egerton University, located in Nakuru District, has an Animal Sciences and Agricultural Engineering Department which occasionally carries out joint projects with the DHWIP. Targeting the 2 has been strategic as the UoN trains future clinicians and animal health policy makers, while Egerton University has provided the project with an opportunity to work on harness and cart-related technology.

### Methods

#### *Use of guest lectures*

Since 2003, project veterinarians have held 2 guest lectures at the University of Nairobi attended by fourth- and final-year veterinary students 2003 [2]. The first lecture is essentially on general animal welfare. The World Society for the Protection of Animals (WSPA) module is utilized for this. The second lecture, usually a few months later, is on overview of donkey diseases, a documentation of the project's field clinicians' experiences detailing the common diseases, conditions, and their management. The sessions are largely pictorial presentations with a question-and-answer session.

Similarly, since 2006, guest lectures have been held at Egerton University on general animal welfare, donkey health, and general management [2]. These lectures target Animal Production students. The lectures are aimed at improving the knowledge base of the students and faculty members in donkey medicine, management, and welfare and on general animal welfare. In the long term the DHWIP hopes that the universities will take up these lectures or incorporate the content into the curriculum.

#### *Use of attachment programmes*

The project runs an attachment programme with the University of Nairobi. A minimum of 3 final-year students can



be attached at a time; the duration of attachment is usually 8 weeks. The programme entails field clinical exposure, assignments, and general academic discussions. All activities are under a veterinarian's supervision and guidance. The students are equipped with kit comprising a stethoscope, thermometer, and manual. The manual acts as a general guide, and is reviewed regularly with the aid of the students' input.

The project currently employs 2 veterinarians who were once attached to the project as students, their interest in donkey health and welfare having been generated by the attachment programme. Another former student, Dr Emali, a locum veterinarian at 'Pendo' Donkey Rescue and Education Centre, a local lobby group in Narok town, says: 'It was an eye opener to donkey needs and problems, it availed me the practical skill in handling and approaching sick donkeys.' The objective of the attachment programme is to give the students hands-on experience of donkey handling and disease diagnosis and management, and to employ animal welfare concepts in all these.

#### **Creation of a resource centre**

The DS/KSPCA has partnered with the University of Nairobi to establish a resource centre. It was opened recently but has not attained full operation. It acts as a mini-library with a bias on equines and is equipped with a computer for students to have online access to resources, e.g. Vet Stream used to provide information on donkey health and welfare. The aim of the resource centre is to create interest in donkey health and welfare issues, and success has been evidenced by the postgraduate non-intrusive research proposals on donkey health and welfare forwarded to the project. Titus Waiguru, a final-year student at the faculty says: 'It has helped in improving knowledge base on donkeys, making it easier to understand equine medicine and respond accordingly to cases during ambulatory classes.'

#### **Research grants**

The project staff field exposure and resultant data collected aids in identification of areas worthy of research. Proposals from the UoN on such are encouraged and sponsorship decided upon together with DS-UK staff. The most recent example of this is a collaborative research project on African Horse Sickness. Similar ventures are expected in the future as a contribution to the development of a knowledge base on working donkeys in Kenya and to benefit the health and welfare of donkeys worldwide.

#### **Use of prizes/awards**

The project has an initiative with the UoN to award the best students in general animal welfare and equine welfare. The awards are decided upon merit in related subjects and student initiative (out of class) in the same. The first award ceremony is to be held in 2010. The awards are aimed at promoting animal welfare within the faculty with the long-term aim of encouraging students to study both animal welfare and, in particular, equine welfare for the benefit of working equids in Africa.

By encouraging students to study welfare issues it is hoped that, as new graduates, they will begin to educate other veterinarians and animal owners in the benefits of improved welfare.

All final-year students are each provided with a stethoscope, thermometer, and a manual on donkey medicine and husbandry after the end of the second guest lecture.

#### **Harness and cart development projects**

The Nakuru-based Egerton University Agricultural Engineering Department has had minor projects involving harness development and cart modification. The ideal location of the institution, in an area with a large population of working donkeys, makes it possible for field trials as the development process continues with the participation of donkey owners in some of the exercises. Successful trials might be adopted for training engineering students at the University. The project has had 'rope harness' trials in villages around the university; feedback from the donkey owners has been favourable with some owners completely adopting the harness and others developing similar ones along the same principles using readily available local materials.

Other challenges in this endeavour include the improper fitting of the harness and the short lifespan of the rope harnesses. This has led to the need for development of a harness manual, which is currently in progress.

#### **Planned future endeavours with universities and other institutions**

- Guest lectures at the 3 Animal Health and Industry Training Institutes (AHITI) in Kenya. This initiative is targeted at the animal health certificate holders. This group can be found in most areas of the country even in the arid and semi-arid areas where donkey populations are relatively high and fewer veterinarians exist. The long-term goal is for each institution to incorporate the concepts into its curriculum.
- Attachment programmes for AHITI students
- Demonstrations and training of university students on routine procedures performed on the donkey, e.g. dental floating, castration, and farriery. This is to be done primarily in conjunction with the University of Nairobi's Faculty of Veterinary Medicine.
- Training of trainers. The DS-UK is to sponsor an appropriate Faculty of Veterinary Medicine candidate for 1 of the DS Continuous Professional Development courses.

#### **Conclusion**

The project's noble efforts have prompted the incorporation of Animal Welfare into the veterinary medicine curriculum of 2 universities and improved students' and lecturers' knowledge in donkey medicine and husbandry. This has opened up an opportunity for the improvement of the health and welfare of donkeys in Kenya and the general animal population through sustainable local institutions.

#### **Acknowledgement**

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## TRAINING OVERSEAS (DEVELOPING COUNTRIES) VETERINARY SURGEONS IN THE UK: APPROPRIATE, ACCEPTABLE, IMPROVABLE? A DECADE OF EXPERIENCE FROM THE DONKEY SANCTUARY

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### Abstract

*One part of the author's job has been to help design appropriate structured training opportunities for vets from developing countries involved with working equines. This paper examines some of the issues around such training, both positive and negative, and the impact it has had on the participants. Improvements and amendments that have been brought in to the training are discussed in the light of previous experience.*

### Introduction

The Donkey Sanctuary UK has a large veterinary department consisting of 6 practising vets and 5 vet nurses in a tier-2 RCVS-approved practice. There are up-to-date facilities including digital radiography, ultrasonography, endoscopy, gastroscopy, an operating theatre, and fully equipped pathology and laboratory facilities with a veterinary pathologist. In addition there are paraprofessionals including 3 farriers and 2 qualified equine dental technicians. Donkey cases can be diagnosed and treated to a high level of intensity, and recorded by fully computerised records. There is a research team working alongside the veterinary department engaged in a number of projects worldwide.

In contrast the overseas team of vets (currently numbering 30) often work in challenging environments lacking many of the facilities considered essential by UK-trained vets. Their work is demanding and radically different in caseload, disease profile, and aims. Increasingly they are being recognised more as educators and advocates for animal welfare.

It is right, therefore, that we should ask the following question. In what way is exposure to UK vet practice useful, meaningful, and positive?

### Methods

The author's experience of 10 years' involvement with overseas vet training (5 of which were formalised in a job description) has been combined with the experiences of overseas vets, transmitted by responses to a questionnaire, personal face-to-face interviews, and e-mail discussions. In addition, comments from and discussions with the UK vets working in either the overseas department or the UK clinic have been considered. Anecdotal comments received from staff at universities which have an arrangement for overseas vets to 'see practice' were valuable in contributing to the overall picture.

It is recognised that a certain amount of bias was present in all the discussions, especially when overseas vets were questioned directly, so the questionnaire was conducted on an anonymous basis. It could be difficult for recipients of what has traditionally been seen as a privilege to offer criticism of the training. For this reason a more objective evaluation of the training is likely to be initiated in the future.

### Results

#### Selection of vets

To assist with CPD (continuing professional development) the vets in Donkey Sanctuary projects overseas are

given specific books, access to the internet-based 'CD Equus', various relevant e-journal subscriptions, and a period of time in another developing country project. Traditionally the choice of candidate for the UK-based training has been based on chronological length of service, position held, and subjective decisions. Over time this is changing to a more meritocratic decision based on candidates applying for the opportunity and expressing how they would benefit from the experience.

### Pre-visit briefing

Traditionally there was little pre-visit contact between the overseas vet and the UK vet department where they would be mainly based, which undoubtedly created concern for the visiting vet and a querying of their role by the UK vets. As 1 vet from the UK vet department has now become a defined 'link' between these parties, a clearer line of communication has developed pre-visit. This entails providing basic information about the UK work, and initiating a dialogue about what in particular the visitor might wish to learn about. The visitor is also asked to prepare material to present to the UK vets about their experience of being a vet in the organisation overseas, and the problems that they encounter.

### Personal and social needs

Spending a period of up to 6 months away from familiar work, home, family, and friends is an enormous challenge for anyone, especially when compounded by 'culture shock' and being expected to learn new skills and communicate entirely in a second language. Some visitors have found this harder than others to cope with, and we have become better at recognising and preparing for this, although in an informal and unstructured manner. This is still an area that requires careful management. Stress potentially leading to suicide is recognised as being a significant risk for veterinary surgeons [1]. In future the length of time spent in the UK may be decreased to help reduce the stress caused by prolonged absence from home.

### During the training visit

Originally the overseas visitor was expected to work in the UK vet department without special training, and to join in with all cases presented to them. They were very useful to make up for any staff shortages and become part of the team. Gradually, however, this has become less and less appropriate as the UK department has seen increasing technological progress and more specialist patient care. Over the last few years a more structured approach has been drawn up, so that each area of essential medicine and surgery is covered by a delegated UK vet whose role is to explain the approach used here. Increasingly the visit is seen as providing comparative medicine experience and an opportunity to develop transferable skills that will be useful when back home. Without this structure the overseas visitors were at risk of becoming dissatisfied, lacking their own caseloads and perhaps finding the work repetitive and inappropriate.

It is recognised that the visitor's greatest caseload exposure should be to improve skills that are directly useful, e.g. local analgesia, farriery, pathology, and dentistry. Procedures that are interesting and slightly useful, e.g. hyperlipaemia treatment, endoscopy, and radiography, should have mid-level exposure, while those that are interesting but unlikely to be useful should have much less exposure, e.g. colic surgery, scintigraphy. However, it is important to provide a broad overview of UK veterinary work as it is not possible to predict exactly what will prove useful in future.

Periods of time spent outside the Donkey Sanctuary have also been structured into the visit to enhance the experience. This includes attending an Animal Welfare course at Cambridge University, attending VSO training sessions, periods of time in private practice, and time spent at Glasgow University.

### Post visit follow-up

The experience of the UK visit has clearly altered lives for some of the visitors who have gone on to study at MSc and PhD level, becoming project leaders in their countries, while retaining all-important hands-on skills. The area

of follow-up and evaluation is one that needs to be better considered and developed in future, to assess how well the modifications made to the training programme are effective in improving veterinary provision for donkey health and welfare.

In all cases, in addition to veterinary skills, there have been hard-to-quantify changes and developments in the personal characteristics of the vets involved, who have gained in confidence, maturity, and resilience.

### Conclusions

The Donkey Sanctuary is unique among NGOs dealing with working equines because it has both a UK-based practising veterinary department and overseas operations. This provides an unrivalled opportunity for exchange of ideas, techniques, and attitudes among the many staff, a broadening of cultural ideas, and an increased understanding of the challenges each side faces. It is hoped that the training provided to overseas vets remains valid and can continue to be improved and made relevant to all concerned.

While this paper has concentrated on the experiences of the overseas vet visitor, it should be remembered that the visitors have acted as ambassadors for working equines. They have raised the profile of this field of work at many levels, including the British Equine Veterinary Association, UK vet schools, and private practitioners. The author welcomes comments and criticism about the training programme.

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## ASSESSING WORKING DONKEY (*EQUUS ASINUS*) WELFARE STATUS ON A SUB-POPULATION OF MALIAN DONKEYS AND KNOWLEDGE AND SKILLS AMONG PARA-PROFESSIONALS AND PROFESSIONALS IN MALI, WEST AFRICA

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### 1. Introduction

Diarra et al. [2] has reported that many owners in Mali, West Africa were unaware that donkeys could be treated for injuries or disease. A welfare assessment was conducted in the rainy season to measure current management practices and to assess the current welfare of working donkeys in Segou, Mali. Many groups advocate training owners on how to properly harness their donkeys as well as care for them. We believe reaching those who will continue to work as professionals and para-professionals has tremendous potential to reach even more owners versus concentrating efforts on only training owners/drivers may be important to improving long term working donkey welfare. The experiment focused on testing the donkey management knowledge of students enrolled in an agricultural preparatory high school and an agricultural college.

### 2. Materials and Method

**2.1. Welfare Assessment Protocol.** The assessment was held in Segou in conjunction with a monthly scheduled SPANA mobile veterinary clinic at the Ecole Secondaire Agro Pastorale (E.S.A.P.), a technical school for students studying agriculture. The assessment was conducted in the rainy season (July 2009) and only one assessment was carried out. Donkeys were body condition scored (BCS) (1 to 5, Donkey Sanctuary 2007), and color, sex, age, presence of lesions/lacerations, severity of lesions/lacerations, location of lesions/lacerations, location of scarring, lameness/soundness and hydration status (skin tent test,[3]) were recorded. A behavioral assessment test measured the responses to: 1) general attitude (alert or apathetic), 2) response to observer approaching the donkey (no response, friendly, spooks, aggressive), 3) response to observer approaching the donkey's neck (no response, friendly approach, avoidance, aggression), 4) walk around the donkey (no response, moves away, tucks tail, aggression), and 5) ear test (allows, tolerates, avoids touch) (See Figure 1) [1,4]. The Michigan State University Animal Care and Use Committee, number 04-09-067-00, East Lansing, MI approved all experiments and testing procedures.

**Figure 1.** Donkey owners participating in the welfare assessment in Segou.





## 2.2. Testing Para-professional's Knowledge and Skills on Donkey Husbandry

Two “train the trainer” sessions were conducted in Mali (see Figures 2,3,4). One session was conducted in Segou at E.S.A.P. (n=54, males = 45, females = 9), and a second session was conducted in Bamako, Mali at the Higher Institute of Training and Applied Research (ISFRA), University of Mali (n=28, 27=males, 1=female) with students enrolled in the Animal Science program. At both locations each student was given a pre-assessment exam about donkey management and welfare followed by a 45 min seminar translated into French by Professor Boubacar Dembele, an animal scientist at the Rural Polytechnic Institute for Training and Appliquée Research (IPR/IFRA) of Katibougou, University of Mali. A 30 min hands-on donkey demonstration was conducted after the seminar. The students were shown how to tell age, correctly use methods of restraint, identify parts of the hooves, clean the hoof, importance of grooming area where harness is placed, and proper harness/hitching methods. They were then re-tested with the same exam. Each student was presented with a certificate of completion. Students were allowed a question and answer period and received a copy of the Basic Husbandry Manual for Donkeys translated into French, written by the authors.

**Figure 2.** Students from E.S.A.P. in Segou after completing the donkey husbandry and management workshop.



**Figure 3.** Students from I.S.F.R.A. participating in the in classroom lecture on donkey husbandry and management



**Figure 4.** Students from I.S.F.R.A. in Bamako participating in the practical demonstration.



**2.3. Statistical Analysis.** The Pearson Correlation Coefficient was used to test the relationship between body condition score and age. The logistic regression model was used to test the relationship between BCS and age, sex, lameness, scarring, hydration, color and lesions. BCS, behavior responses, and hydration correlation were tested using PROC GLIMMIX logistics regression model. The mean and standard deviation were obtained for each sex and variable: age, brand, BCS, number of lesions, and number of scars. A generalized linear model approach (Proc GLIMMIX, SAS, V9.2) was used to determine the significant effects of BCS, age, and hydration in relationship to general attitude, response to unfamiliar people, and ear test. Normal probability plot and Shapiro-Wilk test were used to test normality for the exams administered at both schools. Since the scores were not normally distributed, Wilcoxon signed rank test was used to test the difference in scores in the two schools. The  $p$ -value for significance was 0.05.

## 3. RESULTS

### 3.1. Assessment results

The behavior assessment showed that most donkeys appeared alert (44 of 46), 25 approached the unfamiliar person (9 did not, 20 spooked out of 54), and 34 allowed their ears to be touched (12 tolerated, 7 avoided their ears being touched of 53). When examining age in relationship to behavioral responses there was no correlation with general attitude ( $p = 0.49$ ), response to an unfamiliar person ( $p = 0.56$ ) or the ear test ( $p = 0.60$ ). There was no correlation to BCS and behavioral responses except the ear test ( $p = 0.03$ ).

The mean and standard error were calculated for BCS, age, and hydration (see Table 1). When comparing the relationship of hydration to age and BCS, there was no significant effect when comparing hydration to age ( $p = 0.07$ ) but a significant effect when comparing hydration and BCS ( $p = 0.01$ ). The results indicated that donkeys that were in better BC tended to be less dehydrated than those who were thinner. When testing the relationship between the BCS and hydration, it was more likely for a donkey with BCS 1 to be dehydrated than hydrated (95% confidence interval for the odds ratio, 0.013, 0.623,  $p = 0.01$ ). When comparing the relationship between BCS to age, sex, lameness, scarring, color, and lesions there were no significant effects. The results suggest that there may be a relationship between age and hydration but not a significant effect ( $p = 0.07$ ). The data suggests that the older a donkey was, the less likely it would be dehydrated.

**Table 1.** The average BCS, general appearance score (apathetic or alert), response to ear test (allows touch, tolerates, avoids), response to unfamiliar person (approaches, no approach, avoidance), age (years), and hydration status (hydrated or dehydrated) (significant at  $p$ -Value < 0.05).

	n = number	Mean	Standard Error
BCS (1 to 5, 1=very thin, 4=ideal, and 5=fat)	41	2.39	+/- 0.70
Age (years)	53	6.91	+/- 3.99
Hydration (1=hydrated, 2= dehydrated)	44	1.29	+/- 0.46
General Attitude (1=alert, 2= apathetic)	46	1.06	+/- 0.32
Response to Unfamiliar Person (1=approach, 2= no approach, 3= spooks)	54	2.25	+/- 0.73
Ear Test (1=allows touch, 2= tolerates, 3= avoids)	53	1.49	+/- 0.72

### 3.2. Measuring current knowledge among para-professionals

The pre- and post-examination results from both schools did not show a significant increase in scores, even though there was a numerical increase in each case. In Segou, the scores were not normally distributed and when using the Wilcox Signed Rank Test, there was no significant improvement in scores ( $p = 0.15$ ). The distribution of test scores was normally distributed at ISFRA. When using the t-test, the increase in average test scores at ISFRA did not significantly increase when using the significance level at 0.05 ( $p = 0.06$ ). The average exam scores did numerically improve (E.S.A.P. pre-exam = 80.72, post- exam = 84.18; ISFRA pre- exam = 88.11, post-exam = 92.70).

## 4. DISCUSSION

### 4.1. Welfare assessment

The assessment provided some insight into current management conditions of donkeys in the Segou area of Mali. When SPANA first began working in Mali, the average work life for a donkey was 2 years (personal communication, Dr. Amadou Doumbia, 2008). The mean age for donkeys in the Segou area during this study was 6.9 3.99 years. Therefore, it appears that through the efforts of SPANA's treatment and education programs that the longevity of the donkey has increased. Diarra et al. [2] found only 9.9% ( $n = 73$  of 736) of the Malian donkeys to show signs of lesions, but this survey indicated 39.5% ( $n = 19$  of 48) of the donkeys had lesions. In terms of lameness, this survey indicated that 15% ( $n = 8$  of 52) of the donkeys exhibited an irregularity in gait and 1.9% ( $n = 1$  of 52) showed signs of not being able to bear any weight on a limb. [2] had found 43% ( $n = 320$  of 736) of the donkeys to be lame. The survey suggests that lameness has possibly decreased and the number of lesions has increased. This study also provided some insight into current donkey welfare indicating that lower body condition scores were often associated with donkeys that were dehydrated. Body condition score also had a significant effect on the behavioral test, ear touch. The donkeys with a BCS of 2 and mostly 3 avoided having their ears touched where donkeys that scored a 1 allowed touch. It is possible that donkeys at a BCS of 1 simply become too apathetic to

expend the energy required to react to the ear test.

### 4.2. Measuring knowledge among para-professionals

Based on the pre-exam scores it is possible that these groups had fairly high baseline donkey knowledge and therefore significant increases in test score averages were not seen. Nonetheless, students were enthusiastic about attending sessions and followed up with many excellent questions. It is important to point out that very few women were enrolled in either school and yet women often work donkeys. There was only one-woman student ( $n = 28$ ) in the I.S.F.R.A. session and nine ( $n = 54$ ) at E.S.A.P. Females at both schools had less practical knowledge than the male students; for example, the females could not tie a common knot referred to as a slip or safety knot, yet all of the male students knew how to do this. Therefore, reaching more women and children who are often responsible for working donkeys would likely be tremendously beneficial.

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## EDUCATING TO ENGAGE THE NEXT GENERATION: MEASURING THE IMPACT OF SPANA'S EDUCATION PROGRAMME IN SCHOOLS

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### Introduction

Engaging the next generation has been part of SPANA's core work since it was founded in 1923. Its founders Kate and Nina Hosali believed passionately in educating the animal owners of the future at a time when their minds are still malleable and before their opinions become entrenched.

In order to reach the largest number of children, SPANA decided to work through Ministries of Education and to target children in schools. It was quickly understood that delivering lessons solely on working animals would not be appropriate for many schoolchildren because populations were increasingly becoming urbanized and children had little or no access to animals. As the education programme developed, it encompassed related subjects such as environmental education, human behaviour, and social justice, not just animal welfare, and by doing this it became more acceptable to the in-country Ministries of Education. It is therefore not science based but part of humane studies and, in today's educational agenda, would fit into SEAL (Social and Emotional Aspects of Learning) or into citizenship studies.

Judging the impact of the programme has been difficult. Unlike scientific studies which are mainly quantitative and based on statistics, evaluating an education programme is qualitative and based on opinions which vary immensely. Also, each of SPANA's countries of operation has developed and adapted the programme to fit local circumstances, so instead of undertaking an overall evaluation, it has been found necessary to evaluate each country's programme separately and so to use a variety of methods, as discussed below.

### Jordan

A study was undertaken to find out whether SPANA's programme was responsible for developing positive attitudes to donkeys and other species amongst school students who were members of SPANA's Animal Club scheme [1]. This took the form of a straightforward questionnaire consisting of 35 questions aimed at 80 Animal Club members before and after a visit to SPANA's Education Centre. The results of this study were presented at the previous colloquium in Ethiopia, but since then a similar study using the same questionnaires has been carried out in a school in Petra. SPANA launched its programme here at the request of a headteacher who, like the local authorities, is anxious to stop the exploitation and abuse of animals amongst the boys at the world-famous heritage site. The questionnaires were completed before and after SPANA's course of lessons, which included the construction of a wildlife garden, and the results have shown a marked change in attitude on behalf of most of the boys taking part. These children will continue to be monitored and will be asked to participate in a further questionnaire in 3 years' time, before they leave school.

### Ethiopia (1)

A baseline study was undertaken in 3 peri-urban schools to find out the levels of empathy in 600 children in grades 2 and 5 before they participated in SPANA's course of lessons on animal welfare. Each child received a 6-page questionnaire, each page had 6x graded statements on it accompanied by an illustration. The children were asked to tick the box next to the statement that best reflected their feelings towards the animal (or child) in the picture. The intention was to repeat the study after the children had completed the series of lessons, but the findings were inconclusive as many of the children had found the wording of the questions too subtle to understand, so this study was abandoned.

### Ethiopia (2, working on the same project but with a different consultant)

In this case, the methods used were similar to those of the Charities Evaluation Services [2], and designed to deliver a much broader-based study, that included 3 well tried methods, i.e. goals-based, process-based, and outcomes-based evaluation [3]. Registers of names, record sheets of numbers of children attending the lessons, teachers' self-assessment questionnaires, teachers' lesson records, questionnaires for children (mainly pictorial) to measure knowledge and others to measure attitude, and interview guides for teachers, parents, and animal-owning families in the community were all created. Not all of these materials were used, owing to lack of time and staff. However, this programme is ongoing so SPANA will reuse some of the more useful elements (i.e. children's and teachers' questionnaires) on the new intake of children at the beginning of the school year in September, and it is hoped to have better results at the end of the school year in June next year.

### Morocco (1)

An external evaluation was undertaken in one of SPANA's refuges in Marrakech. The programme in Morocco differs from that in SPANA's other countries of operation in that children make only a single visit to a centre and receive a one-off presentation as opposed to a series of lessons. SPANA realized that the evaluation could only ever judge the effect of the lesson in the short term, knowing it would be too difficult to trace the same children at a later period.

Methods included face-to-face interviews in conjunction with a semi-structured questionnaire, semi-structured interviews in small groups with the children before and after SPANA's intervention, and observation and comments on the lesson given. Two groups of students were nominated for the study, 11–12 year olds and 17–18 year olds. In addition to the standard lesson, the evaluator held 2 further sessions with each group. The first, before the standard lesson, was short and consisted of general discussion, e.g. life in the UK/Morocco, differences in culture, etc. This was done in order to build a relationship and establish trust so the children would be prepared to give honest answers in the session during which the actual evaluation took place.

Activities undertaken with the students included an empathy exercise, 'traffic lights' exercise, 'thumbs up/down' exercise using post-it stickers, a 'graffiti wall', and general discussion. Participatory activities such as these, which are often used by teachers in developed countries, were new to the Moroccan children and teachers, and were therefore stimulating and provoked a lot of new ideas and discussion.

### Morocco (2)

A longer-term study of SPANA's programme in Morocco was made by a student in education working for his PhD. The whole of his study, which lasted about 5 years (though it was interrupted by illness), was conducted in Arabic, making it difficult for SPANA-London to participate fully. The cost of translating his thesis into English was also prohibitive so, based only on a summary, SPANA was pleased to see from his conclusion that the programme is successful, though the greater part of it was conducted at the National Centre for Environmental Education and concentrated on wildlife and environmental education.

### Summary and conclusion

SPANAs worked with external consultants on each study. All the studies had specific difficulties, but overall the problems included the language barrier (translators often gave their opinions, not necessarily those of the children) and potential misconceptions by the groups about the purpose of the study (even children can distrust people in authority asking questions). Few children had taken part in anything similar before and some, particularly the younger children, found it hard to understand what was required. In conclusion, SPANA has learnt a lot from each experience and will, in future, select the most useful parts of each study and adapt them to suit any new project that is being undertaken.



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**THE CHALLENGES OF WORKING WITH SMALLHOLDER FARMING COMMUNITIES  
 KEEPING LARGE RUMINANTS: EXPERIENCES FROM THE CENTRE FOR LIVESTOCK  
 AND AGRICULTURE DEVELOPMENT (CELGRID), CAMBODIA**

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**Introduction**

In the last few years, the growth in gross domestic product (GDP) in Cambodia has been more than 10% per year but this still leaves about 30% of the population under the threat of poverty. The country is predominantly agrarian, with agriculture representing 35% of GDP in 2003 [1]. At least 70% of the rural population are directly dependent on agriculture for their livelihoods. Besides crop production, animal raising plays a key role in the provision of dietary protein for Cambodians. Livestock contribute 14% of the agricultural GDP in the country of which smallholder farmers keep the majority of animals [2].

Livestock are a key component to most rural development projects in Cambodia because they can support the livelihood of poor people in many diverse ways, simultaneously fulfilling several different functions. Cattle and buffalo are a central component of the farming system, as they provide draught power and manure, a means of allowing the poor to capture private benefit from common property resources, a means of transport, a means for meeting social and cultural expectations and requirements, as well as a 'saving account'. In 2000–1, 87% of the rice fields were ploughed and harrowed by cattle and buffalo [3]. The situation is much the same today as few farmers can afford to invest in motorised power.

So far, little has been done to improve cattle and buffalo production in Cambodia. Some NGOs have provided a calf/cow to communities but not much has been done to improve the production process. During the last 5 years, the Centre for Livestock and Agriculture Development (CelAgrid) has carried out a series of research studies and run development projects to improve management and feeding systems for ruminants in order to raise the contribution to livelihood that can be gained from ruminant production.

**Large ruminant production in Cambodia**

Cattle and buffalo raising in Cambodia have not been developed although these animals are extremely important to the 80% of the rural population that keep them.

**Production systems**

Most cattle and buffalo in the country are kept in subsistence production systems [3]. The animals are concentrated in the rice-growing areas, because cattle and buffalo are predominantly kept in Cambodia to provide power for soil preparation, weeding, harvesting, for transport, and for manure rather than for meat production. About 66.9% of farmers own  $2.37 \pm 0.24$  (1–5 heads) and 15% kept  $0.50 \pm 0.06$  (1–3 heads), of cattle and buffalo respectively [4]. Generally, cattle and buffalo are kept in pairs, and are used for ploughing and harrowing, and a cow or a female buffalo is kept for calves to replace old cattle or buffalo. Cattle or buffalo are sold for money only at times of necessity or when the numbers increase beyond the needs or ability to raise or care for the animals.

Small private cattle farms consisting of not more than 100 heads exist in the country [3]. In 2007 there were only 8 semi-commercial cattle farms, which contained a total of 2,726 head [5]. Since then there have not been any significant investments put into commercial cattle raising and there are no large-scale buffalo production systems in Cambodia up to this date.