

Animal traction networks in Africa: background, lessons and implications

by

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Abstract

Animal traction is increasingly used in the farming systems of sub-Saharan Africa. In most countries, animal traction is now recognised as an appropriate, affordable and sustainable technology requiring few external inputs. Adoption of draft animals can lead to increases in crop production, reduction of drudgery and the many social and economic benefits of cart transportation.

The West Africa Animal Traction Network was formed in 1985. For six years it has been an open, informal and active network with a multidisciplinary, farming systems perspective. Network workshops have been attended by over 200 people from 30 countries. During workshops, small-group discussions in villages with farmers have been educative and very popular. Over 140 papers concerning animal traction have been circulated and/or published. There have been improvements in information exchange relating to farming systems research, development, extension, training, implement production and policy implications. Practical collaboration between national animal traction programmes in West Africa has increased.

Research and development workers from other regions of Africa have also participated in the activities of the West Africa Animal Traction Network. In November 1990 they launched the Animal Traction Network for Eastern and Southern Africa (ATNESA), which will build on the experience of the West Africa Network.

This paper reviews the background, establishment and organisation of these animal traction networks. Lessons derived from the problems and the successes of the West Africa Network are discussed. Network continuity has been assisted by member enthusiasm, flexible communications channels and multi-donor support. The network has not been controlled by researchers, development workers or members of any one discipline and has flourished despite the absence of a permanent secretariat. The institutionalisation of the network has been controversial: some support has been offered by an international centre and by another network. Close association with either should lead to improved coordination, but might also reduce the autonomy and independence of the network.

Animal traction in Africa

In many parts of the world, animal traction is an appropriate, affordable and sustainable technology, requiring few external inputs. Work animals can be

used to reduce drudgery and intensify agricultural production, so raising living standards throughout rural communities, benefiting men and women, young and old. Cattle, buffaloes, donkeys, mules, horses, camels and other working animals can provide smallholder farmers with vital power for crop cultivation and transport. Draft animals can also be used for other activities including water-raising, milling, logging, land-levelling and road construction.

In North Africa and the Nile valley there has been a very long history of animal traction. A large number of draft animals, including oxen, cows, bulls, donkeys, mules, horses, buffaloes and camels have been used for soil tillage and transport. There has also been a long tradition of using work animals in parts of the horn of Africa. In Ethiopia, which has the highest population of draft animals in Africa, traditional cropping systems almost invariably involve the use of the wooden *maresha* ard plow, pulled by pairs of work oxen. Pack donkeys and mules are also widely used in Ethiopia. Elsewhere in sub-Saharan Africa, animals have long been employed for transport by certain pastoralists and traders, but animal-drawn implements have not been used in traditional farming systems.

Animal traction for tillage and for wheeled transport was introduced into sub-Saharan Africa during the colonial period. Indeed, in most African countries the technology was pioneered during the lifetime of the present elders. The animal traction technology, usually involving pairs of work oxen and imported metal implements, slowly spread during the first half of this century. There was great variation in adoption rates between areas and countries, with fastest adoption in areas with relatively developed marketing systems, particularly for cotton and groundnuts.

During the 1960s and early 1970s animal traction received relatively little attention from newly independent governments. This was a period when many people thought that the rapid tractorisation recently seen in Europe and North America would

take place in African countries. Animal traction had dropped out of the curriculum in Europe, and it was also often omitted in sub-Saharan Africa. A generation of agricultural students graduated with little or no formal training relating to animal traction. These agriculturalists were often rapidly promoted within ministries and research organisations and became responsible for planning and implementing agricultural projects and programmes.

By the late 1970s higher oil prices, foreign exchange shortages and numerous failed tractor schemes suggested that rapid motorisation was not, after all, practicable. Animal traction started to be perceived by governments and donors as an appropriate, affordable and sustainable technology. It became increasingly recognised that animal traction could reduce drudgery and increase crop production (mainly through area expansion). Furthermore, many social and economic benefits could come from the employment of animal-drawn carts. Animal traction started to be seen in many countries as a serious, but neglected, development option.

With the inflow of donor funds that followed the well-publicised Sahelian droughts, many donor-assisted projects were established in Africa to introduce (or re-introduce) and/or research animal traction technologies. These projects tended to work in isolation, unaware of each other. Many were oriented to solving technological constraints, and often ignored social and economic factors. Several experienced serious problems, because those implementing the projects did not really understand all the technical, social and economic implications of using animal traction technology in the target farming systems (Sargent et al, 1981; Munzinger, 1982; Starkey, 1986).

International information exchange

In 1982, the Food and Agriculture Organization of the United Nations (FAO) convened an expert consultation on animal traction. This concluded that improved information exchange concerning animal draft power was extremely important (FAO, 1982; 1984). As a follow-up, FAO, in conjunction with the International Livestock Centre for Africa (ILCA), then commissioned a series of missions to 12 African countries in 1983, 1984 and 1985 to investigate the possibilities of establishing an animal traction network in Africa (Imboden, Starkey and Goe, 1983; Starkey and Goe, 1984; 1985).

The missions found that there was very little information exchange taking place between animal

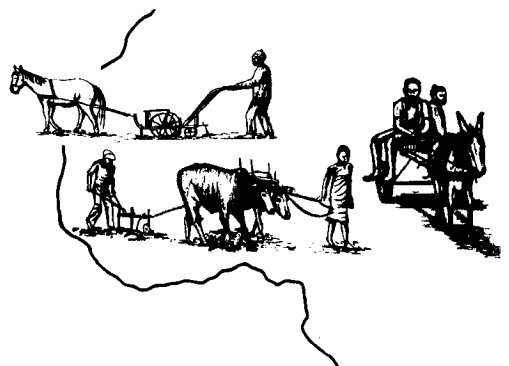
traction programmes within countries, let alone between countries. There were far too many cases of projects, a short distance from each other, "re-inventing the wheel" (or redesigning an implement) in almost total isolation. The missions concluded that a network was not only extremely desirable, it was also very feasible. There existed strong support for the idea both at project/institutional level and in the national ministries. It was suggested that it might be most practicable if a network were to be launched in West Africa, to be quickly followed by complementary initiatives in Southern and Eastern Africa (Starkey and Goe, 1984; 1985).

Launch of the West Africa Network

Although the FAO/ILCA proposals had stimulated interest in the creation of a network, for various institutional and organisational reasons there was no immediate follow-up. ILCA submitted a budget proposal to one of its funding agencies to allow it to coordinate an "animal traction research network". These succumbed to donor bureaucratic delays and by the time this proposal was approved, the West Africa Animal Traction Network (WAATN) encompassing both research and development had already been formed in West Africa (Figure 1). ILCA therefore decided to implement its animal traction research networking project within the context of this broader network.

The practical initiative that led to the creation of the network was a small workshop organised in March 1985 by the Farming Systems Support Project (FSSP) of the University of Florida, USA. FSSP had identified animal traction as one area in which a farming systems perspective was desirable, and one means by which crop and livestock farming systems (which were often separated in West Africa) could

Figure 1: Logo of West Africa Animal Traction Network (WAATN)



become more integrated. The workshop was hosted by a USAID-funded animal traction project in Togo.

This 1985 “networkshop” was the probably the first time that people from several anglophone and francophone countries in West Africa had come together specifically to discuss animal traction technology, and review it from a farming systems perspective. The 30 participants highlighted technical, economic and infrastructural constraints and debated the preconditions for the successful development of animal traction (Poats et al, 1985). The participants regarded the workshop as extremely useful, and resolved to hold a follow-up workshop which would allow further in-depth analysis of the issues and enable more countries in West Africa to exchange information.

A steering committee was elected, comprising representatives from animal traction programmes of five West African countries. They were joined on the committee by a representative of the main resource organisation (University of Florida) and a facilitating technical adviser. The steering committee subsequently met later in 1985, in The Gambia, and invited Sierra Leone to host the next “networkshop”. The committee also recommended several activities designed to improve information exchange between countries and between other networks. For example, two committee members took part in a study tour of Nepal and Indonesia, and circulated a report on the implications of this for animal traction programmes in West Africa (Starkey and Apetofia, 1986).

Workshops and their methodology

Among the main, visible activities of the West Africa network have been the major workshops. In 1986, the workshop on “Animal power in farming systems” was held in Sierra Leone. This was attended by 73 people from 20 countries, with 34 papers written by 51 people active in animal traction being circulated, and published in the proceedings (Starkey and Ndiame, 1988).

This was followed by the workshop on “Animal traction for agricultural development” held in Senegal in 1988. It was attended by 78 people from 24 countries. A total of 60 papers prepared by 84 people working in animal traction were circulated and published in the proceedings (Starkey and Faye, 1990).

In 1990, the workshop “Research for development of animal traction” was held in Nigeria, and was attended by 93 people from 19 countries. Circulated at this workshop were 52 papers prepared by 75 people working in animal traction (Starkey, 1990a).

The proceedings were edited and published in association with ILCA (Lawrence et al, 1993).

Thus, to date, network workshops have been attended by over 200 people. Furthermore, the workshops have directly stimulated the preparation and publication of over 140 papers covering a wide variety of issues and experiences concerning animal traction in different farming systems and related research, development, extension, training, implement production and policy implications.

The workshops have proved extremely popular, and participants have considered them interesting, helpful and professionally valuable. The detailed evaluations conducted at the end of each workshop have allowed the organisers to learn which aspects of the workshop have been most appreciated. The workshops have used the same general approach and methodology, with variations based on local conditions and on the participant feedback from the previous evaluation.

The workshops have been well-publicised in advance, with an “open” invitation to all those working in the field of animal traction, in West Africa and elsewhere. This open approach has encouraged a broad range of people to attend. This has been in contrast to the “closed” international workshops more common in Africa, where attendance is only by specific invitation to individuals or official, nominated representatives.

Although the invitation has been open, certain conditions have had to be met, including the preparation and submission of a suitable paper. Furthermore, when an excessive number of people from the same country applied to attend a workshop, selections were made based on quality of papers, and the balance of organisations and disciplines.

As a result of the open invitations, the workshops have been thoroughly multidisciplinary with agricultural engineers, economists, animal scientists, agronomists, sociologists and others meeting together. Furthermore, the participants have come from different professional fields, with researchers, extension workers, administrators, producers and donor representatives all closely interacting.

Although participants have received copies of all the papers prepared, they have not spent much time sitting through long sessions of paper presentations (which people tend to find tedious). Rather, there have been a few selected key papers, designed to stimulate discussion. Informal discussion has also been stimulated by “networking announcements” in which people could briefly summarise their work and interests, and the topics on which they would

like to exchange information during the week. Sometimes these have led to special evening sessions for those with particular interests, and these have resulted in subsequent collaboration. For example, at the 1990 workshop in Nigeria, participants from eastern and southern Africa met in one special session to discuss the formation of an animal traction network for that region.

Without doubt, the most popular elements of each workshop have been the field visits. People who have been to conferences where the field visits have involved large groups slowly straggling around research sites may be surprised at this. The popularity of the network field visits appears to be due to the fact they have been in small groups of five to eight people from different countries, who have gone to villages, to watch work animals in use, and to talk directly with farmers. Such in-depth talking with farmers is accepted as an integral part of the farming systems approach, but has often been a new experience for participants. They have often felt free to ask farmers questions they would never dare to ask in their own countries, for fear that their juniors would laugh at them. The small groups have also visited village blacksmiths. Some groups, returning from the villages, have briefly visited project sites, research stations and implement producers.

In the day following the field visits, the small groups have sat down to discuss in detail their observations and findings, and to discuss also specific workshop themes highlighted in the lead papers. The groups have then reported back to all the other participants, in preparation for open discussion on the key issues raised. The small group discussions have proved almost as popular as the field visits.

The workshops have also provided an opportunity for a network business meeting, to discuss plans for the network, and elect a new steering committee to supervise the forthcoming programme.

Network publications

A further important element of the workshops has been the publication of the proceedings in an attractive format. These have been made available free-of-charge to people working in Africa. As there are no specific animal traction journals, people have tended to publish their experiences in the periodicals of their particular discipline, including journals of anthropology, agricultural engineering, economics and animal science. Unfortunately, even in countries blessed with well-stocked libraries, these are seldom read by their colleagues of different disciplinary

backgrounds who are also working with animal traction. In Africa, such specialised professional journals are only rarely available to people actually engaged in animal traction research and development. Thus to have workshop papers in one volume has provided useful and easily accessible resource documents for those working in this field. Furthermore, non-participants, seeing such proceedings, have been encouraged to put their own experiences in writing for subsequent workshops. To date three proceedings have been published (Poats et al, 1985; Starkey and Ndiame, 1988; Starkey and Faye, 1990) and one is currently being prepared.

The German Appropriate Technology Exchange (GATE) has also published a series of other animal traction resource books based largely on the networking experiences and approach, including the Animal Traction Directory: Africa (Starkey, 1988a). ILCA has published an animal traction bibliographic database, made possible by the same networking approach (Starkey, Sirak Teklu and Goe, 1991). These publications have been made available free-of-charge to network members in Africa.

Other network activities

Between the main workshops, the steering committee has met once or twice a year, as far as possible each time in a different country. As these meetings have been combined with field visits, they have been, in effect, small group study tours, with mutually beneficial interactions between the committee members and the host country.

Other activities have been carried out by two or more country programmes themselves, and by the members of particular interest groups. For example, in 1989, ILCA hosted a planning workshop for WAATN members specifically interested in collaborative research. This was held to develop consistent research protocols for implementation in West Africa (ILCA, 1990). For various reasons, the wide-ranging collaborative research programme envisaged has yet to be implemented. However, ILCA is cooperating with animal traction programmes in several countries, and has a full-time animal traction network research scientist based in West Africa (initially at ILCA-Ibadan and more recently at ILCA-Niger). This network research coordinator also represents ILCA on the network steering committee.

As with all members of the network, the research coordinator is free to communicate directly with other members, and this illustrates again the open and informal nature of the network. In a similar way, visits and collaboration have been arranged

between (for example) Sierra Leone and Togo, Senegal and The Gambia, Guinea and Mali. Collaborative programmes have also been arranged between (for example) the French Centre d'Etudes et d'Expérimentation du Machinisme Agricole Tropical (CEEMAT) and research organisations in Senegal and Burkina Faso, and between GATE and Senegal. These activities have been arranged directly between members of the network, and may, or may not, have been stimulated by contacts made during network workshops. They are considered within the network umbrella in that they involve collaboration between members with the information produced likely to be reported in subsequent network workshops and also diffuse informally through other networking contacts.

There is no official network newsletter. ILCA started an Animal Traction Research Network Newsletter, with English and French editions, but, for internal reasons, it was discontinued after just one issue (ILCA, 1988; CIPEA, 1989). One country, Togo, produces a national animal traction newsletter "Force Animale", which it circulates to several other network members (PROPTA, 1991). Most other document exchange continues on an individual to individual, or organisation to organisation, basis. Thus documents produced in Mali, Sierra Leone, Togo and Senegal (for example) are now quite commonly found in other countries in the region. This was not the case seven years ago, when the network was launched.

Eastern and southern Africa network

In 1987, the Southern African Centre for Cooperation in Agricultural Research (SACCAR) arranged a regional animal traction workshop in Maputo, Mozambique. At this it was resolved that a regional information-sharing network should be established under the auspices of SACCAR (Namponya, 1988). For institutional reasons, there was no immediate follow-up to this, but several individuals from eastern and southern Africa participated in animal traction workshops organised in 1988 (Senegal), 1989 (Indonesia) and 1990 (Scotland and Nigeria). On each occasion, the participants from the region affirmed that they should form their own animal traction network.

As a direct result of the 1990 workshops, two separate networking initiatives in eastern and southern Africa were started. For a few months they coexisted as parallel schemes, but they came together in 1991. One was initiated by staff of Christian Mission Aid (CMA), a non-governmental

organisation based in Kenya. The other involved animal traction specialists in Zambia and Zimbabwe.

A valuable opportunity to launch the animal traction network for Eastern and Southern Africa came in November 1990. The setting was a regional course on planning integrated animal draft programmes, held at the Agricultural Engineering Training Centre (AETC) of the Institute of Agricultural Engineering in Harare, Zimbabwe. The course was arranged by AGROTEC (Programme on Agricultural Operations Technology for Small Holders in East and Southern Africa) a regional project of the United Nations Development Programme (UNDP), funded by the Swedish International Development Authority (SIDA). During the course, there had been much discussion about networking, and the experience of the West Africa Animal Traction Network had been presented. The course participants therefore selected six people from different countries to form a committee to discuss organisational details and prepare an action plan for the network. Representatives of AGROTEC, GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit) and a consultant resource person (Technical Adviser) were invited to join the committee. The decision of this committee to launch the network and arrange a major workshop were endorsed by the final plenary session of the AGROTEC course (Kalisky, 1990).

The provisional steering committee of the new Animal Traction Network for Eastern and Southern Africa (ATNESA) met again in Zambia in April 1991, to discuss network organisation and to plan the first major open workshop. The chairman of the committee had prepared a paper on possible ways of coordinating the network, and another member had prepared draft statutes, based on those of WAATN. The committee decided to adopt an informal system of network management, based on national networks linked through a regional steering committee. A network logo was approved (Figure 2).

The organisational strategy of ATNESA was subsequently discussed at the first open workshop of ATNESA which was held in Zambia in January 1992 with the theme of "Improving animal traction technology". This was attended by 107 people from 17 countries and 77 technical papers were circulated. Most external and local workshop participants were sponsored by their own organisations or by agencies within their own countries. This demonstrated the user-supported nature of the network and workshop. The core costs of workshop planning and implementation were provided by the Directorate General for International Cooperation (DGIS) of The



Figure 2: Logo of the Animal Traction Network for Eastern and Southern Africa (ATNESA)

Netherlands, in cooperation with the Dutch agricultural engineering institute (IMAG-DLO).

The workshop followed the pattern established by the West Africa network, with emphasis on field visits and small group discussions. Where possible, invited lead papers were prepared collaboratively, with experts in two or more countries (or resource organisations) combining their experiences prior to the workshop. The workshop was also offered as a means whereby members with specialised interests could meet to coordinate activities and plan collaboration. Among these groups were people interested in farming systems research and extension, gender issues, local manufacture of implements, donkey power, cart design and animal-powered systems.

Some lessons from the networks

Structure or function

One clear lesson that emerges is that network activities are more important than formal structures. Despite its lack of a formal secretariat, WAATN has been active for about six years, and it has much to show for its work. While network members agree that a strong, active coordination unit would be highly desirable, the absence of this should not prevent a network from flourishing, provided the members are themselves active.

Another lesson is that the network is informal and open to all persons and organisations sympathetic

with the aims and objectives of the network, whatever their discipline and whatever their role in animal traction development. Thus researchers are members of the network, but the network is not limited to research interests. Planners, extension workers, veterinarians and implement manufacturers are all active members of the network which is open to government services, non-governmental organisations, cooperatives and private companies. In principle, farmers or farmers' groups could be involved, but in practice farmers' interests are represented by those individuals and organisations working with, or for, farmers (directly or indirectly; perfectly or imperfectly).

By keeping the network open and informal, communication channels have tended to be reliable and efficient. Naturally, respect has been given to national and institutional protocols, but within such limitations, network members have been encouraged to correspond directly with their colleagues in other countries. Such direct contact, combined with copying relevant correspondence to interested parties, has proved very effective.

Communication channels

There have been some network members who have argued that all communications should be channelled through a central secretariat and/or through "focal points" within each country or resource organisation. However, practical experience has shown that both individuals and institutions can suddenly change from being facilitators to become communications "bottlenecks". Whatever the good intentions of nominated representatives, they can, with little or no warning, be promoted to a different post, sent on study leave or be incapacitated by illness or an accident. Within national and international institutions, managements can change or shift priorities, work loads can suddenly increase, key staff may leave and budgets can suddenly be cut. In such circumstances, network correspondence can be neglected. This may not be too critical if just one individual or organisation is involved, but if network members rely on that "focal point" to disseminate information, several network members could be deprived of information.

Lack of domination

Perhaps the strongest feature of the two networks is that they are informal African organisations. They did not arise from project documents of donors, nor were they created by any one resource institution. They have grown up from strong member interest and close collaboration with a variety of donor organisations. The networks have received support

from several donors and international institutions, but they are not dependent on, or controlled by, any single one of these. Such flexible structures should allow the networks to survive the inevitable changes in the policies and financial support strategies of particular resource organisations. The multi-donor support also reduces the genuine risk of any one funding agency using its financial muscle to impose its particular policies and priorities on the network.

To date, the networks have had no financial resources of their own. They have found that sufficient funds can generally be obtained for specific network activities that have clear objectives, such as workshops and study tours. Often, when the networks have taken an initiative and arranged an activity, costs of travel and participation have been largely met by projects within the member countries.

At all the workshops held so far, the majority of participants have been funded from sources (often donor-assisted projects) within their own countries, and not from the central workshop budget. This makes workshop organisation easier and cheaper, and emphasises the user-supported nature of the networks. When applications for sponsorship have been received by the workshop committee, it has often been possible to put that applicant in touch with a sponsoring organisation within his/her country, so initiating useful and beneficial contacts.

In the past, the networks have received specific support from the FSSP, GTZ, GATE, ILCA, AGROTEC, the International Development Research Centre (IDRC), the Technical Centre for Agriculture and Rural Cooperation (CTA), the International Institute for Tropical Agriculture (IITA), Environment and Development in the Third World (ENDA) and Directorate General for International Cooperation (DGIS) of The Netherlands and several national organisations and projects within Africa.

Some problems experienced

The networks have experienced various operational and organisational problems. Postal services and telecommunications between African countries can be slow, difficult and unreliable. Indeed, because intra-Africa communications can be difficult compared to Europe–Africa links it has sometimes proved pragmatic to communicate via Europe. Although this was not planned, the fact that the Technical Adviser has had an office in Europe has frequently proved valuable in facilitating network liaison and information dissemination.

Air schedules and connections within Africa are such that committee members or workshop participants can seldom all arrive and depart on the

same day. Two or even three days may be needed for air travel between some countries. Thus attendance at a three-day meeting may require people to sacrifice a week from their work. Difficult air schedules can significantly increase meeting costs, as provision has to be made for additional *per diem* payments.

During workshops and meetings network members can devote themselves fully to network activities. In the enthusiasm of a workshop, participants find it easy to offer to take on responsibilities. However, well-meant intentions to assist network activities tend to be relegated to the background when members return to their families, and to the practicalities of their own demanding jobs. Furthermore, not all members involve themselves in national-level networking activities. A combination of national and international networking is essential to maximise and multiply the benefits of the networks.

One possible danger with any network is the tendency for it to become “inbred”, for familiarity tends to diminish the intensity of technical communication when colleagues meet each other frequently. This pitfall has largely been avoided at WAATN workshops by attracting many new people to each workshop—a policy that has necessitated large workshops. If workshops were smaller, perhaps restricted to just one or two participants per country, the same individuals specialising in animal traction or leading national networks would tend to be involved each time.

The membership of the steering committee of WAATN has been fairly constant since its inception. This has given valuable continuity and stability, but the limited turnover of committee members has restricted opportunities for fresh vision and new dynamism. To avoid this, the provisional ATNESA committee decided to recommend that no ATNESA committee member should serve for more than two terms of two years.

It has proven very difficult to bring together all members of the steering committee at the same time. For example, in 1990 and 1991 there were a total of three meetings of the WAATN steering committee, but at none of the meetings did the committee members feel that they had enough members present to make binding decisions on the future organisation of the network. At each meeting, one or more of the individuals crucial to the topic were unavoidably absent, due to conflicting activities, communication difficulties, travel problems, illness, political upheavals or other unforeseen circumstances.

Some resource organisations have tended to be rather fickle—sometimes supporting the networks strongly and at other times appearing rather cool. Such inconsistencies may have been brought about by changing institutional policies or by different budgetary situations. Other inconsistencies have been attributable to the whims of particular individuals. Whatever the stated position of a resource organisation, practical support for the networks depends largely on the enthusiasm (or otherwise) of one, or more, key individuals within each organisation. Whether or not an activity is supported often depends on the prevailing work load, mood or self-interest of the contact individual.

Network organisation

The networks have been run on a voluntary basis, with no full-time staff. When activities, such as workshops, have been arranged, or papers have to be written or edited, the host institutions have given permission for their staff to spend time on these jobs. However, they have not reduced their other work loads, and individuals have often been quite stressed. The work of the Technical Adviser has also been largely on a voluntary basis, with no budget available for professional time and communication costs. For some major organisational or editorial tasks, sponsors have provided short-term consultancy assignments.

The networks have not had central budgets or accounts. All the day-to-day costs of networking have been met by individuals or their organisations. Specific activities, such as network committee meetings, study tours and workshops, have been funded by one or more donors, and participants have generally claimed relevant expenses from the activity account or one of the sponsors. Most activities have been organised in faith, with expenditure coming long before a refund, placing financial strain on facilitators and participants.

Institutionalisation of WAATN

While the informal WAATN management system has clearly been able to achieve results, it has been far from ideal. Various proposals have been made to institutionalise WAATN, and the WAATN steering committee has twice prepared ambitious project documents. These have had budgets large enough to hire and house a full-time network coordinator (assumed to be a West African with an international salary), equip a secretariat and provide operating expenses. Donors have rejected these as being too expensive. One point raised (partly as a joke and partly as a serious point) was that the animal

traction network had operated effectively for several years without a large budget. Thus it seemed difficult to justify major financial provision if the network seemed capable of working well without it. The relative success of enthusiastic volunteers and part-time amateurs had actually made it more difficult to obtain the services of full-time professionals.

Attempts were made to try to combine the benefits of voluntary work with longer periods of committed time. One donor, IDRC, offered to provide funds that would provide financial inducements to allow committee members to take time off from their main jobs, and work for a few months on specific network activities. This creative proposal was received by the steering committee with mixed enthusiasm. It was perceived by some as a distinctly second-best alternative to the requested full-time coordination, rather than as an improvement on the existing system.

One resource organisation, ILCA, offered in 1988 to coordinate an animal traction research network from its headquarters in Addis Ababa. This was to be a formal research network that would draw on human resources and linkages identified by the informal WAATN. A steering committee would have had overall responsibilities for the network, but day-to-day coordination would have been undertaken (and paid for) by ILCA (Goe, 1988). This offer was put to the WAATN general assembly in 1988, but was politely declined, mainly because of fears of losing control of the network to one member institution, with its own goals and priorities. People were under the impression that international research centres had, in the past, used networks to promote their own interests, rather than those of the network members. Furthermore, international research centres had mandates clearly limited to research, while the animal traction network had been established to link not only researchers, but also those more concerned with development, extension and implement production.

Negotiations were entered into to associate the animal traction network with the West African Farming Research Network (WAFSRN). This had moved out of an international research centre (IITA), and had established an independent secretariat in Ougadougou under the umbrella of SAFGRAD, the Semi-Arid Food Grain Research and Development programme of the Organisation of African Unity. Draft protocols of understanding were drawn up with both WAFSRN and SAFGRAD, and it was envisaged that the animal traction network would continue to operate as a fully independent network,

under SAFGRAD, sharing offices with the farming systems network, WAFSRN.

The steering committee of WAFSRN subsequently, in 1990, decided that if the animal traction network wished to share WAFSRN facilities, it should become a *sub*-network of WAFSRN. The animal traction network committee did not want to become a subcommittee. It was worried that its network might be swallowed up by WAFSRN, and the animal traction network would lose its name, logo and corporate identity that had been built up over the years.

ILCA then offered to host the animal traction network secretariat at its offices in Kaduna, Nigeria. Although the secretariat would be located at ILCA-Kaduna, network independence was promised. In this case, there was no need for down-grading to a sub-network: the full network name could be retained. The offer had definite attraction, although Kaduna had poor international communications. There was still some concern that the network would lose its autonomy and that, in practice, its future programme and priorities would be largely determined by ILCA.

No final decision was taken by the WAATN steering committee in 1991, partly because no quorum of committee members could be formed. Then, the situation of the possible host institutions altered significantly in 1991/92. The WAFSRN network coordinator resigned and two key ILCA animal traction personnel moved from Nigeria to Ethiopia and to Niger. The WAATN steering committee, which had started to rely on its possible partner institutions, ILCA and WAFSRN, to instigate planning meetings, was not convened in the first half of 1992. The momentum of the steering committee for establishing a coordination unit, and planning a programme of activities, had reached a low point.

Ascertaining the benefits of the networks

While all those associated with the network can point to the advantages to individuals and to programmes of improved knowledge and understanding, it is extremely difficult to actually measure the benefits.

If one looks back to the years of work “wasted” in the past on unsuitable technologies in Africa (such as wheeled toolcarriers which were “perfected yet rejected”), one can see the great potential for savings through networking (Starkey, 1988b). For example, one project in West Africa has recently spent about two million dollars attempting to

introduce Asian water buffaloes for work in part of the Sahelian zone of West Africa (Starkey, 1990b). This animal traction project (which was planned before the start of the network) lacked a farming systems orientation. It also did not benefit from networking interactions with colleagues familiar with other attempts to introduce exotic work animals into sub-Saharan Africa. In retrospect, it seems likely that the money allocated to the project could have been better utilised had those responsible for planning and implementation been exposed to the experiences and perspectives of network members.

Other comparable project initiatives may well have already been made more relevant and productive because people recently have been able to learn from the network. It is impossible to know how many programmes and projects have benefited, but some clear examples of network influence can be documented.

To illustrate the genuine yet elusive nature of the benefits, one can take one recent example of an animal traction project in Guinea that has not yet itself participated in any “formal” network activity such as a workshop. The leaders of this project recently made use of some of the network publications mentioned here, to learn of, and then to contact, colleagues working in Mali, Senegal and Sierra Leone. This led to one three-week training visit in Mali, the testing of Senegalese and Sierra Leonean implements in Guinea, detailed discussions on technical, economic and organisational issues and the obtaining by the project of documents on a wide variety of topics. Moreover, each contact led to others: for example, the people in Mali were able to discuss the experiences of their colleagues in Togo, whom they had met at a workshop. This project acknowledges that its contacts were made as an indirect result of the formal network activities and publications. Such information exchange would have been almost impossible a mere five years before, simply because people in one country were almost completely unaware of each others’ activities. As a result of its networking and its dynamism, the project implemented some well-proven strategies, and so achieved in two years an output that, in more “normal” circumstances, might well have taken a project three to four years (Starkey, 1991). The suggestion is that significant savings in time and costs were achieved in this one project through networking.

While all involved in this Guinea project believe they saved time and money, it would be difficult to objectively “prove” a cause and effect relationship, since so many other factors were involved. It would

also be difficult to measure the specific economic benefits, as the "time saved" could not be quantified without a "control". Similarly, it is impossible to quantify the benefits of numerous similar exchanges that are now taking place within the region, and with other regions. While the genuine value of networking can be seen in the improvements in knowledge, understanding and programme implementation, it will remain difficult to estimate the total benefits to the region.

Conclusions

There has been a huge change in information exchange relating to animal traction in West Africa in recent years, much of which is directly, or indirectly, attributable to the activities of WAATN. There are also increasing numbers of examples of collaboration between programmes, notably in areas of research, training and implement testing. ATNESA has started to achieve similar benefits in eastern and southern Africa.

While the large general workshops are likely to remain popular for some time, particularly for those for whom they are a completely new experience, it is probable that the networks will put increasing efforts into events for special interest groups within the network. For example, intensive seminars may be held for researchers working on similar topics (eg, the use of draft cows), or for development projects involved in similar work (eg, the use of animal traction for rice production) or for the many implement manufacturers in the two regions. Such activities may in the future be arranged by a network secretariat, or may continue to be organised by one or more of the network members.

It is likely that the combination of member enthusiasm, open membership, flexible communication channels and multi-donor support will ensure the continuing effectiveness of both the animal traction networks. These networks should therefore continue to promote the development of animal traction in sustainable, low-external input agricultural systems in Africa in the coming years.

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Photograph opposite

Ox cart used for marketing farm produce and other income-generating activities in north-western Zambia