

Livestock Environment and Development in India (An Overview)

1. Introduction. The Indian government, donors and NGOs have invested over 2 billion US dollars (Rs 9,420 crore) in watershed development programs in an effort to improve livelihoods, reverse land degradation, and encourage sustainable management of natural resources. Traditionally, these programs focus on land and water conservation and improving agricultural production, with little attention to livestock. They fail to consider the range of contributions livestock make, especially for the poor—supplying farmers with food, transport, manure to fertilize crops and income from dairying, while acting as a form of insurance against unexpected disasters. By not taking smallholder dependence on livestock into account, these programs may be hurting the very people they seek to help. Part of the problem is found to be lack of information and knowledge—there were no comprehensive studies on the interaction between livestock, watershed environment and livelihoods.

2. SDC-IC's involvement in LEAD

2.1. Orientation on livestock environment interaction. The Swiss Agency for Development and Cooperation (SDC) and Intercooperation (IC) have been involved in 'livestock based livelihoods and its environmental interactions' in India since 1996. The collaboration started with the deputation of a few participants from partner organizations to attend an international workshop on 'livestock environment interactions' held in Wageningen. In 1999 FAO, together with SDC contracted BAIF to field test the LEI Tool Box in India in four states (Rajasthan, Maharashtra, Karnataka and Andhra Pradesh). Following this, in 2000, a national workshop on LEI was organized jointly by SDC and FAO at BAIF, Pune. With a purpose to expose the participants on livestock environment interactions and to share the outcome of LEI toolbox tested in India. At this point of time the Government of India was seriously implementing watershed programmes on a large scale considering watersheds as key units for rural development. In this context the workshop participants suggested the need to conduct a desk study in selected watersheds in India. This is based on the assumption that watershed is a small, compact and manageable unit where livestock environment interactions can be clearly understood. In 2000, a team led by Dr Mangurkar was contracted to undertake the Desk study (see 3 below).

(As a spin off of the above mentioned national workshop, a trainer's training on LEI was organized by SDC-IC for the officers of department of animal husbandry in Andhra Pradesh and Orissa. The first part of the training (orientation on LEI) was held in Puri (Orissa) and the second part (preparation of curriculum, training modules, teaching aids etc.) in Hyderabad and Bhubaneswar).

2.2. Desk study on Livestock Environment Interactions in watersheds in India. The preliminary desk study lead by Dr Mangurkar aimed at documenting livestock environment interactions in watersheds in India, based on a three month's preliminary survey of the available data and analysis of the existing literature. Field level research was explicitly excluded. The desk study was backstopped by Mr Andreas Schild, an external consultant. The desk study came out with a set of findings, of which the most important ones were (1) livestock is of primary importance for the livelihood of resource poor in rainfed areas (2) in many watershed development programmes livestock is not systematically included as an active component (3) in (very few) watersheds where livestock is an active component, the +ve environmental impacts are enhanced and -ve environmental impacts are mitigated. But there are trends of marginalization of the resource poor and migrating communities who depend on common lands (4) there are data and information gaps on the above and an in-depth research would be required

The desk study (**See Document 1**) was presented in a workshop organized in Bangalore in October 2001. After reviewing the study, the workshop concluded that livestock has not been included systematically as an active component in watershed development programmes. The participants suggested carrying out an in-depth research to fill information gaps identified through the desk study and to develop tools for policy makers, planners and watershed practitioners to critically understand LEI so that appropriate measures can be taken to promote livestock while preserving our natural resource base.

2.3. LEAD Research in semi-arid watersheds in India. In 2002, a workshop was organized in Hyderabad to develop the research design and methodology and identify a potential research partner for the in-depth LEAD research. In the same year SDC-IC through its CALPI programme and FAO through its LEAD Initiative contracted the International Water Management Institute (IWMI) to conduct the LEAD research in selected watersheds in India. The study was started in July 2002 and completed in August 2005. It looked at how livestock influence livelihoods and environment and how watershed development influences all the three. The aim was to synthesise policy relevant and actionable research findings to improve the design and implementation of watershed development programmes paying due attention to the role of livestock in protecting environment while addressing livelihood of the resource poor and migrating communities who depend on livestock.

The research was carried out in five selected watersheds (one each in Karnataka, Andhra Pradesh, Maharashtra, Rajasthan and Madhya Pradesh). It revealed that watershed development programmes while exhibiting significant impacts in terms of increased crop production and productivity, appear to have accentuated the inter-household inequities, by ignoring or sometimes negatively affecting landless and livestock, especially small ruminant households. Enhancing the production potential of a watershed for sustainable livestock production, would contribute to livelihood and equity enhancing impacts of the programmes. Appropriate policy and investment decisions are crucial to making this plausible. The research also pointed out that the impact of livestock production systems on the natural resources (erosion proneness, land degradation due to overgrazing etc.) could not be established as the study is at one point in time and adequate and relevant historical information was not available to do a time series analysis (**See Document 2** for the full study report and **Document 3** for summary).

As part of the project policy round table discussions were also arranged in the study states and presented the research findings to the policy makers. Further, different communication materials such as policy briefs (**see Document 4**), write ups for magazines (**see Document 5**), press releases in local languages etc. were produced for dissemination.

2.4. LEAD Working Group study. In 2004, CALPI constituted a LEAD Working Group to develop a set of sustainable approaches for effective utilisation of livestock resources in the watershed context. This study was complimentary to the LEAD research. The working group was expected to accomplish their task based on analysis of LEAD related issues on a macro perspective (LEAD research was at micro /watershed level) through review of relevant regulations, policies, laws etc., consultation with different stakeholders and visits to arid watersheds that are not covered under the LEAD research. They were also expected to provide relevant inputs and support the LEAD research conducted by IWMI.

The working group developed four approach papers (**See Documents 6, 7, 8, 9**) on specific situations, namely sustainable & effective utilization of: (1) small ruminants in integrated watershed development programmes (2) livestock resources for combating drought situations (3) livestock resources in topo-sequence of integrated WDP (4) livestock in watershed-retrospect and prospects for sustainable development in semi arid areas including aspects of socio-economic and gender equity and role of integrated farming system in humus and organic matter affecting soil physical condition. The approach papers provided guiding principles and strategies in the specific situations for sustainable use of livestock resources in watershed. The recommendations were of technical and institutional in nature.

2.5. LEAD Advocacy Network. The International Water Management Institute conducted the LEAD research in five watersheds in association with five watershed NGOs in the respective states (WOTR in Maharashtra, WASSAN in Andhra Pradesh, SAMUHA in Karnataka, SEVAMANDIR in Rajasthan and SAMPARK in Madhya Pradesh). After the LEAD research, to pursue the LEAD agenda on a continuous basis, CALPI facilitated formation of a network of the above five NGOs who are the LEAD knowledge holders in their states. This network is known as LEAD Advocacy Network (LAN). It was at this point of time FAO-LEAD came up with the idea of forming its sixth language platform exclusively for India called the 'LEAD India Platform'. CALPI suggested FAO to anchor the LEAD India platform in the LEAD Advocacy Network led by WOTR, one of its members. CALPI provided financial and thematic support to this network

2.6. LEAD India Platform. The LEAD India Platform has two main functions such as *Advocacy for reforms* and *Communication for development*. At this point the LEAD Advocacy Network invited the Centre for Environment Education (CEE) to the network as the sixth member. This reinforced LAN in terms of CEE's environmental competency and dissemination expertise. While the advocacy function (see Box 1) is being carried out jointly by all the network members, the communication function has been delegated to the Centre for Environment Education (see Box 2). The CEE manages LEAD related knowledge through multiple products, both electronic and non electronic, based on varied needs of different customers.

Box 1: Advocacy functions of LAN

- Policy level interactions with policy makers
- National and state level policy workshops
- Training of practitioners and primary stakeholders on LEAD issues
- Identification, documentation and dissemination of best practices
- Short term pilot studies

Box 2: Communication functions of CEE

- Interactive website (www.indialead.org)
- Livestock Environment Newsletter
- Promotional events in veterinary colleges
- Write shops
- Electronic discussion (1st discussion on "livestock and water productivity" is scheduled in May)

Capacity building. To strengthen the capacity of LAN members and other CALPI /SDC /IC partners, LAN, in association with CALPI is organizing an advanced training on "environmental impact assessment and ecologically sustainable livestock production systems" from 23rd to 27th April 2007 at CEE campus in Ahmedabad with the support of Dr Hans Schiere (ex-IAC staff), who has extensive LEAD experience in the developing /emerging countries context. The objective is to enhance the knowledge and skill level of the participants in assessing the natural resource potential for animal agriculture and planning ecologically sustainable livestock production in their specific contexts. Almost 30 participants from government departments and NGOs have confirmed their participation in the above training programme. Two LEAD India Platform members were trained at FAO Rome on platform functions at the beginning of the project. Two others (LAN members) were sent to Bangkok to participate in the workshop on "Livestock in a changing landscape".

South-South LEAD Conference. The Centre for Environment Education, which is anchoring the communication function of the LEAD India Platform is planning to organise the third international conference on environmental education called as 'Tibilisi +30. This is an UNESCO supported event. It is decided to slot 'livestock and environment' as one of the side events in this international conference. The objectives are: (1) enhance the 'knowledge and experience of stakeholders of participating countries on 'ecologically sustainable livestock production' (2) improve visibility of the LEAD India platform and (3) promote South-South LEAD networking. "Better understanding on livestock's role in sustainable development" is the outcome expected. This event is scheduled from 24th to 28th November 2007 at Ahmedabad, Gujarat. About 900 participants representing almost 70 countries are expected to participate in this event, which consists of 2 days preparatory workshop and three days main conference. LEAD will be one of the themes for the two days preparatory workshop, the outputs of which will be presented in the main conference. Five sub-themes are tentatively identified for the LEAD preparatory workshop.

3. Supporting Activities

3.1. LEAD Networking Workshop. CALPI organised a 'LEAD Networking workshop' at Darewadi, Pune in February 2004 to provide an overview of the developments to selected CALPI /SDC /IC partners and stakeholders associated with Livestock Environment and Development activities in India. It also aimed at identifying current emerging LEAD related issues in India and provides feedback to the ongoing LEAD research by IWMI and the LEAD Working Group study. This workshop was attended by 22 participants. Through the exchange of experiences all could deepen their understanding on LEI issues in the context of watershed development and gained insights on ways to address them. The participants effectively contributed in the discussions. The workshop also provided constructive feedback to IMWI as well as the working group on how to further improve their work, reach out to policy makers and disseminate the findings (**See Document 10**).

3.2. Policy Workshops. In May 2005, CALPI in association with DANIDA jointly organised a national policy workshop on “Emerging policy issues under watershed development programme”. More than 50 participants from different states and departments participated in the three-day programme. In the workshop ‘livestock based livelihood’ was given adequate focus (**see Document 11**) and the presence of CALPI and its partners helped to sensitise watershed policy makers to bring livestock into the main agenda of watershed development. The web site of the LEAD India Platform was also officially launched in the workshop.

The Intercooperation as part of its 25th jubilee celebrations organised a national workshop in New Delhi with the theme “inspiring change-from people to policies”. About 40 delegates representing various Ministries, NGOs and other institutions actively participated in this two-day event. In this policy workshop “Livestock-Livelihood-Environment – The policy context and Challenges” was identified as one of the key themes for deliberations (**see Document 12**). Professor Fritz Schneider (Swiss College of Agriculture) chaired this session and the session generated a lot of interest among the participants on issues like land degradation and climate change.

3.3. Policy note. CALPI has prepared a policy note in consultation with the LEAD study partners and LEAD Working Group by integrating the suggestions emanated from the LEAD research and the approaches developed by the LEAD Working Group. This policy note (**see Document 13**) meant for the policy makers and practitioners was released by Dr Parthasarathy IAS, who was the Chairperson of the Technical Committee appointed by Government of India (Ministry of Rural Development) to look at reforms in the watershed guidelines.

3.4. Contribution to Planning Commission’s Working Group. The Government of India for the first time formed a subgroup on “environment, livestock systems and livestock based industries” (under the working group of Department of Animal Husbandry, Dairying and Fisheries) to develop proposal for the 11th five year plan for submission to the planning commission. Following this, a note on ‘how to integrate livestock in watershed development’ (**see Document 14**) was submitted to Dr. Ram Badan Singh, Chairman of the NRM working group of the planning commission for consideration. It is understood that a new budget node, namely “integrated farm production” will be created in which livestock will form as one of the components. This will be incorporated in the new version of MoRD’s watershed guidelines (to be released as ‘common guidelines’ for both MoRD and MoA) and in the operational guidelines, which are expected to come out within two months time.

3.5. Concept note on ‘Payment for Environmental Services’. Incentive based mechanism for enhancement of environmental services is a new concept aimed at inducing land use changes and improving ecosystem management on a sustainable basis. The LEAD Initiative of FAO as a follow up of the LEAD research in India requested CALPI to provide our service in developing a concept note on “Payment for Environmental Services” (PES) for submission to the Global Environmental Facility for funding a pilot project in India. CALPI organized a brainstorming workshop to deliberate on the concept, conducted stakeholder discussion in different states and arranged a series of consultations with the concerned Ministries (Ministry of Environment and Forests, Ministry of Rural Development, Ministry of Water Resources and Ministry of Agriculture). The draft concept note was developed together with FAO and submitted to the ministry for their perusal (**see Document 15**). Though the Ministry has expressed their concerns mainly on the socio-political implications of implementing such a project in India, they have agreed to associate with the project if it is implemented as a grassland /common land development project. CALPI together with FAO is currently exploring possibilities to pursue this further by changing the frame of the project as suggested by the Ministry.

3.6. ‘Livestock’s long shadow’: India Case study. Based on an invitation by FAO, CALPI has facilitated a case study on “Livestock in the changing landscape in India; its environmental, social and health consequences and responses”. The purpose of the case study is to show how drivers and consequences of livestock sector changes articulated in India and how public and private responses are shaped and implemented. CALPI constituted a five member consultative group consisting of an environmentalist, a livestock expert, a sociologist, an NRM specialist and an

animal production specialist to conduct this case study. The first draft of the case study has been submitted to FAO for editorial review in December 2006. The final version incorporating suggestions from the editorial committee was submitted in March (**see Document 16**). This will form part of the “global case study volume”, which will be published by FAO.

LEAD Initiative - Impact and learning

- The LEAD project, besides the research findings created a lot of awareness on livestock associated environmental issues among policy makers, planners, academicians and practitioners
- It has been established that integration of livestock in watersheds created positive impact on the environment. The LEAD project helped to provide high focus for livestock integration in watershed development programmes
- Many non-livestock, non-environment organisations also started including livestock and environment in their agenda (e.g. TERI, IWMI, CEE)
- The LEAD research created baseline information /database, which can be used for difference analysis in future
- The project could confirm /correct general perceptions on livestock and environmental issues in the Indian context
- Creation of the LEAD Advocacy Network promoted rural based local coalitions /associations and strengthened their capacities for collective bargaining for policy changes. It decentralized the responsibilities and helped in sustaining the development efforts.
- The LEAD Advocacy Network could influence new watershed guidelines proposed by Parthasarathy Committee (the committee appreciated the role played by LAN and its anchor WOTR). Dr Parthasarathy while releasing the Policy Note said “Governments can be moved through national debates, discussions and advocacy. To bring about a change there is always a need for continuous advocacy. Only programmes like CALPI can do this and they should continue to do such activities”
- The initiative helped to create multi-stakeholder platforms to discuss and sensitise innovative concepts like PES
- The LEAD initiative created a bunch of professionals who gained competence in livestock-environment aspects, who can carry forward the spirit of “LEAD” given by FAO
- The LEAD initiative is an excellent example to show that how a ‘good idea /concept’ can be promoted and popularized with little money (FAO’s contribution in terms of finance was negligible. But they could effectively transfer the LEAD idea to many people in India. The concept was well thought out and farsighted, particularly in the context of climate change and conservation of natural resources).

Padma, 10th April 2007