

Volume 4  
**Mainstreaming Minor Veterinary Services in Andhra Pradesh**

A report based on Expert Group deliberations and consultations with key stakeholders

Volume 1

**Assessment and Reflections on Livestock Service Delivery Systems in Andhra Pradesh**  
 Presents the experiences from an initiative aimed at developing a widely owned reform action plan for livestock service delivery taken up in Andhra Pradesh through a multi-stakeholder, multi-tier, multi-regional consultative process.

Volume 2

**Para-veterinary Training programmes in Andhra Pradesh**  
 Provides a comprehensive listing of all organizations extending trainings to Para-vets and Para-veterinary workers in Andhra Pradesh, an assessment of their training programmes, deficiencies and gaps and suggestions for their improvement.

Volume 3

**Para-veterinarians and Animal Health Workers in Andhra Pradesh**  
 Presents the profile of Para-veterinarians and the Animal Health Workers, their placement, service delivery, supplies, support, supervision, overreach beyond the scope of their training and suggestions for improvement.

Volume 5

**Control strategy and Action Plan for Animal Diseases of Economic Importance in AP**  
 Covers the livestock demography, the Veterinary and Animal Husbandry infrastructure, disease investigation and reporting system, long term trends and profiles of the identified five diseases and the vaccinations and control strategy.

A separate document on each of these is presented as a part of this compendium. The participatory process in which the state department of AH and the other stakeholders played a central role, improved the acceptability and implementability of the reforms proposed. As a result, the state department of Animal Husbandry has accepted and implemented many of the recommendations emerged from this initiative. With refinements, the process could demonstrate an effective model for service reforms elsewhere.

The widespread consultations taken up under this initiative enabled the stakeholders to gain a better understanding of their needs in service delivery. They also enabled them to make informed decisions to widen the scope of the consultations and research in to newer topics as presented in volumes 1 to 5.

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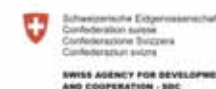


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# MAINSTREAMING MINOR VETERINARY SERVICES IN ANDHRA PRADESH

**A report based on Expert Group deliberations and consultations with key stakeholders**



## Abbreviations

<b>AHD</b>	Animal Husbandry Department
<b>AHWs</b>	Animal Health Workers
<b>AI</b>	Artificial Insemination
<b>AMUL</b>	The Kaira Dist. Cooperative Milk Producer's Union Ltd.
<b>AP</b>	Andhra Pradesh
<b>APLDA</b>	Andhra Pradesh Livestock Development Agency
<b>APRLP</b>	Andhra Pradesh Rural Livelihoods Program
<b>BAIF</b>	Bharatiya Agro Industries Foundation
<b>CALPI</b>	Capitalization of Livestock Program Experiences India
<b>CBOs</b>	Community Based Organisations
<b>CBAHWs</b>	Community Based Animal Health Workers
<b>CLWs</b>	Community Link Workers
<b>DACUM</b>	Developing A Curriculum
<b>DANIDA</b>	Danish International Development Agency
<b>DFID</b>	Department for International Development
<b>DRDA</b>	District Rural Development Agency
<b>GoAP</b>	Government of Andhra Pradesh
<b>GoI</b>	Government of India
<b>ILDP</b>	Integrated Livestock Development Project
<b>IPE</b>	Institute of Public Enterprises
<b>ISPA</b>	Indo Swiss Project Andhra Pradesh
<b>JKT</b>	J K Trust
<b>KLDB</b>	Kerala Livestock Development Board
<b>MCBA</b>	Mahbubnagar Cattle Breeders' Association
<b>MOU</b>	Memorandum of Understanding
<b>NABARD</b>	National Bank for Agriculture and Rural Development
<b>NDDB</b>	National Dairy Development Board
<b>NGO</b>	Non-Government Organisation
<b>NPCBB</b>	National Project for Cattle and Buffalo Breeding
<b>NRMPA</b>	Natural Resource Management Program Andhra Pradesh
<b>PPLPI</b>	Pro-Poor Livestock Policy Initiative
<b>RVPs</b>	Registered Veterinary Practitioners
<b>SDC</b>	Swiss Agency for Development and Cooperation
<b>SMILDA</b>	State Management Institute for Livestock Development Andhra Pradesh
<b>SRHWs</b>	Small Ruminant Health Workers
<b>TMDD</b>	Technology Mission on Dairy Development
<b>TRYSEM</b>	Training of Rural Youth for Self Employment
<b>UPDASP</b>	Uttar Pradesh Diversified Agricultural Support Project
<b>VAS</b>	Veterinary Assistant Surgeon
<b>VCI</b>	Veterinary Council of India
<b>VLDA</b>	Visakha Livestock Development Association
<b>VVWs</b>	Voluntary Veterinary Workers

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Dr. P. Venkatramaiah was the lead consultant for the initiative. He facilitated the consultations, brought together and analysed necessary secondary information and documentation and prepared the draft report under the overall supervision and guidance of Dr. Vinod Ahuja, Associate Professor, Indian Institute of Management, Ahmedabad and PPLPI (South Asia) Team Leader; Dr. AK Joseph, Senior Program Coordinator, CALPI, Dr. Piedy Sreeramulu, Additional Director (Retd), Animal Husbandry, Dr. Ramalinga Raju, CEO (Retd), APLDA, Dr. M P G Kurup, Consultant (Livestock and Dairying), Dr. N R Bhasin, Consultant (Livestock), Dr. N K Tewari, UPDASP and Dr. Eswaraiah, Additional Director (Animal Husbandry). Dr. L Mohan, Director (Animal Husbandry and Fisheries) provided valuable inputs in the expert group meetings and by commenting on the earlier drafts. Their observations significantly enhanced the conceptual and operational content of the report.

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### Disclaimer

The opinions expressed in this publication are solely those of the authors and do not constitute in any way the official position of the Food and Agriculture Organization of the United Nations (FAO), the Swiss Agency for Development and Cooperation (SDC), the Intercooperation (IC) and the Government of Andhra Pradesh.

### Keywords

Animal Health Workers, Para-veterinarians, Livestock Service Delivery, Regulatory Framework

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## Foreword

The Swiss Agency for Development and Cooperation (SDC) and the Intercooperation (IC) have been actively involved in livestock-based livelihoods and natural resource management in India for many decades. CALPI (Capitalisation of Livestock Programme Experiences India), a programme of the SDC and IC, capitalises on these vast experiences, competencies and partnerships to positively influence the economic, administrative, legal and policy frame conditions affecting the poor livestock keepers. One of the thrust areas of CALPI, the Livestock Service Delivery Systems, facilitates the establishment of a need-based livestock service delivery system for the benefit of small livestock holders.

The “Reforms in Livestock Service Delivery Systems –Experiences from a Participatory Process in Andhra Pradesh” formed one of the many initiatives taken up under this thrust area. This initiative was jointly implemented by CALPI, the South Asia Hub of the Pro-poor Livestock Policy Initiative (PPLPI) of FAO and the Government of Andhra Pradesh Animal Husbandry Department. The main aim of the initiative was to: (i) create a favourable environment for facilitating policy and structural adjustments in livestock service delivery, and (ii) develop a widely owned reform action plan for service delivery in the state. The multi-stakeholder participatory process enabled the stakeholders to identify the weaknesses and deficiencies of the prevailing service delivery systems and their unmet service needs. It also led to a further review, reflection and widening of the consultative process extending it to more villages and districts in the coastal and the tribal areas, members of the District Sheep Breeder’s Cooperative, Tribal Communities, their Networks and the Traditional Healers.

The initiative was guided by a Steering Committee (SC) which comprised of all the key stakeholder categories and was chaired by the Principal Secretary/Special Chief Secretary of the Departments of Animal Husbandry, Dairy Development and Fisheries of the State Government. In addition, a Common Task Force (TF) oversaw the meetings, workshops, consultations, studies and documentation. By remaining active at the centre of all multi-level consultative processes, the Government took ownership of the decisions taken and ensured better acceptability and implementability of the reforms proposed.

In the fast changing livestock production and trade environment, reforms of the type, particularly in livestock service delivery where the Government still continues to play a key role, are required to be taken up on a continuing basis. The process has also enabled the State Government to issue a Govt. Order defining minor veterinary services together with the skills and qualifications required to perform them, as required under the Veterinary Council of India (VCI) Act. In many respects, the participatory processes in which the Government played the key facilitating and steering role, is worth emulating by other State Governments in India as also other developing countries.

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## Message

March 26, 2008

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The 'Reforms in Livestock Service Delivery Systems - Experiences from a Participatory Process in Andhra Pradesh' is the outcome of a partnership amongst the Government of Andhra Pradesh Animal Husbandry Department, CALPI (Capitalisation of Livestock Programme Experiences India) - a programme of the Swiss Agency for Development and Cooperation and the Intercooperation and the South-Asia hub of the Pro-poor Livestock Policy Initiative (PPLPI) of FAO. The main aim of the initiative was to develop a widely owned reform action plan for livestock service delivery in the state.

The initiative was unique in many respects. Firstly, its open and flexible approach, inclusive frame, periodic review, reflection and adjustments and well-founded evidence base through research. Secondly, its multi-stakeholder, multi-regional, multi-tier consultative process participated by all key categories of stakeholders. It involved Participatory Rapid Appraisals (PRAs), meetings, workshops as well as individual consultations with farmers, farmer organisations, NGOs, veterinary students, village, district and state level functionaries of the government AH Department; the State Veterinary Council, planners and policy makers and an expert group. Thirdly, the Government played a central, active facilitating role at the grass roots and at the district levels and a guiding and steering role through the steering committee at the state level.

In the consultative process, all categories of stakeholders actively participated from the beginning. Such participation, especially of the Government functionaries, improved the ownership, acceptability and implementability of the reforms and provided a unique and interesting experience to all participants. As a result, most of the recommendations like improved attention to preventive health care by the Government, enhanced coverage of animals under the department's preventive health care programmes, enhanced production of vaccines especially for small ruminants, coverage of more animals of the poor under insurance, expansion of the para-veterinary programmes, etc. could be accepted and implemented. Similarly, the overall budgetary allocation for Animal Husbandry activities of the department has been expanded considerably as also is the capacity development activities for all categories of staff. In this respect, an open, flexible and participatory approach followed in the reforms process formed the key to its success and is worth emulating by other state Governments in India as also by other developing countries.

**Priyadarshi Dash**





## 1. INTRODUCTION

In recent developmental literatures, there is an increasing recognition of the immense potential of the livestock sector in enhancing the income of the poor. Livestock distribution is more equitable than land distribution. Thus, the livestock sector provides a natural entry point for poverty alleviation programs. A major issue affecting the livestock economy is the effective delivery of livestock services. Several studies and consultations focusing on different aspects of livestock service delivery have been initiated by CALPI and PPLPI in Andhra Pradesh.

The ongoing studies have identified the increasingly important role of paravets in the livestock service delivery. The report "Assessment and Reflections on Livestock Service Delivery Systems in Andhra Pradesh" emphasises this role, especially in the case of AI and minor illnesses. Despite the importance of the services performed by paravets, there were severe concerns about their quality. It was frequently alleged that the paravets often go beyond their brief and perform services that they are not equipped or trained for; the study mentioned the above found evidence to support this fact. This holds true not only for AP, but are prevalent world-wide. A review of international literature on the performance of paravets in general, highlights similar trends. It is therefore, important to have in place a strong monitoring and regulating system to strengthen the paravet system. Annex-1 summarises the key literature on these issues drawn from experiences around the world.

Currently, the livestock owners in AP are served by several service delivery mechanisms sponsored by and operated through different governments and NGOs and bilateral projects. A number of these mechanisms are supported by trained paravets known by different names – Gopals, Gopal Mitras, Sangh Mitras etc. – with whom the state now has a rich experience of working. However, accountability for the services they render remains a concern.

Another critical constraint in regulating and monitoring the services provided by the paravets is that there does not exist a clear definition of "Minor Veterinary Services" that can be provided by trained personnel other than registered veterinarians.

From a national perspective, the Veterinary Council of India (VCI) Act, 1984 created a provision for certain personnel holding a diploma or certificate of veterinary supervisors, stockmen, stock assistant, etc. to render "Minor Veterinary Services" under the supervision of a Registered Veterinary Practitioner (RVP).

The above provision is subject to the condition that the respective state governments have by order permitted such persons holding the diploma or certificate of veterinary supervisors, stockmen, stock assistants, etc., issued by the Animal Husbandry Department of any state or any recognised veterinary institution in India, to render such "Minor Veterinary Services".

The direct implication of the Clause 30b of the Veterinary Council of India (VCI) Act, 1984 (No.52 of 1984) is that it makes

it mandatory for all State Governments to identify 'Minor Veterinary Services' over and above the few examples indicated in the Act and notify the same in the respective state government gazettes.

The indirect implication of Clause 30b is that the standards of the jobs and tasks involved in performing the notified "Minor Veterinary Services" have to be described, which would form the basis for appropriate skill development.

The implication of the above mentioned clause is that it makes it mandatory for all state governments to identify minor veterinary services over and above the few examples indicated in the act and to notify the same in the respective government gazettes. Further, 30b also requires that the standards of the jobs and tasks (which form the basis for appropriate skill development) involved in performing the notified "Minor Veterinary Services" have to be described. The basic (entry level) educational background, requisite to undergo the required skill training and competency development also have to be specified and notified.

It may be further inferred that the individuals permitted to perform such notified "Minor Veterinary Services" shall be provided with an appropriate knowledge, skills and attitudes through a systematic teaching-learning process before he/she is conferred the certificate. Obviously, the levels and dimensions of the Minor Veterinary Services will differ based on the level of training.

It is evident, that in accordance with the VCI Act, each state is required to have a

definition of the Minor Veterinary Services along with the skills and qualifications required. However, only a few states in India have undertaken this exercise. In the light of the emerging importance of paravets in the livestock service delivery, and the issues regarding quality, the GoAP recognised that to ensure quality services and accountability, it was vital to have in place a strong regulatory framework.

Accordingly, the Government of Andhra Pradesh constituted an Expert Committee (Table.1) vide its GO Rt No.71 dated 23rd February 2005 (Annex 2), to propose a definition of the Minor Veterinary Services in the context of its specific needs and to prepare a list of services that can be rendered by the paravets. In accordance with the Terms of Reference (TOR) in the government order, the committee formulated the following objectives for itself:

1. To propose a basic definition of Minor Veterinary Services/Minor Veterinary Dispensations in the specific context of Andhra Pradesh.
2. To list out a schedule of services/dispensations falling in the category of the Minor Veterinary Services.
3. To shortlist context/skill related applications, skills and a service chain for differentially qualified para-veterinary practitioners/veterinary health care technicians/village animal husbandry or animal health link workers.
4. To develop course contents and syllabi (curriculum design) for the training of

**Table:1. Composition of the Expert Committee Constituted by the State Government**

1	Dr. L. Mohan, Director (AHD)	Member
2	Dr. D. Venkata Rao, GM, Visakha Dairy	Member
3	Dr. S. K. Sinha, MD, Patna Animal Development Pvt. Ltd	Member
4	Dr. G. S. Reddy, BAIF, Tiptur, Karnataka	Member
5	Sri Sudarsan Srinivas, Director NDDDB, Vijayawada	Member
6	Dr. Sagari Ramdas, Director ANTHRA, Hyderabad	Member
7	Dr. Soma Shekhar Reddy, Associate Dean, College of Veterinary Sciences, Hyderabad	Member
8	Principal Veterinary Polytechnic, Palamaneru, AP	Member
9	Dr. Piedy Sri Ramulu, Additional Director (AHD)	Convener
10	Dr. B. Anantam, JD SMILDA, Hyderabad	Nominated member



*A group work in progress as a part of the consultative process*

paraprofessionals, technicians and link workers.

5. To prepare a checklist of do's and don'ts for practitioners.
6. To develop mechanisms to link them with the registered veterinary practitioners (government or private) for professional and ethical supervision.

The purpose of this exercise was to provide a basis for better planning, monitoring and evaluation and the continuous up-scaling of service delivery mechanisms through a well-considered regulatory framework. The process involved organising focal group discussions and meetings with stakeholders and intense discussions within the expert group in order to achieve the above objectives. This report presents in

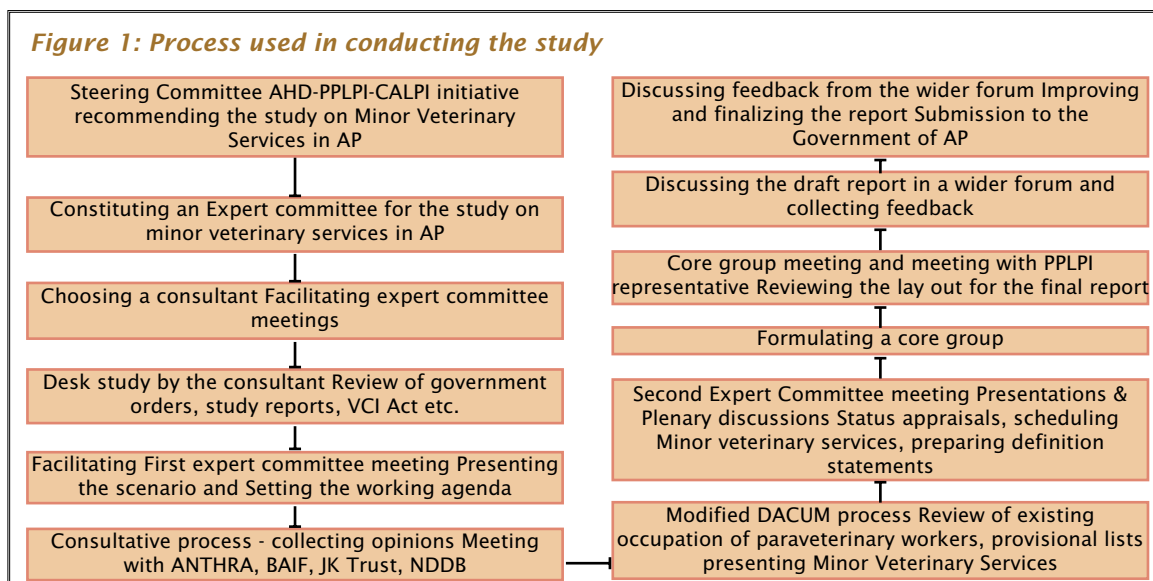
detail, the processes and the outcomes of the focal group discussions and the Expert Committee (EC) deliberations.

The next section lays out the consultative approach followed in this initiative. Section three, provides a historical background of the livestock service delivery by paravets in India as well as in AP. The outcomes of the deliberations and consultations are represented in section four. Based on these outcomes, section five presents recommendations for guiding the regulatory framework for paravets. Section six provides insights from international discussions on monitoring and regulation. Finally, section seven offers some concluding observations.

## 2. APPROACH IN THE PRESENT INITIATIVE

The key objective of this initiative was to define “Minor Veterinary Services” in the unique context of Andhra Pradesh and identify the services that can be performed by para-veterinarians. The Terms of Reference presented in section one specifically define the objectives of this study. Before starting the process, a systematic approach was adopted to guide the process (see *Figure 1*).

An Expert Committee was constituted to deliberate on various aspects of Minor Veterinary Services and to come up with a



list of services to be notified by the state gazette. The process was initiated with a desk study to provide the necessary background. The study involved reviewing the existing information from the department, earlier study reports from NABARD, the Institute of Public Enterprise (IPE), the Boston group and ANTHRA. Circulars issued by the Uttar Pradesh Government were also reviewed. With this background, a consultative process was initiated involving focal group discussions, brainstorming exercises, expert group discussions and one-on-one meetings with organisations involved in service delivery. Workshops were also conducted with veterinary assistants and junior veterinary officers to get their inputs. The information collected in all the meetings was presented in the second expert committee meeting. In the second workshop, a modified DACUM process (Annex 3) was used to elicit responsibility and task profiles of the paraveterinary workers .

### 3. SERVICE DELIVERY BY PARAVETS: A HISTORICAL REVIEW

#### 3.1 Service delivery by paravets in the private sector: Indian context

The first known experiment in service delivery by the private sector was introduced by AMUL in Gujarat, wherein the insemination services were rendered to cattle and buffaloes by trained laypersons holding the Secretary/ AI & First Aid Worker posts at the Dairy Cooperative Societies (DCS). These personnel underwent a 30-day training course for the AI work. Rendering

*A Para-vet on the move on his six-seven village route*



veterinary first-aid, performing vaccinations and deworming services were later added to the portfolio of these lay inseminators. At this juncture, NDDB stipulated that a minimum of 45 days training should be provided to perform these tasks. Later during 1988, NDDB further issued circulars that made it mandatory to impart a 90 days training to all lay inseminators and veterinary first aid workers. Gradually, this concept was adopted in different states as various dairy co-operatives and NGOs started providing training to AI & First Aid workers.

NGOs such as JK Trust and BAIF have successfully continued the concept of performing doorstep inseminations in Maharashtra, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Gujarat, Karnataka and many other states. In Kerala, KLDB has successfully launched the concept of doorstep inseminations through trained inseminators. In Bihar too, qualified private entrepreneurs were successfully operating the service delivery mechanisms through paraveterinary workers. In Tamil Nadu, in Pudukottai district under DANIDA sponsored Intensive Livestock Development Projects, the concept of link worker couple was successfully tried out wherein the husband performs the insemination work and the wife performs the veterinary first-aid and vaccination activities. Under the same DANIDA initiative, in Koraput district of Orissa, Cluster Link Workers were developed to provide veterinary first aid, castration to bucks and rams and vaccinating sheep and goats along with certain agriculture related advisory services (Annex. IV).

#### 3.2 Service delivery by paravets: Andhra Pradesh context

In AP, the Milk Union at Sangam Jagarlamudi in Guntur district successfully implemented the concept during the early eighties. They employed professional veterinarians as route officers to provide guidance and prescriptions for a follow up treatment, and for conducting pregnancy diagnosis. By the mid-eighties, the Milk Unions from Visakhapatnam, Chittoor, Bhongir also adopted the system. Under the TMDD project, DCSs operating the alternate service delivery system were systematically linked to the nearest veterinary dispensary (AH

department) for a fixed time for conducting pregnancy diagnosis, providing guidance and prescription for any follow-up treatment. However, the system could not sustain itself once the financial support for meeting the operational deficits of the input supply was withdrawn by NDDB.

Many other similar experiments were also initiated but could not be sustained. For example, unemployed youth were selected and trained during the middle of eighties as Voluntary Veterinary Workers (VWVs) at the district veterinary hospitals (now polyclinics). These programs were sponsored by DRDA under TRYSEM. It was originally conceived as a six months training course with the specific objective of developing these workers to provide veterinary first-aid, preventive vaccinations and related extension and advisory services to farmers and earn from the service charges. The scheme was once again revived during 1993 and continued for a few years. This time, the trainees were supplied with kits including AI equipment and LN containers.

A consultation with the Joint Directors in Karimnagar suggested that some of these trained technicians performed well in the field. However, documentary evidence to this effect is not available. There is anecdotal evidence that some VWVs have performed well and got regular government appointments as Veterinary Assistants. A limited number of VWVs could even seek employment in Dubai, performing doorstep inseminations. While selecting Gopal Mitras, some of the trained VWVs were given preference over others in their respective locations.

### 3.3 Initiation of service delivery by paravets in government sector

There are 21,943 Gram Panchayats in the State of AP and many of these do not have access to professional veterinary services. Since it is difficult to reach all villages with professional veterinary services, the GoAP has been exploring alternative service delivery mechanisms to provide minor veterinary and extension services. The government also appreciates that not all services need to be delivered by professional veterinarians and there are a number of minor services that can be delivered through

trained persons under the supervision of a registered veterinarian. Such arrangements will complement the existing network and enable the government to expand the scope of service delivery to wider areas.

GoAP in the Government Order MS No. 1427\* issued by the General Administration Department on 11/11/1961 specified that the following categories of personnel could render certain basic veterinary services:

1. Veterinary vaccinators
2. Dairy Assistants
3. Stockmen compounders and Veterinary compounders (six months training course)
4. Stockmen (twelve and half months training on direct recruitment and eight months training on promotion)
5. Veterinary and Livestock inspectors (two years training)

Personnel recruited to the above cadres either by direct recruitment or by departmental promotions were to undergo specified training to render the services that they were recruited for.

Currently, the Para-veterinary professionals working in the Animal Husbandry Department carry the designation 'Veterinary Assistants'. These categories of staff possess an entry-level qualification of 10+2 (Biology) and have to undergo a one-year certified training course offered by the regional Animal Husbandry Training Centres of the AH Department. Students holding diplomas from veterinary polytechnics



*Reaching out to the livestock in all the remote and marginal areas is indeed a challenge for which the Para-veterinary system is an effective method*

under a veterinary university also are made eligible to get appointed as a Veterinary Assistant in the AH department. The entry-level qualification for the diplomas offered by the veterinary polytechnic is a pass in the 10th class.

### 3.4 Service delivery by non-government paravets: Current situation

The erstwhile Indo-Swiss Project in AP (ISPA) initiated a dialogue with AP dairy federation and BAIF and was instrumental in launching (in 1997) the first known doorstep insemination activity in Mahbubnagar district, as the Mahbubnagar Cattle Breeders' Association (MCBA).

Further, ISPA facilitated a series of study tours and focal group discussions and promoted the concept (1998) of doorstep insemination in the north coastal AP in the name of Visakha Livestock Development Association (VLDA). In the meanwhile, GOI under NPCBB initiated restructuring of breeding operations (1999) in the State. Consequently, a state wide quasi-government body in the name of Andhra Pradesh Livestock Development Agency (APLDA) came into existence, thus pioneering the concept of providing doorstep inseminations, veterinary first-aid and allied extension services to livestock farmers. By December 2006, about 1532 Gopal Mitras have been placed in the villages so as to provide doorstep AI services and Veterinary first-aid. Further, it is proposed to establish 500 new Gopal Mitra Centres during the year 2005-06.

Further, the Government promoted the JK Trust (JKT) Samaj Vikas Yojana through the JK Trust (an NGO) to perform doorstep AI (150 centres) in Chittoor and Ananthapur districts for more than five years. Presently, JKT operates 118 centres whereas the rest are taken over by the APLDA. Similarly, BAIF is undertaking doorstep AI activities (84 centres) in Mahbubnagar, Ananthapur, Prakasam, Nalgonda and Warangal districts and GoAP does not appear to have any formal role in their activities.

Though flow of funds to APLDA, JK Trust and BAIF comes from Gol and GoAP through the Rural Development and the Animal Husbandry departments, each organisation

has a different system of operation. However the training modules and curricular designs operated by these organisations appear to be more or less similar. More recently, the JKT and the BAIF have entered in to MOUs with APRLP to perform doorstep AI in Ananthapur, Kurnool, Chittoor, Prakasam, Nalgonda and Mahbubnagar districts. In the sheep sector, NRMPA (an SDC - IC initiative) is currently working on a small ruminant health worker concept (SRHWs) in Nalgonda, Mahbubnagar and Anantapur districts in AP.



*Farmers are always enthusiastic to discuss their concerns on livestock service delivery*

Several rural development projects like VELUGU and APRLP (DFID and World Bank), have also been supporting rural unemployed youth to work as animal health workers. These workers are known by different names like Sangh Mitras, Jeeva Mitras, and Poultry health workers. Such identified individuals are trained by the concerned sponsoring organisations, sometimes in collaboration with the AHD, but mostly independently. The duration of training ranges from one week to six weeks.

There is an increasing recognition of the contribution of paraprofessionals in reaching a wider group of farmers. However, there are concerns regarding the quality of services delivered by them. One of the issues is the multiplicity of service providers with overlapping functions. For example, irregular de-worming and vaccinations to the same group of animals by different agencies breeds resistance and also brings down the efficacy of the interventions.

The main criticism against paravets is that the governments's over-enthusiasm to reach out to livestock owners has resulted in pumping large numbers of inadequately

skilled workers in the livestock sector. In the absence of a regulatory framework, this has resulted in providing services with no accountability.

## 4. OUTCOMES OF THE DELIBERATIONS

One of the major objectives of the study was to put forth a formal definition of “Minor Veterinary Services” which clearly stated the tasks that could be performed by the paravets. To identify these tasks, focal group discussions were held at Kurnool, Ananthapur and Vizianagaram. The concerned Veterinary Assistant Surgeons including the Asstt. Directors from the Semen Bank, were present at the discussions held at Kurnool and Ananthapur, as were the Assistant Directors from Semen Banks. At Ananthapur and Vizianagaram, the concerned Joint Directors also participated in the deliberations and suggested certain new work dimensions.

Since only the best workers could define their duties properly, paraworkers with a high level of performance were also invited to participate in the workshops. Using a modified DACUM process, the duties and tasks performed by the AHWs in the field were listed out. Gopals (JK Trust), lay inseminators (BAIF), Gopal Mitras (APLDA/VLDA), Sangh Mitras (APRLP), Livelihood Activists and Livestock Assistants (VELUGU) attended the workshops.

The list of tasks performed by these workers were cross checked in the same workshop in the presence of all the participants. The agreed versions were finally listed out and consolidated to minimise overlaps and obtain a general picture of the services rendered by these paraworkers.

### 4.1 Definition of minor veterinary services and dispensations

As described in Clause 30b of Indian Veterinary Council Act, 1984 (No. 52), the term “Minor Veterinary Services” means the delivery of primary veterinary aid like vaccination, castration, dressing of wounds and such other types of preliminary aid or the treatment of such ailments as the state government’s notification in the official gazette specifies in this behalf.

The Expert Committee in a plenum process prepared tentative definitions of Minor Veterinary Services. Later in working groups, four alternative definitions were developed. These are presented below:

- I. Basic Veterinary interventions and dispensations provided by trained personnel; other than the registered veterinary practitioners, to support livestock health and production
- II. Basic Veterinary interventions and dispensations provided to support livestock health and production by trained personnel; other than the registered veterinary practitioners
- III. Basic Veterinary interventions, dispensations and livestock advisory services provided by trained personnel; other than the registered veterinary practitioners to support livestock health and production
- IV. Basic Veterinary interventions, dispensations and livestock advisory services provided to support livestock health and production by trained personnel; other than the registered veterinary practitioners

The lists of services delivered by the paraworkers in general, were presented to the members of the Expert Committee on 20-05-05. Based on these, the Expert Committee identified seven broad areas encompassing different services that can be rendered by paraworkers.

1.	Extension and advisory services
2.	Fodder development
3.	Preventive health and disease reporting
4.	Minor Veterinary Services
5.	General dispensations
6.	Doorstep inseminations
7.	Castration

Based on an extended debate, the services were categorised as schedules I, II and III services. The spirit underlying the scheduling was to visualise the extent of training, hand-holding and supervision, which in turn will provide clues towards formulation of a meaningful curricula. The essence of each schedule is given below:

Schedule. I	All general extension and fodder development services (which require basic orientation training)
Schedule. II	All the services that require systematic skill development and guidance of a registered veterinary practitioner
Schedule. III	The services that require advanced training and supervisory guidance of a registered veterinary practitioner

A detailed list of schedule wise services and tasks are given in Annex V.

### **Definition of “Minor Veterinary Services”**

The Expert Committee recommends that the state of Andhra Pradesh adopt the following definition of Minor Veterinary Services:

“Basic Veterinary interventions, dispensations and livestock extension services (as specified in schedules I, II & III) provided by a trained and certified personnel, other than the registered veterinary practitioners, to support livestock health and production.”

### **4.2 Curriculum (skill and knowledge context)**

The DACUM process designed by the Ohio State University and widely adopted for vocational training forms the basis for this curricular design as well. The objective of the process is to develop a learner-centred and performance-oriented teaching-learning process instead of the traditional syllabus approach comprising of contents and inputs. The final curriculum that emerged from the discussions is listed in Annexure VI, VII, VIII and IX.

The curriculum guide provided in this report is a critical framework for trainers and the training managers to prepare and implement the process of training. This curriculum describes the tasks, learning objectives, and the relevant contents, which can fulfil the learning objectives. The methods of training, by and large influence the duration of the

training. For instance, a teacher-centred teaching-learning process consumes less time and the learning responsibility lies with the student. Whereas, more time and energy is required for a learner-centred training and learning process. In this process, all stakeholders, i.e. learner, trainer, training manager, line manager and the district heads carry their share of responsibility. The entire impact can be assessed from the value output from the delivery of these services. The key recommendations of the Expert Committee with respect to nomenclature, qualifications, duration and certification of the training are given below.

### **4.3 Nomenclature**

It is recommended that Diploma holders from the University and one year certificate holders from the Animal Husbandry Department and those employed in the Animal Husbandry Department, the Veterinary University and NGO institutions, etc. may be termed as para-veterinarians whereas all other personnel with a shorter duration of training providing minor veterinary services as per Schedule I, II and III may be broadly classified as Animal Health Workers (AHWs). This will include service providers like Gopal Mitras, link workers, Sheep and Goat extension workers, Sangh Mitras etc., among many others.

### **4.4 Training duration and qualifications: Para-veterinarians**

The existing curriculum (12 months) is issued to impart an entry-level training to direct recruits of Veterinary Assistants (10+2) employed with the AHD. This training course is inclusive of both classroom learning and apprenticeship. After a successful completion of their training and certification, these para-veterinarians shall be eligible to practice all the services described under Schedule I, II and III. Further, they shall perform additional tasks entrusted to them by their employers from time-to-time. Basic entry-level qualifications for para-veterinarians will be as follows:

- For a two year university diploma: a pass in the 10th class, and
- For a one year certificate offered by the Animal Husbandry Department, AP, 10+2 years of education.



#### 4.5 Training duration and qualifications: Animal health workers

Given the variety of tasks, the diversity of the market and the production and the socio-cultural contexts, it is neither feasible nor desirable to prescribe an entry-level qualification and a specific duration training curricula for all types of AHWs. While a formal education of 10th standard and above may be desirable for selecting an Animal Health Worker, the committee does not consider this to be a mandatory condition. The nature and duration of the training and of the basic qualifications to undergo the training will depend on the range and purpose of the tasks that they are expected to perform and the overall production and market context under which they function. The Expert Committee debated on a minimum training duration for different types of animal health workers and attempted to outline the essential elements of some of the training required for different types of animal health workers. It is recommended that this framework be treated as an overall guiding outline and be reviewed after two years of implementation.

1. All AHWs should undergo a minimum of 12 days foundation training (Annex VI).
2. Those wishing to provide all the services listed under schedule I should undergo a minimum of 41 days training and certification (Annex. VII), in addition to the 12 days foundation training.



*The training of Para-vets should also include development of a positive attitude towards extension of services even to the flocks on migration.*

3. Those wishing to provide all the services in schedule II should undergo a minimum of an Additional 48 days training (Annex. VIII). Thus, an individual AHW intending to practice “Minor Veterinary Services” as stated in schedule I and II, has to undergo and successfully complete a minimum of 101 days of comprehensive training course inclusive of both classroom learning and apprenticeship.
4. A minimum of an additional 13 days training (Annex.IX) and apprenticeship is prescribed at an advanced learning module to practice the “Minor Veterinary Services” as stated in schedule III. Only the AHWs who have been certified to deliver schedule I and schedule II services will be eligible for this course.

Given the diversity of contexts, however, there will always be a need for AHWs focusing on a sub-set of services as listed in schedule I, II and III. It would not be desirable to prescribe to them a minimum duration of training equivalent to those providing a whole range of services. Without sufficient clarity on the purpose and range of tasks however, it is not possible to prescribe the duration of training. Given below are two examples of how one could possibly come up with the desired training modules and duration for these categories of AHWs.

#### **Small ruminant Animal Health Workers**

Tasks: To provide extension, fodder development and minor veterinary services prescribed in Schedule I but exclusively for small ruminants

Training required:	35 days
Basic Foundation course	12 days (from Annex VI)
Sheep and goat management	6 days (from Annex VII)
Fodder development	7 days (from Annex VII)
Preventive health and investigation	3 days (from Annex VII)
Minor procedures in first-aid	5 days (from Annex VII)
General dispensations	2 days (from Annex VII)

### Community extension workers

Tasks: To provide extension, fodder development and vaccination services for all livestock species

Training required:	53 days
Basic Foundation course	12 days (from Annex VI)
Livestock management (Cattle and buffaloes)	5 days (from Annex VII)
Sheep and goat management	6 days (from Annex VII)
Swine management	2 days (from Annex VII)
Poultry management	5 days (from Annex VII)
Fodder development	7 days (from Annex VII)
Preventive health and investigation	3 days (from Annex VII)
Minor procedures in first-aid	5 days (from Annex VII)
General dispensations	2 days (from Annex VII)
Preventive health and disease investigation	6 days (from Annex VII)

#### 4.6 Training certification

- The principal/head of the training centre evaluates the performance of the trainees

**Box 1: Guidelines proposed in the draft veterinary practice regulations issued by the VCI**

The Veterinary Council of India has proposed certain regulatory processes, standards and norms. Under the heading supervision and guidance to minor veterinary practice, the following practices are proposed:

- Every registered veterinary practitioner shall record the names of all the personnel undertaking minor veterinary practice under her/his supervision and guidance.
- Veterinary practitioners will announce such lists of para-workers and the services delivered by them, to the public as on the date and time of declaration.
- The VAS shall verify the minor veterinary practices carried out and recorded by the para-workers, by whatever name called.
- The NGOs, Community Based Organizations (CBOs), corporate bodies and societies, should declare the names of the registered practitioners under whose supervision and guidance the para-workers, by whatever name called, practice minor veterinary services. Such practitioners shall also keep a record of what they do in a prescribed format and submit the same for the purposes of inspection, supervision and guidance whatsoever.
- The same will apply to all minor veterinary practices/services as notified by the state and for artificial insemination, vaccination, etc

and certifies to that effect. The competent authority identified by the State Director of Animal Husbandry may further countersign such certificates.

- Certificates must be issued to the successful trainees at the training centre itself within 15 days of completion of this training.
- The lists of such certified trainees must be communicated to the respective District Joint Directors of the AHD for their records. The training centre principals/government/NGOs are responsible for such notifications.

#### 4.7 Registration

All organisations imparting training pertaining to schedule I, II and III services shall be registered with the state Animal Husbandry Department and inform the AHD of the nature of the training provided, the tasks being performed by the trainees in the field and the name of the registered veterinary practitioner (RVP) under whose supervision the AHW is delivering the services.

#### 4.8 Linkages with registered veterinary practitioners

Animal health workers are a critical link in the overall animal health system and provide an effective model for extending the outreach

### *Box 2: Summary of the Circulars passed by the U.P. Animal Husbandry Department*

The circulars issued by the U.P. government, besides listing out the services that can be rendered by the para-workers trained and employed under the project, have made it the local VAS's responsibility to monitor and review the performance of the para-workers periodically. The essence of the guidelines is given below:

Each para-worker trained and employed by the project is issued an identity card upon completion of the training at the training centre itself. These cards are valid for a period of three years and are later renewed based on the performance of the individuals and by the remittance of a renewal fees of Rs.25/-. The cards carry a photograph of the para-worker and are attested by the local VAS and countersigned by the Chief Veterinary officer.

- Para-workers have the responsibility of reporting to the concerned VAS and the VAS entrusts the survey and identification of the elite animals and the allied animal husbandry activities to them.
- Fixed day review meetings directed towards identifying performance gaps, providing guidance and planning training are conducted once a month.
- Animal management camps are organised once a month and all para-workers in the jurisdiction participate and learn from the experiences.
- Para-workers organise pregnancy diagnoses and multipurpose awareness camps and the VAS conducts such camps on fixed dates.
- All para-workers participate in the vaccination and related activities.

of animal health service delivery to poor and marginalised areas. However, the realisation of their full potential requires a strong linkage and support system for the purpose of ethical and professional supervision and technical support. It is therefore essential that they become an integral part of the animal health system.

The Veterinary Council of India has proposed certain regulatory measures, standards and norms for trained animal health personnel, other than the registered veterinary practitioners. In addition, the U.P. Diversified Agriculture Support Project (UPDASP) has prescribed certain processes towards integration of the project AHWs with the mainstream animal health system in U.P. These are summarised in *Box 1 and 2*, respectively.

In Andhra Pradesh, some systematic linkages already exist between Gopal Mitras and the state veterinary department. The linkage is however limited to input supply for Artificial Insemination (frozen semen and liquid nitrogen) and minimal monitoring and supervision.

The Expert Committee strongly recom-

mends upon strengthening the linkage between professional veterinarians, para-veterinarians and AHWs and extending it beyond input supply support. The system must provide for technical back-up and formal referral support, professional and ethical supervisory and the enforcement of regulatory measures. The government is already responsible for ethical/professional supervision, technical back-up and referral support of para-veterinarians employed by it. It is recommended that this function be extended to private and non-government organisations that seek such support and are not able to cover the costs of setting them up.

Indeed, the system must strive towards recognising and mainstreaming the service delivery by para-veterinarians and AHWs as the third tier in the livestock services delivery chain. The VCI Act under Article 30 (b) provides for the dispensation of minor veterinary services by suitably trained para-professionals under the supervision of registered graduate veterinary practitioners. The standardisation of the training of these animal health workers/para-professionals and linking them to any registered veterinary

practitioners for regulation and ethical/professional supervision thus became mandatory.

The Committee is of the opinion that the linkage of the paravets and the AHWs with the registered veterinary practitioners should be multi-dimensional, going well beyond the mere legal requirements, in order to evolve and render the paravets and AHWs into multi-skilled service providers satisfying both the needs of the farmers and the regulatory requirements under the VCI Act. As private registered veterinary practitioners are few and far-between in Andhra Pradesh and the Veterinary Assistant Surgeon (VAS) of the AHD is the most accessible registered veterinary practitioner state-wide, the VAS will naturally be the key nodal point in the regulatory/supervisory support set up.



*Vaccination of backyard poultry assumes high priority in the prevention of even zoonotic diseases*

The AHD should formally link with each VAS up to five Gopal Mitras/AHWs working within his/her jurisdiction for providing technical and referral support, professional supervision, and the enforcement of the VCI act. For the AHWs employed by NGOs and private institutions who have registered veterinary practitioners employed by them, the role of the VAS may be limited to the enforcement of necessary regulations for minor veterinary services dispensation. In the case of the Gopal Mitras, the responsibility of the VAS will also include continued and on-the-job/hands-on training over a three year period to improve the Gopal Mitras's proficiency in minor veterinary/AI services; technical support in terms of referral services for treatment of cases and AI and opening up with the Gopal Mitras a two-way professional and extension communication

channel. The AHD should ensure that these tasks are reflected in the job chart of the VAS as the normal responsibility attached to the position that they hold.

The Gopal Mitras, on their part, will function as the non-governmental extension of the AHD services delivery chain: the third tier in livestock services delivery, expanding the AHD's reach right into the villages and as a force multiplier in the AHD's fight against animal epidemics. They will remain independent private practitioners, home delivering minor veterinary and AI services as paid inputs, with add-on skills from time-to-time, as and when necessary. The Gopal Mitras/AHWs will however, be obliged to complement the government's efforts in disease surveillance, outbreak reporting and disease control campaigns as paid associates.

#### **4.9 Identity cards for paraveterinary professionals and animal health workers**

- The Director of AHD would designate a competent authority to issue identity cards to para-veterinarians and AHWs.
- The identity cards will carry the photographs of the paravets/AHWs and will be attested by the principal training centres and countersigned by the person nominated by the Director of the AHD. These cards should be issued at the training centres, along with the certification to all those who complete the training successfully.
- The competent authority will renew the identity cards based on the performance of the incumbents on payment of a nominal renewal fee.
- It will be the responsibility of the AHWs undertaking minor veterinary practices to get their identity cards renewed periodically as stipulated by the competent authorities

#### **4.10 Monitoring and assessments**

- Every registered veterinary practitioner shall record the names and contact details of all the para-veterinary professionals and AHWs undertaking minor veterinary practice under their supervision and guidance in their area of operation.

- The veterinary practitioner will announce lists of such para-workers and the services delivered by them, to the public as on the date and time of declaration.
- Such practitioners shall also keep a record of what they did in a prescribed format and submit the same as and when asked for by the registered veterinary practitioner for the purposes of inspection, supervision and guidance, whatsoever.
- The registered veterinary practitioners shall verify the minor veterinary practices carried out and recorded by the para-veterinary professionals and AHWs and play a supportive role to enable para-workers to better render their services.
- In case of calamities, where mass preventive vaccinations have to be conducted in a campaign approach, it may be made mandatory for all paravets and AHWs to participate. Those who are not directly employed by the government should be appropriately compensated for these mandatory duties.
- The supervision of and guidance provided by the NGOs, CBOs, corporate bodies and societies, should declare the names of the registered practitioners under whose supervision and guidance, the paravets and/or AHWs employed by them practice minor veterinary services. Such practitioners shall also keep a record of what they do and submit the same for the purposes of inspection, supervision and guidance.

## 5. CONCLUSIONS

The experiences from A.P. and from several other regions around the world reveal that the accessibility of livestock services has increased considerably because of the services provided by paravets. However, some concerns as to the quality of the services and the suitability of these workers to provide certain services still remains. The dangers of providing medicines to people

with only a rudimentary training will have a potentially negative impact on animal health systems, undermining the credibility of the country's veterinary services. Strong veterinary professionals capable of regulating a complex service system and of seeing the potential of paravets and the AHWs as complements to the strengthening of the profession, appear to be the need of the day.

Andhra Pradesh has had significant experience in working with the paravets trained by the government as well as by NGOs. However, the state does not have any regulatory mechanism in place to regulate the quality of services. This study is an initiative of the government, along with CALPI and PPLPI, to formalise the definition of these Minor Veterinary Services, the training required to perform these services and to monitor the services of the paravets by linking them with the existing veterinary system.

This report proposes a formal definition of "Minor Veterinary Services" which includes services under Schedule I, II and III mentioned in the report. Based on the services and the tasks involved, a comprehensive curriculum guide is prepared. Finally, specific guidelines for linking the paravets and the AHWs rendering Minor Veterinary Services to registered veterinary practitioners are also laid down.

*Timely de-worming prevents heavy mortality among calves*



## ANNEX I

### COMMUNITY BASED ANIMAL HEALTH WORKERS (CBAHWs): A REVIEW OF STUDIES CONDUCTED IN AFRICAN COUNTRIES

Theme	Issues	Author
Threat or opportunity	<ul style="list-style-type: none"> <li>• Dangers of providing medicines to people with only rudimentary training can have a potentially negative impact on animal health systems and thereby undermine the international credibility of the country's veterinary services, or by pushing veterinarians out of work.</li> <li>• How to regulate support and ensure quality particularly, as they do not operate from within government structures?</li> </ul>	IDL group
The CBAHW story so far	<ul style="list-style-type: none"> <li>• Trained paraprofessionals can perfectly-well attend to many common basic services in their sector that do not require the advanced skills of a full professional.</li> <li>• The role of a para-professional can be overseen when the professional is readily accessible.</li> <li>• User charges paid to a para-professional are lower than those paid to the professionals for the same basic service.</li> <li>• Cost of training a para-professional in the more limited menu of services is less compared to the costs involved in training a professional.</li> <li>• Greater number of service providers and lower fee means that more clients can access and afford these basic services.</li> </ul>	
Safe administration of medicines	<ul style="list-style-type: none"> <li>• Anecdotal evidence and opinions abound as to the potential risks associated with non-professional drug administration; hard, well-documented evidence is difficult to find.</li> <li>• Incorrect dosages and inappropriate withdrawal practices predominate when market demands stimulate the growth of a sizable market for a drug.</li> <li>• Drug producers strongly influence CBAHWs and their ability to adhere to the recommended protocol of drug administration by a deficiency in training and supervision of CBAHWs;</li> <li>• When CBAHWs are responsible for treatment, their standards of drug administration are considerably higher.</li> <li>• CBAHWs have the greatest potential for reducing the inappropriate use of drugs in the field.</li> <li>• Improved training and access to technologies would enhance this role.</li> </ul>	<p>Steve Dasebu, et al</p> <p>Case study findings from Sub-Saharan Africa</p>
Antimicrobial resistance and CBAHWs	<ul style="list-style-type: none"> <li>• There is a risk that organisms causing diseases in animals will directly acquire resistance making them harder to treat in the future.</li> <li>• There is a risk that the organisms causing diseases in humans will acquire resistance by indirect mechanisms, putting peoples' health and/or lives in jeopardy.</li> <li>• There are successful policies to improve the delivery of animal health care to marginal areas that will increase the use of veterinary medicines.</li> <li>• In doing so, the risk of increasing drug resistance is obvious.</li> <li>• These risks in many cases will be mitigated by replacing the unregulated use of the black market veterinary medicines with reputable medicines through a regulated animal health system.</li> <li>• There are assumptions that lay-service providers like CBAHWs are a part of the problem, rather than a part of the solution – studies documented have consistently failed to confirm this assumption.</li> </ul>	Professor David Taylor

Theme	Issues	Author
Community health workers' experiences from field of human medicine	<ul style="list-style-type: none"> <li>• There is extensive literature documenting the successes and failures of the CBAHW system.</li> <li>• Translating the gains from local projects into nation wide programs is an age old problem.</li> <li>• Medical and technical aspects do not limit the potentials of CHW to scale up.</li> <li>• Structural, organisational, institutional, administrative and managerial issues often limit the potential of CHW.</li> </ul>	Elizabeth Redmond FAO, Rome,
Do CBAHWs provide services that work?	<ul style="list-style-type: none"> <li>• High animal mortalities and impaired productivity contributes towards peoples' poverty and increases their vulnerability.</li> <li>• Many poor people consider better access to veterinary services a priority, if they are to improve their livelihoods through livestock.</li> <li>• The mortality rates in cattle, sheep, goats and pigs on the farms accessing CBAHW was nearly half of that of those recorded on similar farms without any access to CBAHW.</li> <li>• A high level of administration of drugs by livestock keepers.</li> <li>• Livestock keepers have higher incomes as a result of the services provided by CBAHWs.</li> <li>• CBAHWs are able to operate under a full cost recovery which means services rendered are more or less continuous and sustainable.</li> </ul>	IDL group  Dr. Constance M. McCorkle  Impact evidence from Kenya, Tanzania and the Philippines  Oakley, et al.
Economics of CBAHWs	<ul style="list-style-type: none"> <li>• Market failures peculiar to animal health provision in marginal areas negatively influence the potential of the CBAHWs</li> </ul>	Professor Cheikh Ly
Re-engineering structural, policy and legal frame works in Kenya	<ul style="list-style-type: none"> <li>• There is a resistance to change among veterinary professionals.</li> <li>• A strong veterinary profession is capable of regulating a complex service-supply system.</li> <li>• A strong veterinary profession is required to oversee the potential of CBAHW in strengthening the profession.</li> <li>• A strong veterinary profession is required to oversee the economic viability of practices operating in marginal areas and the value of livestock for livelihoods.</li> <li>• Animal health, marketing, access to holding grounds and other conflicts, all require an equally vigorous policy response to improve the livelihoods of the poor livestock keepers.</li> <li>• Threat of policy and law inhibits the profession from delivering on its mandate.</li> </ul>	Dr. Munyua (African Unions)  J K Wabeacha (Nairobi)

## ANNEX II

### COPY OF THE GOVERNMENT ORDER RT.No.71 DATED 23RD FEBRUARY, 2005.

#### GOVERNMENT OF ANDHRA PRADESH

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#### ABSTRACT:

Animal Husbandry Department – State Management Institute for Livestock Development in Andhra Pradesh (SMILDA) – Constitution of Expert Committee to conduct detailed study on the issue of Veterinary Para Professionals – Orders – Issued.

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Animal Husbandry, Dairy Development & Fisheries (Ah.ii) Department

G.O. Rt. No.71

Dated: 23rd February, 2005

Read the following:

1. From the Director of Animal Husbandry, Hyderabad, Letter Roc No.71/SMILDA/2004, dated 27.1.2005

\*\*\*\*

#### ORDER:

In the circumstances reported by the Director of Animal Husbandry in the reference read above and based on the recommendations of the Steering Committee on CALPI-PPLPI-DAHD, Government hereby constitute an Expert Committee to conduct a detailed study on the issue of Veterinary Para Professionals with the following Members:

1. Dr. L. Mohan, Addl. Director (Plg)	...	Member
2. Dr. D. Venkata Rao, G.M., Visakha Diary	...	Member
3. Dr. S.K. Sinha, Managing Director, Patna Animal Development Pvt.Ltd., Patna	...	Member
4. Dr. G.S. Reddy, BAIF, Tiptur, Karnataka	...	Member
5. Sri Sudarshan Srinivas, Director, NDDDB, Vijayawada	...	Member
6. Dr. Sagari Ramdas, Director, ANTHRA, Hyderabad	...	Member
7. Associate Dean, College of Veterinary Science, Hyderabad	...	Member
8. Principal, Veterinary Polytechnic College, Palamaneru, Chittoor District.	...	Member
9. Dr. Piedy Sreeramulu, Addl. Director (AH) Production -Convener	...	Member



**2. The terms of reference are as follows:**

1. Basic Definition of Minor Veterinary Services/Minor Veterinary Dispensations in the specific context of Andhra Pradesh.
2. Schedule of Services/Dispensations coming under minor Veterinary Services (Broad/ Exhaustive list).
3. Context/Skill Related Applications: Skills & Services Chain for differentially qualified Para-Veterinary Practitioners/Veterinary Health Care Technicians/Village Animal Husbandry or Animal Health Link Workers; Schedule of Skill-Specific Applications, Procedures and Medicaments.
4. Course contents and Syllabi for Para-Professionals, Technicians and Link Workers training, along with levels of competence and skill-Specific services and practices that can be delivered by each.
5. Do's and Don'ts for Practitioners.
6. Linkages with Registered Veterinary Practitioners (Government or Private) for Professional and Ethical Supervision.
7. Draft Notification for the Government's approval and Notification in the Government Gazettee.

3. The Member-Convener of the above Expert Committee is permitted to include few more members, if needed. The Expert Committee shall finalise its recommendations on the above issue within a month and submit the same for further action.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

Priyadarshi Dash,  
Principal Secretary To Government

To  
The Director of Animal Husbandry, Hyderabad.

Copy to:  
The Chief Executive Officer, APLDA, Hyderabad.  
The P.S. to Minister (AH&DD)  
The P.S. to Principal Secretary to govt., AHDD&F Department

//FORWARDED::BY ORDER//

-Section Officer

Sd/

## A BRIEF NOTE ON DACUM

DACUM stands for 'developing a curriculum'. It is a participatory process. As a matter of fact, DACUM essentially provides the precursors to develop a curriculum.

It was tried out at the Ohio State University, USA, for the first time, and was later picked up by other parts of USA, Canada, Nepal and India. It was widely applied for different vocational trainings designed by the International Labour Organization.

### What is DACUM?

- An approach to occupational (job) analysis.
- Widely used in vocational education.
- Found to be effective, cost effective and quick.
- Used many times by the National Centre for Research in Vocational Education at Ohio State University.
- Effectively used by the Animal Husbandry Department, Andhra Pradesh.

### The DACUM philosophy

- Expert workers are able to describe their occupation/job better than any one else.
- Any job can be effectively and successfully described in terms of the different tasks only by the successful workers performing the job.
- All tasks have direct implications of the attitude, skills and knowledge that workers must possess in order to perform the tasks correctly.

### Key terms used in DACUM

Job analysis	<ul style="list-style-type: none"> <li>• Identification of the job: duties and tasks.</li> </ul>
Task analysis	<ul style="list-style-type: none"> <li>• Identification of different steps required to perform each task.</li> <li>• Identification of skills, knowledge and attitudes required in order to effectively perform the required steps to accomplish the task.</li> </ul>

	<ul style="list-style-type: none"> <li>• Identification of performance standards and safety factors related to one or more tasks.</li> </ul>
Duties	<ul style="list-style-type: none"> <li>• An arbitrary grouping of related tasks; usually 8 to 12 per job.</li> </ul>
Tasks	<ul style="list-style-type: none"> <li>• Specific observable units of work per each duty; usually 6 to 30 per duty.</li> </ul>
Steps	<ul style="list-style-type: none"> <li>• Specific element(s) or activities required to perform each task.</li> <li>• At least two or more steps under each task.</li> </ul>

### Features of duty and task statements:

Features of Duty statements	<ul style="list-style-type: none"> <li>• Have a definite beginning and end point.</li> <li>• Can be performed over a short period of time.</li> <li>• Can be performed independent of other works.</li> <li>• Consist of two or more steps.</li> <li>• Can be observed and measured.</li> <li>• Result in a product, service or decision.</li> </ul>
Features of Task statements	<ul style="list-style-type: none"> <li>• Reflect a meaningful unit of work.</li> <li>• Begin with an action verb and contain an objective.</li> <li>• May contain one or more relevant qualifiers of the objective.</li> <li>• Explicit, precise and stand-alone.</li> </ul>

## DACUM procedural steps

DACUM Committee	<ul style="list-style-type: none"> <li>• A committee comprising of 12 expert workers from the cadres of paravets picked and chosen.</li> <li>• One senior supervising officer chosen as an observer.</li> </ul>
DACUM Process	<ul style="list-style-type: none"> <li>• Orientation of DACUM committee.</li> <li>• Review of occupation/job.</li> <li>• Identification of general areas of responsibilities (duty).</li> <li>• Identification of specific tasks performed per duty.</li> <li>• Reviewing and refining duty and task statements.</li> <li>• Sequencing duty and task statements.</li> <li>• Identification of entry level tasks.</li> </ul>
Tools used in the process	<ul style="list-style-type: none"> <li>• Brainstorming exercises.</li> <li>• Visualisation of ideas on cards and pin-boards.</li> <li>• Forward and backward linkages to redefine statements for clarity and to marginalise perceptual illusions.</li> </ul>

*Table 1: Instrument used to evaluate the DACUM chart*

Duty versus Tasks		How frequently do you perform these task?					If not performed well, what extent of damage is caused to the farmers?					Given a chance what is your training in each task per duty?						
		5	4	3	2	1	0	5	4	3	2	1	0	I	II	III	IV	V
D 1	Task 1																	
	Task 2																	
	Task n																	
D 2	Task 1																	
	Task 2																	
	Task n																	
D n	Task 1																	
	Task 2																	
	Task n																	

## ANNEX IV

### COMMUNITY LINK WORKERS (CLWs)

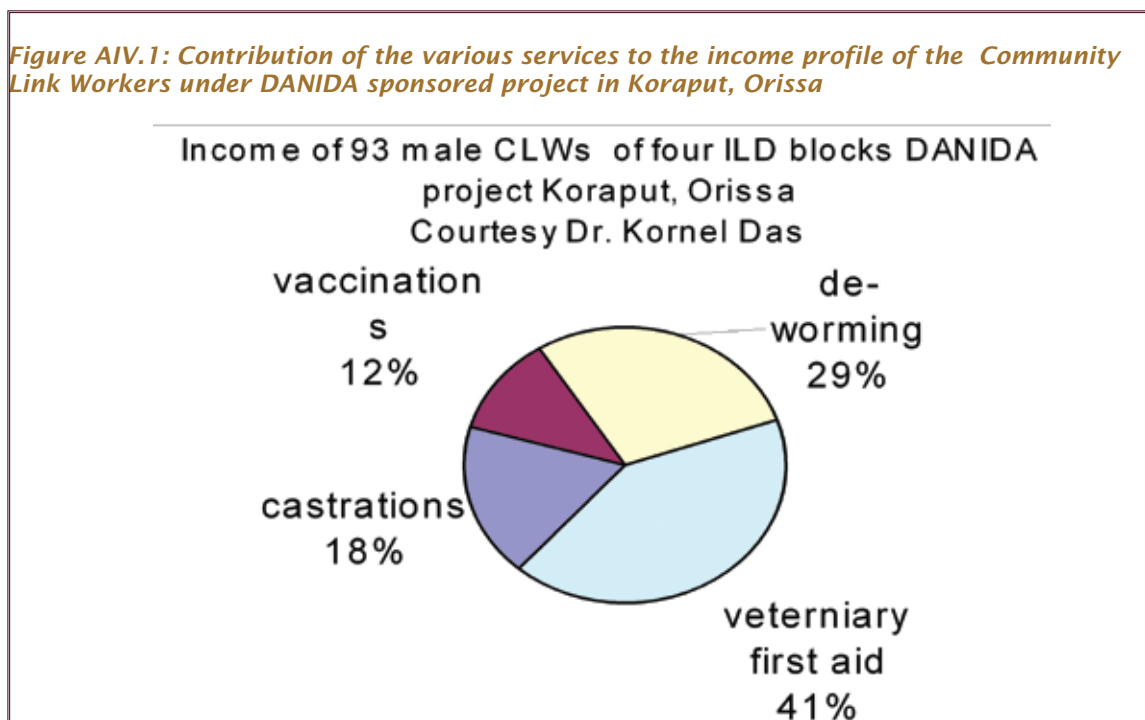
#### A CASE STUDY ON DANIDA SPONSORED ILDP CENTERS IN ORISSA

Women and men community link workers were selected by the villagers to provide doorstep services to the villagers in agriculture and livestock related issues. Of the 200 CLWs working in the ILDP Koraput, 132 were considered to be good and continued further. Farmers considered that male CLWs were more skilled and useful to them as compared to the female CLWs. The farmers' willingness to pay for the agricultural services rendered by the CLWs was very low. By and large, poultry vaccinations and de-worming poultry, sheep and goats were the most frequently performed services. The other important activities performed by the CLWs were castration of bucks and rams (Figure AIV.1). Monetary support was provided to these CLWs by the ILDP: they were given Rs.200/- per month, a sum that has now been withdrawn. The CLWs were provided skills-training in a range of agriculture and livestock related activities.

However, the general activities for which the CLWs were trained and assigned to perform were:

1. First-aid to cattle and wound dressing
2. Castration for bucks and rams
3. Deworming sheep and goats
4. Vaccinations to poultry
5. Deworming poultry
6. Deworming pigs and giving them iron tablets
7. Treatment of Foot and Mouth disease
8. Management of sheep and goats
9. Selection of breeding rams and bucks
10. Advisory services on the application of manure and the importance of crop rotation

*Figure AIV.1: Contribution of the various services to the income profile of the Community Link Workers under DANIDA sponsored project in Koraput, Orissa*



## SWOT on CLW system

Strengths	Weaknesses	Opportunities
<ul style="list-style-type: none"> <li>• CLW as a system of services at the farmers' doorstep is perceived to be beneficial.</li> <li>• Survival rate of poultry has made a perceptible impact and is well-adopted by the farmers'.</li> <li>• Castration of unwanted and low-quality bucks and rams can avoid inbreeding.</li> <li>• Systematic deworming has minimised the mortality rates and the sheep and goat flocks are healthy.</li> <li>• Farmers' willingness to pay for the services.</li> </ul>	<ul style="list-style-type: none"> <li>• Selection of the CLWs (age, health, literacy level).</li> <li>• Women's inability to move to distant villages in the nights due to social and cultural inhibitions.</li> <li>• Lack of competency in castrating and vaccinating cattle.</li> <li>• Lack of an organised institutional network.</li> <li>• The demand for the CLWs fluctuates. The winter season fetches more money on castrations and the monsoon from first-aid.</li> <li>• Quite often CLWs fail to help the farmers when their cattle are suffering from unknown symptoms as they cannot identify the cause and give them first-aid.</li> </ul>	<ul style="list-style-type: none"> <li>• CLW can be seen as a facilitator between farmers' livestock and the LI for preventive health coverage which is only sustainable as the cost of treatment and the losses due to morbidity are very high.</li> <li>• CLWs can also link the agriculture extension workers and help farmers.</li> <li>• Additional training for castrating cattle.</li> <li>• Additional training for vaccinating cattle.</li> <li>• CLWs may facilitate the breeding of rams and bucks by keeping track of the sheep and goat breeding in and around their villages.</li> <li>• Additional training to provide advisory and first-aid services on commonly occurring problems of cattle</li> </ul>

## General concerns

- Systems and procedures have to be formulated to facilitate capacity building of the CLWs from time to time.time-to-time.
- Systematic procedures to regulate and monitor the activities of the CLWs have to be formulated and their services regulated by the Gram Panchayats. This requires further streamlining to function effectively.

## MINOR VETERINARY SERVICES

### Schedule I services

Schedule I services consists of all general extension, advisory and fodder development services which require orientation training.

#### 1. Management of Cattle & Buffaloes

Sl	Task
1.1	Housing and general hygiene
1.2	Care and management of young stock
1.3	Care and management of pregnant animals
1.4	Pre-partum care and management
1.5	Post partum care and management
1.6	Health and nutrition management of breeding bulls

#### 2. Sheep and goat management

Sl	Task
2.1	Advise on the preventive health and management practices
2.2	Advise on the breeding, grazing, feeding, watering practices
2.3	Advise on the flock build-up and management
2.4	Advise on the care and management of pregnant ewes and does
2.5	Advise on the care of lambs and kids

#### 3. Swine management

Sl	Task
3.1	Advise farmers on the housing and hygiene practices
3.2	Advise farmers on the breeding and feeding practices
3.3	Advise farmers on the care and management of pregnant sows
3.4	Advise farmers on the care of piglets and growing pigs
3.5	Advise farmers on the preventive health management

#### 4. Poultry management

Sl	Task
4.1	Identify local poultry prodn. systems
4.2	Advise on housing & general hygiene

4.3	Advise on the feeding practices
4.4	Advise on returns from poultry prodn.
4.5	Advise on the preventive measures to control diseases

#### 5. Fodder development

Sl	Task
5.1	Advise on grasses, fodder varieties, fodder trees and cultivation practices
5.2	Advise on fodder conservation
5.3	Advise farmers on the use and enrichment of agricultural by-products and crop residues
5.4	Facilitate supply of improved seed material in time
5.5	Supervise fodder demonstration plots
5.6	Advise on simple balanced rations
5.7	Orient farmers on the use and conservation of Common Property Resources

#### 6. Preventive health and disease reporting

Sl	Task
6.1	Support AHD in disease surveillance and reporting
6.2	Inform incidence of diseases to the VAS and perform incidental steps
6.3	Advise on zoo sanitary measures

#### 7. Minor procedures in first-aid

Sl	Task
7.1	Maintain equipment
7.2	Examine animals
7.3	Dress the naval cord

#### 8. General dispensations

Sl	Task
8.1	Topical applications and oral administration of medicines

## Schedule II Services

### 1. Artificial insemination

Sl	Task
1.1	Upkeep of Liquid Nitrogen Container
1.2	Examination of animal for heat symptoms
1.3	Detection of heat, rectal examination on the animals presented for AI
1.4	Judge whether or not to perform AI
1.5	Load the AI gun
1.6	Perform AI
1.7	Advise farmers on post AI care and follow up
1.8	Arrange for examination of repeat breeders by VAS and follow up
1.9	Record information on the animal and the owner
1.10	Record calf births

### 2. Non-surgical castration

Sl	Task
2.1	Advise on castration of bulls
2.2	Maintain casting pit
2.3	Cast the animal safely
2.4	Maintain the castrator
2.5	Perform castration
2.6	Advise on post-castration care

### 3. Fodder development

Sl	Task
3.1	Demonstrate dry fodder enrichment

### 4. Prevention of external and internal parasites

Sl	Task
4.1	Perform deticking
4.2	Perform deworming
4.3	Demonstrate sheep shearing

### 5. Preventive health and disease reporting

Sl	Task
5.1	Collect dung samples for lab exam
5.2	Collect urine samples for lab exam
5.3	Collect milk samples for lab exam

5.4	Collect skin scrapings for lab exam
5.5	Collect blood samples for lab exam
5.6	Arrange vaccination
5.7	Procure and preserve vaccine
5.8	Perform vaccination

### 6. General dispensations

Sl	Task
6.1	Perform sub-cutaneous injection
6.2	Perform intra-muscular injection
6.3	Perform intra-venous injection

### 7. Procedures in veterinary first-aid

Sl	Task
7.1	Cast and restrain
7.2	Identify infectious and contagious diseases by symptoms
7.3	Clean & dress wounds & abscesses
7.4	Provide first-aid in bloat
7.5	Provide first-aid in impaction
7.6	Provide first-aid in colic
7.7	Provide first-aid in diarrhoea/dysentery
7.8	Dress broken horn wounds
7.9	De-bud horns in calves
7.10	Trim irregular horn growth
7.11	Provide first-aid in worm infection in calves (Pot belly condition)
7.12	Arrest bleeding

## Schedule III services

### Pregnancy diagnoses and other minor procedures

Sl	Task
1	Diagnose pregnancy as per rectal exam
2	Provide first-aid in poisoning cases
3	Clean and dress eye wounds
4	Relieve bloat in severe cases with ruminal puncture using a needle
5	Identify, report & adopt control measures to prevent spread of Mastitis
6	Immobilise a fracture

## ANNEX VI

### PROPOSED LEARNING OBJECTIVES AND TRAINING DURATION FOR THE FOUNDATION MODULE

**Basic Learning Duration: 12 days**

**1. General study of body parts of animals and their functioning (Cattle, Buffaloes, Sheep, and Goat)**

No.	Subject	Learning Objectives	Time (H)
1.1	External body parts of animals	Identify and enumerate external body parts of the head, neck, chest, abdomen, pelvic, tail, fore-limbs, hind-limbs and udder.	14
1.2	Internal body parts of the head and neck region	Name internal parts of the head and neck Describe functions of important internal parts of the head and neck Estimate age of cattle; small ruminants; horses through dentition	8
1.3	Internal body parts of the chest region	Identify internal parts of the chest Describe the processes of blood circulation and respiration	8
1.4	Internal body parts of the abdominal cavity	Identify and name of the internal parts of the abdominal cavity Describe the organs and steps in digestion in mono-gastric and poly-gastric animals Describe the organs involved and the steps in the urinary function	8
1.5	Internal body parts of the pelvic cavity	Identify and name the internal parts of the pelvic cavity Distinguish different organs by palpation	8

**2. Body parts of fowl**

SI	Task	Learning Objectives	Time (H)
2.1	External and internal body parts in fowl	Identify and enumerate the external body parts of the head, neck, body and appendices of fowl Discriminate between hens and cocks Name and describe the functions of the digestive organs Name and describe the functions of the respiratory and circulatory organs Name and describe the functions of the urinary and reproductive organs	4



### ***3. General information on livestock scenario and signs of health and sickness***

<b>No.</b>	<b>Task</b>	<b>Learning Objectives</b>	<b>Time (H)</b>
3.1	Understand livelihood approaches in livestock	Identify and describe prevailing livestock production systems	6
3.2	Identify common breeds and production and reproduction norms	Identify cattle, buffaloes, sheep and goat, swine, and poultry breeds List out production and reproduction norms	24
3.3	Understand the signs and symptoms of health and sickness	Examine the eyes, muzzle and body coat Examine the posture and gait of the animal Examine the mouth, left-flank and udder Record rectal temperature, pulse, respiration	16

## ANNEX VII

### PROPOSED LEARNING OBJECTIVES AND TRAINING DURATION FOR SCHEDULE I SERVICES

#### Schedule I services

*Duration: 41 days*

#### **1. Livestock management (Cattle, Buffaloes) Duration: 5 days**

No.	Task	Learning Objectives	Time (H)
1.1	Advise on housing and hygiene practices	Advise on general care and management practices of Cattle and Buffalos	8
1.2	Care and management of young stock	List important points in care of young calves	8
1.3	Care and management of pregnant animals	List important points for the care of pregnant, pre- and post-partum animals Enumerate local practices for care of pregnant animals Conduct first-aid in case of pro-lapse and retention of placenta	8
1.4	Care and management of cattle and buffalo nearing calving	List out important dos and don'ts in managing cattle and buffalos nearing delivery	8
1.5	Care and management of fresh cows and buffalos	Identify Milk Fever Prevent weight loss following calving	4
1.6	Health and nutrition management of breeding bulls	List out the performance of different breeding bulls available Understand different components of skill cards	4

#### **2. Sheep and goat management Duration: 6 days**

No.	Task	Learning Objectives	Time (H)
2.1	Advise on the general care and management practices of sheep and goats	Identify the shortcomings of a given shed Make a plan for a shed	8
2.2	Advise on general, grazing, feeding, watering practices of sheep and goats	Appreciate farmers' knowledge on grazing and feeding of Small Ruminants Describe supplementary feed rations per type of animal	16
2.3	Advise on flock build up and management	Calculate flock productivity with the help of reproduction parameters Calculate average lambing/kidding interval	16

2.4	Advice on the care and management of pregnant animals	List important points for care of ewes/does during pregnancy Interpret local practices for the care of pregnant animals Assist during parturition	4
2.5	Advice on care of lambs and kids	List important points in care of young lambs/kids Choose suitable deworming medicine Administer correct doses of deworming medicine Describe deworming and vaccination schedule for Small Ruminants	4

### **3. Swine management - Duration: 2 days**

No.	Task	Learning Objectives	Time
3.1	Advise farmers on housing and hygiene practices	Identify the shortcomings of a given shed Make a plan for a shed	5
3.2	Advise farmers on feeding practices	Describe (supplementary) feed rations based on growth	5
3.3	Advise farmers on the care and management of pregnant sows	List important points for the care of sows during pregnancy Interpret local practices for the care of pregnant animals Assist during parturition	4
3.4	Care of piglets, growing pigs	List important points in the care of young piglets Choose suitable deworming medicine and administer correct doses Adopt preventive health care measures	2

### **4. Poultry management - Duration: 5 days**

No.	Task	Learning Objectives	Time
4.1	Identify local poultry production systems	Identify and describe prevailing poultry production systems	8
4.2	Advice on housing and general hygiene	Identify the shortcomings of a given poultry house Make a plan for a shed	8
4.3	Advice on feeding practices	Describe (supplementary) feed rations as per stage and production performance Formulate and prepare mash with local available feeding ingredients	8
4.4	Advise returns from poultry	Calculate the production of a given farm	8
4.5	Advice on preventive measures to control diseases	Adopting sanitary water management Adopting hygienic practices in litter management	8

### 5. Fodder development - Duration: 7 Days

No	Task	Learning objective	Time
5.1	Advice on fodder varieties and cultivation practices	List out common fodder varieties that can be cultivated in villages Prepare a checklist of cultivation practices of common fodder grasses and trees	8
5.2	Advice on fodder conservation methods	Realise farmers' perception and needs towards fodder conservation (extension) Describe the steps involved in conservation of different fodder	8
5.3	Advice farmers on use and enrichment of agricultural by-products and crop residues	Realise farmers' perception and needs towards fodder conservation (extension) List the agricultural by-products used for animal feeding State the nutritive value of important agricultural by-products Describe the steps involved in enrichment of agricultural by-products	8
5.4	Facilitate the supply of improved seed material in-time	Prepare a format for the collection of information on the required seed material Make a plan for the supply of seeds Test seed quality (germination)	8
5.5	Supervise fodder demonstration plots	Make a plan for a demonstration plot (field lay out; material and labour, costs) Make plans for using the demonstration plot/ distribution of slips, seeds.	16
5.6	Advice farmers on simple balanced rations	Understanding locally available ingredients suitable for feeding Formulating simple ration Demonstrate the use of mineral bricks and salt-licking	8

### 6. Preventive health and disease investigation - Duration: 3 days

No.	Task	Learning Objectives	Time
6.1	Disease surveillance and reporting	Understanding the visible symptoms of commonly occurring infectious and contagious diseases Identify Endemic area for Diseases Prepare Epizootological Maps	16
6.2	Inform the VAS of Out Break Reports (OBR) and perform incidental steps	List scheduled diseases and their symptoms. Describe steps and procedures in case of OBR. Describe the needs and steps for proper disposal of carcass. Assist the VAS in conducting PMs. Prepare the OBR sheet.	6

6.3	Adopt zoo sanitary measures	Advise on segregation of sick animals Advise on sanitary measures to prevent the spread of diseases	2
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**7. Minor procedures in first aid - Duration: 5 days**

No.	Task	Learning Objectives	Time
7.1	Maintain Equipment	Listing out the procedure on care and management of equipment Sterilisation of instruments and equipments	12
7.2	Examine Animals	Record the history of the animal List signs and symptoms of health Palpate different parts of the animal Record temperature, pulse rate, respiration	24
7.3	Dressing the naval cord	List out the procedures and precautions before and after dressing the naval cord	4

**8. General dispensations Duration: 2 Days**

SI	Task	Learning Objectives	Time
8.1	Application and administration of medicines	Perform topical applications and oral administration of medicines	16

## ANNEX VIII

### PROPOSED LEARNING OBJECTIVES AND TRAINING DURATION FOR SCHEDULE II SERVICES

#### Schedule II Services

*Duration: 48 days*

#### **1. Artificial insemination - Duration: 21 days**

No.	Task	Learning Objectives	Time
1.1	Start an AI centre	Enumerating areas of livestock position Enumerating norms for starting an AI centre Calculate the breedable population	8
1.2	The upkeep of Liquid Nitrogen Containers (LNC)	Explain the features of LN containers Describe the correct handling of the LN containers	6
1.3	Identify different internal parts of genital organs	List out the different parts and functions of the female genitalia	32
1.4	Detect heat	List the heat symptoms at different stages Identify normal heat and silent heat by signs and rectal examination Describe different stages of heat	20
1.5	Examine the animal presented for insemination	Perform a rectal examination Interact with the farmers and collect history Examine the animal for symptoms of heat Judge the right time for AI	4
1.6	Load the AI gun	List the common mistakes committed while loading the AI gun Load the AI gun	16
1.7	Conduct AI	Appreciate steps in the recto-vaginal method of AI Adopt all hygienic practices Enumerate hurdles in passing AI Ensure deposition of semen at the right place	32
1.8	Advise farmers on post-AI care and follow-up	List important points for the care of animals after conducting AI	6
1.9	Arrange diagnosis, examination of repeat breeders by VAS and extension of treatment	List signs of repeat breeding Explain the prescribed method of follow-up of veterinary aid Administer medicines as per the prescription of the VAS	8
1.10	Record information on the animal and the owner	Information to be entered into various AI related registers Identify wrongly entered information in the registers Prepare charts on filling LN and semen receipt particulars	6
1.11	Record calf births	Name the data to be entered into the calf birth register Identify wrongly entered information in the register	3

## 2. Non surgical castration – Duration: 2 days

SI No.	Task	Learning Objectives	Time
2.1	Advise farmers on the castration of bulls	Enumerate farmers' perception and local practices for castration of animals Describe the advantages and methods of castration of animals	2
2.2	Maintain casting pit	Describe steps in maintaining a casting pit	2
2.3	Cast the animal safely	Secure and cast the animal using different methods	6
2.4	Sterilise Castrator	Clean and sterilise the Castrator List the measures to prevent the Castrator from getting rusted	1
2.5	Perform castration	Describe the different methods of castration and their advantages Identify the spermatic cord and locate the point of castration Castrate the animal and dress the castration wound	6
2.6	Advise farmers on post-castration care	List the symptoms of complications after castration Describe the care to be given to castrated animals	1

## 3. Fodder development – Duration: 1 day

SI No.	Task	Learning Objectives	Time
3.1	Demonstrate fodder enrichment	Enumerate farmers' perception on fodder enrichment State the nutritive value of important agricultural by-products List the agricultural by-products suitable for enrichment Describe the steps involved in the enrichment of agricultural by-products	8

## 4. Prevention of external and internal parasites – Duration: 3 days

SI	Task	Learning Objectives	Time
4.1	Perform deticking	Identify locations of tick infestation Identify ticks and list out the diseases caused by them List out different methods and materials used in deticking	8
4.2	Perform calf deworming	Choose a suitable deworming medicine and administer the correct dose Describe the deworming and vaccination schedule for calves	8

4.3	Demonstrate sheep shearing	List out the importance of shearing Instruments used in shearing Demonstrate shearing and the precautions that must be taken	8
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#### **5. Preventive health and disease investigation – Duration: 6 days**

No.	Task	Learning Objectives	Time
5.1	Collect dung, urine, milk, skin, and blood samples for lab examination	List out the procedures to collect samples List out the different preservatives to be used in samples to prevent spoilage Prepare a history sheet Collect samples and prepare to send to lab for examination	16
5.2	Arrange for vaccination	Identify the village for the vaccination Get the disease confirmed by a Veterinarian Indenting vaccines Preparing publicity material for vaccination camps	8
5.3	Indent, procure and preserve vaccine	Estimate the required number of doses of various vaccines Describe the methods for preserving the vaccines (transport, hospital, camp)	8
5.4	Perform vaccination	Perform instrument sterilisation Describe different methods of vaccination (route, site, time) Vaccinate different types of animals	16

#### **6. General dispensation – Duration: 2 days**

No.	Task	Learning Objectives	Time
6.1	Administer medicines prescribed by a registered veterinary practitioner	Perform sub-cutaneous injection Perform intra-muscular injection Perform intra-venous injection	16

#### **7. Minor procedures in veterinary first-aid - Duration: 13 days**

No.	Task	Learning Objectives	Time
7.1	Cast and restrain	Restrain animals and poultry Cast cattle and buffaloes	8
7.2	Identify infectious and contagious diseases by symptoms	Describe the various signs exhibited by the animals affected by different diseases List out the procedures and precautions to prevent the spread of communicable diseases	32



7.3	Cleaning and dressing of wounds and abscesses	Differentiate between the types of wounds, abscesses, and cysts. List the measures to control secondary complications Differentiate between abnormal swellings and wounds to be referred to a VAS	24
7.4	Treatment of bloat	Identify the severity of bloat	6
7.5	Treatment of impaction	Examine rumen from the left flank	6
7.6	Treatment of colic	Locate the cause of colic and examine the animal	6
7.7	Treatment of diarrhoea/dysentery	Identify causes of diarrhoea Differentiate between the different forms of diarrhoea Distinguish between the different forms of dysentery	4
7.8	Dress broken horn wounds	Clean and apply tincture benzene seal Clean and dress with antiseptic ointment and apply protective bandage	4
7.9	Debud horns in calves	Ensure age of calf and extent of external horn growth Restrain the calf Trim the horn buds and apply hot iron/caustics	4
7.10	Trim irregular horn growths	Identify non-fleshy portion of horn growth by auscultation Remove the core part of the horn	4
7.11	Treat round worm infection in calves	Identify worm infestation from physical features	4
7.12	Arrest bleeding	List out complications in bleeding Apply pressure bandage Adopt aseptic procedures Prepare lotions to arrest bleeding	4

## ANNEX IX

### PROPOSED LEARNING OBJECTIVES AND TRAINING DURATION FOR SCHEDULE III SERVICES

#### Schedule III

*Duration: 13 days*

#### *Pregnancy diagnosis and other minor procedures*

No.	Task	Learning Objectives	Time
1	Pregnancy diagnosis per rectal examination	Elicit the history of previous inseminations/services Identify asymmetry of the horns Differentiate between the asymmetry due to disease and that due to a pregnancy	32
2	Provide first-aid to poisoning cases	List out the most commonly occurring poisoning cases and their causes List out the common practices to minimise complications	24
3	Treat and dress eye wounds	Differentiate between wounds due to an injury and those due to infectious diseases	8
4	Relieve bloat in severe cases	Identify a severe case of bloat Puncture rumen with a needle to relieve gases	8
5	Minimise the spread of Mastitis	Identify healthy or unhealthy udder Inspect milk Conduct clot on boiling (COB) test	24
6	Immobilise the fracture	Identify fractured leg Apply bamboo slings to immobilise	8



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The Swiss Agency for Development and Cooperation (SDC) is the development arm of the Federal Ministry of Foreign Affairs of the Government of Switzerland engaged in international development cooperation. SDC works in India with a focus on poverty reduction in the semi-arid rural regions of the country.

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The Pro-Poor Livestock Policy Initiative (PPLPI) of the Food and Agricultural Organisation (FAO), launched in 2001, aims to facilitate and support livestock-related policies and institutional changes that have a positive impact on the world's poor. The "Reforms in Livestock Service Delivery Systems - Experiences from a Participatory Process in Andhra Pradesh" constitute a prime example of national and international cooperation leading to an improved mutual understanding with ultimate benefits for the poor.

The South Asia Pro-Poor Livestock Policy Programme (SA PPLPP) was launched in July 2007 as the 'successor' of the PPLPI South Asia Hub through a partnership between the National Dairy Development Board of India (NDDB) and the FAO's PPLPI. The mission of SA PPLPP is 'to ensure that the interests of poor female/male livestock keepers are reflected in national, regional and international policies and programmes affecting their livelihoods'. Up scaling the lessons learnt from the "Reforms in Livestock Service Delivery Systems" is an important item on the agenda of SA PPLPP.



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Intercooperation (IC) is a leading Swiss non-profit foundation engaged in the development and international cooperation for 25 years. IC is a resource and knowledge organisation with 550 professionals working in 22 countries including Afghanistan, India, Pakistan, Bangladesh and Nepal in South Asia. IC works with a number of agencies like SDC, World Bank, IFAD, GtZ, SECO, EU, ITTO, governments and NGOs.

During its early days, IC focused on providing technical expertise to livestock and dairy programmes of the SDC in many states. Its working domains further expanded to cover institutional development and capacity-building; watershed development and sustainable agriculture; decentralized planning and development and adaptation to climate change. Since 2006, IC operates as a registered entity in India, collaborating with governments and a wide variety of organizations. IC's working domains in India are Livestock, livelihoods and environment; Vulnerability and adaptation to climate change and Local governance & civil society.



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CALPI is a programme of the SDC implemented by the IC. Its objective is to capitalise on the rich experiences of SDC-IC to significantly inspire changes in the economic, administrative, legal and policy frame conditions in the livestock sector in such a way that the priorities and challenges of the rural livelihood systems are effectively addressed and the rural poor, particularly women, benefit from the emerging opportunities. In its first phase from May 2002 to July 2006, CALPI supported 17 projects and ten activities spread over seven thrust areas through a network of 27 partners. In its second phase (consolidation phase) of two years from August 2006, CALPI supports nine projects.

All the projects supported by CALPI function on a multi-partner, consortia/resource pooling mode following a participatory process, beginning with the capacity development of the partners and stakeholders. Most of them focus on niche areas and well identified support gaps of high impact potential on the poor. CALPI always focuses on building synergies and convergence with the Governments playing a facilitating and steering role.

