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A REPORT OF THE EVALUATION OF MERCY CORPS INTERNATIONAL'S

ANIMAL HEALTH PROGRAM FOR SOUTHWEST AFGHANISTAN.

SUBMITTED TO THE OFFICE OF THE USAID  
REPRESENTATIVE FOR AFGHANISTAN.

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## **PREFACE.**

The following report is the result of a 7 week consultancy to evaluate and develop the Mercy Corps International (MCI) Animal Health Program with particular reference to the Private Sector Animal Health Initiative.

The report is designed to communicate to the funder, the USAID Representative for Afghanistan (O/USAID/REP), details of the work carried out, to give an overview of the project and to inform them of the recommendations made with regard to the future of the project. In doing this the report uses the terms of reference as a guide and fulfills the terms of reference, as supplied by the MCI Director of Veterinary Programs.

## **LIST OF ACRONYMS.**

BVW - Basic Veterinary Worker

DCA - Dutch Committee for Afghanistan

EIL - Experiment in International Living

MCI - Mercy Corps International

NGO - Non Governmental Organization

PVT - Para- Veterinary Trainer

UN - United Nations

UNDP - United Nations Development Program

UNHCR - United Nations High Commission for Refugees

USAID - United States Agency for International Development

MCI ANIMAL HEALTH PROGRAM STAFF LIST.

4 June, 1992.

Director of Veterinary Programs	Dr. David Sherman, D.V.M.
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Veterinarian	Dr. Abdul Ahmed.
Veterinarian	Dr. Mohammed Tahir.
Teacher trainer	Mr. Abdul Qayoom Rehmani.
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Para-veterinary Teacher (PVT)	Mr. Ali Mohammed.
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Para-veterinarians to train as PVT's	Mr. Sayed Assadullah.
Para-veterinarians to train as PVT's	Mr. Mohammed Zaman.
Para-veterinarians to train as PVT's	Mr. Shahzada.
Para-veterinarians to train as PVT's	Mr. Abdul Satar.
Vaccinators to train as para-veterinarians	Mr. Sharafadin.
Vaccinators to train as para-veterinarians	Mr. Meza Mor.
Vaccinators to train as para-veterinarians	Mr. Abdul Baqi.
Vaccinator	Mr. Ghulam Sakhi.
Translator	Mr. Niamahatullah.
Translator	Mr. Ghulam Mohammed.
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MCI Information Centre Director	Ms. Cheryl Miller.

## EXECUTIVE SUMMARY.

### **PURPOSE OF THE PRIVATE SECTOR ANIMAL HEALTH INITIATIVE.**

The goals of the initiative are:

- To reduce morbidity and mortality among livestock and increase livestock numbers in southwest Afghanistan.
- To improve the security of the livestock producers of southwest Afghanistan against poverty, food shortages and lack of opportunities.
- To increase the productivity of the livestock sector in terms of meat, dairy produce and animal by-products.
- To aid in the production of crops by improving the health, nutrition and living conditions of draft animals.
- To promote trade through improving the health of pack animals.

### **ACTIVITIES OF THE PRIVATE SECTOR ANIMAL HEALTH INITIATIVE.**

- \* To train para-veterinarians to train community based animal health workers known as Basic Veterinary Workers (BVW). The trained para-veterinarians are known as para-veterinary trainers (PVT).
- \* To train Basic Veterinary Workers who can carry out the following activities:
  - perform a complete physical examination of animals,
  - identify symptoms in order to reach a diagnosis,
  - select the correct drugs to treat the animal,
  - know the correct doses of drug for the size of the animal,
  - prepare the correct drug and give it to the animal safely and correctly,
  - comfortably use traditional 'yunani' medicines,
  - record which symptoms they have seen,
  - to charge an appropriate fee for their medicines and services so that they make a profit,
  - provide information about the prevention of diseases to their local communities,
  - restock themselves with medicines from either an MCI store or private traders.
- \* To monitor the progress of the initiative in order to:
  - ensure all the training activities are producing effective BVW's,
  - ensure that BVW's are self-sustaining,
  - to determine what factors make an effective BVW,
  - identify the needs of BVW's and their communities,
  - allow rapid problem identification,
  - ensure targets are achieved,
  - review the direction of the initiative and ensure optimal use of resources.

- \* To establish a sustainable supply of appropriate veterinary medicines, equipment and vaccines to all sectors of livestock production in southwest Afghanistan.

#### **INPUTS TO THE PRIVATE SECTOR ANIMAL HEALTH INITIATIVE.**

The principal inputs consist of:

- The MCI staff expertise, ranging from the director of the program to the translators (see list of staff).
- The farmers and herders selected in the rural communities for training as BVW's.
- The shopkeepers trading in veterinary products in Afghanistan and Pakistan.
- The teaching materials and aids produced by MCI.
- The medicines and equipment selected by MCI as appropriate for sale and use.
- The MCI infrastructure of transport, stores, and offices in Afghanistan and Pakistan.

#### **PROJECT COMPONENTS.**

This report describes the principle components of the initiative in detail, makes recommendations with regard to the direction and management of each component and provides examples of the work produced during the consultancy.

The report begins with a description of the terms of reference for the evaluation of the initiative as set out in full in appendix 1. The history of the MCI animal health program is then summarised in section 1.2.

1. The first component of the program to be discussed is the 'Para-veterinary Trainers' in section 2.1.

The future use of the training manual produced to teach these PVT's is discussed, and the following recommendations are made:

- changes in the content of the manual (detailed in full as appendix 2),
- it should be used primarily as a reference manual,
- because of its quality, it should be made available for use on future PVT training courses.

The work of the PVT's is described in detail (section 2.1.3) Recommendations are made that they work on a five week cycle consisting of:

- 2 weeks classroom and practical training of BVW's,
- 1 week field training the BVW's in their villages,
- 3 - 4 days spent with communities selecting new BVW trainees,
- 1 week of review/training workshops of the previous 3.5 weeks, and discussion of new activities.

An important output of the consultancy has been the production of a BVW training guide for the 2 week classroom and practical training of BVW's. The need for this guide was established after monitoring the training of the BVW's during the consultancy. The guide was produced by Dr. David Sherman and Tim Leyland. It will be useful for other NGO's with BVW programs to use, and could even be adapted for use in other countries. The BVW training guide is included as appendix 9.

The longer term roles for the PVT's, such as carrying out secondary training of successful BVW's and establishing themselves as traders are discussed in section 2.1.4.

2. The second component of the program, the BVW's, is described in section 2.2. Recommendations consider the veterinary medicines and equipment contained in the BVW field kits.

3. Component 3, the section (2.3.) on the resupply of BVW's describes the mechanism of resupply, advises the removal of a 50% subsidy on medicines purchased in the first 2 months post-training, and considers the introduction of loans for the purchase of the initial BVW field kit.

4. The fourth component, the monitoring of the program, is described in detail in section 2.4. Another product of the consultancy has been the establishment of the monitoring system for the program, and initial training of Afghan monitors to run it.

The monitoring system is designed to use informal interviews, formal questionnaires, and inventory data. It begins collecting information on the trainee BVW's and continues to monitor them as they begin to work. The details are in section 2.4.1. The aims of the monitoring system are explained above. Examples of the data collection forms/questionnaires are shown in appendices 4 - 7.

The consultant was prevented from travelling to Afghanistan to monitor the program by the changing political situation. Guide-lines were therefore produced to help the MCI veterinarians carry out a monitoring mission (shown as appendix 8). The results of this mission are built into the report and summarised in section 2.4.2.

5. The MCI veterinarians constitute the fifth component of the program. The report recommends that they become the program monitors. It also suggests that they should receive further training to be able to carry out this role. The details are in section 2.5.

**SUMMARY.**

Finally, the summary of the report suggests that the MCI Private Sector Animal Health Initiative is creating a sustainable network of community based animal health workers. The initiative is progressing rapidly. Recommendations are that:

- \* Regular workshops and further training be held to encourage constant problem solving, participation and dissemination of information about the progress and direction of the program.
- \* Successful BVW's receive secondary training by experienced PVT's.
- \* In the monitoring system, both the monitors and the information collected are evaluated in detail after a period of approximately 3 months.
- \* MCI continue to work closely with other NGO's and agencies working in the field of animal health and livestock production.
- \* A repeated formal survey of stock numbers and offtake be carried out in an area with working BVW's.
- \* MCI begin to train its monitors in Participatory Rural Appraisal Techniques for future appraisal of the wider aspects of livestock production, such as ownership, marketing and environmental impact.
- \* The report is read in its entirety

1.0. **INTRODUCTION.**

1.1. **AIMS AND OBJECTIVES.**

The responsibilities and duties for this consultancy revolved around the need to monitor and evaluate the field performance of Afghan Basic Veterinary Workers (BVW's) being trained by MCI para-veterinary trainers (PVT's). In the process of doing this:

- the training of the PVT's was evaluated,
- the inventory of drugs and equipment used was reviewed,
- the training of the BVW's was evaluated and developed,
- a system for monitoring and evaluating the program was developed.
- recommendations were made with regard to the future of the project.

(See appendix 1 for the complete terms of reference).

The terms of reference also included the need to visit southwest Afghanistan to:

- appraise the needs of the local communities, in relation to the training received and services supplied by the BVW's of the area,
- monitor the relationship between the trained BVW's and the communities within which they work,
- assess the knowledge of the trained BVW's,
- report on the situation with regard to the supply of veterinary medicines and equipment in southwest Afghanistan. Make recommendations with respect to incorporating (or not) these mechanisms of supply into the program, with the aim of making the program more sustainable.

It was planned for the consultant to depart for Afghanistan on the 24th April on a 3-4 week mission. However, events in Kabul led to the UN banning cross border missions. In reviewing the situation on April 22nd with O/USAID/REP, it was decided the consultant could continue to evaluate the BVW training from Quetta and that he should be further used to develop a system of monitoring the veterinary program's activities. In the event of the UN ban being lifted it was hoped that he would still be able to depart for Afghanistan. Unfortunately this did not happen. Consequently the MCI Afghan veterinarians were trained to carry out a monitoring mission based upon the above needs. These veterinarians have had little experience of this type of work. It was necessary to produce guide-lines about information to be collected (appendix 8) and give them some training in information gathering techniques. This process was made more difficult by repeated curfews in Quetta from May 8th - 20th. The vets were to carry out informal interviews and questionnaire interviews in

Afghanistan, with:

- the local communities of working BVW's,
- working BVW's,
- BVW's not working,
- MCI area coordinators and store keepers,
- local traders dealing in livestock medicines,
- any veterinary services based in Kandahar city.

The veterinarians returned to Quetta on June 1st and were debriefed. The data they have collected has been recorded and analysed.

## 1.2. HISTORY OF THE MCI ANIMAL HEALTH PROJECT.

Mercy Corps International's (MCI) agriculture program was established in 1988, upon the infrastructure and staff of the MCI medical program. It was through the medical program that MCI became aware of the need for agricultural rehabilitation and that an important avenue to achieving this was through improvement to livestock health. MCI became involved in limited vaccination programmes with other organisations (Afghan Relief Committee and Save the Children Fund). It was through these vaccination programmes that the need for wider animal health coverage and the nature of that coverage became evident.

MCI's vaccination programme of 1990 - 1991 was based upon an initial training program of vaccinators and para-veterinarians. This was followed by the provision of tractor and trailer mobile vaccination teams consisting of four vaccinators and one paravet. The paravets on these teams were also capable of providing basic disease treatments. The direct beneficiaries of these efforts have been the following groups:

1. The nomadic Baloch Koochi who spend their winters (October to March) on the Registan Desert.
2. The nomadic Afghan Koochi who spend winters between the Arghastan, Tarnak and Argandab Rivers and the desert. In March both groups migrate back to their summer grazing lands in Gazni, Oruzgan, Hazarjat and Baghran.
3. The semi-nomadic Koochi who have made Dand, Punjwai and Maiwand their permanent home, cultivating grains and other crops.
4. Permanent livestock owners in all the above areas and around Spin Boldak.

The need for sustainable provision of improved animal health care to the above groups and the region moved the program toward facilitating the building of a private sector network of Basic Veterinary Workers (BVW's) as well as promoting the sustainable supply of animal health commodities through private traders.

The Private Sector Animal Health Initiative to re-train

para-veterinarians as trainers of farmers/koochi to become BVW's, promote the infra- structure to resupply trained BVW's, and monitor the progress of trained BVW's, started in earnest in November 1991.

The first batch of BVW's were trained and began work in their villages in April 1992. The second batch was selected by the para-veterinarian trainers (PVT's) and began their training on 26th April 1992. Both training sessions were monitored and improvements to the course were made.

The following reports provide full details of the projects:

- a. UNDP/OPS project No's. AFG/88/AO4/MCI/APQ/45 & 46. Animal Health Program for southwest Afghanistan (1990 - 1991).
- b. UNDP/OPS project No's. MCI/APQ/148. Animal Health Program for southwest Afghanistan (June 1991 - Mar. 1992).
- c. 'Livestock Health in Southwest Afghanistan,' a report to MCI and Tufts University by J. Mariner and C. Findlen (1990).
- d. USAID/MCI Private Sector Animal Health Initiative Phase 1. (MCI File **PVT prop.**) (July 1, 1991 - June 30, 1992)
- e. USAID/MCI Private Sector Animal Health Initiative Phase 2. (MCI File **A1/yeartwo**) (July 1, 1992 - June 30, 1993)
- f. 'A Review of the Veterinary Resources for Afghanistan: fundamental information for the MCI BVW program,' consultants report by Peter Flanagan for MCI and O/USAID/REP (Nov. 1991).

## 2.0. EVALUATION OF THE COMPONENTS OF THE ANIMAL HEALTH PROGRAM.

The evaluation examines the five major components of the Private Sector Animal Health Initiative. These are:

1. the PVT's who are instrumental in training the BVW's,
2. the BVW's themselves,
3. the resupply of veterinary medicines and equipment to the working BVW's,
4. the monitoring of the program,
5. the veterinarians working for the program.

### 2.1. PARA-VETERINARY TEACHERS (PVT's).

#### 2.1.1. INTRODUCTION.

The seven paravets selected for training as PVT's attended a two week 'refresher course' in February 1992 at the MCI compound. This course laid the foundations for the BVW program as it prepared the paravets to be the trainers of BVW's. During the current phase of the Private Sector Animal Health Initiative (1992 - 1993) these PVT's aim to train a further 150 BVW's, (39 will have been trained in the first phase).

Evaluation of the 'refresher course' was carried out to improve future training of PVT's and to assess the manual contents. The course manual has been translated into Pushtu<sup>1</sup> and is used as a reference text by the PVT's.

The PVT's attitude toward their work is generally very good. Their pay and conditions of work appear to be on a par with the other NGO's working in southwest Afghanistan. The type of work differs slightly from those NGO's working out of Peshawar. The Peshawar based NGO's place more emphasis on the establishment of veterinary field centres which employ a veterinarian and 2 paravets.

The MCI PVT's work is now divided into 4 - 5 week blocks. Two weeks are spent training BVW's as a group, one week is spent separately training two BVW's in their villages, 3-4 days are used to carry out the selection of the next batch of BVW trainees and 1 week is spent on review and development for each BVW course. The details of this cycle are examined in the following sections.

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<sup>1</sup> Translation is currently being improved and checked by third parties.

The MCI Animal Health Initiative plans to train 300 BVW's over the life of the project (3 years). It has been proposed that the role of the PVT's in this process should be extended so that they eventually are encouraged to become distributors and retailers of veterinary drugs and equipment. This proposal is reviewed below.

### 2.1.2. THE PVT MANUAL.

The training manual prepared by Dr. Sherman for training the PVT's as trainers is a useful and unique volume of high quality veterinary information. The manual was written at the start of the Private Sector Animal Health Initiative and now needs small changes in emphasis and content.

#### **Future use of PVT manual.**

The United Nations Development Program (UNDP) in Quetta is working along parallel lines to MCI. It is building a system of community based BVW animal health services using the NGO's which it funds. One consequence of this is that the method of training paravets is being improved. The next batch of PVT's to work for MCI will be trained in the Experiment in International Living's (EIL) 2 month long 'paravet refresher course'. This course has not trained paravets as teachers before and has been reorganised with this as one of the main goals. I will have some influence over the teaching methods used and the content of this course.

I would propose that if MCI is willing to share the information contained in it, the PVT manual could become the reference text for the participants of this course, suitable acknowledgments being given. Should this be the case the manual should be changed into more of a reference text. For example, the MCI lesson plan would no longer apply and the title headings may need minor word processing changes. The manual was evaluated at the start of this consultancy (see appendix 2), the recommendations made then still largely apply. The manual should:

- a. give more emphasis to carrying out a full clinical examination of animals, including a description of an examination,
- b. place greater emphasis on the treatment of symptoms,
- c. include tables of differential diagnoses,
- d. emphasize the relative importance of diseases by species,
- e. include more detailed information on the prevention of diseases including vaccination schedules.

The new BVW training course guide is thorough enough to be used, with little extra instruction, by PVT's trained to use student-centred, participatory training techniques aimed at training illiterates. I would therefore also recommend that Mr. Rehmani write a new chapter in the PVT manual in Pushtu explaining and describing the participatory training techniques used in the BVW course.

The translations of the PVT manual and the BVW training course guide need to be checked by a third party.

### 2.1.3. PVT WORK.

The MCI PVT's are keen and committed. At first sight I suspected that they may have been a little too keen to agree to all proposals, whether they thought them good or bad. Having now worked with them, I believe them to be capable of airing their views and disagreeing when they feel it is necessary. I think this is a credit to them and the participative training of Mr. Rehmani and Dr. Sherman. It lays the ground work for the development of the new BVW training course as well (discussed below).

#### 2.1.3.1. BVW TRAINING COURSE (2 WEEKS).

The PVT's have now completed two BVW training courses. Both courses have been monitored and evaluated. The initial problem of logistics and problems with the course curriculum are being rectified through post-course evaluation workshops with the PVT's. It is important that these post-course workshops continue to be held either in Quetta or Chaman for at least another 4 courses. The workshops should ideally be attended by all those directly related to the BVW program, because they are a forum for discussing the direction of the project and for airing problems which come to light.

Two monitoring trips to the course held in Chaman from April 26th to May 10th revealed some weak areas in the BVW training. The main problem was that the curriculum was too heavily based upon the PVT training and refresher course, and not toward the needs of a trained BVW. To overcome this and some other minor problems, such as a lack of teaching aids and poor practical organisation, a guide and curriculum for training BVW's has been produced for the PVT's. This new course introduces several new ideas and techniques into the training of BVW's. These include the linking of lessons through review, teaching and introduction of topics, the ranking of diseases, and reorganisation of the practical sessions. The new course is included as appendix 9 and has its own introduction.

I would recommend further monitoring trips by Dr. Sherman to each on-going BVW training course. There are bound to be some misunderstandings with the new curriculum for the first 2-3 courses. Hopefully after this, the course will run relatively smoothly although it should continue to be monitored to ensure the quality of the trained BVW's.

Decisions about which PVT teaches which lessons could be

discussed at a post course-workshop. I would encourage the PVT's to move from lesson to lesson so that they gain experience in all aspects of the course. The PVT's should have the ability to conduct the whole BVW training course by themselves or with one other PVT. It should be remembered that field training should not have a PVT to BVW trainee ratio of more than 3:1 (2:1 is optimum).

#### **Course Testing BVW Trainees.**

The new BVW training course guide states that the BVW trainees will have to pass a test at the end of the first two weeks of training. At the moment this test is quite informal and if the examiners vary, comparing the trainees' performances is difficult. I would recommend that guide-lines be written for conducting this test. For example, a tick off list of points for the examiner to use when trainees are asked to perform a clinical examination would be helpful, as would preparing a numbered pool of questions to be asked of the trainees. I would recommend that the PVT's be asked to continually assess the trainees throughout the 2 week course. Criteria to be assessed should be worked out at the next post-course workshop. The result of this assessment should be used with the test results.

The PVT's agree that trainees who fail the test and show insufficient motivation or ability during the course should not be given a free field kit, and should be denied the weeks field training. If this is to be made a policy, BVW trainees must understand the situation from the start of the course.

#### **Site of BVW training.**

The new BVW training course guide covers the first two weeks of the BVW training. This training should continue to be held in Chaman until the course is running well and monitoring can be carried out by Mr. Rehmani inside Afghanistan. The course could then be held at an MCI centre nearer to the work areas of the BVW's. In the longer term, once the courses are running smoothly in Kandahar Province, I would recommend plans to hold the courses in neighbouring provinces. Such courses may even be held at the village or district level, once areas of need have been identified.

#### **2.1.3.2. FIELD TRAINING (1 WEEK).**

The next phase, a week long field training of BVWs in their villages, was assessed after the first BVW training course was held by Mr. Rehmani and Dr. Ahmed. Motorcycles are used as the mode of transport during this section of training. The assessors reported that they were satisfied with the teaching they saw, but they concluded that further teacher training would be necessary. (This can be done during post-course workshops). Unfortunately only 4 of the PVT's were evaluated. Their report ranked the PVT's activities as follows:

- Lesson plans were fair for 3 out of 4 PVT's, the last was very good.
- Teaching according to lesson plans was fair for 3 out of 4 PVT's and very good for the last.
- Teaching methods varied amongst the four, two used group discussion, one used question and answer the last used lectures only. Question and answer was considered to be the best method and was ranked very good.
- A combination of teacher-centred and student-centred techniques were used by 3 out of 4 of the PVT's, the last used teacher-centred techniques only.
- Evaluation of BVW trainees was carried out by 3 out of 4 PVT's.
- Practical demonstrations were carried out by 3 out of 4 PVT's.

The above results also suggest to me that the PVT's need further training on how to do practical training. Since this evaluation was carried out, the BVW course guide has been written and this should help the PVT's with their field training. I would recommend that the PVT's have a workshop on planning the field training and how to conduct practical demonstrations in accordance with the practical training techniques course instruction plan given to Dr. Sherman and Mr. Rehmani.

Mr. Rehmani and the MCI veterinarians should also carry out another assessment of the PVT's field training methods after the above workshop.

#### **Problems.**

The PVT's complain after each field training session about not having priority over the use of a motorcycle and being allocated the older MCI motorcycles. Subsequent to the last course, I hope these problems have been sorted out. The PVT's should now all be designated a motorcycle for the week long field training session. This motorcycle becomes their responsibility for the week. I would recommend that the PVT's have a simple motorcycle maintenance course to help them with this responsibility.

It may be necessary to make it clear (again) to the PVT's as to why they are designated the older MCI motorcycles, for it seems to cause some indignation. The reasons are that they are travelling shorter distances and are less experienced riders than other MCI motorcycle users.

Each PVT should have no more than two BVW trainees during each field training week. This ensures that motorcycles will be sufficient for transporting and visiting the BVW's.

BVW field training should continue to be held in the BVW's villages. This has the advantage of showing the community, which

should have been involved in the selection of the BVW, that the individual has received training. It gives an opportunity for the PVT to explain the concept and services of the BVW to the community again and it advertises the new service available to the community. It should encourage the community to feel as if they have participated in the program and hopefully go on to use the BVW.

UNDP is preparing some animal health extension aids such as cloth flip-over charts and cloth posters. These should be incorporated into the field training to help advertise the new community service.

It should be made clear to the PVT's that their responsibilities as trainers are not limited to each current batch of BVW trainees. They will inevitably come across working BVW's whilst in the field and should respond to problems<sup>2</sup> and requests for help with cases.

#### 2.1.3.3. **BVW SELECTION (3-4 DAYS).**

The third phase in the training program is BVW selection for the next round of training. After the first BVW training course, the PVT's suggested that the best way for selection to occur would be for the communities to be involved in the nomination of people to be trained (for example 5 names put forward). It is then up to the PVT's to select one or two from the five. The PVT's must therefore be aware of the selection criteria to maximise the chances of training effective, long-term BVW's. These selection criteria have been stated in the general introduction to the BVW training course (see student selection, appendix 9).

Details of the methods used by the PVT's to select the trainees were established during the second BVW training course (see appendix 3 for details). They consisted of meetings with village elders, individuals, commanders and community meetings.

A suggestion has been made that the PVT's should work to select trainees via the area commanders rather than directly with the community. After discussion however it was decided that the commanders would most likely give the selection process an extra political element which may not be positive. It was acknowledged, however, that it may be necessary in some situations to gain the support and goodwill of local commanders.

One further criteria that may need to be introduced at a future

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<sup>2</sup> Even if that means just communicating it to one of the follow up trainers or monitors.

date is the number of working BVW's per district; obviously, this will depend upon the populations of humans and livestock. The PVT's should be aware that there will be an optimum number of BVW's for each district if the BVW's are to make a living from this work, and thus have an incentive to develop their skills. Mapping of the locations of BVW's would help with this.

I would recommend that the selection process continue to be carried out directly by the communities and PVT's wherever possible.

I would also recommend that the PVT's target maldah groups (Koochi/herders) for BVW selection. A recent UNHCR committee ranked a needs assessment for communities in Kandahar province. Sedentary people's need for improved animal health was 6th out of 8 needs. Semi nomadic and nomadic maldah's (herders) need for improved animal health was 1st out of 8 needs. This supports my own survey of needs in Zabul province.

As monitoring details of the relative success of different BVW's are collected and evaluated, BVW selection criteria should be reviewed.

#### **2.1.3.4. BVW COURSE EVALUATION (1 WEEK).**

The final phase of BVW training by PVT's is BVW course evaluation. If each BVW course is to be monitored for the next 3-4 courses, time should be set aside for workshops to review the previous course and develop the next one. Problems will inevitably arise. These workshops have the advantage of keeping the PVT's informed and participating in the improvements.

On-going topics for the workshops include:

- a. field training methodology,
- b. practical demonstration techniques,
- c. how to complete the new monitoring questionnaire for trainee BVW's,
- d. criteria for assessing trainees' performance on the BVW course.
- e. the new BVW course guide.

Future workshops can discuss and record the information gathered from the trainees during the course, particularly with regard to local treatments and management of disease, the ranking information of the relative importance of diseases, marketing and prices of stock. These workshops need not necessarily last a week and could be held in either Chaman or Quetta.

#### **2.1.4. FUTURE PVT WORK.**

For the time being all seven PVT's will be needed to teach the

BVW training course.

The trained BVW's will experience problems, however, with their knowledge and the logistics of working during the first 2-3 months after training. An example of this arose after the first training course when several new BVW's discovered they did not have the knowledge or experience to cope with fluctuating prices or the method of resupply. These problems have now been sorted out but without monitoring visits in the 2-3 month post training period such problems wouldn't be discovered and dealt with. I would therefore recommend that this task should initially be carried out by the 3 MCI veterinarians as part of their future monitoring role (details in section 2.5.).

Six MCI paravets currently working as vaccinators and one working as a PVT are due to attend the EIL paravet refresher course from July to September 1992. In September MCI should have access to 13 PVT's. I would therefore recommend that from September on, some of the experienced PVT's be used for the secondary training of successful BVW's.

The likely topics for secondary training will be identified as the mechanism for medicine and vaccine supply becomes established and BVW performance is evaluated.

It may be that the present drug list will have to be changed as supplies from Kabul and Quetta are established. This may necessitate extra training in the use of new medicines.

I would recommend that an effort be made to train the successful BVW's to use vaccines before the coming winter. This would make the vaccination teams redundant in the areas with a concentration of BVW's. The vaccination teams may still be required in areas without trained BVW's. The mapping of BVW's could help in identifying the areas not requiring vaccination team activity (see the end of section 2.4.1. on monitoring).

The prospects for the above happening will be dependent upon vaccine supply to MCI centres or to private traders.

Successful BVW's might also receive training in how to treat seasonal diseases identified as a problem eg. spring mastitis, dystocia, and warbles, prior to the season of occurrence.

Another factor which may influence secondary training could be the attitude of any new Afghan State Veterinary Service toward the BVW program.

As a sustainable mechanism for re-stocking the BVW's is established, it will be necessary to offer training to the shop keepers selling veterinary medicines and equipment. The recent monitoring mission demonstrated that shop keepers have little or

no idea of the use of certain medicines. The present BVW training course could fairly easily be adapted toward this need and be taught by the PVT's. The training could be limited to the use and dose of medicines and could be geared up slightly for literate people with some mathematics. The indications are that the shop keepers are eager to receive training in the correct use and doses of medicines.

When asked about their long-term future, four out of seven paravets said they wanted to continue their education in the veterinary field by going to university. Such hopes though admirable are probably unrealistic. A more realistic future for the paravets may be for them to become traders in veterinary medicines and equipment.

#### **PVT's as future traders.**

In the past Afghan para-statal organisations such as the Afghan Fertiliser Company had a monopoly on the supply of fertiliser, medicines and pesticides. They would act as wholesalers supplying selected shops in the districts, on their commission. The supply of medicines and pesticides has now been transferred to the private sector. Wholesale merchants still exist in Kandahar, the last monitoring mission contacted two. Mr. Rahmatullah (MCI, head of Agriculture section) has given details of more that may still exist. The two shops already contacted appear to be very eager to cooperate with MCI. I would recommend a higher level meeting with them in the near future.

If MCI were to develop contacts with wholesale suppliers based in Kandahar, they could possibly use these contacts to advise about supply from the manufacturers and to influence the medicines sold. MCI might, in the future, put the wholesaler in touch with PVT's wanting to get commissions to sell medicines supplied by the wholesaler. The PVT's would have the knowledge to advise on the use of medicines they sell and they would have the contacts with the BVW's selling medicines in the villages. Should such an arrangement be feasible the PVT's may require further training in small business management.

I would recommend that veterinary medicine and equipment wholesalers and manufacturers be contacted as soon as possible with the goal of informing them of the program and to discuss mutual cooperation.

## 2.2. THE BASIC VETERINARY WORKERS.

The concept of the BVW is of an individual selected by his community with a PVT, who can:

- perform a complete physical examination of animals,
- identify and connect symptoms in order to decide what is wrong with the animal,
- select the correct drugs to give to the animal,
- choose the correct doses of drug for the size of the animal,
- prepare the correct drug and give it to the animal safely and correctly,
- comfortably use traditional 'yunani' medicines,
- record which symptoms he has seen in the pictorial monitoring book provided,
- charge an appropriate fee for his medicines and services so that he makes a profit,
- provide helpful information about the prevention of diseases to his local community,
- restock himself with medicines from either an MCI store or private traders, using the proceeds made from his services.

This concept of the BVW is being adopted by several NGO's working in southwest Afghanistan. My own previous experience is that BVW's who can do the above will be successful and that several NGO's are aiming to produce such BVW's.

Unfortunately I was not able to travel to Afghanistan in April for MCI to check that the trained BVW's were capable of fulfilling the above tasks or that they are what is needed by the rural communities. The MCI vets brought back monitoring information which suggests the 9 of the 11 BVW's so far monitored are working. Four of these had bought more medicines from MCI and 2 from private traders. This is encouraging bearing in mind that the first batch of BVW's were not selected by their communities and did not match the selection criteria well. The second batch promises to be better.

The new BVW training course (appendix 9) aims to train individuals who can fulfill the above concept. Monitoring of the new course and the newly trained BVW's, as recommended in sections 2.1.3. and 2.4., should be carried out. The BVW selection criteria described in the general introduction to the BVW course should remain for the time being. It may be that as monitoring information about successful BVW's is built up, the selection criteria should be refined.

2.2.1. **BASIC VETERINARY WORKER FIELD KIT.**

The BVW field kit is supplied free to trainees if they pass the BVW course test, taken after two weeks of training. The kit at present contains the items in the following tables.

**FIELD KIT INVENTORY.**

<b><u>DRUGS</u></b> <b><u>ITEM</u></b>	<b><u>UNIT</u></b> <b><u>ISSUED</u></b>	<b><u>NUMBER</u></b> <b><u>PER KIT</u></b>	<b><u>MCI</u></b> <b><u>STOCK</u></b> <b><u>NUMBER</u></b>
Fasinex 250	PKG OF 80	1	9005
Panacur 250	PKG OF 50	2	9006
Panacur 750	PKG OF 50	1	9007
Ditrifon	1 KG JAR	1	9050
Strinacin	PKG OF 20	1	9101
Rasomycine	30 ML VIAL	5	9120
Ophthalmic Ointment	3.5 G TUBE	4	5860
Zinc Oxide	300 G BOX	1	5990
Vaseline	0.5 KG BAG	3	5960
Tincture of Iodine	450 ML BOTTLE	1	5862
Sablon Disinfectant	1 LITER BOTTLE	1	5836
Gentian Violet Crystal	5 G PACKET	3	5303
Magnesium Sulphate	300 G BOX	2	9210
Sodium Bicarbonate	300 G BOX	1	9211
Oral Rehydration Salts	20 PACKET BOX	2	9201

**EQUIPMENT**

<b>ITEM</b>	<b>UNIT ISSUED</b>	<b>NUMBER PER KIT</b>	<b>STOCK NUMBER</b>
Backpack	PIECE	1	9900
Burdizzo	PIECE	1	9600
Scissor	PIECE	1	9520
Forcep	PIECE	1	9521
Clamp	PIECE	1	9522
Scalpel	PIECE	1	9523
L Hoof Knife	PIECE	1	9601
R Hoof Knife	PIECE	1	9602
Pilling Tube	PIECE	1	9606
Round File	PIECE	1	9504
Sharpening Stone	PIECE	1	9502
Soda (Drench) Bottle	PIECE	1	9505
Solution Bottles	PIECE	2	9501
Ointment Jar	PIECE	1	9500
Needle Jar	PIECE	1	6807
Measuring Cup (50g)	PIECE	1	9507
Rectal Thermometer	PIECE	2	9508
Sm Hypodermic Needle	PIECE	8	9510
Lg Hypodermic Needle	PIECE	4	9511
10 cc Syringe	PIECE	4	6828
30 cc Syringe	PIECE	3	6830
50 cc Syringe	PIECE	3	6831
60 cc Dose Syringe	PIECE	2	821
Roll Cotton	PIECE	1	6115
Roll Gauze	PKG OF 12	1	6302
Adhesive Tape Roll	PIECE	1	206
Rubber Gloves	PAIR	1	9515
Nose Holder	PIECE	1	-

The kit contains just about everything a BVW should need! The kit components cost approximately \$120 (60,000 Afghanis at 20:1 Rps).

The items I would recommend be removed from the kit are:

- Gentian Violet, because Iodine does the same job;
- 50cc Syringes because we don't want the BVW's giving 50cc injections at one location and the 60cc dosing syringes are adequate for administering ORS.

I believe the new monitoring system will quickly highlight those items in the kit which are not being used, for they will not be replaced. Items not being used should be targeted for evaluation. If found to be unpopular, these items should either not be put in the kit, or training in their use should be improved.

I suspect the following items may be used once when free with the kit but will not be bought from the MCI stores:

- Ophthalmic Ointment
- Zinc Oxide
- Vaseline
- Tincture of Iodine
- Gentian Violet Crystal
- Roll Cotton
- Roll Gauze
- Adhesive Tape Roll
- Rubber Gloves.

The following equipment may not be used enough to justify inclusion in the kit:

- Forceps
- Clamp
- Scalpel
- L Hoof Knife
- R Hoof Knife
- Round File
- Sharpening Stone.

I would target all of the above for evaluation of use by the working BVW's, using the MCI vets (as monitors). At the moment, though I don't think there is any great harm in including them in the kits.

There is some problem with the liquids (Sablon and Iodine) and Vaseline in the kits breaking out of their containers during transportation. Dr. Sherman has taken action to reduce the risk of this, but should it continue, their use should be re-evaluated.

Having seen the PVT's using the metal pilling tubes on fairly fractious cows, I was pleasantly surprised at how effective they were. Therefore, should it prove difficult to have balling guns made up, I would stick with the filed down metal pilling tubes.

In the short term, MCI should consider stocking products not contained in the kit but which may be in demand. I am thinking of the phosphorous blocks supplied by DAI and seasonal medicines such as intra-mammary antibiotics. In the long term MCI should be developing contacts with private traders so that they will stock such products.

#### **Provision of free kits.**

Should the BVW training program prove so popular (in 3-4 month's time), that competition for places on the course arises, the BVW field kits could have a nominal price. The problem with charging full price for them is that you then bar poorer people from being trained.

One other suggestion is that BVW's should be loaned medicines by MCI in the initial kit which they would then pay back as they sell the medicines. This would overcome the possible problem of free kits while not necessarily preventing the poor from attending the course. It seems that this may be culturally acceptable, and if done through the community may not be too great a loan risk. This loan and repayment idea has been incorporated in Health Unlimited's BVW project. The idea was suggested by the community, and the BVW's appear to be paying the storekeeper's back as they sell the medicines. It may be an idea to discuss in one of the post-BVW course workshops.

**Follow up training and monitoring of BVW's.**  
This was discussed in sections 2.1.4 and 2.4.

### 2.3.

### RESUPPLYING BVW'S.

There is some evidence of working BVW's misunderstanding how they are to buy new medicines<sup>3</sup>. Resupply of the working BVW is an important topic and should not be neglected during the BVW training course and whilst monitoring.

At the moment working BVW's may restock from either Panjwai or Spin Boldak MCI offices. The store keepers will keep an inventory of the drugs purchased by each BVW. They should mark each inventory form with the price list number. When the price list changes they should start new forms. It should be the responsibility of the MCI vet monitors to collect these forms each month. This should be more efficient than having the forms brought to Quetta by a third party. It also allows the monitors to check supplies and could lead to them taking more responsibility for ordering new medicines.

The monitoring system (see section 2.3) should indicate if BVW's have a problem getting to the MCI stores. A working BVW in Shari Safa has complained that the two present stores are too distant. I would get the monitors to look into the possibilities of setting Shari Safa up as a third resupply store.

MCI should consider producing a picture price card showing each of the medicines (whole packs and dispensed units; eg one bolus or spoonful) sold at the MCI stores. The current MCI sale prices of the medicines can be placed opposite each picture. If the price changes master copies of the pictures can be used to produce a new batch of cards for distribution to the stores and BVW's. Such copies should be numbered so that the MCI store keepers are aware of when to change their inventory forms. The reason for making such price lists is to help illiterate BVW's with no mathematics to work out how much they bought the medicine for and thus how much they will sell it for.

The BVW's are being encouraged during training to record the cases they see each day, on a pictorial monitoring form. The BVW's should be asked to hand these forms in when they buy new medicines. The MCI vets or PVT's monitoring the newly trained BVW's should check and encourage filling in of these forms. The store keepers will need to stock a supply of new monitoring books.

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<sup>3</sup> Some BVW's were unclear how the fluctuation in the exchange rate would affect the prices in the MCI stores. Some BVW's thought they had to buy a whole new stock of medicines, rather than just buy what they needed.

For the first two months after training, the BVW's can buy new medicines from the MCI stores at half price. I would recommend that this subsidization cease, as it could encourage black market selling and should not be necessary if there is a demand for BVW services.

I would also recommend that the MCI store keepers keep a monthly record of the medicines used by each PVT for his own kit. At the moment PVT's can restock their training kits for free. Amounts of medicines should be monitored and compared between PVT's just in case one or two yield to the temptations of the black market and begin claiming excessive amounts.

MCI should continue with plans to produce a picture book for the BVW kit of all the commonly used medicines found in Afghanistan. The book should show a picture of the medicine along with an indication of the symptoms for which it is used, and the dose for each species. The book should also have the names and doses written in Pushtu for those people who can read. Such a book would have to be evaluated in the field before being produced in substantial numbers. If such a book is incorporated into the BVW training course, it should help the BVW advise those buying such medicines, allow him to use them more effectively himself and make him less dependent upon MCI for resupply. This would make the project more sustainable. Shop keepers could also be taught to use such a book.

Because of the continuing problems with obtaining permits from the Pakistani authorities to allow movement of medicines and equipment across the border, contacting the larger store owners and wholesalers both in Kandahar and Pakistan should be a priority at the moment (see section 2.1.4.). This process is on-going. In the long-term, the Kandahar agents should hold the best prospects for cheap supplies. They should be sought out first. This exercise should continue to be coordinated by Dr. Sherman and Mr. Rahmatullah.

#### 2.4. MONITORING AND EVALUATION OF THE ANIMAL HEALTH PROGRAM.

The MCI BVW program was founded on experience of working in the area of animal health in southwest Afghanistan and on a thorough ethno-veterinary survey of disease problems (Mariner and Findlen 1990). The principle of training community based animal health workers is being developed in parallel with MCI by a number of other NGO's, with the backing of UNDP. The above factors, with the demand for and lack of existing community based animal health services using effective modern medicines in Afghanistan, suggest that the BVW program has great potential. MCI is correct in wanting to set up a thorough monitoring system at the outset of the program. The logistics and problems of poor communications of working cross border into Afghanistan gives the monitoring of this project added importance.

Unfortunately it was not possible for me to go to Afghanistan to carry out an appraisal of the current situation as stipulated in the terms of reference (appendix 1). It was therefore decided to train the MCI veterinarians to carry out a monitoring mission.

The extra time spent in Quetta enabled Dr. Sherman and myself to set up a system of monitoring the project.

##### 2.4.1. THE BVW PROGRAM MONITORING SYSTEM.

A monitoring system has been developed for use by the participants of the animal health program. It consists of five formal portions which collect data that can be recorded for analysis. They are:

1. **Questionnaire**, used to record details of BVW trainee's origin, background, wealth parameters and reasons for wanting BVW training. This questionnaire should be completed during the training by the PVT involved in the trainees' selection. (questionnaire is shown in appendix 4, it has been translated into Pushtu).
2. **Questionnaire**, to record details of the working BVW. This questionnaire is designed to allow MCI to determine if the BVW is working successfully and what problems he is encountering. This questionnaire will mainly be used to compare and contrast the performances of working BVW's. Certain parameters in the questionnaire are used to make up an individual index of success which can then be correlated to the BVW's background details such as wealth, literacy and age, etc.

Because the questionnaire covers nearly all areas of the BVW's work it acts as a useful aide memoir for the monitor.

It is important that monitors using this questionnaire be prepared to make extra, informal notes and record anecdotes. This is to overcome the danger of questionnaire monitoring becoming sterile and missing important information by being limited to a narrow band of questions. (The current format of the questionnaire should be altered so that space is left between questions for such notes to be made). Such notes will not be recorded in the information system but are there for the director and others to read and note in Quetta.

This questionnaire is for use by the monitors following up the BVW during the 2-3 month period after training. This monitoring should be carried out by the MCI vets. The vets should be trained to take on the role of monitors and coordinators for the program. The vets ability to do this work should be evaluated after 3 months. As more PVT's are trained then some of them could possibly help with the monitoring.

One of the problems with questionnaires is ensuring that the questions remain valid and are culturally viable. The translation of the questionnaires should be checked by a third party as soon as possible. The questionnaire should also be evaluated after 3 months to ensure that the questions are suitable for covering the work and problems of the BVW's.

The questionnaire, possibly in its second version should then be used at 6 month intervals with the working BVW's. (questionnaire is shown in appendix 5, it has been translated into Pushtu).

3. **Questionnaire**, coupled with the above questionnaire to record details of trained BVW's who are no longer working as BVW's. The information and questionnaire should be used as above. Again the use of informal notes to record anecdotes and more detailed problems will be important for those BVW's who stop working. This questionnaire will provide information about the reasons why BVW's stop working and possibly help to identify ways to ensure their continued progress in the future. (see appendix 5, has been translated into Pushtu).
4. **Pictorial monitoring forms**, for the illiterate working BVW's to record the major symptom in each species of the animal they treat each day. These forms will give an indications of the number of animals each BVW is treating for an index of success. They will also provide simple epidemiological information on the occurrence of common diseases on a seasonal basis.

The BVW's are trained to recognise the pictures, use the forms, know when to hand the forms in to MCI, and the reasons for filling in the forms during the training course. The latter should be stressed during the introduction and teaching of the BVW training course. The BVW's enthusiasm for filling in the forms is so far untested. This should also be evaluated after 3 months. It may be that some incentive may have to be given to encourage this self monitoring, such as extra training dependant upon good performance (forms are shown in appendix 6).

5. **Inventory forms.** The MCI store keepers at Panjwai and Spin Boldak are supplied with inventory forms in which to record the monthly purchases made by each BVW. This information is used toward producing an index of success for each BVW, to provide information on seasonal use of medicines, and can be matched up to the cases treated by the BVW to check the use of medicines.  
(shown in appendix 7).

The MCI store keepers should also record the amount of medicines used by each PVT using a similar form (appendix 8). (see section 2.4.)

After assessing different methods of recording the formal information collected by the above five portions of the monitoring system, MCI's current computerised information system is now set up to record and analyse the information gathered during monitoring. The data produced will aid MCI in evaluating the impact of the program, the field activities of the BVW's, in determining the criteria to be used to select successful BVW's, in quantifying drug use, and in producing epidemiological information about the livestock diseases of southwest Afghanistan.

The information system is now equipped with a mapping program. This should be utilised to record details of where the BVW's are located in relation to towns, villages, other BVW's and even the Koochi migration routes.

I would stress that formal monitoring information must be supplemented by informal or qualitative information if its validity<sup>4</sup> is to be maintained. All monitoring visits carried out should include informal interviews with the parties affected.

#### 2.4.2. MCI VET'S MONITORING MISSION.

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<sup>4</sup> Validity is the degree to which data measures what it is intended to measure. It may be described but not measured.

Once it became clear that I was not going to be able to leave for Afghanistan to monitor and evaluate the field work and conditions within the duration of the contract, it was decided to train MCI's Afghan veterinarians to complete a similar mission (see section 1.1.). The guidelines produced to aid the monitoring mission are shown in appendix 8.

One advantage of giving the Afghan vets this training and experience now is that it should be easier for them to take up the role of monitors in the future. The experience gained can be used as a basis for further training in participatory rural appraisal techniques. These are used to collect qualitative information about problems arising during the project, and are a valuable monitoring tool.

The results of this monitoring mission were satisfactory. The lack of experience of monitoring by the vets was apparent but the result is encouraging. The questionnaire for working and non-working BVW's proved to be useful. Some of the information learned has been incorporated into this report. The major findings from the vets mission are as follows:

1. The first batch of BVW's had a poor idea of what their relationship with MCI was. Nine out of 11 said they wanted a salary. This information should be fed back to the PVT's. It may be necessary for them to take more care to select people who can understand the concept of developing their own BVW business (entrepreneurs) rather than people who will complain that they can make more money as a labourer. An entrepreneur would say he could work as a labourer in the day and sell medicines locally in the evening.
2. Several BVW's said that transport was one of their problems. This is understandable if you take into account the terrain in which they work. I know how tiring and time consuming it is to walk 3 hours in the heat to visit 6 sick goats. Maybe MCI should discuss this with the paravets and monitors at a workshop. I would not advise giving away bicycles, though loans may be feasible.
3. The other problems mentioned by BVW's were on an individual basis eg. difficulties in recognising diseases, and difficulties in obtaining medicines. The trends for these problems and with regard to other parameters questioned will come to light as more information is collected. I have recommended a thorough review of the monitoring system and the monitors after 3 months.
4. The knowledge of the BVW's was adequate but could be and will be improved.
5. The findings with regard to the format of the questionnaires, ways of improving the questions, and ensuring that data is in the correct form to be recorded by the information centre have been communicated to Dr. Sherman.

6. In the various districts visited the general problems are: Maiwand, lack of roads and isolation; Arghandarb, repair of a major irrigation channel which burst its banks; Boldak and Shari Safa, damaged karezes, insufficient water for irrigation and lack of labour; Panjwai, artesian water preventing cultivation (drainage needed). The above information shows that only sedentary populations were interviewed. The discussion of the problems was too superficial on this occasion to be of much use in the appraisal of district problems.
7. The disease ranking carried out by the monitors was not accurate or thorough enough to be worth reporting.
8. The shopkeepers contacted appear to be eager to develop contacts with MCI and this is being followed up.
9. The MCI store keepers contacted have requested training on the use of medicines; this is being followed up. Streamlining the supply of stock and submission of inventory forms is being followed up.

The above reinforces the need for the vets to be trained further in the methods of and need for monitoring.

#### 2.4.3. LIVESTOCK NUMBERS SURVEY.

If the monitoring system is successful, quantitative information about work carried out, cases treated, diseases seen, etc. will be built up. A stratified random sample survey of stock numbers and offtake (sales) in districts with BVW's should be seriously considered. Such a survey would allow greater analysis of epidemiological data, and if repeated in the same area would help with a quantitative estimation of the impact of the program.

Random sample surveys are easier to perform if a list of families in a community already exists. For example commanders or shuras sometimes keep a list of families residing in the area; eg. to help with distribution of aid materials such as wheat or fertiliser. The MCI vets have been asked to inquire about such lists on their monitoring missions. This needs following up.

2.5. MCI VETERINARIANS.

MCI now employs 3 veterinarians:

-Dr. Fateh Mohammed is most senior and has mainly been involved in coordinating the vaccination teams' activities. Unfortunately he has had few opportunities to develop his clinical skills, though his organisational skills are satisfactory.

-Dr. Abdul Ahmed is a relatively new employee and has been involved in the translation of the PVT manual. He too has had little or no clinical experience, but he does appear to be able to communicate well with people. He remains a bit of an unknown quantity.

-Dr. Mohammed Tahir is newly employed as a vaccinator. He probably has more clinical experience than the others. He used to teach on the Dutch Committee for Afghanistan's paravet training course. Out of all the vets he probably has the most clinical and commercial experience. I would suggest that Mohammed Tahir join the other two vets in the BVW program, principally as a monitor. Though Mohammed Tahir has teaching experience, the BVW course is not at the level requiring a vet. He may be of some use in providing occasional technical expertise for the paravets when they are conducting the course, or in the field.

I think the best use of MCI vets would be:

- to coordinate program activities,
- to monitor the BVW program,
- possibly to provide technical expertise for the PVT's.

I think MCI will require 3 vets to coordinate and carry out the monitoring. Fateh Mohammed will have decreasing coordinating responsibility for the vaccination teams. Abdul Ahmed and Mohammed Tahir should devote their time to monitoring the activities and to direction of the program.

Fateh Mohammed and Abdul Ahmed have received some rather rushed training in monitoring but their attitude does not appear very positive or secure. Some patient training would be required if they are to understand the need for monitoring and develop some esprit de corps. The actual rural appraisal techniques for collecting information are simple (almost common sense).

The work load of the monitors would increase as more BVW's are trained. Each BVW should be visited at approximately 6 week intervals for the first 12 weeks after training to:

- observe how they are working,
- complete the working BVW questionnaire,
- sort out problems encountered.

The BVW's should then be visited again at six month intervals,

for the same reasons. This work has to be organised and the information prepared for recording in the MCI information centre.

The vets would also be responsible for monitoring the MCI stores, problem solving, ensuring the monthly inventory forms get to Quetta, and that the information is recorded. Ideally the vets should attend the 5 week post-BVW course workshops to participate in reviewing the program activities.

The work load will require more than two people. The work load when over a hundred BVW's are in the field may necessitate that the monitors have constant access to a 4WD vehicle. The MCI vets should be aware that this monitoring role will mean extra responsibility and initiative. Through monitoring they will be the first to discover problems and it will be up to them to sort problems and contact the relevant people and insure that information reaches the information centre in the correct form. This attitude needs developing.

When the MCI mapping system is up and running, the vets could take responsibility for mapping the location of BVW's.

The vets should play a role in contacting and possibly negotiating with wholesalers over the supply of medicines. Because they have no business experience and this will be an important component to the future sustainability of the BVW program, I would suggest that Mr. Rahmatullah and Dr. Sherman would be best suited to supervise this process.

### 3.0.

#### SUMMARY.

In my opinion, the MCI Private Sector Animal Health Initiative is a pragmatic and potentially sustainable development program for the provision of animal health services to rural southwest Afghanistan.

The overall policy of the program is to make the BVW's effective and self-sustaining as quickly as possible. The program activities aimed at doing that are basically sound. I cannot recommend any drastic change in policy and so have limited my recommendations to ways of fine tuning the program. I might have been able to make more specific recommendations had I been able to go into Afghanistan. As that was not possible, probably greater progress has been made on building a monitoring system and developing the BVW training course.

I am satisfied that the PVT's and the BVW training course are progressing in the right direction. The weaker components of the project were monitoring of its progress (failures and successes) and the identification of sustainable private supplies of medicines and equipment. Action has been taken on both of these components. Indeed, the program is making steady progress toward identifying and ironing out existing problems.

In the last 3 months rapid progress has been made in:

- training the para-veterinarians as teachers,
- the development of the BVW training course, resulting in the preparation of a new curriculum and teaching guide,
- the development of a monitoring system and the training of Afghan vets to act as monitors,
- contacts being established with private traders.

The animal health program is making good use of the facilities and contacts available at MCI.

With such rapid progress I think it is important to make sure all the participants are kept aware of the project's direction and developments. There is a good team spirit amongst those involved, particularly the PVT's. This should be retained through the 5 week workshops which were recommended. The MCI vets are possibly the weakest link in this sharing of the progress. I would recommend that time be spent going over the aims of the project and stressing the importance of their role as monitors. I would even consider bringing in an experienced monitor to go to work with them in Afghanistan to evaluate and help improve their work. I have recommended that their work be evaluated after three months. It may be possible to find a suitable monitor by contacting other NGO's with monitoring experience in Quetta or Peshawar.

I feel that the BVW training is at the limit of how complicated one should make it. An important part of the monitoring will be to check the knowledge of the working BVW through informal interviews and observation of how they work. Deficiencies would best be resolved by making the training simpler, rather than increasing the follow up training. It is better to do a little well rather than a lot badly when you are building something to last.

Should the BVW's be shown to be working as well as is expected over the next 3 months, I would recommend that they be supplied with heat stable vaccines this winter so that the vaccination teams can be phased out in the areas with working BVW's. The only worry I have with this idea is that if the BVW's are found to be treating mainly sedentary farmers stock, the Koochi nomads might lose out on such a development. I would therefore recommend that emphasis be placed on the need to select BVW trainees with strong Koochi affiliations who can prepare themselves for the large numbers of vaccinations required by Koochi.

I would encourage MCI to continue to investigate the possibility of training Koochi women to be BVW's. Many of the Afghans express doubts about the feasibility of such training but none of them were Koochis. Such a study should also make recommendations about how to improve contact with the Koochi so that more Koochi BVW's are trained, male or female.

I would encourage MCI to continue to cooperate with and support the UNDP and smaller NGO's with similar programs, incorporating their findings and expertise. A strong decentralised animal health service will have more chance of cooperating with a new Afghanistan as well as surviving the centralised controls that may be established by the new government. At the moment there is no government veterinary service operating in Kandahar. It may be expedient for MCI to investigate the possibility of offering to help the new authorities in setting up a veterinary clinic in Kandahar for the people in the city. Such a clinic would be a valuable base from which to develop the BVW program should MCI headquarters move to Kandahar.

In the long-term, improved animal health will increase stock numbers. Because of the war and reduced stock numbers in Afghanistan at the moment this is desirable. However, in many arid environments around the world increasing stock numbers have been detrimental to the environment and ultimately to the communities reliant upon them. Once the BVW program is up and running MCI should start to look at the wider implications of livestock development. MCI should particularly look at the impact of increased stock numbers on the grazing available and on the annual movement of pastoralists. MCI should study how meat and animal products are marketed in Afghanistan. The marketing of livestock is often related to livestock ownership. At present we

know very little about the traditions governing livestock ownership; any marketing study should include a study of this. This is particularly important if the need to improve offtake becomes apparent.

The following parameters should be determined in order to assess the long-term impact of improved animal health:

- the direction in which livestock numbers and flock/herd profiles are moving,
- the changing grazing patterns possibly caused by overgrazing,
- the traditional marketing mechanisms and controls,
- the perceived impact of the program by the community.

The best and cheapest way of determining these would be to ask the farmers, herders and livestock product users, using a participatory rural appraisal (PRA) approach. Participatory rural appraisals produce accurate qualitative data and can be carried out by Afghan monitors after suitable training in the techniques. I would recommend that MCI consider training their monitors in PRA techniques. Training courses and manuals explaining PRA are available and the techniques work (once the principle is understood) because of their simplicity.

To obtain quantitative data on the impact of the program on stock numbers I would recommend a small stratified random survey of stock numbers and offtake. The area for the survey should be one with a high population of sedentary or semi-nomadic herders and one in which BVW's have recently started working. The survey would have to be repeated in the same area in 1.5 years to be meaningful. The results would help MCI identify the impact of the BVW program on livestock production.

# APPENDIX 1

## TERMS OF REFERENCE FOR ANIMAL HEALTH MONITORING CONSULTANT

Within the objectives of the O/AID/REP funded Cooperative Agreement No.306-0211-A-00-0961-00 for agricultural development in southwest Afghanistan, Mercy Corps International (MCI) requires the services of a consultant for approximately 35 working days to evaluate the field performance of Basic Veterinary Workers trained by MCI to provide basic animal health care services to their communities in Afghanistan.

### QUALIFICATIONS

Must be a non-American national (green card holders also excluded), must be a Doctor of Veterinary Medicine; must have related work experience in field evaluation of animal disease problems and evaluation of work performance of veterinary paraprofessionals, preferably in developing countries; must be adaptable to living and working conditions in Pakistan and Afghanistan; must have ability to work through an interpreter; knowledge of Pashtu, Farsi or Urdu helpful.

Note: The project is being implemented in a non-active war zone and the consultancy requires travel to the project sites for first-hand site inspections. While normal precautions will be taken to ensure the safety of the mission, there is an element of personal risk involved. The consultant must agree that the site visits are an integral part of the consultancy and accept the risk involved in undertaking them. The only acceptable basis for cancellation of the site visits will be the advise of field-based MCI staff that the area is insecure for such visits.

### RESPONSIBILITIES/DUTIES:

Specifically this consultancy is expected to involve the following activities:

1. To become familiar with the overall objectives and activities of the MCI Veterinary Programs, particularly with regard to the training of Basic Veterinary Workers (BVWs) for provision of basic animal health care services to livestock owners in southwestern Afghanistan. This includes meeting and discussion with MCI staff veterinarians, teacher trainers, and paraveterinarians involved in the training of BVWs.
2. To review the training manual developed by MCI for training paraveterinarians (PVTs) as trainers of BVWs, with particular regard to the lesson plan, training goals, and appropriateness of course content to the animal health situation in southwestern Afghanistan.

3. To review the inventory of drugs and equipment selected by MCI for inclusion in the BVW field veterinary kits.
4. To develop, in conjunction with the Director of Veterinary Programs, a field methodology and appropriate criteria for ongoing monitoring and evaluation of the performance, effectiveness, and community impact of BVWs working in southwestern Afghanistan.
5. To make site visits to communities in southwestern Afghanistan where trained BVWs are currently working to evaluate their skills as providers of basic animal health care services, to assess the common disease problems in the areas being served, and to determine whether animal health care service provided meets community needs.
6. To identify problems in, and propose solutions for the selection, training or performance of BVWs.
7.
  - a. To evaluate the appropriateness and utilization of drugs and equipment provided to BVWs by MCI to deal with local disease problems of importance.
  - b. To identify veterinary pharmaceuticals and supplies currently available in major markets in the project area and evaluate these products for use in the BVW program.
  - c. To assess the ability of merchants currently selling veterinary supplies in Afghanistan to serve as consistent suppliers of the materials included in the BVW kits and assist MCI personnel in developing a sustainable network for resupply of veterinary pharmaceuticals and supply.
8. To prepare an evaluation report for the Director of Veterinary Programs addressing the following issues.
  - a. Appropriateness of MCI training manual.
  - b. Suitability of BVW training.
  - c. Knowledge and effectiveness of BVWs.
  - d. Enumeration of important livestock diseases in areas where BVWs are working.
  - e. Appropriateness of drug and equipment inventory provided to BVW, with reference to appropriateness of amounts provided and available products in Afghanistan.
  - f. Resupply networks.
  - g. Ongoing monitoring and evaluation systems.

9. To provide recommendations on the following aspects of the BVW program.

- a. Refinement of BVW training methods and materials.
- b. Appropriateness and relevance of current training.
- c. Needs for additional training and retraining.
- d. Needs for additional drugs and equipment.
- e. Revisions in the current drug and equipment inventory.
- f. Additional services to be provided by BVWs.
- g. Development of a suitable record keeping system for use by BVWs to provide information on their field activities, diseases seen, and drugs utilized.

Additional responsibilities and duties may be assigned on arrival as needed or requested by the Director of Veterinary Programs and O/AID/REP staff.

#### CONDITIONS

1. The consultant fee will be based on validated income history as presented in AID employee form 1420.
2. The consultant will work on a job-to-do basis at a minimum of 8 hours per day, for up to 6 days per week, Saturday through Thursday. One day of travel time will be paid for each of the outward and return journeys.
3. The consultant will accept food and lodging at MCI's staff house facilities in Quetta or at project site, and reimbursement for actual food and lodging costs at authorized locations outside of Quetta, in lieu of per diem rate payments while in Pakistan.
4. MCI will arrange for purchase of tickets for air travel to and from Quetta.
5. The consultant will provide a detailed trip report, a consultancy report (including findings and detailed recommendations), and participate in a presentation and debriefing to O/AID/REP in Islamabad prior to departure from Pakistan.
6. The consultancy is expected to require approximately 35 working days, and will begin around April 7, 1992.
7. The consultant will report to the Director of Veterinary Programs and work in cooperation with the Country Director, the Ag. Project Manager, the Ag. Division Head, and all related program staff.

**APPENDIX 2.****EVALUATION OF PARAVETERINARY (PVT) TEACHER TRAINING COURSE  
TRAINING MANUAL.****GENERAL COMMENTS.****LAYOUT**

The layout is very clear, I like the objectives being stated right at the start followed by the main points. Maybe the lessons should be broken down further:-

- with allotted times,
- key points,
- equipment required,
- teaching methods to be used,
- suggested practical sessions.

I have found that it is quite difficult for people who don't read books to find the page they need. Some people overcome this by having small pictures at the top of the page rather than page numbers. These pictures suggest/indicate the subject on the page. The pictures of symptoms developed for the BVW's could also be used in the manual. This would have the advantage of helping the PVT'S learn the pictograms.

Could more pictures be incorporated into the text of part 1?

**CONTENTS**

It seems to me that the course is more than just a training course for paravets to be teachers of BVW's. But is also a refresher course of the principles and diseases that paravets must understand before they can teach. I think the PV's need this consolidation and checking of their knowledge. You can't assume the PV has remembered or understood his original training.

The information in the manual, such as detail of all the diseases should not to be passed on to the BVW's. The actual course contents for BVW's should be much simpler, containing only the basic principles and be practical.

The course should start with a thorough session on how to impart information to illiterate farmers by practicing and demonstrating the participatory teaching techniques. This theme should be continued throughout the course. I have enclosed a copy of the ITDG Participatory Training Techniques Course Instruction Plan. This could easily be adapted for use with the PVT's over the first two days of the course, with the

cooperation of Mr. Rahmani. It covers some techniques which Mr. Rahmani does not, such as how to give practical instruction, a vital part of the PVT's training.

The course should end with several sessions devoted to the new BVW training course teacher's manual. What the BVW's should be taught, recapping how and why, using role play examples of the problems, and going over the different techniques.

### **BVW COURSE**

The contents of the BVW training course should be dependant upon an assessment in the field of the first batch of BVW's.

I don't necessarily think it should be of the same format as the PVT course. But should stress right from the beginning the things the BVW's will need to know to function and make a profit. That is:-

- know how to identify the symptoms in sick animals,
- know which medicines to give for which symptoms,
- know how to administer those medicines,
- know simple facts about disease occurrence and relate this to symptoms,
- have very simple ideas about what causes specific diseases, building upon what they already know, their 'indigenous knowledge',
- only teach them about the very worst diseases in their area, forget the minor ones for the time being,
- teach them how to restock and monitor using the forms to be developed.

**SPECIFIC LESSON/SECTION COMMENTS.****INTRODUCTION.****Comment on Main Points.**

1. Say more about the history and the future of the MCI program when describing the overall purpose of the program. How the idea of BVW's has developed and the short term aims of the program, so that they feel part of the process.

It is important that the PVT's understand why community participation, BVW private enterprise and the development of a network of private commodity suppliers is important for the future sustainability of the project. The future of the PVT's should also be discussed.

Encourage the PVT's to feel they are vital and valuable participants in the program.

3. If paravet is to be involved in BVW selection, with the communities concerned. Information should be given about the selection criteria:

- a community member,
- mature,
- already respected as knowledgeable about traditional treatment,
- he or his immediate family keep livestock,
- likely to remain in the community long term (married with children),
- can comprehend the value of training ie. the profit and status to be gained.

7. Monitoring system to be developed.

**LESSON 1.****Comment on objectives;**

As teacher training is the main purpose of the course, I propose that this lesson be made larger, have its own syllabus and made the constant theme of the week by continually using the methods/principles taught in lesson 1 in the subsequent lessons.

This would have to be agreed with and gone through with Mr. Rahmani. I have enclosed a copy of the ITDG Participatory Training Techniques Course Instruction Plan.

**LESSON 2.**

This should be revision for paravets and so they can go over it using brain-storms and hums.

Are local names used in the translation. Some difficult words used in the English text, have they been translated, should a 3rd party check translations?

**Comment on Main Points.**

Mention fat as its an important part of the diet.

**LESSON 3.****Comment on objectives;**

This lesson is a revision for PV's so conduct as a "hum" session. Divide PV's into pairs and have them discuss the objectives for an organ system, write up the points they come up with, then discuss and tie together.

The lesson can be tied in to a practical session.

**Comment on Main Points.**

Local words for organs should be used in any BVW training course, PVT's must understand this and why.

Some words may need checking to see how they have been translated. eg. 8-discs, 9-belchs & regular, 10 erection.

Could lymph nodes be included in the organ systems, as they are seen on autopsy and felt under the skin?

7. Have photos of normal, anaemic and congested mucous membranes as examples.

12. Could mention normal heat cycles for cattle, sheep goats, foaling heat in the horse. Also mention normal clear mucus discharges at heat in cow + sometimes blood in heifers?

13. Note that colostrum is meant for calves not for men!

**LESSON 4.**

An important lesson if PVT's are to teach symptomology to BVW's, ie. the ability to recognise common symptoms and relate them to treatments. Again local names should be used eg. for acute, sub clinical and chronic.

The lesson should be tied in with several practical sessions to run through a systematic clinical examination. The systematic clinic examination should be very thorough. Forms to be filled in (along the lines of John Woodford's [enclosed]) could be given to PV's in practicals with sick and healthy animals.

PVT's must understand that BVW's will have to remember the routine and what, where, how to look.

Comment on Main Points.

6. Handout form on routine method of clinical examination for use in practical sessions

7. My experience is that in many clinical cases seen, particularly with cattle, there are not enough symptoms to know what disease you are dealing with. I therefore found it simpler to teach the PV's/BVW's to be able to recognise symptoms (in conjunction with time of year, location, contagious etc.) and relate them to a treatment. For example if you have a fever and depression give antibiotic, if you find belly pain, constipation and bottle jaw give flukicide + Mag. Sulphate.

The reason being that if the BVW's are illiterate, there is only so much information they can take in and hold in their heads over the initial training period. I found the paravets had a garbled knowledge of diseases and could not relate a diagnosis (if they made one) to the treatment or prevention, even after five months of course. So I feel the BVW's should be given the practical essentials, only.

Before 8. look at general stance/demeanour from a distance - bright, dull, calling out, depressed, hunched up etc. Should body temperature be included in this section?

8. Skin include;  
 colour,  
 - skin in mouth, blisters, erosions,  
 - hair not shiny, ruffled,  
 - skin lost it's elasticity,  
 - swellings under skin,  
 - position and size of lymph nodes.

9. Crepitus.

10. Drunkard!

11. What are normal breathing frequencies.

12. Pulse frequency, rhythm and quality.

13. Checking for sharp edges on teeth in horse and

donkey.

What are the signs of belly pain?

What are the different types of diarrhoea?

At what point in the course should symptoms be related to treatments? If too many diseases are taught people become confused, lost?

17. Discharges from the vagina, white-brown and/or bad smelling.

18. cold, gangrenous udder.

20. cite examples, practical sessions using clinical examination forms.

eg. for the following animals with:-

1-Calling, distressed, fever, red urine.

2-Diarrhoea, bottle jaw, anaemia.

3-Fever, anaemia.

4-Fever, diarrhoea.

5-Swollen neck, fever, depressed.

6-hunched up, not eating.

What would your treatment be?

Do you need to know which disease if you're a BVW.

NOTE SHOULD LESSONS 12 AND 13 BE INCORPORATED WITH LESSON 4 WHEN TEACHING BVW'S.

## LESSON 5.

### Comment on Main Points.

4. Explore with PV's how BVW's comprehend Bacteria's and Viruses. Often the term "microbe" covers them both.

10. Expand for PV's how vaccines work and dosing schedules. Discuss how PVT's would teach BVW's about vaccines, in case MCI should decide to upgrade BVW's so that they sell vaccines to their communities.

11. Proper nutrition and strategic feeding should be a lesson in its own right if PVT's are to impart some basic principles to BVW's:-

For example why preferential feeding of thin does and ewes at tugging and prior to parturition will be of benefit (hum group + discussion), thin does tend to abort, etc, Feeding cow's for milk, little milk increases calf deaths

and disease etc.

### LESSON 6.

Some difficult words for translation found in this lesson  
eg. contaminated, exposed.

#### Comment on Main Points.

1. Hum groups and discussion on why prevention is better. I found that paravets had poor understanding of advantages ie. Animals which have no disease are:-

- more fat,
- can fight microbes and chinjai,
- live longer,
- have more babies
- have babies every year,
- give more milk,
- babies are strong, grow quickly and less die  
etc.

2. examples given in lesson / practical class?

6. How deep?

7. Colostrum for new-born not for men.

9. See comments made on vaccines made earlier.

### LESSON 7.

#### Comment on objectives;

Should an objective be to familiarise the PV with packaging of different classes of drugs, in which case need a list of teaching medicines/aids.

#### Comment on Main Points.

2. Simple foods such as....

6. Tetracyclines.... circulates in body to reach all organs - including the udder.

An extra main point would be to stress to PVT's and BVW's that medicines are not a cure all. In deed they are expensive and sometimes don't work. The principle that they are one component to improving animal health and should be used in conjunction with:-

- traditional medicines,
- grazing practices (eg. avoiding wet areas,

quarantining infected flocks from communal grazing areas),  
 - strategic feeding,  
 - good hygienic shelter.

### LESSON 8.

#### Comment on objectives;

To review the local names for these diseases, as they tend to vary with location and it is important that local names are used when BVW's are taught. Also local names sometimes cover several diseases, as the local name may describe the symptom.

#### Comment on Main Points.

In Daye Chopan Rikhak = Diarrhoea. Pox = Sujai.

Are lice and ticks major diseases? 'Wrozai' or Warbles in goats are probably more of a problem.

Sur Lay Warchaway. = Abortion in goats can be a major problem in the winter if animals are thin and have been sick during the previous summer/autumn.

Tympany is said to be a problem in sheep.

### LESSON 9.

#### Comment on Main Points.

As for sheep and goat diseases.

Haemorrhagic septicaemia also known as Kundreze.

Are lice and ticks a problem in Cattle.

Brucellosis?

Foot and Mouth Vaccine, available?

### LESSON 10.

#### Comment on Main Points.

May be worth including (for PVT's) Colic for horses = 'Schumdard'.

### LESSON 11.

#### Comment on Main Points.

Another name for Surra = Much wahooni.

Another major disease = Tigawooni = acute and fatal, probably Haemorrhagic septicemia.

#### LESSON 12.

Should this lesson be moved to after/with lesson 4, and used with the clinical examination forms mentioned.

#### LESSON 13.

A good and important chapter, particularly for teaching BVW's. Should it be moved to after chapter 4 for the BVW's?

#### Comment on objectives;

Maybe stress to paravets that local treatments and practices have developed over many years and that some of them should be used as well as the modern medicines. Because, they can be used for teaching, we are not yet sure how they work, they are cheaper and maybe forgotten if not used.

#### LESSON 14.

Practical sessions for this.

#### Comment on Main Points.

4C. Especially Horses.

#### LESSON 15.

#### Comment on Main Points.

1. I found that (EIL) PV's had no idea of the life cycle of maggots and flies! Should this be included here? The traditional medicine 'Zurna' is used to keep flies off wounds, appears to work well, incorporate this?

4. Do people know which is the left side?

5. Mention age limits for burdizzoing? or prophylactic antibiotic injection afterwards to ward off stress related disease. I often found 1-2 year old rams got quite ill after burdizzoing.

#### LESSON 16.

#### Comment on objectives;

Teach PVT's how to demonstrate to illiterate BVW's to keep money to be used to buy new medicines separate from profit. Explain the present procedure for buying medicines. Ask for suggestions as to how to improve private supplies, training shop keepers?

Ask for suggestions re how illiterates can keep records of drug use and diseases treated.

Develop pictograms for PVT's to teach and encourage BVW's to use.

### CLOSING SESSION.

As mentioned in general comments expand this section into a thorough review of the teaching methods for illiterates and the curriculum of the BVW course.

## PART 2.

### DESCRIPTION OF IMPORTANT DISEASES OF LIVESTOCK.

I found this section very thorough.

My comments would be, could there be more use of bullet tables to list symptoms and treatments rather than the narrative style. This might make translation and reading easier.

I was confused by not finding the important diseases under the species concerned eg liver fluke and worms under sheep and goats. I did eventually find them but the manual doesn't emphasize their relative importance for each species or rather it assumes the PV's know.

When it comes to training the BVW's the fact that they are illiterate and will only have a week in the classroom. Means they can not take in too much information at once. It should therefore be stressed to the PVT's which diseases are to be taught and which should be left out. Otherwise they may try to include everything and confuse the BVW's.

### SPECIFIC POINTS.

#### Sheep and Goats.

Sections on anthrax and enterotoxaemia do not mention vaccination schedules.

ie. two initial doses 4 weeks apart, the second in the last month of pregnancy. Then annual boosters given in the last month of pregnancy. Lambs and kids ideally given two injections 1 month apart from six weeks of age.

Would it be an idea to include a status report on what vaccines are available and their storage requirements dose etc. Maybe you already give out John Woodford's handout on Vaccines and Wormers.

Enterotoxaemia, there appears to be a form of enterotoxaemia which affects 1/2 to 2 year olds, which causes sudden death and is probably Pulpy Kidney, there is no mention of this.

### Cattle.

There is no mention of Haemorrhagic Scepticaemia or Phosphorous deficiency.

P66 Are rumen flukes a problem?

P69 A local treatment for F & M disease is to take the animals to stand in a river (if available) for some time this helps ease the pain and encourages them to eat.

P72 Tympany mainly caused by animals gaining access to Lucerne (alf alfa) fields, especially in the spring.

## PART 3

### TREATMENT GUIDE FOR MEDICATIONS IN KIT.

Wormers. As wormers are quite expensive for the poorer farmers, and the problem appears to be secondary helminthosis in the spring. Could not one dose in the winter or late autumn be sufficient?, though in the ideal situation 2 doses would be given as you suggest.

## PART 4

### DIAGRAMS

Diagrams very good. They need to be tested on the BVW's to check that they understand them.

This is particularly so cross section diagrams and for the 'medicine, animal and dose' diagrams. The latter require the BVW to understand the concept of looking across the top of the page and then down the page, it is not obvious which pictures relate to each other. It will be important to develop the use of a standard format and possibly use arrows to connect pictures.

All numbers on the diagrams should be in Pushtu.

The use of photographs in the 'medicine, animal and dose' diagrams is recommended.

### APPENDIX 3.

#### Details of the methods used by PVT's to select trainee BVW's for second BVW training course (April 1992).

PVT Din Mohammed approached different villages in Maiwand district. Through meetings with the elders he spoke to individuals, explaining requirements and what the training involved. He selected 3 out of 10 possible candidates. The criteria he used was; experienced livestock owners, No. of livestock, keenness, from different villages, and preferably "Maldah".

PVT Ghulam Hazrat concentrated on the tent villages of Koochi nomads travelling east in Shari Safa district. He said though it is a busy time for the Koochi as they stratify their flocks into male and female and young and old animals. He was able to have meetings in several villages and explained the BVW program to them, he was helped in this by peoples knowledge of 'Shahabardin', he was the best trainee on the last training course and works in the area as a blacksmith. Because of the koochi's current work load only 2 people could spare the time to attend the course. They will have to catch up with their villages and flocks after the course, this is not a problem. It was reiterated that the best time for training Koochi would be in the winter.

PVT Mohammed Naim selected 3 trainees identified on the last selection exercise. He gave an explanation of the program to the village. The people selected are Muldah living in permanent mud houses. These Muldah have no land but live in other peoples houses, the owners benefiting from the upkeep of the house. In the spring 1/2 the Muldah family will move with the stock to the grazing areas, leaving the old and sick in the village. Mohammed Naim selected three of the latter.

PVT Syed Ali Mohammed went to Dand district. He met with a commander who arranged a community meeting. The outcome of this was that the commander selected 1 trainee (his brother) and the people selected 2 livestock owners to be trainees. But none of the three were able to attend the course because of the political situation around Kandahar. Commanders were calling upon the communities for fighters.

PVT Uzman Ghani was prevented from selecting trainees in Argastan by swollen rivers preventing access to the area. He therefore teamed up with Ghulam Farooq in Boldak. They explained the program to villages which then nominated 10 candidates, of which 5 were chosen, but only 3 of these 5 turned up for the course in Chaman.

APPENDIX 4.

QUESTIONS FOR BVW TRAINEES.

Questionnaire reference No. AH01.

1. DATE
2. NAME
3. AGE (Years)
4. PROVINCE
5. DISTRICT
6. VILLAGE
7. HOW MANY YEARS HAVE YOU LIVED IN THIS VILLAGE (number)
8. ETHNIC GROUP
  - a. PUSHTUN (y/n)
  - b. BALOOCH (y/n)
  - c. OTHER .....
9. TRIBE .....
10. BVW NUMBER ..... (Not applicable unless successfully completes BVW training course)  
.....
11. CAN YOU READ (y/n)
12. CAN YOU WRITE (y/n)
13. IF YES, WHERE DID YOU LEARN
  - a. MOSQUE SCHOOL (y/n)
  - b. GOVERNMENT SCHOOL (y/n)
  - c. PRIVATE TEACHER (y/n)
  - d. OTHER.....
14. ARE YOU A FARMER (BUZGAR)? (y/n)
15. ARE YOU A HERDER (MALDAR)? (y/n)
16. DO YOU DO ANY OTHER WORK TO EARN MONEY (y/n)
17. MARRIED? (y/n)
18. NUMBER OF WIVES? (number)
19. NUMBER OF SONS BELOW 10 YEARS OLD? (number)
20. NUMBER OF SONS ABOVE 10 YEARS OLD? (number)
21. NUMBER OF DAUGHTERS? (number)
22. NUMBER OF BROTHERS? (number)
23. NUMBER OF UNCLES? (number)

.....

22

24. DO YOU OWN YOUR OWN LAND? (y/n)
25. IF YES, HOW MUCH LAND? (number of Jareabs)
26. HOW MANY JAWEES DO YOU HAVE? (number of Jawees)
27. NUMBER OF VINES PER JAWEE? (number)
28. DO YOU FARM ANOTHER MAN'S LAND (y/n)
29. HOW MANY ANIMALS DO YOU OWN?
- 29.1 a. ADULT FEMALE SHEEP (number)  
b. ADULT MALE SHEEP (number)
- 29.2 a. ADULT FEMALE GOATS (number)  
b. ADULT MALE GOATS (number)
- 29.3 a. ADULT FEMALE CATTLE (number)  
b. ADULT MALE CATTLE (number)
- 29.4 a. ADULT FEMALE HORSES (number)  
b. ADULT MALE HORSES (number)
- 29.5 a. ADULT FEMALE DONKEYS (number)  
b. ADULT MALE DONKEYS (number)
- 29.6 a. ADULT FEMALE CAMELS (number)  
b. ADULT MALE CAMELS (number)
- 29.7 a. CHICKENS (number)
30. DO YOU TREAT YOUR OWN SICK ANIMALS? (y/n)
31. IF YES, DO YOU USE?
- a. YUNANI MEDICINES (y/n)
- b. MODERN MEDICINE (y/n)
- c. Specify.....  
.....  
.....  
.....
32. DO YOU TREAT SICK ANIMALS BELONGING TO OTHER PEOPLE? (y/n)
33. DO YOU SELL MEDICINES TO THESE PEOPLE? (y/n)
34. CAN YOU PURCHASE MODERN MEDICINES IN YOUR DISTRICT? (y/n)
- a. Specify.....  
.....  
.....  
.....
35. WOULD THE PEOPLE IN YOUR VILLAGE BUY MODERN MEDICINES FROM YOU IF YOU WERE TAUGHT HOW TO USE THEM? (y/n)
- .....
36. LIST IN ORDER OF PREFERENCE THE REASONS FOR WANTING TO TRAIN AS A BVW. (No. 1 = BEST) (No. 8 = WORST)
- a. TO BE ABLE TO TREAT OWN ANIMALS (number)
- b. TO BE ABLE TO TREAT OTHER PEOPLE'S ANIMALS (number)
- c. TO MAKE SOME CASH INCOME (number)
- d. TO NOT HAVE TO WORK IN THE FIELDS (number)
- e. TO LEARN NEW KNOWLEDGE (number)
- f. TO GET A FREE KIT OF MEDICINES (number)
- g. TO BE ABLE TO BUY MEDICINES (number)
- h. FOR THE STATUS IT WILL GIVE (number)
- i. OTHER..... (number)

APPENDIX 5.

QUESTIONS FOR BVWS THAT ARE WORKING

DATE

NAME

VILLAGE

DISTRICT

PROVINCE

BVW NUMBER

.....

WHICH MEDICINES HAVE YOU USED IN THE LAST MONTH?

FASINEX	(never)	(once or twice)	(often)
PANACUR 250	(never)	(once or twice)	(often)
PANACUR 750	(never)	(once or twice)	(often)
DITRIFON	(never)	(once or twice)	(often)
RASOMYCINE LA	(never)	(once or twice)	(often)
STRINACIN	(never)	(once or twice)	(often)
EYE OINTMENT	(never)	(once or twice)	(often)
TINCTURE OF IODINE	(never)	(once or twice)	(often)
GENTIAN VIOLET	(never)	(once or twice)	(often)
ZINC OXIDE	(never)	(once or twice)	(often)
VASELINE	(never)	(once or twice)	(often)
SABLON	(never)	(once or twice)	(often)
MAGNESIUM SULPHATE	(never)	(once or twice)	(often)
SODIUM BICARBONATE	(never)	(once or twice)	(often)
REHYDRO SALTS	(never)	(once or twice)	(often)

HAVE YOU GOTTEN NEW MEDICINES FROM AN MCI CENTER? (y/n)

WHICH CENTER?

- a. Boldak (y/n)
- b. Panjwai (y/n)

DID YOU HAVE ANY PROBLEMS WITH THE STOREKEEPER? (y/n)

IF SO, WHAT WAS THE PROBLEM?

.....  
 .....  
 .....

HAVE YOU PURCHASED NEW MEDICINES FROM ANOTHER SOURCE? (y/n)

IF SO, WHERE DID YOU PURCHASE THEM?

.....  
.....  
.....  
.....

WHAT MEDICINES DID YOU PURCHASE?

.....  
.....  
.....  
.....  
.....  
.....

HAVE YOU PURCHASED MEDICINES THAT ARE DIFFERENT FROM THE MEDICINES SUPPLIED BY MCI? (y/n)

WHICH DISEASES DO YOU USE THE NEW MEDICINES FOR?

Medicine Name?

Use?

.....  
.....  
.....  
.....  
.....  
.....  
.....

WHO ARE THE PEOPLE THAT USE YOUR SERVICE?

- a. FAMILY (y/n)
- b. NEIGHBORS IN VILLAGE (y/n)
- c. PEOPLE FROM OTHER VILLAGES (y/n)
- d. KOOCHI (y/n)

DO YOU TRAVEL TO DO YOUR WORK OR DO PEOPLE BRING THEIR ANIMALS TO YOU?

- a. TRAVEL (y/n)
- b. ANIMALS BROUGHT TO ME (y/n)

HOW DO YOU TRAVEL?

- a. BICYCLE (y/n)
- b. DONKEY (y/n)
- c. HORSE (y/n)
- d. MOTOR (y/n)
- e. WALK (y/n)

HOW MANY ANIMALS HAVE YOU TREATED IN THE LAST MONTH?

- a. SHEEP (number)
- b. GOATS (number)
- c. CATTLE (number)
- d. HORSES (number)
- e. DONKEYS (number)
- f. CAMELS (number)

DO YOU CASTRATE ANIMALS FOR MONEY? (y/n)

DO YOU USE YUNANI MEDICINES WITH YOUR KIT MEDICINES? (y/n)

DO YOU ASK FOR MONEY FOR YOUR YUNANI MEDICINES? (y/n)

HOW MUCH OF YOUR TIME DO YOU SPEND ON BVW WORK?

- a. HOURS PER DAY (number)
- b. DAYS PER WEEK (number)

ARE YOU RECEIVING PAYMENT FOR MEDICINES?

- a. NO PAYMENT (y/n)
- b. CASH PAYMENT (y/n)
- c. PAYMENT IN KIND (y/n)

ARE YOU MAKING ANY PROFIT ON YOUR BVW WORK? (y/n)

HOW MUCH DO YOU BUY AND SELL MEDICINES FOR?

NAME OF MEDICINE	Purchase Price? (Afghanees)	Unit?	Sale Price? (Afghanees)	Unit?
FASINEX	.....	Jar of 80	.....	.....
PANACUR 250	.....	Box of 50	.....	.....
PANACUR 750	.....	Jar of 50	.....	.....
DITRIFON	.....	1 Kg. Jar	.....	.....
RASOMYCINE LA	.....	30cc Bottle	.....	.....
STRINACIN	.....	Pack of 20	.....	.....
EYE OINTMENT	.....	1 Tube	.....	.....
TINCT. of IODINE	.....	1 bottle	.....	.....
GENTIAN VIOLET	.....	5g packet	.....	.....
ZINC OXIDE	.....	500g Box	.....	.....
VASELINE	.....	1/2Kg Bag	.....	.....
SABLON	.....	1 litre	.....	.....
MAGNESIUM SULPHATE	.....	300g Box	.....	.....
SODIUM BICARBONATE	.....	300g Box	.....	.....
REHYDRO SALTS	.....	20 sachets per box	.....	.....

WHAT PROBLEMS ARE YOU HAVING WITH YOUR BVW WORK

- a. DIFFICULTIES WITH TRANSPORTATION (y/n)
- b. DIFFICULTIES WITH ACCEPTANCE BY COMMUNITY (y/n)
- c. DIFFICULTIES WITH RECOGNIZING DISEASES (y/n)
- d. DIFFICULTIES WITH USING RIGHT MEDICINES (y/n)
- e. DIFFICULTIES WITH OBTAINING MEDICINES (y/n)
- f. DIFFICULTIES IN RECEIVING PAYMENTS (y/n)
- g. DIFFICULTIES IN PAYING FOR MORE MEDICINES (y/n)
- h. OTHER.....

WHAT PROBLEMS HAVE YOU SEEN THAT YOU HAVE NOT HAD ANY TRAINING FOR?

.....

.....

WHAT DID YOU DO TO MAKE THE COMMUNITY AWARE OF YOUR KNOWLEDGE AND SERVICES?

- a. NOTHING (y/n)
  - b. TALKED TO NEIGHBORS (y/n)
  - c. HAD A VILLAGE MEETING (y/n)
  - d. OTHER (y/n)
- Specify.....

WHAT SUGGESTIONS DO YOU HAVE TO MAKE THIS WORK MORE SUCCESSFUL FOR YOU?

.....

.....



.....  
.....

**KNOWLEDGE QUESTIONS?**

WHAT WOULD YOUR TREATMENT BE FOR AN ADULT SHEEP WITH A NASAL DISCHARGE?

.....  
.....  
.....

WHEN IS THE BEST TIME OF YEAR TO TREAT SHEEP AND GOATS FOR:-

- a. Liver Fluke.....
- b. Worms.....

HOW MANY TIMES WOULD YOU TREAT A GOAT WITH POON? .....

WHAT IS YOUR TREATMENT FOR A 2 WEEK OLD LAMB WITH RIKHAK, WHICH WILL NOT SUCK AND LOOKS SLEEPY?

.....  
.....  
.....

.....

HOW MANY ANIMALS DO YOU OWN?

- a. ADULT FEMALE SHEEP (number)
- ADULT MALE SHEEP (number)
- b. ADULT FEMALE GOATS (number)
- ADULT MALE GOATS (number)
- c. ADULT FEMALE CATTLE (number)
- ADULT MALE CATTLE (number)
- d. ADULT FEMALE HORSES (number)
- ADULT MALE HORSES (number)
- e. ADULT FEMALE DONKEYS (number)
- ADULT MALE DONKEYS (number)
- f. ADULT FEMALE CAMELS (number)
- ADULT MALE CAMELS (number)
- g. CHICKENS (number)

DO YOU OWN YOUR OWN LAND? (y/n)

IF YES, HOW MUCH LAND? (number of Jareebs)

HOW MANY JAWEES DO YOU HAVE? (number of Jawees)

NUMBER OF VINES PER JAWEE? (number)

DO YOU FARM ANOTHER MAN'S LAND (y/n)

.....

(What is the current Pakistani Rupees to Afghanis exchange rate?)  
(.....)

9

APPENDIX 5 continued.QUESTIONS FOR BVWS WHO ARE NOT WORKING

DATE

NAME

VILLAGE

DISTRICT

PROVINCE

BVW NUMBER

.....

DO YOU STILL HAVE YOUR BVW KIT? (y/n)

IF NOT, WHAT HAPPENED TO IT?

- a. SOLD (y/n)
- b. LOST (y/n)
- c. STOLEN (y/n)
- d. CONFISCATED (y/n)

DID YOU TRY TO WORK AS A BVW? (y/n)

WHY ARE YOU NOT WORKING AS A BVW NOW?

- a. INADEQUATE TRAINING (y/n)
- b. NOT INTERESTED IN THIS WORK (y/n)
- c. COMMUNITY DOES NOT KNOW ABOUT MY SERVICES (y/n)
- d. COMMUNITY NOT INTERESTED IN USING MY SERVICES (y/n)
- e. COMMUNITY NOT WILLING TO PAY FOR SERVICES (y/n)
- f. TOO MUCH OTHER WORK (y/n)
- g. FAMILY PROBLEMS (y/n)
- h. DIFFICULTIES IN OBTAINING NEW DRUGS? (y/n)
  - \* MCI CENTER TOO FAR AWAY (y/n)
  - \* CAN NOT AFFORD TRANSPORT (y/n)
  - \* CAN NOT AFFORD TO BUY NEW DRUGS (y/n)
  - \* NOWHERE ELSE TO BUY DRUGS EXCEPT MCI CENTRE (y/n)

i. OTHER.....

WHAT DID YOU DO TO MAKE THE COMMUNITY AWARE OF YOUR KNOWLEDGE AND SERVICES?

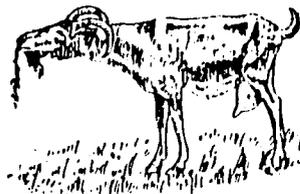
- a. NOTHING (y/n)
- b. TALKED TO NEIGHBORS (y/n)
- c. HAD A VILLAGE MEETING (y/n)
- d. OTHER (y/n)

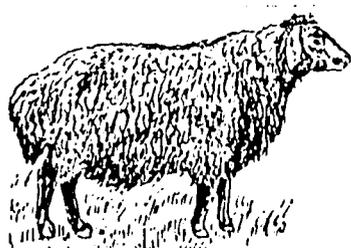
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APPENDIX 6

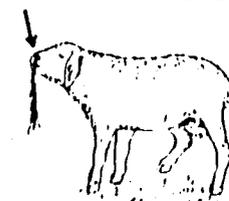
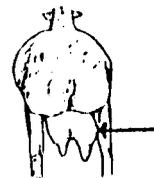
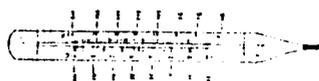
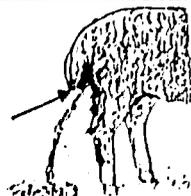
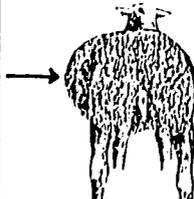


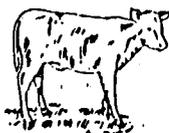
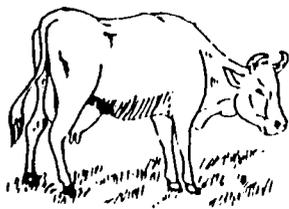
بویله  
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شکر  
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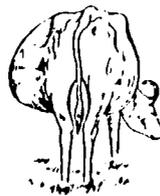


\_\_\_\_\_ در B.V.W نوم  
 \_\_\_\_\_ رکوی نوم  
 \_\_\_\_\_ رشوع تايج  
 \_\_\_\_\_ رختم تايج





د ۷۱۵ ب نوم : \_\_\_\_\_  
 د کلي نوم : \_\_\_\_\_ !  
 د سر د وچ ناروغ : \_\_\_\_\_  
 د ستره ناروغ : \_\_\_\_\_



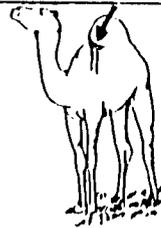
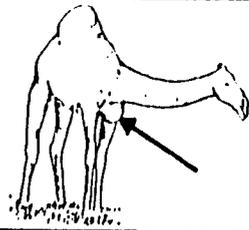
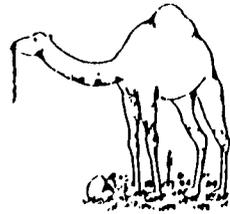
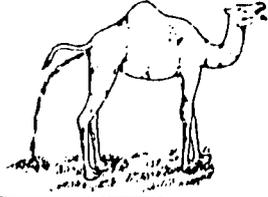


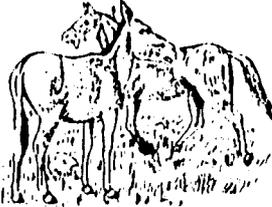
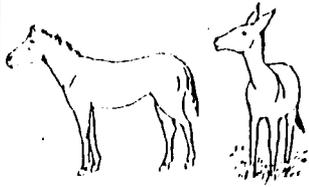
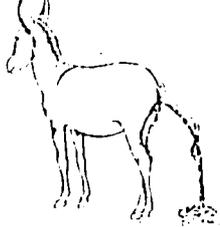
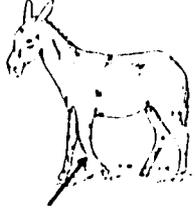
د B.V.W نوم

رکلی نوم

د شروع تاریخ

د ختم تاریخ



		<p>د B . V . W نوم</p> <p>د کلي نوم</p> <p>د شروع تاريخ</p> <p>د نته تاريخ</p>
		
		
		
		
		
		
		

**BVW PICTORIAL MONITORING FORM DATA SUMMARY.**

BVW NAME \_\_\_\_\_

BVW NUMBER \_\_\_\_\_

START DATE \_\_\_\_\_

FINISH DATE \_\_\_\_\_

NUMBER	YOUNG SHEEP	OLD SHEEP	YOUNG GOAT	OLD GOAT	YOUNG COW	OLD COW	YOUNG CAMEL	OLD CAMEL	YOUNG DONKEY HORSE	OLD DONKEY HORSE
SYMPTOM SEEN										
ANAEMIA / BOTTLE JAW										
DIARRHOEA										
RESPIRATORY DISEASE										
FEVER										
TYMPANY										
MASTITIS										
SUDDEN DEATH										
LAMENESS										
MANGE										
WOUNDS										
SURRA										
COLIC										
GLANDERS										
TOTAL ANIMALS SEEN										





**APPENDIX 8.**

**GUIDELINES**

FOR

**MONITORING AND EVALUATION OF THE BVW PROGRAM IN AFGHANISTAN.**

**Staff Evaluators.**

- Dr. Fateh Mohammed.
- Dr. Abdul Ahmed.
- Dr. Mohammed Tahir.

**Phases of evaluation.**

- 1. With local communities.
- 2. With trained BVW's.
- 3. With MCI stores.
- 4. With local traders.

**Objectives.**

**1. With local communities.**

To evaluate need for BVW program with local community members.

.....

**Method.**

A five stage guide-line for carrying out an informal interview.

**1. The Approach** Keep a low profile, walk, not in a large group, two people is optimum, approach people directly, don't immediately bring out a note book! Be sensitive to the fact that people are often suspicious of outsiders. Be aware of daily work schedules, seasonal activity, work habits, climate, and how these affect the farmers willingness to talk. Lend a hand, take an interest.

**2. The Warm-Up** Greet according to local custom, remember respect and courtesy, introduce yourself and explain why you're there, begin generally, make sure its convenient for him/her to talk.

**3. The Dialogue** Let the discussion flow, mix up your questions, remain relaxed and attentive, mix the conversation with your own comments (compare notes) and allow stories and examples/experiences to be told. Re-phrase questions if an answer is not forthcoming, use plain understandable terms. Preferably work in pairs, make sure

questions are culturally sensitive. Don't use leading questions eg. "Are their times during the year when you need more labour?" Keep the questions open eg. "How do you manage when there is much work to be done?" or even better indirect and open eg. "There must be times when it is difficult to get everything done. I wonder how your family manages during those times?" Probe when necessary.

**4. The Departure** Politely bring the conversation to an end, be aware of signs of impatience and don't unduly delay the farmer if he appears pressed for time.

**5. Recording of information** Take mental notes during the interview or memory jarring written notes if appropriate. Always record information thoroughly whilst it's still fresh in the mind, compare notes with other team members as soon as possible.

.....

**Method.**

Talk with people of the community which BVW lives with and ask them what they see as their biggest general problem; eg. is it with crops not growing, river flooding, lack of water, lack of people to work????

NOTE - do not suggest the answers to the people let them think of the answer.

Rank the problems that they tell you; eg.

Worst

No.1 - lack of labour to work land.

No.2 - flooding from river.

No.3 - death of sheep from disease.

No.4 - disease in vines.

No.5 - No road to get to bazaar.

Best

.....

**Method.**

Rank the animal problems which the people say they have; eg. ask what problems do you have with your goats, the people may say:-

1. they die from disease,

2. we have no medicine,

3. we do not have enough food for them in winter.

They may say we have no problem! this is alright, write it down.

Do this for each species, goats, sheep, cows, camels, donkey and horse, chickens.

.....

**Method.**

Rank the diseases for each species; eg. what is your worst

disease, why is it your worst disease? What is your next worst disease why is it bad?

You will finish with a list of diseases and reasons for them being bad with the worst disease at the top of the list.

.....

**Method.**

Ask the people if they have a sick animal, what do they do with the animal? How do they get the animal better?

Can the people buy animal medicines locally?

Do the people know what these medicines are for?

.....

**Method.**

Can you say how many people and animals live in the same area as the BVW?

Are there any lists of names of families living in the area, we might be able to use these to do a survey of livestock numbers.

.....

**Method.**

Ask people in the community what they think of the BVW. Will they be using the services of the BVW?

.....

**Method.**

Write a report for each community listing their ranked problems and the ability of the BVW program to help with these problems.

## 2. With trained BVW's.

The evaluators should spend one day with each working BVW, less time if he is not working.

In this day the evaluators can talk with him and ask him the questions that are in the questionnaire. The evaluators must also watch the BVW working with the people and the animals.

.....

**Method.**

If the BVW is working ask him the questions given in the questionnaire for BVW's who are working (even if he is working for only a few days each year).

If the BVW is not doing BVW work at any time in the year, ask him the questions in the questionnaire for BVW's who are not working (the last page).

.....

**Method.**

Go with the BVW to visit sick animals in his area. During

this time you can ask him questions from the questionnaire.

You must also check:-

- a. How does the BVW talk with the farmer, does the farmer respect the BVW and want him to treat his animals.
- b. Does the BVW do a full clinical examination of the animal, does he take the animals temperature, can he read the thermometer?
- c. Does the BVW know which medicines are for which symptoms?
- d. Can the BVW estimate the weight of animals you see.
- e. Can he remember the doses of medicines he has in his kit? Test him, using some doses you already know; eg. how much Rasomycin LA would you inject that goat (point out the goat). eg. How much Panacur would you give to that calf (point to the calf).
- f. Is the BVW familiar with using a syringe.
- g. Does the BVW know how much money he will ask for each dose of medicine?
- h. Does the BVW know how to do special procedures; eg. burdizzo castration.

.....

**Method.**

Ask what problems the BVW has in doing his BVW work. Rank these problems.

.....

**Method.**

NOTE - write down your ideas and some of the answers the BVW gives to you straight away. Otherwise you may forget them. Each BVW evaluated must have a report with his name written at the top, as well as the questionnaire.

.....

**3. With MCI stores.**

The evaluators should spend one day at each of the main MCI stores and several hours at the small MCI stores.

.....

**Method.**

Interview the MCI store keepers.  
Check that they know which the animal medicines are?  
Do they have some idea about what the medicines are for?

Do the store keepers know how to identify the BVW's?  
Have other people been to ask the store keepers to sell them animal medicines?

Do the store keepers know how to keep records of the sale of medicines for each of the BVW's?

Find out which BVW's have returned to buy more medicines?  
What do the store keepers do with the money from sales of

12

animal medicines?

.....

**Method.**

Rank the problems which the store keepers say they have with the animal health project.

.....

**Method.**

For MCI stores other than Spin Boldak and Panjwai. Find out if the store could keep animal medicines and if yes could the store keeper keep a record of which medicines are sold to each BVW.

how could the medicines get to these stores?

Do the store keepers need more training?

**4. With local traders.**

In the future the BVW's will have to buy medicines from the traders in the bazaars. We therefore want to know what these traders are selling now and whether we can influence them.

.....

**Method.**

Identify traders selling animal medicines in the bazaars of main centres; ie. Spin Boldak, Shara Safa, Argandarb, Panjwai, Dand, Maiwand, Arghastan.

Each trader identified should have a report about him. This report can be like a table.

If there are many traders in a town, just report on two or three of them and list the others.

When talking to traders it is important that they know you want to help them. You should explain the BVW program and that we want to help them sell more medicines and may be able to help them buy good medicines.

.....

**Method.**

For each trader we want to know:-

their names,  
 their location,  
 list of animal medicines they stock,  
 are the medicines past their expiry dates,  
 do they stock these medicines all year or for some of the year,  
 and why,  
 where do they buy their medicines,  
 who are their main customers,

do they know what each medicines is used for,  
do they know what the doses should be,  
how much do they sell the medicines for,

are they interested in being trained themselves, if yes, rank  
their problems and find out what they want to be trained in.

.....

**Method.**

We want to make a book showing all the common animal medicines  
available in Afghanistan. This book will contain information on  
the uses of the medicine and doses for different animals.

To do this we want you to buy a sample of each medicine. This  
will be drawn and the doses worked out for each species back in  
Quetta.



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**A REPORT OF THE EVALUATION OF MERCY CORPS INTERNATIONAL'S  
ANIMAL HEALTH PROGRAM FOR SOUTHWEST AFGHANISTAN.**

**APPENDIX 9**

**BVW COURSE TRAINING GUIDE AND LESSON PLAN.**

**SUBMITTED TO THE OFFICE OF THE USAID  
REPRESENTATIVE FOR AFGHANISTAN.**

**by Tim Leyland B.Vet.Med., M.Sc., MRCVS.**

4th June, 1992.  
Quetta, Pakistan.

Ref. O/AID/REP Funded Cooperative Agreement No.  
306-0211-a-00-0961-00.

**MERCY CORPS INTERNATIONAL.**

**SOUTHWEST AFGHANISTAN ANIMAL HEALTH PROGRAM.**

**BVW COURSE TRAINING GUIDE AND LESSON PLAN.**

Quetta, Pakistan.

3 June, 1992.

**MERCY CORPS INTERNATIONAL.**

**SOUTHWEST AFGHANISTAN ANIMAL HEALTH PROGRAM.**

**BVW COURSE TRAINING GUIDE AND LESSON PLAN.**

**GENERAL INTRODUCTION FOR PVT's TO BVW TRAINING COURSE.**

**GOALS:** The purpose of the program is to provide a network of trained Basic Veterinary Workers (BVW's) throughout southwestern Afghanistan who can provide simple diagnosis, treatment and prevention of the most commonly recognized diseases and problems of livestock identified in the region. The BVW's will work at the village or clan level.

The program is intended to be self perpetuating without continued financial support from external agencies. To accomplish this, fee for service has been incorporated into the program right from the beginning. It is intended that, by training sufficient BVW's and creating a demand for veterinary services, private drug and equipment suppliers will be motivated to move into the market area of southwestern Afghanistan, insuring a continuous supply of medicines and equipment, available on a cash basis.

**TEACHER SELECTION:** Teachers are graduates of a 5 month para-veterinary course with at least 4 months experience in Afghanistan as field vaccinators. They have successfully completed a 2 week course in teaching methodology prior to beginning BVW training. This course also serves as a refresher course on technical veterinary knowledge. These trainers are known as PVT's (Para-veterinary Trainers)

**STUDENT SELECTION:** Students are selected from communities in the target area by the PVT's themselves after community meetings that explain the structure and purpose of the BVW program. Literacy is not a precondition for acceptance as a trainee. Criteria for selection should include as many of the following as possible;

1. Eagerness to participate in the program.
2. Willingness to commit 3 weeks to training.
3. Livelihood already depends on animal ownership.
4. Recognition by the community as a capable herdsman.
5. Existing knowledge of animal disease problems.
6. Experience with traditional medicines.
7. Familiarity with commercial medicines.
8. Established reputation as a healer.
9. Willingness to keep records of their activity and submit to periodic interviews and follow up training from MCI monitoring staff.
10. Must understand the benefits to be gained from training.

**TRAINING COURSE:** Two weeks of group training combining classroom and practical work at an MCI training centre followed by 1 week of individual clinical field training and practice in the student's home village under the supervision of a PVT. The curriculum is

aimed at developing practical skills in students who are unable to read or write and relies heavily on student centred teaching techniques.

**FIELD WORK:** Upon completion of BVW training, BVW's are issued a field kit containing the specific medicines and equipment used during the training course. The PVT and BVW should hold a community meeting at the end of training to inform the community about the skills and supplies the BVW has obtained. BVW's are expected to provide services and medicines to their community for a fee. MCI will maintain a drug resupply inventory at their field centres in Afghanistan. BVW's are encouraged to return to field centres for resupply. They must pay cost price to MCI for replacement of drugs. BVW's may choose to purchase drugs locally rather than return to MCI. The training course includes exposure to other drugs available in Afghanistan to insure that appropriate substitutions are made.

**MONITORING:** MCI veterinarians visit all BVW trainees periodically in the field after completion of their training. The purpose is to collect information on level of activity, appropriateness of training, appropriateness of medicines and equipment provided, and identification of problems faced by BVW's concerning adequacy of skills, acceptance by community, logistics of drug resupply, and record keeping. The trained BVW's will be supplied with pictorial monitoring books in which they will record which diseases they see on a day to day basis. This information will be used to make improvements in the program.

## INTRODUCTION FOR PVT's TO CLASSROOM TRAINING.

During the two weeks of group training combining classroom and practical work at an MCI training centre. There are 7 days of classroom teaching.

The remainder of this manual gives guide-lines about the teaching methods and curriculum for each lesson and practical.

Each lesson has several common features for every lesson that the PVT's should be familiar with, these features are discussed here.

The lesson plan is designed to build the knowledge of the BVW trainee by stages. The final goal being a BVW who can:-

Perform a complete physical examination of animals,

Identify and connect symptoms in order to decide what is wrong with the animal,

Select the correct drugs to give to the animal,

Choose the correct doses of drug for the size of the animal,

Prepare the correct drug and give it to the animal safely and correctly,

Comfortably use traditional yunani medicines,

Record which symptoms he has seen in the pictorial monitoring book provided,

Charge an appropriate fee for his medicines using the cost guide provided,

Provide helpful information about the prevention of diseases to his local community.

To accomplish the above goal, the classroom curriculum is designed for illiterates and is kept as simple as possible. It is better to **teach** a little information well rather than a lot badly.

Each lesson guide gives information about:-

- Duration, describes which day the lesson occurs and how long it lasts.
- Objectives, describe the aims for each lesson.
- Key points, emphasise the most important parts of each lesson and the level at which each subject should be taught.
- Materials needed, these are teaching aids that must be collected or prepared before each lesson starts by the PVT responsible for that lesson.
- Teaching methods, offer advise about how to teach and organise each lesson and how many PVT's should be involved.
- Questions for discussion, are some possible topics for discussion to encourage the trainees to think about what they are learning. You learn by thinking and understanding.

Because the course is just 3 weeks long and the BVW's cannot write down the information. They must learn it in their heads. So the quicker they see all aspects of the BVW work the quicker they can start thinking about and remembering the information.

The lessons are designed to connect with each other by using three elements:-

The **REVIEW** of knowledge already obtained.

The **TEACHING** of new knowledge related to the lesson of the day.

The **INTRODUCTION** of future knowledge to be taught in a later lesson.

The classroom teaching methods are designed upon those learnt during the PV teacher training course. They mostly consist of participatory methods such as "brain-storming", "hum groups", "Question and Answer (Q & A)", "role plays". Most lessons will also include some lecturing.

The classroom sessions rely heavily on teaching aids such as; examples of medicines used, samples of causes of disease (eg. flukes, worms, tick), pictures, photographs, posters, and models.

Each PVT will be assigned to a particular lesson and that lesson then becomes his responsibility. This PVT should make his own lesson plan before the lesson using this guide. If several PVT's are involved in one lesson they must meet to discuss the lesson plan before beginning the lesson.

Refer to Table 1 for outline of course.

## **FIELD PRACTICAL SESSIONS.**

### **GENERAL INSTRUCTIONS.**

1. The purpose of the field practical sessions is to allow the BVW students to develop clinical skills under the supervision of the PVTs before the BVW and PVT return to the BVWs villages.
2. The goal is for the BVW to become familiar with the following aspects of working as a BVW.
  - a. How to perform a complete physical examination of animals.
  - b. How to identify and connect symptoms in order to decide what is wrong with the animal.
  - c. Select the correct drugs to give to the animal.
  - d. Choose the correct doses of drug for the size of the animal.
  - e. Prepare the correct drug and give it to the animal safely and correctly.
  - f. How to record his treatment activities in the symptom book provided.
  - g. How to charge an appropriate fee for his medicines using the cost guide provided.
3. It is necessary that the BVW have confidence in doing these things and can do them reasonably well BEFORE the BVW and PVT return to the BVW's village for training. Otherwise, the local animal owners will not be impressed with his skills and may not use his services after the PVT leaves.
4. The field practical sessions are as important or more important than the classroom sessions. They should be carried out with the same level of organization as the classroom work.
5. Practical sessions are more difficult to organize than classroom sessions. The PVTs should work as a cooperating team to set up the practical session and make sure it runs smoothly. Different tasks and responsibilities should be assigned among the PVTs to insure that all aspects of the practical session are covered. Of particular importance are the following:
  - a. One paravet to unpack the BVW Kit and stay with it so that the BVWs can see all the medicines and a PVT can ask and answer questions about the medicines when the BVWs come to collect medicine for treatment. We will buy a folding table to set up the medicines in the field so they stay neat and clean and are easily seen. At the end of the field session, the equipment should be cleaned and repacked by this PVT as a demonstration of proper procedure to ALL the BVWs.

b. One paravet to keep uninvited farmers and onlookers away from the teaching area so that the lesson is not distracted. This paravet can examine animals that are brought by uninvited farmers and said to be sick. Only when the animal has teaching value should the BVWs be asked to look at it.

c. One or two paravets to examine the animals in the farmer's flock to make sure that all good teaching cases are recognized. The goal should be to identify as much variety as possible. In other words, it is better to examine and treat 1 Poon, 1 Garg, 1 Rikhak, and 1 Tamba, than to examine and treat 4 cases of only Poon.

d. The BVWs should be divided into small groups and each group work with one paravet who will assist the group in accomplishing the learning objectives for that lesson.

6. Each of the field practical sessions contain the same activities, but the emphasis is different in each one. As in the classroom teaching, each session contains 3 elements:

a. The **REVIEW** of knowledge already obtained.

b. The **TEACHING** of new knowledge related to the lesson of the day.

c. The **INTRODUCTION** of future knowledge to be taught in a later lesson.

d. A fourth element for practical sessions must be added, that is **PRACTICE** the knowledge reviewed and taught.

7. Use the practical sessions to demonstrate new techniques and restraints that have not been demonstrated in the classroom such as Burdizzo castration, putting a twitch on a horse, dropping a cow to the ground with ropes, and trimming the bottom of a foot to look for abcess.

## INTRODUCTION.

### DURATION

Day 1, 2 hours, 8am - 10am.

### VENUE

Classroom.

### OBJECTIVES

1. To introduce the teaching and administrative staff. To explain details about sleeping arrangements and meal times.
2. To review the purpose and goals of the program.
3. To describe the format and schedule of the course.

To state what is expected of the trainee, that is:-

-the trainees must attend all classroom and practical sessions otherwise he may not have a good understanding at the end of the course,

-to contribute his own knowledge to the lessons,

-to remain alert to remembering names, procedures and times for treatments,  
He should learn these from the start of the course otherwise he might forget the details quickly.

-to stress the willingness to answer the trainees questions at any time.

4. Explain to the trainees that they will have to pass a test at the end of the two weeks, before they can collect their kits and continue with the field training.
5. To distribute the teaching materials.
6. Inform the students that through out the course they will have the opportunity demonstrate what they already know about animals, health and disease, and treatments.

### KEY POINTS

1. The students must understand why they are being trained and how they will work as BVW's when the course is finished
2. That the training is to enhance what they already know, not to replace it

## **MATERIALS NEEDED**

Have full range of the kit medicines already arrayed in the classroom for handling and examination by trainees. These medicines should be marked with a coloured pen, to deter stealing and identify them as "for demonstration only". This kit of medicines should be displayed throughout the course and will be used for each course.

## **TEACHING METHODS.**

All PVT's present to be introduced.

Allow the BVW's to ask questions about the course.



Q & A should be used frequently to recap what has been taught about the function of the different organs.

Practical demonstration consisting of an autopsy carried out near to the classroom. During the autopsy "brain-storm" (**review**) the trainees about the functions of the different organs, to remind them of what has been said in the classroom.

If a disease is found during the practical don't just mention it, take the time to demonstrate (**introduce**) the medicine used to prevent or treat it, at this stage just introduce the medicine, that is what it looks like. Do not confuse the trainees by telling them too many details. But do start introducing the new knowledge to the students right from the start.

Q & A, Ask each trainee to mention functions of a given organ at the end of session.

### QUESTIONS FOR DISCUSSION

During the Practical ask trainees what problems/lesions they have seen with each organ in their villages, to illicit discussion on common findings and link this to diagnosis and even simple causes of disease.

## **PRACTICAL SESSION 1: AFTERNOON OF DAY 1:**

### **AUTOPSY DEMONSTRATION.**

1. The purpose of this session is to strengthen the classroom knowledge obtained in Lesson 1, How Do Animals Function.
2. Use the autopsy to **review** each organ system and relate the actual organs to the pictures in the BVW manual.
3. Ask the BVWs to identify each organ and its function. Do not tell them, unless they answer incorrectly.
4. Blow up the lungs to show how they fill with air.
5. Emphasize how the different organ systems are related. For example
  - a. Show how heart is connected to lungs to carry oxygen to the body,
  - b. Show how the gall bladder is connected to the intestine to deliver bile from the liver.
  - c. Show how the blood vessels go to the kidneys to make urine.
  - d. Show the relationship of the esophagus and trachea in the throat to demonstrate the danger of giving medicine in the lungs.
6. Begin the process of associating certain signs of disease with certain organs, for example
  - a. Infection in the intestine leads to diarrhea
  - b. Inflammation in the lungs leads to coughing and difficult breathing
7. If any diseases are found at autopsy, such as liver fluke or lung worm, show the BVWs the medicine that he will use for that disease. Save the worms or flukes in a bottle of Formalin.



## KEY POINTS

1. **Review** signs of health first.
2. Go through the signs of disease in the same way that you would examine an animal. (that is, start at the head and work towards the tail)
3. Stress systematic observation and examination for all animals (so you don't miss things). Each animal should be examined in the same way.
4. Develop skills for history taking, by using "role play".
5. Have medicines on hand to demonstrate treatments in relation to symptoms. Allow trainees to look at an example every time a medicine is mentioned.
6. Relate symptoms to simple causes.

## MATERIALS NEEDED

Distribute thermometers for trainees to start to play with and learn how to use.

4 live sheep and goats and a cow, to demonstrate systematic examination in the relative quiet of the teaching compound. [Rent them for the day?]

Put pictures of disease symptoms on the wall of the classroom.

One medicine kit.

## TEACHING METHODS

PVT's required for lesson;

Classroom = 1 PVT teacher, 1 PVT assistants.

Practical demonstration in Chaman = 5 PVT's.

NOTE, 2 PVT's organising practical for the following day.

(Classroom teacher qualities, = a good clinician with excellent overall understanding of symptoms, treatments and causes.)

The subject of what is a healthy animal should be "brainstormed" for the trainees should already know this.

The subject of the signs of disease can be taught using "hum groups". The trainees are split into groups of 2-3 and they discuss the signs of sickness they see around the head, for example. After 3-4 minutes, the groups tell the class what they think the signs of disease are. The teacher can then collect these signs and build upon them. For example the trainees may

talk about nasal discharge and cuts, these are good but the teacher must add bottle jaw and anaemia and any others that are missing. This means that the teacher must have a good knowledge of all the disease symptoms and where they occur.

When talking about disease symptoms use the technique of "**teach, review and introduce**". For example when **teaching**/talking about the symptom eg. nasal discharge. You should **review** the fact that it is related to the lungs and nose and so **review** the functions of these organs, (they were taught the previous day). Then you can take the opportunity to **introduce** the cause of this symptom, that is lung worm and microbes. You can also **introduce** the treatment for the symptom; at this stage in the course you should keep new ideas simple, so just show the trainees the pack of Panacur and a bottle of Rasomycin LA, and mention microbes but **do not** talk about bacteria and viruses.

Do the same for other symptoms eg. diarrhoea in lambs, diarrhoea in year old goats, anaemia, bottle jaw, wounds, tympany etc.

The taking of histories can be taught using "Role Play". For example,

### ROLE PLAY

Scene = PVT pretends to be farmer with a flock of sick sheep, the details are of a typical disease outbreak. He has 13 sheep, one died last week, another died two days ago and now three are sick.

The trainee pretends to be a BVW and must discover the details of:-

how many sheep the farmer has?  
when the deaths occurred?  
what signs did the dead sheep show before they died?  
did the two dead sheep show the same signs?  
what did the farmer see when he butchered the dead sheep?  
has the farmer seen this sickness before?  
how many of the sheep are now sick?  
are these sick sheep showing the same signs?  
did the sickness affect any neighbouring farmers?  
what are the signs according to the farmer?  
are the sheep eating or drinking?  
has the farmer given them any treatment already?  
has the farmer ever vaccinated his sheep?

The PVT must have a story prepared of what symptoms the sheep showed, before and after death, for example "tak" or "lowey".

For example for Lowey they are sick for about one week before they die. The typical symptoms might be a depressed animal, not eating with a nasal discharge and eye discharge, the animals are thin, the animal have fast and difficult breathing, the have some gas in their

rumens and a fever of 40 degrees centigrade. After they have died you see some fluid around the lungs, black areas in the lungs and white spots on the liver.

(What would be the symptoms of Tak in the live and dead animal)

If the trainee does not ask good questions, have the rest of the class to make suggestions, to help the process.

If the trainees miss obvious questions the PVT should tell them.

The PVT should close this session by pointing out how the history questions help better understand the likely disease problem and how to control it.

The questions should revolve around how many? when? where? what signs? seen before? Q & A, to be used to summarise the lesson.

#### QUESTIONS FOR DISCUSSION

Do you have your own way of telling if an animal is sick?

What signs that we have not talked about do you know of?

(Some of the trainees may have examination methods that we have not taught).

## **PRACTICAL SESSION 2: AFTERNOON OF DAY 2:**

PVT's required for lesson;

Classroom = 1 PVT teacher, 1 PVT assistants.

Practical demonstration in Chaman = 5 PVT's.

### **INTRODUCTION TO RESTRAINT AND CLINICAL EXAMINATION.**

1. The purpose of this session is to prepare the BVWs for their practical sessions in the field by demonstrating techniques for restraint of animals and the procedure for conducting a physical examination.
2. This will be done at the Chaman compound with purchased animals so the students will not be distracted during the lesson.
3. For restraint, the students should be asked to show how they control their own animals. This will allow them to demonstrate their own knowledge and allow the students to learn from each other. The role of the teacher is to be sure that the students are capable of doing the following.
  - a. Put a sheep on its rump in order to quiet it and examine the legs and udder.
  - b. Control a goat by laying it on its side and putting your leg over the neck.
  - c. Tying a cow to a solid object so it will not run away during injections or procedures.
  - d. Putting a nose holder on a cow.
  - e. Techniques for not getting kicked by a cow. Demonstrate Din Mohammed's rope technique and see if the BVWs have other methods.
4. These are basic restraint techniques. Additional techniques like controlling a horse with a twitch or dropping a cow to the ground with ropes will be taught in later field practical sessions.
5. For clinical examination, Ask the BVWs to name the parts of the clinical examination (Taking a history from the owner, looking at the animals from a distance, doing a careful physical examination, looking at the environment where the animals are kept) and explain why each is important.
6. Demonstrate a complete physical examination on a sheep or goat, and a cow. Be sure that the following points are specifically emphasized
  - a. The gums and the inside of the front lip are the places in the mouth to evaluate anemia. The inside of the cheeks and the tongue are often pigmented (dark colored) and paleness or whiteness will not be seen

- b. When examining the eye for anemia, it is the lining of the eyelid that is examined for paleness, not the eyeball itself.
- c. Dehydration can be assessed by pinching the skin of the eyelid or neck. If the skin is dry, it will stay pinched and the animal is dehydrated. If the skin quickly returns to its original position, then the animal is normally hydrated.
- d. Evidence of rumen contractions and rumen content should be evaluated by placing the hand behind the last rib on the right side and leaving it there for at least one minute to feel for movement of the rumen.

The hand can then be pressed firmly into the space to feel if the rumen content is hard and dry.

- e. The temperature should be taken on every animal with the thermometer.
  - f. Have the trainees estimate the weight of each animal.
7. Have some BVWs volunteer to carry out physical examinations and tell the others what they are looking for. Assist them if they leave out important points.
8. Have all BVWs practice using and reading thermometers. Compare the temperature readings to the diagrams in the picture book.

## **GUIDELINE FOR CONDUCTING A COMPLETE PHYSICAL EXAMINATION.**

### **AFTER OBSERVING THE ANIMAL FROM A DISTANCE.**

#### **SKIN.**

Walk around the animal once looking for areas of hair loss. Part the hair over the back and tail to look for lice and ticks. Note any wounds.

#### **HEAD.**

Look for swellings or an uneven appearance between sides.

Look for salivation or nasal discharge. Note color.

Look for cloudiness or discharge from eye. Note color.

Open mouth and look at inside of lower lip and gums. Check if mouth is very dry (dehydration). Check if gums are pale (anemia) or yellow (jaundice).

Smell breath. If bad, try to examine teeth. Be careful.

Pull down lower eyelid, check lining for pale color or yellow color.

Pinch the eyelid to check for dehydration.

Feel under the jaw for looseness and fluid (bottle jaw) or swollen lymph nodes.

Check in ears for ticks.

#### **NECK.**

Run hands over the neck carefully to feel for heat or swellings, especially over veins and esophagus (left side).

Pinch skin on the neck to check for dehydration.

Examine the hair for looseness. Part the hair and look for lice and ticks. Note any areas of hair loss.

At bottom of neck feel for lymph nodes just in front of shoulders.

## **CHEST.**

Watch the animal breath. Determine if too fast or difficult.

Look and feel for swellings (broken ribs).

## **FRONT LEGS.**

Run hands over legs, looking for heat or swellings, especially over joints.

Lift leg and examine foot, including between toes. If the animal shows lameness, clean the bottom of foot completely with sharp hoof knife.

Press on the bottom of foot. If soft or painful, use hoof knife to find possible abscess, nail, or wire in foot.

## **BELLY.**

High up on the left side, behind the last rib, push your hand into side of cow, sheep or goat to feel the rumen and its content. Note if very hard or very gassy.

Next lay the palm of your hand in the same place for at least one whole minute to see if you can feel the rumen move which means it is working.

Stand behind the animal and look at both side of the belly. Note if they are even or uneven. Note if left side is swollen (tympany).

On right side, low down behind the last rib, push your hand into the side of goat, sheep or cow. If animal is painful in response, this may represent liver damage from Garg, especially if this is noted in the late autumn or early winter.

Check for swollen lymph nodes under skin on both sides of animal in front of the stifle joint on rear leg.

In female animals, examine the udder. Feel for unevenness, heat, cold, discoloration of the skin, and swelling. If the animal is milking, squeeze out some milk and examine for abnormal appearance.

In male animals, examine the prepuce and testicles for swelling or heat. If the owner complains of a urine problem in male sheep, put the animal on its rump, and try to push the penis out of the prepuce to examine for stones.

## **REAR LEG.**

Examine the rear legs the same way you examined the front legs. In a cow it is difficult to pick up the rear legs to examine the feet and will upset the cow. Only do this if the owner complains of lameness in the rear legs of the cow.

## **REAR END.**

Examine the skin around the anus, under the tail, and on hind legs for evidence of diarrhea, wounds or maggots.

**TAKE THE ANIMAL'S TEMPERATURE LEAVING THE THERMOMETER IN FOR AT LEAST ONE FULL MINUTE BY THE CLOCK.**

## **CONCLUSION.**

Think about all the abnormal symptoms you have discovered. Try to group them together so they fit a certain specific disease if possible.

Sometimes an animal may have more than one thing wrong with it, so all the symptoms will not always fit together to make one story.

### **PRACTICAL SESSION 3: DAY 3:**

All PVT's participate, 1 PVT supervises Kit, 1 PVT supervises the people arriving.

### **FIELD WORK: EMPHASIS ON CLINICAL EXAMINATION AND RECOGNIZING AND CONNECTING SIGNS OF DISEASE.**

**CARRY OUT COMPLETE CLINICAL EXAMINATIONS:** Review from previous day. Paravet can do first one with BVWs watching. Be sure to do a complete examination and set a good example. Then have BVWs do them in small groups under supervision of paravets

**IDENTIFY AND GROUP SYMPTOMS AND MAKE DIAGNOSIS:** Select good cases from the small group examinations and rejoin as a large group to **teach** this section.

Discuss each case seen. Explain how signs of disease are connected and why you make a specific diagnosis or why you can not make a specific diagnosis (because more than one disease may show the same sign)

**SELECT CORRECT DRUGS FOR THE SICK ANIMAL:** **Introduce** this. Show drug selected and say why.

**ESTIMATE THE WEIGHT OF THE ANIMAL:** **Introduce** this. Have the trainees estimate the weight of each animal.

**DETERMINE THE PROPER DOSE:** **Introduce** this by telling them the dose you use. Ask them to agree as a group on a weight of each animal and then tell them if you agree with them.

**PREPARE THE DRUG AND GIVE TO ANIMAL:** **Introduce** by being sure that BVWs see you select, prepare and administer the drug

**RECORD THE TREATMENT ACTIVITY:** Use the symptom book. Be sure the BVWs see how and where you record the animal treated.

**DETERMINE THE COST OF MEDICINE GIVEN:** Use the cost guide and be sure the BVW sees you do this. Discuss the calculation of the cost.

## LESSON 3.

### CAUSES OF DISEASE.

#### DURATION

Day 4. 3.5 hours, (8am - 10am + 10.30am - 12.00am).

45 minutes to cover injuries, lack of food, eating bones, poisons (plants and snakes),  
1 hour and 45 minutes for Parasites,  
1 hour for Infectious causes.

#### VENUE.

Classroom

#### OBJECTIVES

1. To demonstrate using examples that there are 5 major and different causes of disease, that is Traumatic (injuries), Nutritional (feeding), Toxic (poisons), Parasitic and Infectious.

2. To put over simple concepts about parasitic life cycles . (Worms, Flukes, Warbles and Flies)

Note -- This will come up again later in course so should be kept very simple on this occasion.

For example, with Liver Fluke

Life cycle Sheep --> Snail --> Sheep.

Snail associated with slow moving water and wet pastures.

Occurrence worst symptoms = Winter.

What does medicine look like? How much would you give?

3. To relate the different causes to the symptoms of disease talked about in lesson 2.

4. To ascertain the participants understanding of causes. Relate and link these to our understanding of the causes.

#### KEY POINTS

1. It is not necessary for the BVW to know a lot about the different types of Microbe. Concentrate on teaching that microbes are the causes of symptoms such as fever, sudden death, nasal discharge + fever, heat in swellings, diarrhoea in kids and lambs.

Explain that there are three different types of microbe but a lot of detail is not needed.

2. Emphasize the fact that certain symptoms are related to certain causes; for example anaemia with worms and flukes, bottle jaw with worms and flukes, thickened itchy hairless skin with mange mites, fever and heat with microbes.
3. To build upon the existing knowledge of the trainee, keep it simple.
4. To **introduce** the relation between cause of disease and the different medicines available for treatment of that cause in the kit. For example Rasomycin LA is for microbes, Panacur is for (stomach, intestinal and lung) worms, Fasinex is for liver fluke, Ditrifon is for mange and ecto-parasites, Strinycin is for microbes, Sablon is for microbes, Iodine is for microbes etc.

## MATERIALS NEEDED

Bottled samples of Internal and external Parasites. Include liver fluke snails (some people think the little liver fluke snails grow into the big snails).

Models depicting "microbes", that is bacteria, virus, protozoa, mange mite (include a stomach worm).

Posters of life cycles.

Large photos of symptoms related to cause eg. trauma, thin animals, depressed looking animals, mange.

Medicine Kit and a variety of other medicines, to demonstrate that there are different classes of medicines.

## TEACHING METHODS.

PVT's required for lesson:

Classroom = 1 PVT teacher, 1 PVT assistant.

First,

**Teach** about causes using lecture technique.

Use samples, models, pictures and posters as much as possible to demonstrate the different causes.

Allow the trainees to handle the specimens, pictures and models.

Allow the trainees to look at the different medicines.

Second,

Q & A, ask the trainees about the causes of specific well known disease symptoms and patterns. Then use their answers about traditional causes to reinforce and look for links with the causes you have just taught about in the lecture (**review and link**).

Some common disease symptoms and patterns might be:-

- bottle jaw and anaemia occurring in the winter (cause = liver fluke),
- diarrhoea in lambs which are 2 weeks old (cause = microbe),
- cow with pneumonia living in a smelly dirty cow house which has no air movement (cause = microbe),
- ploughing oxen with fever, swelling of head and depression (cause = microbe),
- Sudden death in goats, spreading through the flock (cause = microbe),

Summary Q & A to check trainees understand the different causes of disease.

#### QUESTIONS FOR DISCUSSION

Do these same causes of disease occur in man?

## LESSON 4.

### CHOOSING THE RIGHT MEDICINE ON THE BASIS OF SIGNS.

#### DURATION

- Day 4. 3 hours for the signs in sheep, (2 - 3pm 3.30 - 5.30pm).
- Day 6. 1.5 hours for the signs in Cattle, (8am - 10am).  
1 hour for the signs in donkey and horse, (10.30am - 11.30am).  
1 hour for the signs in camels (11.30am - 12.30am).

#### VENUE

Classroom.

#### OBJECTIVES

1. To **review** the symptoms taught in the lesson on signs of disease and lesson on how to carry out a clinical examination. This must be done for each species.
2. To **review** the fact that certain groups of symptoms occur together and indicate a problem with a particular organ system; eg.
  - symptoms of nasal discharge, coughing, fast breathing and difficulty in breathing are often seen together all indicate a problem with the lungs.
  - symptoms of tucked up posture, no cudding, kicking at belly, rumen not working, constipation sometimes occur together and all indicate the problem is in the stomach or intestines.
3. To **explain** that fever almost always indicates a microbe is causing the disease.
4. To **teach** the trainees that there are different classes of medicines.
- 5 To **teach** the trainees to know which treatments are used for each of the symptoms. This must be done for each species.
6. To **teach** the trainees to group symptoms together before deciding which treatment to give;  
  
eg. if the BVW knows a calf has nasal discharge and is coughing but has no fever - the treatment should be wormer (Panacur),  
  
if the BVW knows the calf has a nasal discharge, is coughing and has a fever, he should know the treatment is Rasomycin LA.
7. To familiarise the trainees with the pictorial monitoring forms so that they can say which treatments fit each picture.

## KEY POINTS

The trainees must learn, by repetition and memorization, which medicines are given for which symptoms or combinations of symptoms; eg.

- \* fever and Rasomycin LA (microbes),
- \* bottle jaw and Fasinex + Panacur (liver fluke + worms),
- \* diarrhoea in 2 week old lambs and Strinacin (microbes),
- \* diarrhoea in one year old sheep and Panacur (worms).

The trainees must know that they have to look for all the symptoms before deciding which medicines to give. That is they must do a full clinical examination.

This learning by repetition and memorization should be repeated as often as possible even during the practical sessions.

## MATERIALS NEEDED

Examples of kit medicines.

Pictorial monitoring form shows different symptoms.

## TEACHING METHODS

PVT's required for lesson:

1 PVT teacher, 1 PVT assistant.

NOTE, 2 PVT's organising practical for the following day.

Lectures with a lot of Q & A,

Go through all the common symptoms seen in each species.

Go through the symptoms in the same order that you would see them doing a systematic clinical examination.

For each symptom **teach** what the possible treatments are.

If there is more than one treatment for a symptom explain to the trainee what factor determines which treatment to give.

For example, the treatment for diarrhoea in sheep is;

1. strinacin, or other oral antibiotic
2. ORS,
3. Panacur,

To decide which treatment to give, you must know the factors;

- a. the age of the sheep,
- b. the amount of dehydration the sheep has.

If the sheep is less than 6 weeks old give Strinicin because it will be microbes.  
If the sheep is less than 6 weeks old and dehydrated give strinicin and ORS.  
If the sheep is over 6 weeks old give Panacur because it will be worms.

What should you give if the sheep is between one month and three months old?

At the end of this lesson check that the trainees know which treatments go with which symptom by Q & A.

You can utilise the pictorial monitoring forms during these Q & A sessions.

### QUESTIONS FOR DISCUSSION

If time permits discuss what Yunani Medicines are used for the common symptoms that have been discussed.

**The tables on the following pages are for reference by the PVT for use in teaching.**

**TABLE OF EXAMPLES OF HISTORY TAKING QUESTIONS AND OBSERVATIONS MADE FROM A DISTANCE.**

**FOR ALL ANIMALS.**

**STAGE OF EXAMINATION                      QUESTIONS TO ASK / OBSERVATIONS**

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**History**

Owner will tell information in response to questions such as:-

- how many animals are sick?
- how many animals have died?
- how have you been treating the problem?
- how do you think your treatment is working?
- how many other farmers have this problem?

- when did the first animal die?
- when did the other animals die?
- when did you see the first sick animal?
- when did the next animal become sick?
- when did the other animals become sick?
- when did you treat the animal(s)?
- when were your animals vaccinated?
- did they have two injections of vaccine 1 month apart?
  
- what symptoms did the animal show before it died?
- what symptoms are the animals showing?
- are other animals showing the same symptoms?
- have you seen these symptoms before? when?
- what have the animals been feeding on?
- have the animals been eating anything different to normal?
- what treatment have you given?
- have the animals been vaccinated?
- what did you see when you butchered the animal?
- what work has the animal been doing?
- is this work more than normal?

- where did the animals die?
- where did the animals get sick?
- where have the animals come from?
- have they been mixing with another mans animals?
- where have the animals been feeding?
- is this the normal place?
- where did you buy your medicine?

- which age of animal is affected?
  - which sex is affected?
  - which medicines do you use?
- 

**Observe from a distance**

- Depressed or Excited
- Posture (way animal is standing or body attitude)
- Recumbent or Collapsed or Incoordinated
- Calling out
- Cudding
- Lameness or Swellings

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**TABLE OF COMMON SYMPTOMS THEIR TREATMENTS AND THE FACTORS DETERMINING TREATMENT FOR SHEEP AND GOATS.**

**SHEEP AND GOATS.**

STAGE OF CLINICAL EXAMINATION	POSSIBLE SYMPTOM SEEN	DETERMINING FACTOR(S)	TREATMENT FOR SYMPTOM
Skin	Hair pulls out	-	Fasinex and Panacur
	Hair loss	Poon Skin	Ditrifon
	Dehydration	-	ORS
	Ectoparasites	-	Ditrifon
	Wounds	If no heat	Sablon and Zinc Oxide or Iodine
	Wounds	If heat/fever/pus	Rasomycin LA
	Swelling	If Fever	Rasomycin LA
Head	Nasal Discharge	If no fever	Panacur
	Nasal Discharge	If fever	Rasomycin LA
	Coughing	If no fever	Panacur
	Coughing	If fever	Rasomycin LA
	Salivation	If fever	Rasomycin LA
	Pale Mucus Membranes	-	Panacur and Fasinex
	Yellow Mucus Membranes	-	Fasinex and Rasomycin LA
	Bottle Jaw	-	Panacur and Fasinex
Chest	Eye Discharge	If no fever	Eye Ointment
	Eye Discharge	If fever	Eye Ointment and Rasomycin LA
	Fast Breathing	If no fever	Panacur
	Fast Breathing	If fever	Rasomycin LA
Chest	Difficult Breathing	If no fever	Panacur
	Difficult Breathing	If fever	Rasomycin LA
Belly	Belly Pain	If eaten wheat	Sodium Bicarbonate and Oil
	Belly pain	If Constipated	Mag. Sulphate and Oil
	Belly Pain	Occurs Autumn/Winter and Pain right side	Fasinex
	Tympany	History of Diet	Oil and Sodium Bicarbonate
	Tympany	If very bad.	Knife
	Rumen not Working	If no fever	Oil or Mag. Sulphate
	Rumen not Working	If fever	Rasomycin LA
	Diarrhoea	Age (less than 6 weeks)	Strinicin
	Diarrhoea	Dehydrated	ORS
	Diarrhoea	Age (> 6 weeks)	Panacur
	Constipation	-	Oil and Magnesium Sulphate.
Belly	Fever	-	Rasomycin LA
	Swelling	If heat/fever	Rasomycin LA and Milking Out
Udder	Abnormal Milk	-	Rasomycin LA and Milking Out
Testicles	Swollen	-	Rasomycin LA
Legs and Feet	Swellings/Lameness	If no fever	Rest
	Swellings/Lameness	If fever	Rasomycin LA and rest
	Hoof Problems	-	Clean and Examine Sole, Trim, Rasomycine LA if heat/fever/pus
	Broken Bones	Splint if simple	

**TABLE OF COMMON SYMPTOMS THEIR TREATMENTS AND THE FACTORS DETERMINING TREATMENT FOR CATTLE.**

**CATTLE.**

STAGE OF CLINICAL EXAMINATION	POSSIBLE SYMPTOM SEEN	DETERMINING FACTOR(S)	TREATMENT FOR SYMPTOM
Skin	Hair pulls out	-	Fasinex and Panacur
	Hair loss	Poon Skin	Ditrifon
	Dehydration	-	ORS
	Ectoparasites	-	Ditrifon
	Wounds	If no heat	Sablou and Zinc Oxide or Iodine
	Wounds	If heat/fever	Rasomycin LA
	Swelling	If Fever	Rasomycin LA
Head	Nasal Discharge	If no fever	Panacur
	Nasal Discharge	If fever	Rasomycin LA
	Coughing	If no fever	Panacur
	Coughing	If fever	Rasomycin LA
	Salivation	If fever	Rasomycin LA
	Pale Mucus Membranes	-	Panacur and Fasinex
	Yellow Mucus Membranes	-	Fasinex and Rasomycin LA
	Bottle Jaw	-	Panacur and Fasinex
	Eye Discharge	If no fever	Eye Ointment
	Eye Discharge	If fever	Eye Ointment and Rasomycin LA
	Head Swelling	-	Rasomycin LA
Chest	Fast Breathing	If no fever	Panacur
	Fast Breathing	If fever	Rasomycin LA
	Difficult Breathing	If no fever	Panacur
	Difficult Breathing	If fever	Rasomycin LA
Belly	Belly Pain	If eaten wheat	Sodium Bicarbonate and Oil
	Belly pain	If Constipated	Magnesium Sulphate and Oil
	Belly Pain	In Autumn/Winter and Pain right side	Fasinex
	Tympany	History of Diet	Oil and Sodium Bicarbonate
	Tympany	If very bad.	Knife
	Rumen not Working	If no fever	Oil or Magnesium Sulphate
	Rumen not Working	If fever	Rasomycin LA
	Diarrhoea	Age (less than 6 weeks)	Strinicin
	Diarrhoea	Dehydrated	ORS
	Diarrhoea	Age (more than 6 weeks)	Panacur
Constipation	-	Oil and Magnesium Sulphate.	
	Fever	-	Rasomycin LA
Udder	Swelling	If heat/fever	Rasomycin LA and Milking Out
	Abnormal Milk	-	Rasomycin LA and Milking Out
Legs and Feet	Swellings	If no fever	Rest
	Swellings	If fever	Rasomycin LA
	Hoof Problems	-	Clean and Examine Sole, Trim, Rasomycin LA if heat/fever/pus
	Broken Bones	-	Splint if calf

**TABLE OF COMMON SYMPTOMS THEIR TREATMENTS AND THE FACTORS DETERMINING TREATMENT FOR DONKEY AND HORSE.**

**DONKEY AND HORSE.**

<b>STAGE OF CLINICAL EXAMINATION</b>	<b>POSSIBLE SYMPTOM SEEN</b>	<b>DETERMINING FACTOR(S)</b>	<b>TREATMENT FOR SYMPTOM</b>
<b>Skin</b>	Hair pulls out	-	Fasinex and Panacur
	Dehydration	-	ORS
	Ectoparasites	-	Ditrifon
	Wounds	If no heat	Sablon and Zinc Oxide or Iodine
	Wounds	If heat/fever	Rasomycin LA (may cause pain at site)
	Swelling	If Fever	Rasomycin LA (may cause pain at site)
<b>Head</b>	Nasal Discharge	If fever	Rasomycin LA (may cause pain at site)
	Coughing	If fever	Rasomycin LA (may cause pain at site)
	Salivation	If fever	Rasomycin LA (may cause pain at site)
	Pale Mucus Membranes	-	Panacur and Fasinex
	Yellow Mucus Membranes	-	Fasinex and Rasomycin LA
	Eye Discharge	If no fever	Eye Ointment
	Eye Discharge	If fever	Eye Ointment and Rasomycin LA
<b>Chest</b>	Fast Breathing	If fever	Rasomycin LA (may cause pain at site)
	Difficult Breathing	If fever	Rasomycin LA (may cause pain at site)
<b>Belly</b>	Belly Pain	If eaten wheat	Sodium Bicarbonate and Oil
	Belly pain	If Constipated	Mag. Sulphate and Oil and Slow walking
	Diarrhoea	Age (more than 6 weeks)	Strinacin
	Diarrhoea	Dehydrated	ORS
	Diarrhoea	Age (less than 6 weeks)	Panacur
	Constipation	-	Oil and Mag. Sulphate and Slow walking.
	Urine not coming	-	Slow walking
	Fever		Rasomycin LA (may cause pain at site)
<b>Udder</b>	Swelling	If heat/fever	Rasomycin LA (may cause pain at site) and Milking Out
	Abnormal Milk	-	Rasomycin LA (may cause pain at site) and Milking Out
<b>Legs and Feet</b>	Swellings	If no fever	Rest
	Swellings	If fever	Rasomycin LA (may cause pain at site)
	Hoof Problems	-	Clean and Examine Sole, Trim, Rasomycin LA if heat/fever/pus (may cause pain at site)
	Broken Bones	-	Bullet

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**TABLE OF COMMON SYMPTOMS THEIR TREATMENTS AND THE FACTORS DETERMINING TREATMENT FOR CAMELS.**

**CAMELS.**

STAGE OF CLINICAL EXAMINATION	POSSIBLE SYMPTOM SEEN	DETERMINING FACTOR(S)	TREATMENT FOR SYMPTOM
Skin	Hair pulls out	-	Fasinex and Panacur
	Hair loss	Poon Skin	Ditrifon
	Dehydration	-	ORS
	Ectoparasites	-	Ditrifon
	Wounds	If no heat	Sablon and Zinc Oxide or Iodine
	Wounds	If heat/fever	Rasomyacin LA
	Swelling	If Fever	Rasomyacin LA
Head	Nasal Discharge	If fever	Rasomyacin LA
	Coughing	If fever	Rasomyacin LA
	Salivation	If fever	Rasomyacin LA
	Pale Mucus Membranes	-	Panacur and Fasinex
	<b>WATERY DISCHARGE FROM EYE</b> (Watery discharge form eye = fever in Camel)		<b>Rasomyacin LA</b>
	Yellow Eye Discharge	If no fever	Eye ointment
	Head Swelling	-	Rasomyacin LA
Chest	Fast Breathing	If fever	Rasomyacin LA
	Difficult Breathing	If fever	Rasomyacin LA
	Swollen Glands		Trypicide/Naganol
Belly	Belly Pain	If eaten wheat	Sodium Bicarbonate and Oil
	Belly pain	If Constipated	Magnesium Sulphate and Oil
	Diarrhoea	Age (less than 6 weeks)	Strinicin
	Diarrhoea	Dehydrated	ORS
	Diarrhoea	Age (more than 6 weeks)	Panacur
	Constipation	-	Oil and Magnesium Sulphate
	Fever	watery eye discharge	Rasomyacin LA
Udder	Swelling	If heat/fever	Rasomyacin LA and milk out
	Abnormal Milk	-	Rasomyacin LA and milk out
Legs and Feet	Swellings	If no fever	Rest
	Swellings	If fever	Rasomyacin LA
	Hoof Problems	-	Clean and Examine Sole, Trim, Rasomyacin LA if heat/fever/pus
	Broken Bones	-	Bullet

**PRACTICAL SESSION 4: DAY 5:**

All PVT's participate, 1 PVT supervises Kit, 1 PVT supervises the people arriving.

**FIELD WORK: EMPHASIS ON SELECTING THE CORRECT DRUGS FOR THE SICK ANIMAL.**

**CARRY OUT COMPLETE CLINICAL EXAMINATIONS:** Review this by having BVW demonstrate on first case in small groups

**IDENTIFY AND GROUP SYMPTOMS AND MAKE DIAGNOSIS:** Review. Have BVW present his findings in first case to each small group, have group discuss his diagnosis.

**SELECT CORRECT DRUGS FOR THE SICK ANIMAL:** Teach this: Select a variety of cases from the small group work. Rejoin as a large group and present the signs and possible causes for each case. Let the BVWs do this if they feel confident. Correct any mistakes they make and assist them. After each diagnosis is reached, discuss the drug selection for the case with the BVWs as a group. Go to Kit, and select medicine. Pass it around for all to see

**ESTIMATE THE WEIGHT OF THE ANIMAL:** Introduce this. Have the trainees estimate the weight of each animal.

**DETERMINE THE PROPER DOSE:** Emphasize that proper dosage is related to weight of the animal. Ask them to tell you the weight of the animal. Tell BVWs what the dose is. Tell them this will be studied in class the next day

**PREPARE THE DRUG AND GIVE TO ANIMAL:** Demonstrate. Make sure BVWs see any procedures of drug mixing and activities related to safety and cleanliness

**RECORD THE TREATMENT ACTIVITY:** Ask the BVWs to find the right place in the symptom book to record the symptom treated.

**DETERMINE THE COST OF MEDICINE GIVEN:** Use the cost guide and be sure the BVW sees you do this. Discuss the calculation of the cost.

## LESSON 5.

### DIFFERENT KINDS OF MEDICINE AND THEIR USE AND THEIR DOSE.

#### DURATION

Day 6.            3 hours,            (2 - 3pm 3.30 - 5.30pm).

#### VENUE

Classroom and Practical.

#### OBJECTIVES.

1. To **review** the different classes of medicines.
2. To **review** which medicines are used for which symptoms.
3. To **demonstrate** any mixing or preparations necessary for giving medicines.
4. To **demonstrate** the usual routes of administration for the different medicines.
5. To **teach** by repetition and memorization the common doses for given medicines by species and size of animal.
6. To **demonstrate** how to pack and take care of the BVW field kits (heavy equipment at the bottom of the kit, liquids in the outside pockets). The storage of medicines (cool dark places). The method of keeping his equipment clean and ready for use. (That is cleaning syringes, needles and equipment at the end of each day).
7. To **teach** the trainees about safe use of medicines.  
For example the need to wear gloves when mixing Ditrifon, warning farmers not to eat meat or drink milk from animals treated with Rasomycin LA for the recommended time periods.
8. To **familiarise** and **teach** the trainee to use and recognise the pictorial dosage guides.
9. To **introduce** examples of other medicines available in Afghanistan, to make the trainee aware that other medicines are available for purchase.  
A pictorial book of these medicines will be produced for the BVW's to use (eg, Carbon Tetrachloride, Short acting Tetracycline, Copper Sulphate, DDT and BHC Powder, Nilzan, Dertil O and Dertil B).

#### KEY POINTS

1. There are many objectives for this lesson so the teacher must make a thorough lesson plan before hand.

2. It will be important to **review** the different uses of medicines taught in lesson four.
3. The most important objectives for the lesson are to **teach**:
  - how to prepare the medicines,
  - how to administer the medicines,
  - what the doses of medicine are for different sizes of animal and for each species.
4. If time is not available it may be best to take time during one of the practical days to demonstrate how to pack and care for the BVW field kit, how to keep syringes, needles and equipment clean after each use.

## MATERIALS NEEDED

Medicine kit,

Pictogram books of Medicines and dose rates.

A series pictograms which combine a drawing of the medicine pack with a label from the medicine pack. These can be put on the walls of the classroom and used for Q & A sessions to **review** medicine use and dose rates.

Fourteen 10cc. syringes.

Fourteen 30cc. syringes.

Fourteen MCI measuring cups.

Variety of medicines from Afghanistan.

Demonstration of how to prepare and administer medicines must be prepared in advance using a step by step technique.

## TEACHING METHODS

PVT's required for lesson:

1 PVT teacher, 1 PVT assistant.

Practical = 3 additional PVT's.

NOTE, 2 PVT's organising practical for the following day.

Split class into groups of 3 - 4 trainees with one PVT to each so that all trainees have to participate and receive a lot of personal attention and see the practical demonstration close up.

First, use Q & A to **review** what medicines are used for which treatments.

Second, **teach** and with **practical demonstration** for each medicine how to prepare the medicine for administration eg:-

- how to mix Zinc Oxide and Vaseline,
- how to mix Ditrifon and the safety precautions necessary,
- how to mix Magnesium Sulphate, Sodium Bicarbonate and ORS. Use measuring cups.

Third, after demonstrating how to prepare each medicine follow by **practical demonstration** of how to administer it. Use syringes, practice filling them with water.

Fourth, **teach** the trainees the different doses by repetition and memorization. This will require much repetition, use the pictograms which should be stuck onto the classroom walls to point at and ask questions about; eg. what is the dose of this medicine for an adult cow? Get trainees to fill syringes and measuring cups when demonstrating what dose they would use.

If time is available:-

- discuss alternative medicines available inside Afghanistan.
- continue to talk about care of kits and equipment. If time is not available save this for the practical day.

#### QUESTIONS FOR DISCUSSION

What other medicines are available inside Afghanistan? Why is it important to know what they are used for and the dose rates?

**PRACTICAL SESSION 5: DAY 7:**

All PVT's participate, 1 PVT supervises Kit, 1 PVT supervises the people arriving.

**FIELD WORK: EMPHASIS ON DETERMINING THE CORRECT DOSES AND PROPER ADMINISTRATION OF MEDICINES.**

**CARRY OUT COMPLETE CLINICAL EXAMINATIONS:** Have the small groups of BVWs do this by themselves.

**IDENTIFY AND GROUP SYMPTOMS AND MAKE DIAGNOSIS:** Have the small groups of BVWs present their findings to the paravet. Have them watch as the paravet examines the same animal. Have group discussion if any signs were missed or interpreted incorrectly.

**SELECT CORRECT DRUGS FOR THE SICK ANIMAL:** Have BVWs suggest treatments and explain their reasons. Ask others if they agree or disagree.

**ESTIMATE THE WEIGHT OF THE ANIMAL:** Have the trainees estimate the weight of each animal.

**DETERMINE THE PROPER DOSE:** Have the BVWs determine the animal's weight. Explain how you calculate the dose (eg. 1 tablet/25KG) Show them how to use the pictograms for the drug to be used to count the number of tablets, cc.'s or measuring cups necessary for that size of animal.

**PREPARE THE DRUG AND GIVE TO ANIMAL:** Allow the BVWs to mix medicine, and point out correct and incorrect procedures. Allow the BVW to give medicine to the animal.

**RECORD THE TREATMENT ACTIVITY:** Supervise the BVW as he records the animal and symptom treated.

**DETERMINE THE COST OF MEDICINE GIVEN:** Explain how to determine the cost of the drug using the cost guide.

## LESSON 6.

### THE IMPORTANT DISEASES OF LIVESTOCK.

#### DURATION

Day 8.

6.5 hours.

8 - 10am. Ranking Sheep and Goat Diseases.

10.30 - 12am. Relating important Sheep and Goat disease symptoms to treatment, cause, occurrence and prevention.

2 - 3pm + 3.30 - 5.30pm. Relating important Sheep and Goat disease symptoms to treatment, cause, occurrence and prevention, continued.

Day 10.

6.5 hours

8 - 10.00am. Ranking Cattle Diseases.

10.30 - 12am. Relating important Cattle disease symptoms to treatment, cause, occurrence and prevention.

2 - 3 pm. Ranking Camel, Donkey and Horse Diseases.

3.30 - 5.30pm. Relating important Camel, Donkey and Horse disease symptoms to treatment, cause, occurrence and prevention.

#### VENUE

Classroom.

#### OBJECTIVES (for all species)

1. To **rank** the diseases considered to be the biggest problem for the trainees in their home areas. This is to be done for each species as outlined in the duration times.

#### **RANKING DISEASE PROBLEMS BY SPECIES.**

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Materials needed 100 pieces of thick paper 8cm. x 15cm and pens

When we rank problems we list the problems in an order, with the worst disease at the top of the list, the second worst next on the list, and so on until the all the problems are written into the list.

To do this exercise with the trainees. The PVT must first ask a group of no more than 4 trainees; **what are the diseases (for a given species of animal eg. sheep) which cause you the biggest problems in your area ?**

The PVT writes down each disease as the trainees tell him. He writes one disease name on each piece of 8cm. x 15cm. When all the diseases have been written. The PVT helps the

trainees put the pieces of paper in order of importance in a line on the floor, with the worst at one end of a line of pieces of paper and the least worst at the other end. It is for the trainees to decide the order, they must hold the pieces of paper. If two or more disease are equal then put them in the same pile. Just before the end of the exercise the PVT checks that the trainees are happy with their order.

If the order is agreed upon then each group and tells the lesson leader what order they decided upon for the 7 worst diseases. The lesson leader writes this list on the blackboard. All the groups lists are written on the board.

Now some order should be appearing, certain diseases should keep coming up as the worst diseases. These are the diseases which should be discussed.

If the lesson leader has some mathematics, you can give scores to each disease.

Give score 7 to the worst disease, 6 to the second worst disease, 5 to the third worst disease, 4 to the fourth worst disease, 3 to the fifth worst disease, 2 to the sixth worst, 1 to the seventh worst. Add up the total score for each disease. The disease with the highest total is the classes' worst disease!

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2. To **review** and **teach** about each of the worst 5 - 7 ranked diseases for each species. (keep donkey and horse together).

a. To establish for each of the ranked diseases (brain-storm) what the major symptoms are for that disease.

b. To establish when during the year the disease is seen and which age groups are affected most (brain-storm).

c. To **review** what the likely causes of each of the diseases is (ask the trainees).

d. To match a treatment to each of the major symptoms for each disease.

**e. To come to a conclusion with the trainees about what is the best treatment for each disease.**

f. To **introduce** simple ideas about the prevention of diseases. This may have to be done if there are no good treatments for the ranked disease; eg. Goat Pox, Foot and Mouth disease, Tak. But keep it simple as the next lesson is about prevention, just **introduce**.

g. To **introduce** the use of vaccines to prevent diseases.

3. To **record** the diseases ranked by the trainees after group discussion to produce a final list of names, include information about major symptoms, occurrence, animals affected, autopsy signs.

4. To include Yunani treatments in the advice about the best treatment for each disease where appropriate; eg. the Yunani procedure of roughening the areas of skin with hair loss before treatment with medicine).

5. To **review** the dose rates of medicines as each disease and species is covered.

### KEY POINTS

1. It is important to **review** which treatments are used for which symptoms when discussing each ranked disease.

2. Use the Pushtu names for diseases. If there is an English equivalent; eg. Tabak = Foot and Mouth disease, Rikhak in 2 week old kids = lamb dysentery. You could mention that there is another name for the disease. This should only be useful with diseases which can be prevented by vaccination. Because in the future BVW's may need to know about names like, "Anthrax Vaccine", "Enterotoxaemia / Lamb Dysentery Vaccine", "CCPP Vaccine".

3. Do not talk about western diseases which can not be diagnosed; eg. Brucellosis, Abomasitis, Tuberculosis, Babesia.

4. The teachers should study the list of disease synopses given below, the lists try to give a guide to the level of training and an idea of the which diseases are thought to be the major problem diseases in S.W. Afghanistan. It may be that most of the diseases ranked as very bad by the trainees are included in this list. If they are not the PVT must decide whether to mention them to the Trainees, for example phosphorous deficiency is an important disease but will probably not be ranked by the trainees because they do not have a name for it. But it would be good for them to know about it.

### MATERIALS NEEDED

Medicine Kit.

Pieces of paper 8cm. X 15cm. for ranking diseases.

Sample bottles of Vaccines.

### TEACHING METHODS

PVT's required for lesson:

Ranking exercise = 4 PVT's participate in small groups.

For discussion = 1 PVT teacher, 1 PVT assistant.

NOTE, 2 PVT's organising practical for the following day.

For the disease ranking session. Split the trainees into groups of 3 - 4. One PVT with each group. The PVT will be responsible for ranking the diseases in his group. When each group of 3 - 4 has produced a list. The lists are written up on the blackboard. A final list is produced through group discussion.

The PVT discussion leader is responsible for recording the details of the list (include information about major symptoms, occurrence, animals affected, autopsy signs), This information should be given to the teaching program coordinator at the end of each course, they will record it and use it to improve the course and our knowledge of the diseases.

When a ranked list of the worst diseases has been produced. It is the work of the PVT to draw out using brain-storming and teaching the information detailed in objective 2.a,b,c,d,e.

It will be important to divide the class time up by the number of diseases to be discussed to prevent going over time.

Once the ranked diseases have been covered, discuss any other diseases in the lists below which have not been already covered.

At the end of each session, use Q & A to review the treatments and simple preventions for each of the ranked diseases.

## LIST OF IMPORTANT SHEEP AND GOAT DISEASES.

1. PUSHTU NAMES = (...TAK....) (.....) (.....)

- Anthrax, Enterotoxaemia,

### MAJOR SYMPTOMS

- **sudden onset**, - depressed, - panting,  
- **crying out**, - trembling, - suddenly runs  
- **collapse**, - nasal discharge, - drooling,  
- red urine, - **fever**.

### AUTOPSY SIGNS

- **Red fluid in peritoneum**, - meat **bloody**,  
- **don't bleed out**,  
- spleen enlarged and sometimes gassy,  
- intestines reddened,

INFECTIOUS Yes

### OCCURRENCE

- **Most in the summer**, early autumn, every year.  
- Young and old.

### CAUSE

Microbe (bacteria)

### TREATMENT

- injection Rasomycin LA,

### PREVENTION

- in an outbreak, inject all animals at risk with Rasomycin LA.  
  
- anthrax and enterotoxaemia vaccination to prevent outbreaks.  
- vaccinate animals twice, one month apart,  
- winter is the best time to vaccinate.

-----  
2. PUSHTU NAMES = (...GARG....) (.....) (.....)

Liver Fluke.

### MAJOR SYMPTOMS

- not eating, - dull, - lethargic,  
- slow loss of condition, - emaciated,  
- hair loss, - **bottle jaw**, - **anaemia**,  
- belly pain (on the right side).

**AUTOPSY SIGNS**

- **Flukes seen in the liver, - white lines in Liver,**  
(immature flukes are not recognised.

**INFECTIOUS**                      No.

**OCCURRENCE**

- late autumn and winter.

**CAUSE**

- Liver Fluke.

**TREATMENT**

- Fasinex.

**PREVENTION**

- Fasinex given in late autumn and winter.
  - do not graze animals in wet pastures, along banks of irrigation channels in Autumn and early winter.
- 

3. PUSHTU NAMES = (**RIKHAK**....) (.....) (.....)

Diarrhoea.

**MAJOR SYMPTOMS**

- thin animals, - **Diarrhoea,**                      - **anaemia.**

**AUTOPSY SIGNS**

- sometimes see worms in stomach and intestines.

**INFECTIOUS**                      No

**OCCURRENCE**

- worst in spring, every year,
- worse in thin animals,
- affects young (over 1-2 months) and old.

**CAUSE**

- Stomach and intestinal worms.

**TREATMENT**

- Panacur,
- ORS if young animals dehydrated.

**PREVENTION**

- Panacur given in late autumn and winter.

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4. PUSHTU NAMES = (..RIKHAK....) (.....) (.....)

Lamb Dysentery.

MAJOR SYMPTOMS

- collapse, - **diarrhoea**, - sometimes fever,
- many deaths.

AUTOPSY SIGNS

- red intestines, - red fluid in around intestines.

INFECTIOUS Yes

OCCURRENCE

- in lambs and kids less than 6 weeks old.

CAUSE

- Microbe (bacteria)

TREATMENT

- Strinacin, or other oral antibiotic
- ORS if dehydrated.

PREVENTION

- Vaccination of mothers in the winter,
- make sure babies get their colostrum,
- clean house for babies.

---

5. PUSHTU NAMES = (...BUSMARG..) (.....) (.....)

Contagious Caprine Pleuro Pneumonia.

MAJOR SYMPTOMS

- depressed, - not eating, - **crying out**, - collapse,
- **nasal discharge**, - **difficulty in breathing**,
- **fever**, - **many deaths**.

AUTOPSY SIGNS

- much fluid in lung cavity,
- lungs heavy, with dark (black) lines throughout.

INFECTIOUS Yes.

OCCURRENCE

- all year round, Goats only, young and old.

CAUSE

- Microbe (bacteria)

TREATMENT

- Rasomycin LA.

PREVENTION

- possibly inject with Rasomycin LA all at risk animals, in outbreak.
- Vaccination in the winter.

6. PUSHTU NAMES = (...POON.....) (.....) (.....)

Sarcoptic Mange,

MAJOR SYMPTOMS

- emaciation, - thickened skin, - itching,
- hair loss, - skin cracked, - death.

INFECTIOUS

Yes.

OCCURRENCE

- all year, worst in winter.

CAUSE

- mange mite.

TREATMENT

- Wash with Ditrifon, twice, two weeks apart.

PREVENTION

- affected animals should be separated from the rest of the flock.

7. PUSHTU NAMES = (...LOEI.....) (...LOWAI.....) (.....)

Pneumonia.

MAJOR SYMPTOMS

- inappetence, - depression, - drooling,
- coughing, - **nasal discharge**, - mattery eyes,
- head swollen, sometimes, - difficulty in breathing,
- **fast breathing**, - mild bloat, - **fever**.

AUTOPSY SIGNS

- lungs heavy and discoloured, yellow fluid in stomach.

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INFECTIOUS Yes.

OCCURRENCE

- all year round.

CAUSE

- Microbe (bacteria),
- Lung worm.

TREATMENT

- Rasomycin LA (if fever),
- Panacur.

PREVENTION

- in an outbreak **with** fevers, inject all animals at risk with **Rasomycin LA**.
  - in an outbreak **without** fevers, treat all animals at risk with **Panacur**.
- 

8. PUSHTU NAMES = (..TAMBA....) (.....) (.....)

Tympany.

MAJOR SYMPTOMS

- history of eating alf alfa, clover,
- swelling on the left side behind the ribs
- pain, not eating, motionless, - trembling,
- drooling - gas in rumen,
- constipated, - death.

INFECTIOUS No.

OCCURRENCE

- mostly in spring.

CAUSE

- green alf alfa, clover.

TREATMENT

- Vegetable Oil, - Sodium Bicarbonate, - Knife to release gas in severe cases.

PREVENTION

- feeding management

9. PUSHTU NAMES = (..TABAK.....) (.....) (.....)

Foot and Mouth Disease.

MAJOR SYMPTOMS

- not eating, - become very thin, - lame,
- sores in mouth, - drooling, - Fever, -some young die
- sores on the feet, -sores on udder, - fly strike in feet,

AUTOPSY SIGNS

- sores in mouth and on feet.

INFECTIOUS Yes.

OCCURRENCE

- all year round.

CAUSE

- Microbe (virus).

TREATMENT

- Rasomycin LA may help.

PREVENTION

- separate affected animal from the main flock.
  - a vaccine is made but not available in Afghanistan.
- 

10. PUSHTU NAMES = (..ZUJAI.....) (.....) (.....)

Sheep and Goat Pox.

MAJOR SYMPTOMS

- Small sores around face and mouth, - nasal discharge,
- sores on udder, - mastitis, - fever.

INFECTIOUS Yes.

OCCURRENCE

- All year round.

CAUSE

- Microbe (virus)

TREATMENT

- Rasomycin LA, - Iodine on sores.

PREVENTION

- separate affected animals,
- a vaccine is made but not available in Afghanistan.

11. PUSHTU NAMES = (..ZHARAI...) (.....) (.....)

English name not known.

**MAJOR SYMPTOMS**

- depressed, - not eating,
- Mucous membranes are yellow.

**AUTOPSY SIGNS**

- body is yellow.

**INFECTIOUS**

not known

**OCCURRENCE**

not known

**CAUSE**

- microbe? - plant poison? - liver fluke?

**TREATMENT**

- Rasomycin LA and Fasinex.

## LIST OF IMPORTANT CATTLE DISEASES.

1. PUSHTU NAMES = (GOMARG...) (.....) (.....)

Heamorrhagic Septicaemia, Anthrax

### MAJOR SYMPTOMS

- Sudden onset, - very depressed, - swollen throat,
- fetid breath, - fever - death.

### AUTOPSY SIGNS

- fluid around lungs and intestines.

INFECTIOUS Yes.

### OCCURRENCE

- all year round,
- especially after hard work and weather change.

### CAUSE

Microbe (bacteria)

### TREATMENT

- Rasomycin LA.

### PREVENTION

- in an outbreak, inject all animals at risk with Rasomycin LA.
- vaccination, 2 doses, one month apart.

-----  
2. PUSHTU NAMES = (DUNGAUR / GARG) (.....) (.....)

Thin animals.

### MAJOR SYMPTOMS

- thin, - dull - emaciated (though rarely die), - bottle jaw, - anaemic.

### AUTOPSY SIGNS

- Liver Flukes in liver, worms.

INFECTIOUS No

### OCCURRENCE

- young animals mostly, most in autumn and winter.

**CAUSE**

- Liver Fluke and Worms.

**TREATMENT**

- Panacur and Fasinex. (**Teach Doses**)

**PREVENTION**

- Dose with Panacur and Fasinex in the late autumn/winter.

-----  
3. PUSHTU NAMES = (..TAMBA....) (.....) (.....)

Tympany

SEE INFORMATION GIVEN FOR SHEEP AND GOAT.

-----  
4. PUSHTU NAMES = (..TABAK....) (.....) (.....)

Foot and Mouth Disease.

SEE INFORMATION GIVEN FOR SHEEP AND GOAT.

-----  
5. PUSHTU NAMES = (.....) (.....) (.....)

**PHOSPHORUS DEFICIENCY.**

**MAJOR SYMPTOMS**

- lethargic, - thin though fed well,  
- does not get pregnant, - eating old bones.

**INFECTIOUS**

No.

**OCCURRENCE**

- Older animals, all year round.

**CAUSE**

- Phosphorous deficiency.

**TREATMENT**

- grind old sun dried bones in the mill after breaking them up with a rock. Mix the bone meal with flour and feed a small palmful every other day.

**PREVENTION**

- give bone meal or phosphorous block.

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6. PUSHTU NAMES = (TOKHALJAI..) (.....) (.....)

Pneumonia.

SEE INFORMATION GIVEN FOR SHEEP AND GOAT (under LOEI)

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7. PUSHTU NAMES = (BANDH.....) (.....) (.....)

Constipation.

**MAJOR SYMPTOMS**

- depressed, - not eating, - belly pain,
- rumen feel full of hard food - no faeces.

**AUTOPSY SIGNS**

- stomach full, intestines full.

INFECTIOUS No.

**OCCURRENCE**

- most in winter.

**CAUSE**

- feeding, worms?

**TREATMENT**

- Oil, - Magnesium Sulphate, - plenty of water.

**PREVENTION**

- feed clean, wet food.
- 

8. PUSHTU NAMES = (SHIN WUR LANZI) (.....) (.....)

Mastitis.

**MAJOR SYMPTOMS**

- Udder swollen and hard, - gas in udder,
- abnormal milk, - black udder, - lumps in udder,
- death sometimes.

**AUTOPSY SIGNS**

INFECTIOUS Yes.

**OCCURRENCE**

- worst soon after calving.

## CAUSE

Microbe (bacteria)

## TREATMENT

- Rasomycin LA, - milk out udder at least 4 times per day.

## PREVENTION

- Keep cow house and udder clean.

**LIST OF IMPORTANT CAMEL DISEASES.**

1. PUSHTU NAMES = ( **TIGAWOONI.** ) (.....) (.....)

PNEUMONIA (Haemorrhagic septicaemia, Anthrax)

**MAJOR SYMPTOMS**

- depressed, - not eating, - sudden onset,
- coughing, - swollen throat,
- difficulty in breathing, - panting,
- die quickly.

**AUTOPSY SIGNS**

**INFECTIOUS**                      Yes.

**OCCURRENCE**

- all year round especially after heavy work.

**CAUSE**

- Microbe (bacteria).

**TREATMENT**

- Rasomycin LA.

**PREVENTION**

- in an outbreak, inject all animals at risk with Rasomycin LA.
- 

2. PUSHTU NAMES = (...**POON**....) (.....) (.....)

Sarcoptic Mange.

SEE INFORMATION GIVEN FOR SHEEP AND GOAT.

-----

3. PUSHTU NAMES = (**MUCH WAHOONI**) (.....) (.....)

Surra.

**MAJOR SYMPTOMS**

- Not eating, - depressed, - fever,
- swollen lymph nodes, - die.

**AUTOPSY SIGNS**

**INFECTIOUS**                      No.

**OCCURRENCE**

Summer and autumn.

**CAUSE**

Microbe (protozoa).

**TREATMENT**

- Trypicide or Naganol (not available yet in Afghanistan)

**PREVENTION**

- Trypicide,
- Keep camels away from biting flies.

## LIST OF IMPORTANT DONKEY AND HORSE DISEASES.

1. PUSHTU NAMES = (BOGMARA....) (...MARLA.....) (.....)

Glanders, Pneumonia.

### MAJOR SYMPTOMS

- discharge from the nose, - bad breath,
- lumps in throat, - lumps rupture releasing pus,
- some die.

INFECTIOUS Yes.

### OCCURRENCE

All year round.

### CAUSE

Microbe (bacteria)

### TREATMENT

- Rasomycin LA, (may cause pain at the site of injection)

### PREVENTION

- keep affected animals away from other horses and donkeys.

-----  
2. PUSHTU NAMES = (SCHUMDARD..) (.....) (.....)

Colic.

### MAJOR SYMPTOMS

- not eating, - sitting, - sweating, - belly pain,
- kicking at abdomen, - rolling, - constipation

INFECTIOUS No

### OCCURRENCE

most in winter.

### CAUSE

blocked intestine, twisted intestine,

### TREATMENT

- Oil, - Magnesium Sulphate, - keep horse walking or moving.

3. PUSHTU NAMES = (SHAR SHAR BANDH) (.....) (.....)

Exertional Myopathy.

MAJOR SYMPTOMS

- depresses, - stiff, - cannot urinate.

INFECTIOUS

No.

OCCURRENCE

- after a lot of work.

CAUSE

- too much work.

TREATMENT

- slow walking, give plenty of water or ORS.

PREVENTION

**PRACTICAL SESSION 6: DAY 9:**

All PVT's participate, 1 PVT supervises Kit, 1 PVT supervises the people arriving.

**FIELD WORK: EMPHASIS ON EVALUATING PERFORMANCE.**

In this session, have a pair of BVWs go through the entire process of examination, diagnosis, treatment, recording, and fee charge, as the rest of the BVWs sit and watch. Have the pair of BVWs explain what they are doing as they go along. Allow the group to ask questions and agree or disagree with the pair. Only intervene if there is an obvious mistake. Repeat this exercise for at least 3 more pairs of BVWs. Paravets should examine the group of animals first and insure that a variety of different signs or diseases are used and the paravet already knows the diagnosis and treatment he is wanting the BVWs to make.

**PRACTICAL SESSION 7: DAY 11:**

All PVT's participate, 1 PVT supervises Kit, 1 PVT supervises the people arriving.

**FIELD WORK: EMPHASIS ON REVIEW OF BVW'S SKILLS.**

At this point, the BVWs should be able to work more or less independently on all phases of practical work. Break up into small groups and allow the BVWs in each group to carry out the complete set of clinical activities by themselves under supervision, checking their work while they are working and then evaluating them by questions after each phase of the process.

## LESSON 7.

### PREVENTING DISEASE IN ANIMALS.

#### DURATION

Day 12.      3 hours,      8 - 10am, 10.30 - 12am.

#### VENUE

Classroom.

#### OBJECTIVES

1. To explain the benefits of preventing disease, through strategic dosing, strategic feeding and vaccination.

Animals which have no disease are:-

- less likely to die,
- grow faster,
- fatter,
- are better at fighting microbes, chinjai, garg, mange,
- live longer,
- have more babies,
- have babies every year,
- give more milk,
- babies are stronger, grow quicker and less die.

Can you think of other benefits of healthy animals?

2. To **review** the simple methods of preventing disease mentioned in lesson 6. That is vaccination, strategic use of Fasinex and Panacur, and injecting in contact animals with Rasomycin LA.

3. To **teach** in more detail the different methods of preventing disease. That is preventing disease through:-

- strategic dosing,
- strategic feeding,
- simple information about vaccination,
- ensuring new born babies receive enough colostrum,
- injecting animals with antibiotic when a microbe disease is spreading from animal to animal,
- separating sick animals from the rest of the flock,
- providing animals with living conditions which make them comfortable; eg. providing shade, protection from rain and cold,
- providing the animal with clean living conditions,
- providing the animal with living conditions having clean air to breath.

## KEY POINTS

### 1. PREVENTION IS BETTER THAN CURE.

#### 2. Strategic Feeding.

If a farmer has a limited amount of feed for his stock, then;

He should be able to see which of his animals are the thinnest.

He should know that the thinnest animals are the ones requiring extra feed.

He should know at which times extra feed should be fed.

That is:-

##### **For Sheep and Goats.**

a. Feed thin animals more for three weeks before and after mating. This will help the thin animals produce more babies; eg. 100 thin ewes with no extra food might produce 80 babies but 100 thin ewes with extra feeding at mating time may produce 110 babies!

b. Feed thin animals extra during the last month of being pregnant and for the first month after they give birth. This will make the babies bigger and stronger when they are born, so less die. It will also make the mothers produce more colostrum and milk, so the babies will be stronger and grow faster.

##### **For Cows.**

a. Feed thin animals extra during the last month of being pregnant and for the first month after they give birth. This will make the calves bigger and stronger when they are born, so less die. It will also make the cows produce more colostrum and milk, so the babies will have more to eat and so be stronger and grow faster.

**Note** - the above comment for cows applies to all thin pregnant mothers.

b. If a farmer is having a problem getting a cow pregnant he should know that:-  
- thin cow's are more difficult to get pregnant and may need feeding extra and worming before mating.

- if the cow is eating bones it should be given bone meal or phosphorous blocks.

### 3. Strategic Dosing.

For Liver Flukes and Worms.

Most important in Sheep, Goats and Young Cattle.

#### a. Worms. Dose with Panacur in Winter.

- to understand the above the trainees must know about the worm life cycle.

- They must understand that the numbers of worm eggs on the pasture are highest in the autumn because the worms have had time to breed and grow and so produce most eggs in the autumn.

- The worm eggs are in the faeces and most faeces is found around the night houses so grazing animals around the night houses lets the animal eat more worm larvae.

- They must understand that the worms go to sleep in the intestinal wall in the winter and that they can be killed with Panacur at this time.
- Give a dose of Panacur in the winter to remove the worms from the animal before they cause a problem in the spring;
- For pregnant females it is best to give the Panacur one month before they give birth.

**b. Liver Fluke.** Give a dose of Fasinex in the winter to kill the Liver flukes which are growing from the Liver Fluke eaten in the autumn.

- to understand the above the trainees must know about the Liver Fluke life cycle.
- The snails go to sleep when it is very cold and some will die in the winter but they wake up and begin to breed in the spring.
- They must understand that the numbers of snails and liver flukes are highest in the late autumn and early winter.
- The baby flukes are eating into the liver in the early winter and you may see animals dying at this time.
- Fasinex will kill all the Liver Flukes if given in the winter, after the first hard frost, when the snails are asleep.

#### 4. Vaccination.

The trainees only need to know simple ideas about vaccination because they do not yet have vaccine in their field kits.

They should know about the following:-

- Very simply how vaccines work. They make the blood strong so that the animal can fight the disease better, is enough.
- Which diseases can be prevented by vaccination. That is, Tak (anthrax and enterotoxaemia), Rikhak in baby sheep and goats (lamb dysentery), Busmarg (CCPP), Gomarg (Haemorrhagic septicaemia), Nesa Barz (Black Leg).
- Simple ideas about storing vaccines. That is they need to be kept cool and do not last for a long time. CCPP vaccine in particular needs to be kept cold and so should only be used in winter.
- Simple ideas about giving vaccine. They should know that:-
  - two injections should be given with one month between each injection,
  - the best time to give vaccine is in the winter. Because vaccines store better in the winter and because the vaccine will make the colostrum strong so that the babies can also fight diseases better (if they drink the colostrum).

#### 5. Colostrum.

The trainees should know that it is important for the babies to drink as much colostrum as possible if they are to be able to fight diseases.

## **6. Strategic injections of Rasomycin LA.**

The trainees should know that:-

- a. Rasomycin LA will kill microbes.
- b. Rasomycin LA will stay in the animal for three days after it has been injected,
- c. If a farmer has a problem with microbe disease spreading from animal to animal; eg. Tak, Busmarg, Gomarg, Tigawooni, Lowey (pneumonia). Rasomycin LA can be injected to all the animals at risk to protect them from the microbe.
- d. If Rasomycin LA is used in this way it should be injected at normal dose rates. (not smaller doses).

## **7. Separating sick animals.**

- a. The trainees should know that microbes can travel from one animal to another when the animals are kept close together.
- b. If an animal is sick and the trainee thinks the cause may be microbe. He should know that separating that animal from the healthy animals may prevent the others from becoming sick.
- c. If the trainee sees that the disease is spreading from animal to animal, he should know that separating the healthy animals from the unhealthy, could help stop the spread.
- d. The trainee should know what to do if he sees many abortions. Abortions are commonly caused by microbes, so if an animal has an abortion it should be separated from the other pregnant animals. You should also bury the aborted baby if you find it.

## **8. Good living conditions.**

- a. The trainee should know that when animals have good food and shelter (comfortable) they are better at fighting disease (just like men are).
- b. The easy ways to make animals happy (comfortable) are:-
  - to protect them from the rain and cold in winter,
  - to protect them from the heat in the summer by providing shade,
  - to give them enough good food in the winter,
- c. Dirty, bad smelling (smells of ammonia) animal houses are not healthy for animals and allow many microbes to come near to the animals.

The trainee should know that animal house should be cleaned out each week in winter (or when the house begins to smell bad) and that faeces should be moved away from the animal house regularly.

## MATERIALS NEEDED

Posters of species year calendars showing each year divided into quarters. The calendar quarters are indicated by a pictures of a tree at different stages of leaf growth. The 12 animals in the annual circle are depicted at various stages of pregnancy, with a growing baby suckling, weaned young and being mated.

Posters of Liver Fluke, Worm, Fly, and (Warble??) life cycles.

Specimen Vaccine Bottles.

Liver Fluke Snail specimens.

Specimen of ammonia.

## TEACHING METHODS

PVT's required for lesson = 1 PVT teacher 1 PVT assistant.

Use question and answer to **review** the methods of prevention introduced in lesson 6.

**Teach** the subjects covered on the key points using lecture style and making much use of the wall posters or trainees pictograms of life cycles.

Use role plays between two PVT's to emphasise points; eg.

## ROLE PLAY

### Scene 1

- Farmer complaining to BVW that he can not pay for wormer medicines.
- BVW says he should sell one of his Goats to pay for the wormer.
- Farmer complains that he has had another bad year many of his young female goats had diarrhoea and bottle jaw in the late autumn, some then died or did not have any babies, now they are very thin. He cannot afford to sell one of his goats to buy medicine.
- Finish.

Ask Questions:-

- a. What did you see?
- b. Why is this a problem?
- c. Does this happen? and experiences
- d. What is the cause of this problem?
- e. What can be done about it.

## ROLE PLAY

Scene 1,

- Farmer has come to see the BVW.
- Farmer tells BVW that many of his young baby goats are dying from Rikhak.
- BVW tells the farmer he has some medicine that may help with his problem. But that the disease he has is a very bad one and that the medicine will not help all the lambs.
- Farmer complains.
- BVW say that next winter he should have his Goats vaccinated. The BVW explains to the farmer what a vaccine is.
- The farmer complains why doesn't the BVW give him the vaccine now.
- The BVW says the vaccine will not work well now.
- The farmer complains that the BVW should have told him about this "vaccine" last winter.
- Finish

Ask Questions:-

- a. What did you see?
- b. Why is this a problem?
- c. Does this happen? and experiences
- d. What is the cause of this problem?
- e. What can be done about it.

Make up more role plays about:-

- dirty smelly houses and cows with pneumonia,
- Busmarg spreading through herd of goats,
- a man saying how colostrum makes him very strong with his wife, but that he has a problem with his calves dying!

At the end of the lesson. Use posters of annual animal life cycles to **review** and summarise what has been learnt about each method of preventing disease.

### QUESTIONS FOR DISCUSSION

Can you use any of the methods learnt to prevent disease in man?

Would it be good to train BVW's to vaccinate? Discuss problems.

## LESSON 8.

### WORKING AS A BVW.

#### DURATION

Day 12. 3 hours, (2 - 3pm 3.30 - 5.30pm).

#### VENUE

Classroom.

#### OBJECTIVES

1. Describe and ensure the trainees understand the normal working practice for BVW's. That is:-

- helping their local communities with knowledge about disease prevention,
- creating good will through castrating animals,
- selling their medicines for a profit,  
**(Ensure that the trainees understand that they must make a profit if they are to continue.)**
- buying new medicine supplies from MCI stores at Panjwai and Spin Boldak.
- buying medicines from local traders if they know how to use those medicines,
- filling in pictorial monitoring forms to help MCI help them,
- receive visits from MCI veterinary staff in the future,

These visits are to help the staff find out what the BVW's problems are, how their work is going, and to give them further training if they are working.

They will also give advice about the new medicine prices which may change as the exchange rate of the Afghanee and Kaldhari changes.

2. **Teach** simple methods of controlling personal finance.  
(use one waist coat pocket to store money to buy replacement medicines as the medicines are sold, use another waistcoat pocket to store the profits made. Do not put all the money in one pocket.)
3. Communicate how MCI sees its future relationship with the BVW.
4. Ensure the trainees know how to complete the pictorial monitoring forms. That the trainees know to take the forms to the MCI store when they go to buy more medicines.

5. Explain to the trainees again, that they will have to pass a test before they can collect their kits and continue with the field training.

### KEY POINTS

- Ensure that the trainees understand that the field kit of medicines, is all the **financial** help they will get from MCI. But they will get follow up visits and further training.

Explain the reasons why the trainee should complete the pictorial monitoring forms. That is:-  
- for MCI to be able to see what disease are in Afghanistan, thus they can give more help in the future,

- to make it easier for MCI to know what medicines to buy in the future,

- for MCI to know what disease they see most of and so improve the training and even give them more training.

### MATERIALS NEEDED

Pictorial monitoring forms for BVW's to begin filling during their field training.

### TEACHING METHODS

PVT's required for lesson = 1 PVT teacher, 1 PVT assistant.

Lecture and discussion for each of the objectives.

### ROLE PLAY

Scene 1, BVW has just sold a lot of worm medicine to a rich koochi he is counting his money. His brother comes to borrow some money, he lends it to him. His neighbour comes to borrow some money, he lends it to him. He tells his small brother to go and buy some special sweets from the shop.

Scene 2, a rich herder comes to buy some Garg medicine of the BVW. But the BVW says he has not any money to buy more medicine, the herder is disappointed and says he heard the BVW had medicine and he has walked for three hours when he could have gone to the bazaar.

Ask Questions:

- a. What did you see?
- b. What problems does this cause?
- c. Why is this a problem?
- d. Does this happen? and experiences
- e. What is the cause of this problem?
- f. What can be done about it.

Use pictorial monitoring forms to test that the trainees know how to use them.

### QUESTIONS FOR DISCUSSION

Ask the trainees to think of the problems they think they are going to have.

Ask the trainees to suggest ways of improving the course.

DAY 13.

**EXAMINATION, GRADUATION, EVALUATION, LEAVE FOR VILLAGES.**

All PVT's present.

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DAYS 14 - 21.

**FIELD TRAINING IN TRAINEE'S VILLAGES.**

All PVT's participate.

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**Table 1.** BVW training course schedule. (refer to manual for details)

<u>DAY</u>	<u>SUBJECT</u>
<u>1</u> am. 8 - 10 10.30 - 12	Introduction to Purpose of Course, How do animals function.
pm. 2 - 5.30	How do animals function continued. includes practical autopsy.
<u>2</u> am. 8 - 12	Signs Of Health And Signs Of Disease.
pm. 2 - 5.30	Signs Of Health And Signs Of Disease continued. includes practical restraint and clinical examination.
<u>3</u>	Practical work in the field.  Emphasis on clinical examination and recogniizing and connecting signs of disease.
<u>4</u> am. 8 - 12	Causes Of Disease.
pm. 2 - 5.30	Choosing The Right Medicine On The Basis Of Signs. Begin Sheep/Goat.
<u>5</u>	Practical work in the field.  Emphasis on selecting the correct drugs for the sick animal.
<u>6</u> am. 8 - 10 10.30 - 11.30 11.30 - 12.30	Choosing The Right Medicine On The Basis Of Signs. Cattle. Horse and Donkey. Camel.
pm. 2 - 5.30	Different kinds of medicine, their use and dosage. includes practical packing kit, handling syringes and measuring cups, mixing powders, injection sites.

<b><u>DAY</u></b>	<b><u>SUBJECT</u></b>
<b><u>7</u></b>	Practical work in the field.  Emphasis on determining the correct doses and proper administration of medicines.
<b><u>8</u></b> am.  8 - 10 10.30 - 12	The Important Diseases of Livestock. Ranking Sheep and Goat Diseases. Relating important Sheep and Goat disease symptoms to treatment, cause, occurrence and prevention.
pm 2 - 5.30	Relating important Sheep and Goat disease symptoms to treatment, cause, occurrence and prevention continued.
<b><u>9</u></b>	Practical work in the field.  Emphasis on evaluating performance.
<b><u>10</u></b> am.  8 - 10.00 10.30 - 12	The Important Diseases of Livestock continued. Ranking Cattle Diseases. Relating important Cattle disease symptoms to treatment, cause, occurrence and prevention.
pm. 2 - 3 3.30 - 5.30	Ranking Camel, Donkey and Horse Diseases. Relating important Camel, Donkey and Horse disease symptoms to treatment, cause, occurrence and prevention.
<b><u>11</u></b>	Practical work in the field.  Emphasis on review of BVW's skills.
<b><u>12</u></b> am. 8 - 12	Preventing Disease in Animals.
pm. 2 - 5.30	Working as a BVW.
<b><u>13</u></b> am.	Test and evaluation of course. Graduation.
pm.	Depart for villages.
<b><u>14</u></b> - <b><u>20</u></b>	Field training in trainee's villages.