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FILE

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February 16, 1992

Gary Lewis
Chief Ag Development Officer
Office of the AID REP for Afghanistan
American Embassy
Islamabad, Pakistan

Project: PVO Support Project #306-0211-A-00-0961-00

Subject: Consultancy Report for Kristin Anderson

Dear Gary;

Enclosed please find a copy of the consultancy report from Kristin Anderson of Tufts University which she completed at the end of her visit to Quetta on January 31. I have delayed sending it because Myron was out of town and I wanted him to see it before forwarding it to AID.

At the time Kristin wrote the report, we had still not found suppliers or received shipments on several items in the Basic Veterinary Worker Kit. Happily, all of these items have been ordered and have arrived since that time.

Thank you for your assistance in obtaining a waiver for use of locally purchased drugs. We feel this was essential to meeting the stated goals of the Basic Veterinary Worker project.

As of today we have successfully completed our first Paraveterinarian/ Teacher Training Course. Seven MCI paraveterinarians were trained as teachers. A group of 15 Afghan farmers selected by our MCI field staff arrives in Quetta tomorrow to begin their training by PVTs to become Basic Veterinary Workers. After one week of supervised teaching, the PVTs will go back into Afghanistan with the farmers and continue their practical training for an additional 3 weeks at which time the BVW will be issued his drug and equipment kit. So it appears that the program is up and running.

Thank you for the opportunity to participate in this exciting and useful project.

Sincerely yours,

David M. Sherman
David M. Sherman, D.V.M., M.S.

Consultancy Report - O/USAID/REP - AFGHANISTAN

Mercy Corps International(MCI)/Tufts School of Veterinary
Medicine(TUSVM)
SW Afghanistan Animal Health Care Delivery Project

December 30, 1991 - January 30, 1992, Quetta, Pakistan

Project Goal: Development of a field kit appropriate for the basic veterinary worker, including equipment and pharmaceutical inventory and procurement

The MCI/Tufts Project is designed to train experienced paravets working in Afganistan to transfer their skills, knowledge and basic technical functions to Basic Veterinary Workers(BVWs); individuals selected by their local communities to receive training in animal health care. The BVWs will be experienced individuals with ties to their community and to livestock agriculture. This will increase the availability of general veterinary care, improve animal production and herd size, provide a source of income to the BVW, and may provide a means of censusing disease prevalence allow for continuing agricultural extension education, and encourage the privatization of veterinary services.

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Venue

The majority of the work for this project was performed at MCI offices in Quetta, Pakistan, via telephone or in the Quetta bazaar during January, 1992. One three - day trip was taken 13-16.1.92. During this time meetings were held with USAID in Islamabad, and with suppliers and prospective suppliers in Peshawar and Lahore.

Activities

The primary tasks were to refine the kit inventory to a minimum variety of essential items, to establish procurement channels for the veterinary products, to establish an inventory system for maintaining and issuing veterinary stock within the existing MCI warehouse system, and provide technical support to the project director in Quetta, Dr. David Sherman.

1. The goal of the BVW project is to eventually return a functional animal health care system to the private sector. This will require trained individuals and a client base familiar with the market value of the services rendered and any medications received. Materials for the immediate future will be purchased through the MCI warehouse, but this function will be transferred to local medical suppliers as they become familiar with the veterinary market. Resupply of the BVWs will be locally available

at MCI medical clinics in Afghanistan until then.

2. Review of the significant diseases and conditions to be addressed in the service area outlined. Earlier surveys of Afghan refugees in Pakistan and field studies in Afghanistan provided information on perceived significance of different diseases by livestock owners (Mariner, Heffernan, Findlen, Flanagan, 1990-91). This information was refined in discussion with other vets working in the area, especially Woodford (UNDP) and Leyland (Health Unlimited, HU). Our working list of disease conditions for treatment at the basic level includes: internal parasitism (rounds, tapes, flukes), external parasitism (mange-sarcoptic/psoroptic, lice, ticks), pneumonia (viral, bacterial, complex), neonatal diarrhea, wounds, lameness, metritis, mastitis, fever, indigestion (acidosis), constipation, conjunctivitis/uveitis, and elective castration.

3. A list of potential treatments was generated, based on known effective therapies and access to the drugs in Pakistan. The choices included anthelmintics, flukicides, topical and parenteral antibiotics, wound dressings, laxatives, antacids, and rehydration salts. An equipment inventory was developed by the same process, including tools for hoof care, castration, and delivery of the medicines above.

4. The drug list was evaluated and refined for the spectrum of treatment, ease of use, safety for humans and animals, efficacy of therapy, cost, and the likelihood of sustained availability. It was essential that the selections be appropriate for the intended users, so familiarity to the region and acceptability were also considered. Much of this process was based on anecdotal reports from the previously mentioned vets, as well as Dr. Wassinck of the Dutch Committee for Afghanistan (DCA), Dr. Safi of UNDP, and Drs. Fateh Mohammed and Abdul Ahmed of MCI. Representatives of pharmaceutical firms and local suppliers were also consulted.

5. A final list of drugs to be included evolved, with the following applications:

Triclabendaazole (Fasinex) - a flukicide, affecting flukes from 2-3 weeks, and therefore providing the broadest margin of efficacy against both mature and immature trematodes.

Fenbendazole (Panacur) - a broad-spectrum anthelmintic, affecting nematodes (and cestodes when given at higher concentrations). Wide safety margin.

Ditrifon - a familiar topical parasiticide, effective on mange, ticks, and lice, potentially for internal dosing as well. Some issues of convenience and safety are unresolved, but the selection of products is very limited at this time.

Oxytetracycline - an inexpensive, effective broad-spectrum

antibiotic for parenteral use, with the advantage of single-dose treatment in this formulation; long acting oxytetracycline, 200 mg/ml.

Tetracycline ophthalmic ointment - similar advantages, effective on common mycoplasmal infections of the eye.

Sulfonamide - triple sulfa/streptomycin product was available in bolus (oral) form, and provides antibacterial and anticoccidial activity, for mild infection and especially cases of diarrhea in young ruminants.

Zinc oxide - a protective topical emollient for skin lesions, encourages epithelial regeneration.

Iodine Tincture - inexpensive potent antibacterial for wound treatment and especially navel dressing of neonates

Chlorhexidine (Sablon) - inexpensive, bacteriocidal, viracidal antiseptic for wound preparation and disinfection of equipment.

Gentian Violet - inexpensive topical antibacterial solution for treating deep or exposed wounds.

Magnesium Sulfate - an osmotic cathartic agent for constipation, also useful as a soak in some lameness conditions.

Sodium Bicarbonate - for rumen acidosis in cattle, sheep, and goats.

Oral rehydration salts - for treating the effects of diarrhea in young animals.

6. Procurement was initiated as the drug list was finalized. Current and future availability were important factors in the choices made. Requests were made of local purveyors and manufacturers where possible to reduce prices for bulk purchasing and assure ourselves of continued access. Meetings were held with Rhone-Poulenc and Star Laboratories in Lahore to satisfy these points. Several suppliers have proven overly ambitious in their assurances of delivery, with the result of significant delays in receiving ordered goods. In some cases, as with Rhone-poulenc, the problem is probably due to unfamiliar channels of supply, and we hope that these delays will subside as producers become familiar and competitive in our market.

7. The MCI warehouse has an impressive inventory, so that the veterinary items are not a daunting addition. A physically separate area has been allotted to prevent mixing of similar stock. Some items are to be issued from the present inventory.

Dedicated vet materials are grouped in a distinct account number to also prevent inadvertant issue of vet goods. The stocks are purchased by the warehouse, and "bought" by the veterinary program upon being issued.

8. A program similar to that outlined for drugs was carried out to select basic equipment for the kit, allowing for some flexibility by the BVWs but avoiding nonessential, redundant, or prohibitively expensive tools. The list was pared considerably to consider weight, frequency of use, and local preferences and alternatives to our proposals. Again, vets with local experience and training were consulted. The equipment to be included in the kit is as follows:

Burdizzo Clamps - castration of livestock

Forceps, Hemostat, Scissors, Scalpel - for debridement of wound margins, removal of foreign material from wounds

Hoof Knives, L & R - trimming of hooves, for lameness often due to abscess or sole injury, cleaning of hooves for examination of sole, interdigital cleft

Pilling tube - steel tube to allow oral dosing of tablets with minimal injury to handlers from crushing molar teeth

File and whetstone - for maintenance of hoof knives, needles, and scalpel

Empty containers - for preparation and storage of Sablon and gentian violet solutions and zinc oxide ointment, and storage of hypodermic needles in disinfectant

Thermometer & case - for monitoring fever

Disposable syringes, various sizes - for multiple use in administration of antibiotics parenterally and oral dosing of rehydration solution

Hypodermic needles, lg & sm - all steel, for intramuscular injection of large and small stock

Bandage Material - cotton wool, gauze rolls, adhesive tape - for cleaning dressing wounds, foot abscesses

Rubber gloves - for preparation and administration of Ditrifon solution

Treatment guide - a handbook of dosing schedules, with representative drawings

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Accomplishments

1. The BVW field Kit is available to be issued from the warehouse, pending the delivery of a few key items from suppliers in Karachi and manufacturers in Quetta.

2. A Lotus-format spreadsheet has been developed for the veterinary equipment and pharmaceuticals to be included in the BVW kits. Information is available on the products, quantities anticipated for each, dosage recommendations and costs, country of manufacture, specific manufacturer where known, supplier, and alternative items and sources that could be considered if necessary. (attached)

3. A list of the suppliers; those that we used successfully, and others that are potential sources of equipment or drugs. Contact was made with several manufacturers and suppliers of general or veterinary materials. These include Rhone-Poulenc Pakistan, Star Laboratories, Premier Agency Karachi (Becton-Dickinson), Hi-Trade Veterinary Service, MSD Agvet, the Surgical Instrument Manufacturers Association (Sialkot), and local craftsmen/ manufacturers in Quetta. We are still awaiting information on product availability from some of these, and have stocked material that is adequate, but may be reevaluated as new products reach the Quetta market (eg. Ivomec, Trinamide sulfa, thermometers and syringes).

4. Meetings were held with suppliers, veterinarians, staff of other NGOs, and combinations thereof, throughout the month.

Useful Meetings and Topics discussed

Outside Quetta:

1. Fred Smith and Jim Stone, USAID/Rep, 13.1, Islamabad
Re: project progress (2nd week), goals, and cost projections also discussed the possibility of procuring backpacks from Ronco stock.

2. Garritt Wassinck, DVM, Dutch Comm for Afgh, 14.1, Peshawar
Re: success and problems of the DCA paravet and BVW training and treatment regimes, client acceptance of new products, order placed for some equipment and pharmaceuticals

3. Muzammil Hussain Shah, DVM, Rhone-Poulenc, 15.1, Lahore
Re: Availability and cost of veterinary products, notably oral sulfonamide formulations and anti-trypanosomal drugs (in development), and local distributors in Quetta area.

4. Nadeem Iqbal, DVM, Vety-Care, Ltd., 15.1, Lahore
Re: availability of vet equipment and drugs; not very helpful, though enthusiastic

5. Iqbal Hussain Malik, Star Laboratories, 15.1, Lahore

Re: Discounts on volume purchase (oxytet-LA), additional discount offered for "charitable organization" that may not be transferrable to private dealers, low price offered on oral rehydration sachets

6. Mirza Book Agency, 15.1, Lahore

Re: Paucity of veterinary reference materials available; they carry a limited array of EL-BS books and some other vet texts, will ship and invoice books if available

Quetta, several in attendance with Dr. David Sherman:

1. John Woodford, DVM, UNDP - several meetings with Dr. Woodford on both technical (medical) and logistical matters served to help us refine our therapeutic aims and highlight issues for consideration, based on his familiarity with local disease presentation and commonly available drug formulations. Dr. Woodford is compiling information to facilitate transport permits for veterinary materials from Quetta to Afghanistan, and including MCI estimates in his total allowances.

2. Timothy Leyland, DVM, Health Unlimited - Recently returned from a 4 month monitoring trip of paravets in Afghanistan, Dr. Leyland is cognizant of the oversights and practical results of the paravet programs in the field, as well as local needs and conditions. (hypodermic acceptability, external parasite control difficulties, specific disease presentations)

3. Jan Karpowicz and Andrew Jilani, EIL - Responsible for the initial paravet training course offered to local NGO paravets.

4. Baig Mohammed Kakar, DVM, Quetta Civil Veterinary Hosp., Animal Health Care (purveyor) - Eager to supply our equipment or pharmaceutical needs, but only passingly familiar with veterinary issues outside of a few anthelmintics and "health promoters"

5. Drs. Fateh Mohammed and Abdul Ahmed, MCI Staff - I am grateful for their insight to common and accepted practice of veterinary medicine in this region, helping to fit our equipment to our client base.

Problems remaining

Several issues remain open, to be resolved as information is received from supplier/manufacturers or after more experience is gained with the present kit inventory. None should affect the schedule for the initial dispersal of the kits in February.

1. The initial stock of all but a few items have been received at the warehouse, but too late in the month to assemble the BVW kits

themselves. A kit inventory has been prepared and reviewed with the warehouse and veterinary staff.

2. It has proven impossible to locate disposable luer syringes in Pakistan without an accompanying disposable hypodermic needle. These needles are unsuited for repeated veterinary use, and we have with some difficulty located a source of appropriately sized, nondisposable all steel needles. The search for solo syringes continues, and requests for information have been sent to some major manufacturer/ distributors. We hope to avoid the wasteful and hazardous disposable needles, which cannot be removed from the current packaging without compromising their sterility.

3. The current choice of external parasiticide is Ditrifon, a phosphonic acid derivative in a wettable powder form for dipping or pouring on affected animals. This formulation is currently being used in Afghanistan, primarily due to the lack of effective options in this region. It is, however, inconvenient to use and can be prone to mixing and application error, and like most drugs a potential human hazard. A preferred solution would be the use of injectable ivermectin as marketed in other countries by MSDAgvet. Communication has begun with the Karachi office of the company regarding availability and cost (immediate and future plans for marketing in Pakistan and Afghanistan).

4. Our contacts with surgical instrument manufacturers in Sialkot to this point have been through local distributors or the DCA. They are not listed by type of instruments produced, but their Association has been contacted for information on vet equipment producers. This could be used by MCI or passed on to local shops. The volume discounts enjoyed by the DCA, and through them MCI, significantly lower the investment on the manufactured items such as Burdizzo Castration Clamps.

5. We have made every effort to keep our investment per kit low by buying in volume and directly from manufacturers when possible. It is likely that BVWs eventually purchasing stock at market prices will suffer price increases and pass these on to the farmer. Hopefully by this time the value of animal health care be recognized and price adjustments will not be a deterrent to treatment.

Summary

Our goal in formulating the BVW kit was to provide a minimum variety of drugs and equipment necessary for treatment of the conditions recognized in the service area. Our choices were made with sensitivity to safety, efficacy, ease of use, cost to clients, and ecological impact. Keeping the cost to the project and thereby the farmers at a minimum has been a priority, and is essential for the success of the program, to make animal health care more widely available. The use of nondisposable items like needles and scalpels should serve the dual purpose of reducing costs and hazardous waste.

It is too early in the project to assess the transfer of activity to the private sector. We have identified multiple sources for many supplies, including local manufacturers and distributors. Our direct contact with some pharmaceutical firms may stimulate distribution in this area of difficult-to-find goods, creating a competitive market for resupply.

BVW. Stock - meds

PHARMACEUTICALS	FORMULATION	UNIT ISSUED	UNIT PRICE RS.	NUMBER PER KIT	RS./KIT
FASINEX-250	triclabendazole 250mg bolus	80/pk	75.00	1	75.00
PANACUR-250	fenbendazole 250 mg bolus	50/pk	240.10	2	480.20
PANACUR-750	fenbendazole 750 mg bolus	50/pk	609.56	1	609.56
DITRIFON	wettable pwr, dimethylester of (2,2,2-CL3-1-CH2OH)-phosphonic acid	1 kg jar	272.54	1	272.54
STRINACIN	3x sulfa & streptomycin, 5g bolus	20/pk	87.55	1	87.55
RASOMYCINE-LA	oxytetracycline 200 mg/ml, LA	30 ml vial	38.00	5	190.00
OPHTH TETRACYCLINE	1% tetracycline ointment	3.5 g tube	2.50	4	10.00
ZINC OXIDE	powder (mix vaseline)	300 g box	20.00	1	20.00
VASELINE	bulk ointment	0.5 kg bag	10.00	4	40.00
TINCT. OF IODINE	solution	450 ml bottle	25.30	1	25.30
SABLON	38% chlorhexidine, 40% cetrimide	1 litre	57.00	1	57.00
GENTIAN VIOLET	bulk powder (add water)	5 g pkt	4.00	3	12.00
MAG SULPHATE	powder, to drench	300 g box	4.00	2	8.00
SODIUM BICARB	powder, to drench	300 g box	6.50	1	6.50
ORAL REHYD. SALTS	NaCl, KCl, Glu powder sachet	20 sachet/box	33.00	2	66.00

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BVW-Stock - meds

	TREATMENT UNIT	DOSAGE	OV/CAP		BOV/EQ		
			Rs./kg BW	40kg dose	Rs./Tx	300kg dose	Rs./Tx
fas	bolus	10mg/kg,bol/25kg	0.04	2	1.90	12	11.40
pan250	bolus	5mg/kg,bol/50kg	0.10	1	4.81		
pan750	bolus	5mg/kg,bol/150kg	0.08			2	24.38
dit	2%, 100 ml	.15-2.0% ext, 10% int(35-80mg/kg)		5(.5L)	0.27	20(2L)	1.09
strin	1/2 bolus	145mg/kg,bol/35kg	0.13	1.5 SIDx3	19.71	8.5 SIDx3	111.69
raso	ml	20mg/kg,10ml/100kgIM	0.13	5	6.35	30	38.00
ophtet	gm	1-2cm topical TID		1	0.71	3.5	2.50
znox	gm	10%/vaseline(50g in.5kg) base for ZnOx topical				200	10.00
vas							
iod	ml	topical antiseptic		2	0.12	4	0.25
sab	ml	dilute 1:25, topical/tools		100	0.23	300	0.69
g-v	ml	1% aq. sol'n, add 500ml		10	0.10	20	0.20
mags	gm	Rum:1g/kg, Eq:.1g/kg	0.01	40	0.54	300	4.00
bicarb	gm	C: 80g, S/G: 50g	0.03	50	1.09	100	2.17
ors	L	in 1 L H2O,alt milk meals	0.93	8kg dose .5L TIDx3	8.25	20kg dose 1.2L TIDx3	18.15

BVW Stock - meds

	SOURCE	SOURCE	DISCOUNT ?	MANUFACTURER	NAT'L ORIGIN	UNDP CODE	MCI #
fas	Quetta bazaar	Anim Health, Qu	Y	Ciba-Geigy	Switzerland	1	9005
pan250	Mfg. Rep Quetta	Razee, Qu	Y	Ciba-Geigy	Germany	1	9006
pan750	Mfg. Rep Quetta	Razee, Qu	Y	Ciba-Geigy	Switzerland	1	9007
dit	Mfg. Rep Quetta	Razee, Qu	Y	Chinon	Hungary	1	9050
strin	Mfg. Rep Lahore	Rhone-Poulenc, Lah	n	Rhone-Poulenc	Pakistan	2	9101
raso	Lahore Mfg.	Star Labs, Lah	Y	Star Labs	Pakistan	2	9120
ophtet	Quetta bazaar	,	n	Antibiotics,Ltd	Pakistan	2	5860
znox	DCA, Peshawar	DutchComm, Pesh	n	Lah. Pharm.	Pakistan	2	9301
vas	Quetta bazaar	local			Pakistan	3	5960
iod	Quetta bazaar	local		Micko Ind. Chem	Pakistan	2	5862
sab	??? Ronco	Ronco,local		General Chemical	Pakistan	2	5836
g-v	Quetta bazaar	Iqbal, Qu		Lah. Pharm.	Pakistan	2	9310
mags	DCA, Peshawar	DCA, Pesh	n		Pakistan	2	9210
bicarb	Quetta bazaar	Anim Health, Qu	n	Qamar Ind.,Qu	Pakistan	2	9211
ors	Quetta bazaar	Sirrajudin, Qu	Y	Soma Labs	Pakistan	2	9201

INITIAL ORDER	EST. PER YR	ALTERNATE FORMULATIONS, SOURCES
fas	300	2,000 Valbazen(SKB), Flukiver(Rajput-Razee bros), Fasinx drench(C-G)
pan250	400	3,000 Ovitelmin(Rajput), Nemafox(R-P), Panacur suspension
pan750	160	1,800 Ovitelmin(Rajput), Nemafox(R-P), Panacur suspension
dit	50	300 Neguvon, Coumophos(Asuntol, by VML), Ivomec(MSDAgvet)
stin	100	2,400 Sulfameth tabs(Vet Aids), Trinamide(3xsulfa, R-P), Sulfa inj, powders, oral liq
raso	1,000	2,800 Terramycin-LA(Pfizer, from DCA, Kakar, VetAids, Pfizer in Kchi); oxytet-100
ophtet	160	1,200 manuf. Iskanderabad
znox	80	1,200 ZnOx salve, vaseline; 1kg box (MCI 5990), Lahore Pharma; Negasunt, CNGspray
vas	160	2,400 any petrolatum base
iod	40	1,800 povidine-iodine, chlorhexidine sol'ns, local, DCA, LAH Pharma
sab	40	600 Savlon(ICI), EtOH, betadine(Pov-Iod)
g-v	3	2,400 sol'n(MCI 5301) or alt size pkg, LAH Pharma; K permanganate (kg)
mags	80	2,400 MgOH, min oil(liq paraffin), enemas
bicarb	100	1,800 MgCO3, MgOH,
ors	100	3,600 Star labs(Hydrosol Rs30/bx)

BASIC VET WORKER KIT INVENTORY - PHARMACEUTICALS

PHARMACEUTICALS	UNIT ISSUED	NUMBER PER KIT	MCI #
FASINEX-250	80/pk	1	9005
PANACUR-250	50/pk	2	9006
PANACUR-750	50/pk	1	9007
DITRIFON	1 kg jar	1	9050
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STRINACIN	20/pk	1	9101
RASOMYCINE-LA	30 ml vial	5	9120
OPHTH TETRACYCLINE	3.5 g tube	4	5860
ZINC OXIDE	300 g box	1	9301
VASELINE	0.5 kg bag	4	5960
TINCT. OF IODINE	450 ml bottle	1	5862
SABLON	1 litre	1	5836
GENTIAN VIOLET	5 g pkt	3	9310
MAG SULPHATE	300 g box	2	9210
SODIUM BICARB	300 g box	1	9211
ORAL REHYD. SALTS	20 sachet/box	2	9201

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