

Institutional Background for the Development of UMB in Bhutan

The study on urea molasses' blocks was carried out as a part of his duties under the job description of the author, while he was working for the Department of Animal Husbandry, Thimphu, as a UN Volunteer (Animal Nutrition specialist and Feed Analyst) for four years from 1987 to 1991. All the activities involved in developing the present form of UMB (9% urea, 12% *Til* cake, and oven dried) were carried out under the existing institutional infrastructure of the Department of Animal Husbandry. The Feed Analysis Laboratory, Serbithang, has the normal facilities to carry out proximate analysis of feeding material. The laboratory is also equipped with fistulated lambs and bulls which are useful for experimental work.

The newly-established Feed Mixing Plant at Phuntsholing (the border town) was a focal point for preparing several batches of UMB with different proportions of ingredients. The plant has been handed over to a private party under an agreement that compound animal feed shall be produced according to the technical guidelines of the Department of Animal Husbandry. The department will also be able to carry out necessary nutritional test studies for quality control of animal feed. The plant has the capacity to produce 10 to 15 MT of feed per day and is equipped with almost all modern feed-mixing equipment such as grinding and mixing mills, molasses mixer, mineral + vitamin mixer, an automatic weighing machine, and bag-sealing equipment. The paddle blade mixer made by Morrison in the USA was used to mix the UMB ingredients. Wooden frames for moulding blocks of 10 x 5 x 3 cubic inches were prepared locally.

The Department of Animal Husbandry launched a day-long seminar on the use of UMB in animal production and strongly recommended the dissemination of the technology at field level. The department has already allocated a budget to meet the UMB distribution target at the district level as well as for production farms.

The Feed Analysis Laboratory was used for drying the moulded blocks. So far, about 1,300 kg of oven-dried UMBs have been prepared for animal feeding trials and field demonstrations. As a result of the field demonstration, a remarkable demand for UMB from the Feed Analysis Laboratory was created among farmers and livestock farms. These demands were forwarded to the Feed Mixing Plant where the block is to be prepared commercially. The proprietor at the plant has expressed a deep interest in manufacturing UMB on a commercial scale. For this purpose, a hot chamber has to be installed in the plant to dry the moulded UMB. Two molasses tanks, each of about 10 MT capacity, have been constructed to store the molasses. The preliminary study for installing a hot chamber in the plant has been completed. According to the proprietor, almost all the formalities have been completed, including the allocation of a budget for the hot chamber. The estimated capacity of the hot chamber will be about 50 cubic feet and it will dry about 300 blocks a day. However, the installation of the hot chamber had not been completed when the author's assignment in Bhutan ended (June 1991).