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SMALL RUMINANT PRODUCTION SYSTEMS NETWORK FOR ASIA

PROCEEDINGS OF THE INAUGURAL
MEETING AND LAUNCHING OF
THE ASIAN SMALL RUMINANT
INFORMATION CENTRE,
KUALA LUMPUR, MALAYSIA,
21-23 AUGUST 1989

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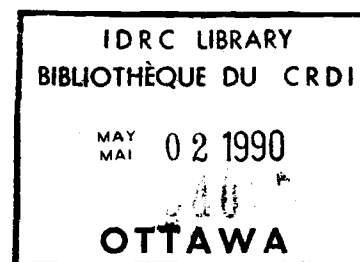
SMALL RUMINANT PRODUCTION SYSTEMS NETWORK FOR ASIA

Proceedings of the inaugural meeting and launching of
the Asian Small Ruminant Information Centre,
Kuala Lumpur, Malaysia, 21-23 August 1989

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ABSTRACT

This publication presents the results of a meeting held in Kuala Lumpur, Malaysia, 21-23 August 1989, whose primary objective was to examine the formation of a network to support research and development activities for small ruminants in national agricultural systems and collaborative research programmes in Asia. There was consensus that a single network should be established for small ruminants in Asia whose name should be Small Ruminant Production Systems Network for Asia (SRUPNA). It was also agreed to establish a centralised information facility called Asian Small Ruminant Information Centre (ASRIC) to be based in the Central Sheep and Wool Research Institute (CSWRI) in Avikanagar, India. A three man Steering Committee was appointed to determine the location of the coordination unit to pursue the objectives, as well as future activities of SRUPNA and ASRIC.

CONTENTS

	Page
FOREWORD.....	v
ACKNOWLEDGMENTS.....	vi
 SESSION I : COUNTRY STATEMENTS	 1
Networks and Networking (V R Carangal).....	2
Priorities for research and development on small ruminants in Bangladesh (Md Abdul Huq and L R Siddique).....	18
The present and future of small ruminants in China (An Min and Xue Yufeng).....	25
Priorities for research and development on small ruminants in India (R M Acharya).....	30
Priorities for research and development on small ruminants in Indonesia (Soehadji, A. Djajanegara and A Jahi).....	40
Priorities for research and development on small ruminants in Malaysia (T K Mukherjee and A T Zainuddin).....	49
Priorities for research and development on small ruminants in Nepal (U Singh and H R Shrestha).....	57
Priorities for research and development on small ruminants in Pakistan (A S Akhtar).....	64
Priorities for research and development on small ruminants in the Philippines (P S Faylon).....	77
Priorities for research and development on small ruminants in Sri Lanka (J A de S Siriwardene and A S B Rajaguru).....	84
Priorities for research and development on small ruminants in Thailand (S Saithanoo and K Pichaironarongsongkram).....	91
Goat production in Vietnam (T T Tran and X H Nguyen).....	98

	Page
SESSION II : STATEMENTS BY INTERNATIONAL DONOR AGENCIES	103
Support for research and development on small ruminants by ACIAR (D Hoffmann and J Copland).....	104
International Development Research Centre (IDRC) activities in research and development of small ruminants (C Devendra).....	109
Japan International Cooperation Agency (I Mukai).....	112
Support for research and development on small ruminants by GTZ (E Selmi).....	116
The Small Ruminant Collaborative Research Support Program : future networking opportunities (J W Oxley, L C Iniguez and H C Knipscheer).....	128
Winrock's networking experience in Asia (H C Knipscheer).....	138
 SESSION III : CANADIAN UNIVERSITY PARTICIPATION	 148
Canadian participation in research and development of small ruminants (C Krishnamurti and L P Milligan).....	149
 CONCLUSIONS AND RECOMMENDATIONS.....	 157
Country Statements.....	158
Donor Statements.....	159
The Network.....	159
The Information Centre.....	160
 LIST OF PARTICIPANTS.....	 162

PRIORITIES FOR RESEARCH AND DEVELOPMENT ON SMALL RUMINANTS IN BANGLADESH

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ABSTRACT

Small ruminants substantially contribute to the landless and marginal farmers of Bangladesh. Goats provide 19% and sheep 0.58% of total meat while 28% of the country's milk supply comes from goats. In spite of that, no visible improvement could be made because of lack of urgency and poor investment in research. Research on these small ruminants is very limited and the National Agricultural Research Plan in 1984, set up research priorities. These research has to be executed by the Bangladesh Livestock Research Institute (BLRI), but its manpower and research facilities are yet to be created. Some sporadic research work in goats has been done by University teachers. Facilities for documentation and exchange of information are lacking. Recently, Regional Centre Network for Agricultural Information within the SAARC member countries has been established at Bangladesh Agricultural Research Council (BARC) Dhaka. In the near future, this facility might be of great help for the researchers and academicians.

INTRODUCTION

Livestock constitutes an important supportive component of the farming systems in Bangladesh and it contributes substantially to the national economy providing draft power and animal food for human consumption. In spite of this, the Livestock Sector does not receive due attention appropriate to its importance. It is one of the weakest sector of Bangladesh Agricultural Division. No visible improvement could be made in this sector because of lack of urgency and poor investment in research.

Goats and sheep have been treated as neglected species among livestock in Bangladesh although goats alone contribute about 19% of the total meat production. No research policy has so far been made at national level to exploit the potentiality of goat and sheep. Summaries of the small ruminant situation in Bangladesh have recently been reported (Saadullah and Das, 1986; Rahman, 1988).

CURRENT GOAT AND SHEEP POPULATIONS AND TRENDS

The total population of goat and sheep together of about 14

million (Table 1) is owned by about 40% of households (1983/4). Goats alone account for about 13.6 million heads with a distribution pattern of 98% in the rural areas and 2% in the urban area. Sheep population is only 0.524 million with distribution of pattern 99% in the rural area and 1% in urban areas. Since the previous census in 1977 sheep and goat numbers have increased at a rate of 3% per annum which is faster than for other livestock. The most important reasons for the higher rate are low investment capital needed, small size relative to cattle, higher prolificacy and good demand for goat meat.

TABLE 1. LIVESTOCK POPULATION (10³)

Species	1977	1982-84
Cattle	20509	21495
Buffalo	469	567
Goat	8436	13558
Sheep	508	667

Source : Livestock Economist Section
Directorate of Livestock
Services, Bangladesh
(1983-84)

ANIMAL PRODUCTS AND BY-PRODUCTS

Livestock have been an integral part in the farming systems for centuries and it is considered the backbone of Bangladesh Agriculture. They are associated, in many different ways, with the life and well being of about 85% of the countries population, lives in the villages. Supply of protein rich food such as meat, milk and eggs is an important source of small farms cash income. Livestock by-products such as hides, skins and bone also contribute substantially to the foreign exchange earning of the country and thus have a sizeable share in the national economy.

Accurate data on meat production by the goats and sheep are not available, but are estimated. It is estimated that goats produce about 70,000 tonnes of meat per annum or 19% of total meat production.

Small ruminants, particularly goats, are milked, but there is no available information about sheep milking in the country. 28% of the total milk from Livestock is reported to come from goats (Saadullah and Das, 1986).

Bangladesh earns a handsome amount of foreign exchange through the export of Black Bengal skins and there is an overall increase of goat and sheep skins since 1980.

By-products are clean, sound and properly dressed edible parts other than meat, and have considerable value. However, some by-

products such as blood, hooves, ears, feet and scraping of the meat cuts are discarded by poor methods of slaughter and absence of any grading of meat and by-products.

Hair from goats is mostly used in making brushes of different kinds. In Bangladesh, wool and skin from sheep are considered as by-products by farmers, so 75% of the sheep remain unclipped each year. A small amount of hairy wool is available from tanneries.

BREEDS

Goats

The Black Bengal breed is really the only breed in Bangladesh although a few crossbred animals exist in some areas. It is a very popular and useful breed, and is widely distributed. It is well adapted and considered mainly as a meat producing animal although small in size. The most outstanding feature of Black Bengal is its prolificacy, multiple births are common. They usually kid twice a year. Some Jamnapari and their crosses are now available in the northern and north-western districts of Bangladesh.

It is an early maturing breed and usually give births to first kids by 15 months of age. Its milk yield is very low which is not often enough to meet the requirements of kids in case of twins or triplets.

Lactation length varies from 90 to 120 days, average milk yield is 25 kg and varies from 18 to 30 kg. Meat is excellent and highly palatable. It produces a skin of superior quality, which is in great demand both at home and abroad.

Sheep

Sheep available in Bangladesh are indigenous or of the non-descriptive type. They are primarily raised for mutton production. They produce mutton of superior quality. Average dressing percentage ranges from 42 to 48%. They produce a hairy type of fleece with an average yield of 300 to 500 gms annually per head but they are usually not shown. Milk yield is negligible and often not enough for the lambs in case of multiple birth. Like the Black Bengal breed, Bangladesh sheep are also very prolific. Ewes lamb twice a year producing twins or triplets during each lambing. The ewe lambs mature early and age at first lambing is generally found to be within 12 to 14 months. They are small sized animals having average mature body weight from 25 kg per ram and 18 kg per ewe.

RESEARCH PRIORITIES

Research work on sheep and goats has been very limited despite the potential for development. From a fairly large list of topics, the following have been considered to be of high priority :

- 1) Development of improved management practices and housing within the economic resources of the village.

- 2) Studies of socio-economic aspects of sheep and goats production and marketing.
- 3) Parasitic diseases and epidemiological studies of important diseases.
- 4) Feed resources and utilisation.
- 5) Investigation on possibility of developing dairy goats for small farmers.

RESEARCH TOPICS

Very little effective research work has so far been conducted for sheep and goat development in Bangladesh. As a result, information is poor on the different parameters of economic importance in sheep and goats.

In recent years, a few experiments and surveys have been conducted financed by the Bangladesh Agricultural Research Council, BARC, and by the Bangladesh Agricultural University, BAU. Some of these are :

- 1) Research on the reproductive performance of goats (Ali, 1978; Hossain and Hasnath, 1989).
- 2) Rate gain of kids at different ages and under various conditions.
- 3) Surveys in villages concerning ownership of small ruminants, mortality of kids and mature goats, feeding and management practices (Haque and Rahman, 1983).
- 4) Effects of urea treatment of straw.
- 5) Improvement of wool in sheep by crossing with exotic breeds (Huq et al., 1986; Rahman et al., 1978).

INSTITUTIONS AND PERSONNEL INVOLVED (numbers)

In Bangladesh, Livestock Research Systems involves three ministries and several organisations. The National Livestock Research System consists of a complex of institutions, centers, faculties of the Agricultural University. There are three institutes : (1) Animal Husbandry Research Institute, Comilla, (2) Veterinary Research Institute Dhaka, (3) Livestock Research Institute, Mohakali, Dhaka, each under the Directorate of Livestock Services. They are mostly engaged in producing vaccines and diagnosing diseases. There is a Central Cattle Breeding Station at Savar engaged in Cattle Breeding Research.

The BLRI was established at Savar in 1984 to concentrate research efforts on solving problems that hinder the growth and development in the farming systems of Bangladesh. Bangladesh Agricultural University through its various departments under the Faculty of Animal Husbandry and Faculty of Veterinary Science also conduct research. In addition, the scientists of these two Faculties are conducting some research projects with financial support of foreign donors such as UNICEF,

DANIDA, Rotary Foundation of Rotary International, IDRC and World University Service (WUS). These projects are mostly applied, field oriented and extension type. The total number of manpower involved in the livestock research is 276 but the number specifically in small ruminants has not been clearly established.

BLRI is a multi-disciplinary organisation developed on a problem oriented research program basis. It has five research divisions :

- 1) Systems Research
- 2) Ruminant and Poultry Production
- 3) Ruminant and Poultry Health
- 4) Socio-economics, and
- 5) Support Services

DOCUMENTATION AND INFORMATION EXCHANGE

Information Services in the field of research and development of livestock are of prime importance to scientists. Research materials such as journals, reprints, reports etc are rarely available in the different libraries of the country. Audio-visual aids, such as microfiche slides, overhead projector are not available in the library, where the scientists can get and enjoy full facilities of these aids. BARC and BAU should play a vital role in arranging these facilities for research. Institutional linkage within and outside the country are highly needed to improve these documentation and information services. Recently, the following programs has been taken by the government to:

- 1) Collect, process and store in standardised hard copy, microfiche and computerised data banks, all conventional and non-conventional documents and quantitative data relevant to Bangladesh.
- 2) Collection and preservation in standard form, information on agricultural and resource management activities.
- 3) Establish a network by linking the agricultural information and documentation centre and libraries in Bangladesh.
- 4) Establish the BARC information centre as the regional centre of a network for agricultural information exchange with an SAARC member countries.
- 5) Compile and disseminate bibliographies on topics relevant to the Bangladesh agricultural system throughout SAARC and BARC networks and related institutions.
- 6) Prepare agricultural information for a mass media and audio visual outlet within BARC agricultural information centre.
- 7) Publish journal, newsletter, analytical bibliographies, directories, bulletins, audio-visual materials, policy briefs and forecasts on agriculture activities.

- 8) Provide training and agricultural information sciences within the SAARC and BARC agricultural information networks.

CURRICULA AND TRAINING

BAU is producing two types of graduates, namely Doctor of Veterinary Medicine (DVM) in the Faculty of Veterinary Science and the B.Sc. Animal Husbandry degree is offered by the Faculty of Animal Husbandry. Doctor of Veterinary Medicine graduates are directly concerned with the treatment, prevention and control of diseases of Livestock and Poultry and the Animal Husbandry graduates are purely concerned with production of livestock and poultry.

In addition, both these faculties are also offering courses for M.Sc. and Ph.D. degrees in their respective fields.

Training

The most critical resource of any research oriented organisation is its personnel. The organisations can be successful only to the extent that it hires and retains high quality staff and provides them with a rewarding and stimulating work environment. There is insufficient trained manpower in the livestock sectors in Bangladesh. According to Agricultural Research Inventory (1978), only 2% of the total technical personnel engaged in the agricultural research concentrated on the livestock sector. Therefore, in order to meet the new challenge in livestock research and development, a comprehensive national program for training manpower is urgently needed.

In Bangladesh, there are some agricultural sectors especially crops, where there is sufficient trained manpower available, whereas, sectors like livestock and fisheries trained manpower availability is far from the requirement.

FUTURE RESEARCH DIRECTION

In the recent past, the Government of Bangladesh has set up an institution, for research and development of livestock and poultry in the name of BLRI. It is still in infancy stage, its infrastructures are yet to be developed. Manpower are yet to be recruited and trained. Facilities are yet to be created. BAU has started doing some fundamental research on small ruminants in addition to teaching within its limited resources. Coordination needs to be developed between the scientists of BAU and other organisations like BARC and BLRI.

Future research direction depends on the financial and support likely to be forthcoming. From past experience, this is likely to be limited. Research is needed over the whole range of sheep and goats production. Some indication of research priorities have already been given but research on improving the nutrition, and primitive systems of husbandry, high incidence of diseases, especially internal parasites, need to be undertaken immediately. Research practices need to be directed for improvement of meat production, reproductive efficiency and economics of rearing small ruminants by the small farmers.

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