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## REVIEW OF LIVESTOCK AND VETERINARY EXTENSION SERVICE\*

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A good extension service is essential to agricultural development, and plays two important roles: It transmits available knowledge to the producer; and it transmits the views, problems, and desires of the producer to the government.

The Guyana extension review was implemented, following discussions with the Ministry of Agriculture, during two visits to Guyana (Summer, 1975 and February, 1976). These visits allowed for an opportunity to evaluate Ministry of Agriculture and Producer components, involved in the extension programs, through the implementation of survey(s) and through personal interviews of extension administrators and assistants and livestock producers.

In the design and implementation of livestock policies, several functions need to be identified, which include the following:

1. A national policy framework
2. A description of production inputs
3. The establishment of minimum standards of performance
4. The creation of a local problem solving network
5. The provision of leadership directives
6. The provision of the necessary research infrastructure to generate production information to support extension activities

\*Presented May 1-4, 1975, Guyana, South America

These components were utilized as the basis for evaluating the extension programs (Livestock and Veterinary). It must be emphasized at this point that the emphasis (policies) of the extension program are based on the following objectives:

- 1) To diversify agricultural production
- 2) To develop ranching systems
- 3) To develop livestock programs based on regional priorities
- 4) To increase export promotion.

To accomplish these activities, the extension efforts are designed to improve management, marketing, breeding, health and nutrition of livestock. We feel that major emphasis is being placed on the development of regional programs to emphasize the production of beef and dairy animals, whereas the swine and poultry production programs are receiving minimal support. The intent of these efforts is good, however support is generally planned to include the large, already established, producers, and does not adequately describe an attempt to involve a significant number of the small, traditional livestock producers. This is a difficult problem in development planning, however it must be given due consideration, if the plan is to maximize the utilization of all available human resources. If it is not considered, a large commercial sector will develop with the majority of the people being underemployed. Table I presents a geographical distribution of livestock and poultry producers along the coast and in the Rupununi. The Rupununi district is basically a cattle producing area, while the coast has diversified livestock and agricultural interest. The majority of the producers interviewed during the survey indicated that they were "farmers" (Table 2). This means that they earn most of their income from agricultural endeavors (livestock/or crop production). The "non-farmer" category included those persons who were involved in livestock production, but earned their major income from other sources. Combined livestock and crop systems were important for the majority of the producers interviewed along the coast and in the Rupununi savannahs.

**TABLE 1**  
**GEOGRAPHICAL DISTRIBUTION OF PRODUCERS BY TYPE**  
**OF LIVESTOCK PRODUCED**

	Type of Livestock			
	Cattle <sup>1</sup> (78)	Swine <sup>2</sup> (24)	Poultry <sup>3</sup> (11)	Sheep/Goats <sup>4</sup> (17)
<b>Geographical Area</b>				
Rupununi District <sup>5</sup>	54	0	0	0
Coastal Area	46	100	100	100
<b>Geographical Sub-Area</b>				
North Rupununi	23	0	0	0
South Rupununi	31	0	0	0
East Bank Demerara	1	29	36	0
West Bank Demerara	1	8	0	6
East Coast Demerara	14	38	27	21
West Coast Berbice	10	8	0	18
East Bank Berbice, Canje and Upper Corentyne	10	4	18	18
Lower Corentyne	4	13	18	19
Black Bush Polder	5	0	0	6

<sup>1</sup>A respondent was classified as a cattle producer if he owned five or more head of cattle.

<sup>2</sup>A respondent was classified as a swine producer if he owned five or more swine.

<sup>3</sup>A respondent was classified as a poultry producer if he had a flock of 1,000 birds.

<sup>4</sup>A respondent was classified as a sheep/goat producer if he had a herd of ten or more sheep and/or goats.

TABLE 2

PRODUCER OCCUPATION

	Type of Producer			
	Cattle	Swine	Poultry	Sheep/Goats
<u>Occupation</u>				
Farmer	89	84	80	86
Non-farmer	11	16	20	14

Sixty-seven percent of the respondents were engaged in combined livestock and food crop operations (Table 3). Twenty-one percent of the respondents considered themselves primarily as livestock producers. These findings may indicate that producers feel that specialization is not yet feasible. This limitation is further reflected by the fact that only one-half of the producers engaged in livestock production actually own or rent the land which they are using in their production systems (Table 4). The ability of this type of enterprise in generating income is reflected in Table 5. Sixty-eight percent of the livestock producers earned less than G\$ 2,000 annually, while 57 percent of the poultry producers earned less than G\$ 5,000 annually. This might be reflected in the fact that a poultry producer had to have a flock of 1,000 birds to be considered a poultry producer, by our survey. Despite the overall efforts to improve total producer involvement through extension efforts, a majority of cattle producers do not utilize recommended health practices, despite the fact that they observe health problems within their herds (Table 6). This is true also for sheep and goat producers, but it is not observed in poultry and swine production enterprises, (Table 7). Future program plans should reflect the design and implementation of programs for these limited resource producers and include basic inputs of management information.

The extension program at present is understaffed at all levels. The inadequacy is noticeable when the organizational scheme is evaluated (Fig. 1). The administrative staff necessary to support the Principal Agricultural Officer (Veterinary and Livestock) does not exist (as of 2/13/75). This makes it difficult to design, organize and implement extension policy for livestock producers. At present, there does not exist an adequate system for disseminating information to producers. Personal contact is the most utilized method of getting information to the producer. This is limited due to the shortage of trained veterinary and livestock assistants and magnified by the fact that they are often assigned to large geographical areas along the coast. Because of an inadequate system of transportation, extension specialist are unable to provide assistance if and when needed by producers. At present 16.4% of the extension staff work outside the coastal area. This distribution

TABLE 3

PRINCIPAL AGRICULTURAL ACTIVITY BY GEOGRAPHICAL AREA, AGE,  
EDUCATION, ETHNIC IDENTITY, OCCUPATION, INCOME  
AND PRINCIPAL TYPE OF LIVESTOCK PRODUCED

	Principal Agriculture Activity		
	Livestock	Food Crop	Both
Total Sample (112)	27	5	67
Geographical Area			
Rupununi (42)	29	10	62
Coast (69)	26	3	70
Occupation			
Farmer (93)	24	5	71
Non-farmer (14)	43	7	50
Income (G\$)			
Less than 2,000 (62)	18	8	74
2000-5,000 (62)	24	0	76
Over 5,000 (8)	75	13	13
Most Important Livestock			
Cattle (73)	21	7	72
Swine (20)	30	0	70
Poultry (11)	55	9	36
Sheep/Goats (7)	43	0	57

\*Sample size varies due to non-responses and non-applicability of questions. Sample size is contained in parentheses. Except where noted, reported figures are percentages.

TABLE 4  
 . SELECTED CHARACTERISTICS OF LAND USE FOR COASTAL AREA  
 BY PRINCIPAL TYPE OF LIVESTOCK PRODUCED

	% Owning Land	% Renting Land	% Owning and/or Renting Land
Geographical Area Coast (70)	31	30	50
Type of Livestock			
Cattle (32)	22	44	56
Swine (20)	55	20	70
Poultry (11)	18	18	18
Sheep/Goats (7)	14	0	14

\* Sample size varies due to non-responses and non-applicability of questions. Sample size is contained in parentheses. Except where noted, reported figures are percentages.

TABLE 5

INCOME OF LIVESTOCK PRODUCERS BY GEOGRAPHICAL AREA,  
 PRINCIPAL TYPE OF LIVESTOCK PRODUCED  
 OCCUPATION AND ETHNIC IDENTITY

	Income		
	Below 2,000 (G\$)	2,000 2,000 (G\$)	Above 5,000 (G\$)
Total Sample (92)	68	23	9
Geographical Area			
Rupununi (39)	67	23	10
Coast (53)	70	23	8
Type of Livestock Produced			
Cattle (65)	68	26	6
Swine (7)	81	19	0
Poultry (16)	29	14	57
Sheep/Goats (4)	100	0	0

\* Sample size varies due to non-responses and non-applicability of questions. Sample size is contained in parentheses. Except where noted, reported figures are percentages.

**TABLE 6**  
**SELECTED HEALTH PRACTICES OF CATTLE PRODUCERS**  
**BY GEOGRAPHICAL AREA**

Health Practices	Rupununi (42)	Coast (36)	Total (78)
Drenching	24	58	40
Dipping	0	0	0
Spraying	5	25	14
Blackleg Vaccination	0	0	0
Foot and Mouth Vaccination	48	0	26
Rabies Vaccination	43	19	32
Antibiotics Used	0	3	1
Footbaths	0	3	1
De-worming	21	56	37
Clamps Used for Castration	5	23	13
Health Problems Noted	64	51	58

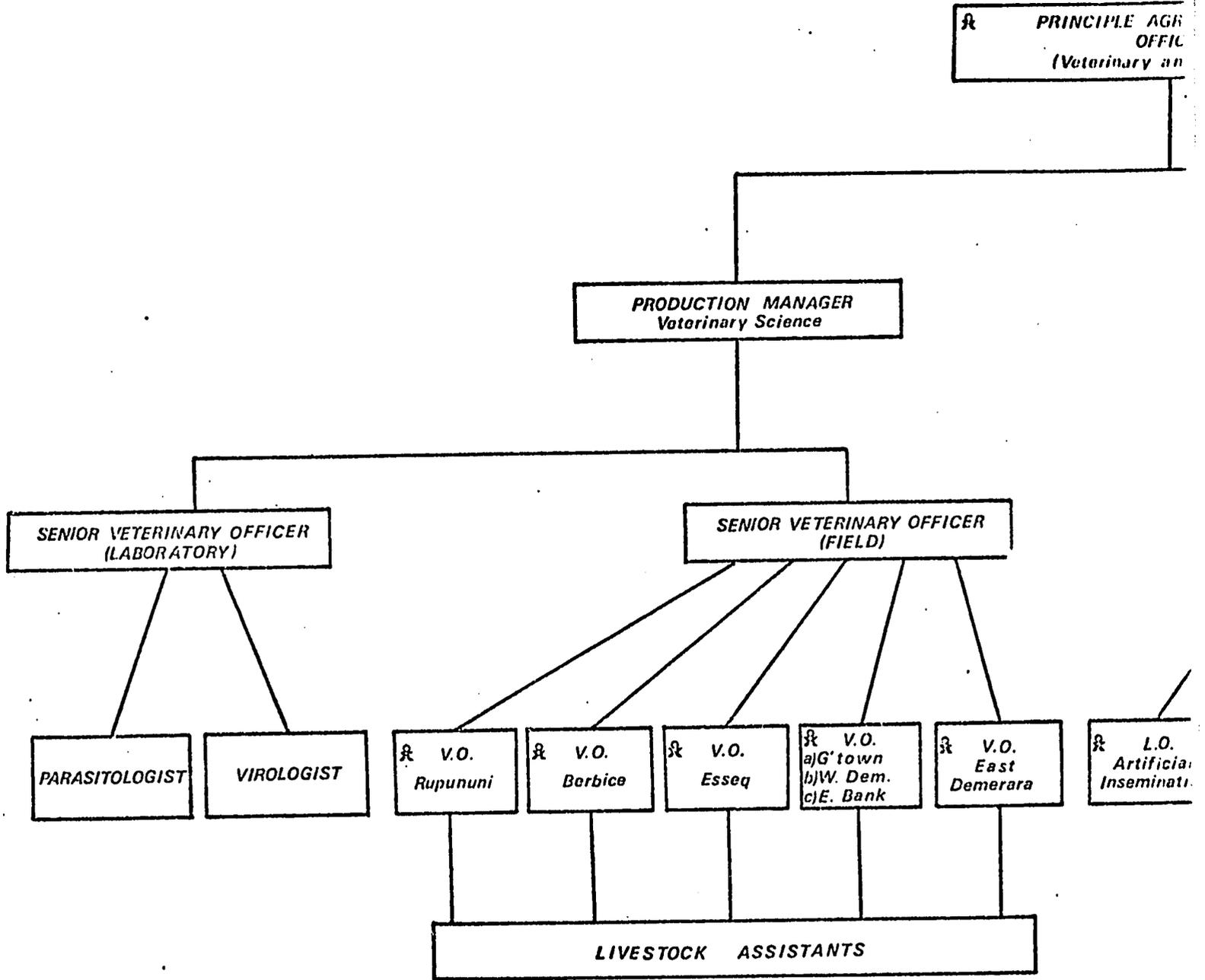
\* Sample size varies due to non-responses and non-applicability of questions. Sample size is contained in parentheses. Except where noted, reported figures are percentages.

**TABLE 7**  
**SELECTED HEALTH ITEMS OF SWINE, POULTRY AND**  
**SHEEP/GOAT PRODUCERS**

Health Item	Type of Producer		
	Swine (24)	Poultry (11)	Sheep/Goats (17)
Parasite Control	88	**	29
Vaccination	25	91	0
Antibiotics	**	100	**
Iron Injections	71	**	**
Health Problems Noted	75	100	71

\* Sample size varies due to non-responses and non-applicability of questions. Sample size is contained in parentheses. Except where noted, reported figures are percentages.

\*\* Not applicable.



\* Positions filled as of 2/13/75

Figure 1

**SENIOR AGRICULTURAL OFFICER**  
(Crops and Livestock)

**PRODUCTION MANAGER**  
*Animal Science*

**SENIOR LIVESTOCK OFFICER**  
(DEVELOPMENT)

**SENIOR LIVESTOCK OFFICER**  
(PRODUCTION)

**L.O.**  
*Artificial  
Insemination*

**L.O.**  
*Animal  
Nutrition*

**L.O.**  
*Animal  
Breeding*

**L.O.**  
*Pasture  
Management*

**L.O.**  
*Poultry*

**L.O.**  
*Dairy*

**L.O.**  
*Swine*

**L.O.**  
*Sheep  
& Goats*

**L.O.**  
*Matthew  
Ridge*

of extension staff is reflected in statistics on producer knowledge of the government extension program involvement (Table 8). Ninety-one percent of the producers along the coast had knowledge of the extension program while only 69% of those in the Rupununi had knowledge of the extension program. Of those having knowledge of the program seventy-one percent had requested assistance. Coastal producers were more likely to have requested assistance than Rupununi producers. Eight-eight percent of the respondents receiving assistance reported that they were satisfied with the assistance received.

In general, the programs involving the swine and poultry producers appeared to be better organized. This is proportional to the assistance which has been provided to those producers involved in these two production activities. A great deal more has been provided in assisting these producers with production, management and marketing that has been done for beer, dairy, sheep and goat producers. Extension specialist associated with poultry and swine programs were also more knowledgeable of program plans and projections within their program area. Veterinary assistants also seemed to be knowledgeable of their basic program plans and appeared to be following closely some outlined program. During the interviews, it was very apparent that many of the general livestock assistants were providing services to livestock producers, however in many instances they were unable to adequately define program plans specific to their program area.

Many problems are confronted by all assistants associated with the implementation of livestock programs. These are a combination of extension problems compounded with problems of individual producers. Through limited contact and personal interviews with livestock and Veterinary assistants the following problems were identified.

- I. Transportation of Extension Workers to the Producers.
- II. Availability of Livestock Feeds.
- III. Availability of breeding stock to producers.
- IV. Current Producer Management Problems as they relate to production.

TABLE 8

RESPONSES TO SELECTED EXTENSION AND RELATED ITEMS  
BY GEOGRAPHICAL AREA

	Rupununi %	Coast %	Total %
Knowledge of Extension Program (111)	16	91	83
Requested Assistance from Extension Program (91)	62	76	71
Received Assistance from Extension Service (65)	72	77	75
Satisfied with Assistance (49)	77	92	88
Extension Agent Visited Farm (108)	54	79	69

\* Sample size varies due to non-response and non-applicability of questions. Sample size is contained in parentheses. Except where noted, reported figures are percentages.

- V. Social Problems as they relate to the development of co-operatives. (generally associated with personal conflicts between individuals and groups involved with the cooperatives).
- VI. Lack of Adequate Grazing Areas along the Coast.
- VII. The initiation of Cattle pound fees.
- VIII. Lack of published or other materials pertaining to livestock production and management.
- IX. Inadequate supervision and coordination from area headquarters to the field staff and lack of communication among the field staff.
- X. Maintaining qualified personnel in the extension service.

## SUMMARY

In evaluating this study, it is clear that the Ministry of Agriculture, Veterinary and Livestock Section, has attempted to develop appropriate objectives for immediate and future programs within the livestock sector (research, production and extension). Research and production appear to be established priorities. The Ministry through its extension programs have not seriously addressed the problem of producer education, nor has it appeared to involve producer inputs into the design of these livestock objectives. This conclusion seems to be supported by the fact that new programs involve only the few commercial producers. Government programs and loans are geared to provide additional capital for these producers, therefore the extension efforts will be concerned with supplying technology to these producers, which may be at the expense of lowering the production output of limited resource producers. Major emphasis is also being placed on current producer involvement. However, there are persons with the desire to become livestock producers, who if properly motivated will contribute significantly to the livestock industry.

The objectives of the Veterinary and Livestock section, especially where extension efforts are concerned, should develop a set of detailed objectives such that they address and describe the following: 1) The type of programs to be supported based on established priorities within the livestock sector; 2) Provide estimates, utilizing current costs and reasonable projections, on the amount of capital which will be invested in support of priority programs (grants, subsidy's, loans, etc.); 3) Establish guidelines which clearly indicate the types of producers which the program will serve; 4) Interact with the producers (in 3 above) in an attempt to understand their problems and production objectives: Only then can proper technology be provided; 5) Evaluate the overall contribution of limited resource producers in supplying domestic and export market needs with livestock products; and 6) Support specific research programs which generate a valid technology base for the majority of the livestock producers and provide this technology through a dynamic extension program.

The government must be prepared to provide a high input of services in order to increase farm output within the livestock sector.

In addition to developing the objectives mentioned above, the total organization should be structured with positions and individuals which are accountable. This means that within the overall structure of the Veterinary and Livestock section, that there must be specific job descriptions with well defined responsibilities. At present the existing organization is inadequately staffed at all levels (administration and staff). At the administrative level, certain individuals are saddled with too many responsibilities outside of extension. At best, many of their efforts are diffuse. It is also apparent that there are a limited number of persons in the field with extension responsibilities. This further magnifies the problem of accountability.

Many of the extension personnel interviewed during the study appeared for work each day and actually made daily rounds, by physically covering a specific geographical area. Within this area, producers with problems specific to their assigned job (i.e. veterinary assistant, swine and poultry, general livestock, etc.) were contacted. If there were no problems or no producers stopped them during their travel for advice or assistance, the extension assistant passed them by. It would seem that the extension assistant should contact producers and establish producer confidence during this apparently unutilized time. A relative account of how the extension assistant's time is presented in yearly reports to The Ministry of Agriculture. Since this is the case, it is impossible to accurately determine the type of services needed by livestock producers and if these services were actually provided by the extension assistant.

There must be more frequent and more effective methods utilized by the extension personnel in order to inform producers of more efficient technology for livestock production. In most instances, small livestock producers are already obtaining from their animals about as much as can be expected. This is the point where an innovative extension worker would attempt to make an input of a new service in order to improve producer efficiency. This does however require an understanding of the producer, his

objectives, capabilities, and resources. At present, most of the information which is available to producers is presented through personal contact with extension assistants. There are few published reports or information leaflets available to producers, nor is there frequent use made of public radio. Currently there are six newspaper supplements per month which address various agricultural topics. This however is not specific to the needs of livestock producers.

Veterinary officers should schedule weekly staff meetings to plan and discuss plans for the week. There should also be individual meetings between the Veterinary Officers and individual staff to evaluate activities implemented and provide assistance in problem solving when necessary. This would allow the Veterinary Officer to take a closer look at job assignments and make recommendations for additional specialized training as appropriate.