

Extension and Advisory Services Personnel needed for promoting animal production in the Republic of Somalia

Emad M. El-Shafie, Dina H. Emam and Abdullahi M. Mohamud

Faculty of Agriculture- Cairo University

Received on: 3-5-2022

Accepted on: 19-6-2022

ABSTRACT

This research aimed to describe the current profile of livestock production in the Republic of Somalia (RoS), review the condition of Extension and Advisory Service Personnel (EASP), that were available before the civil war, and estimate the number of personnel needed for serving livestock producers. Due to difficulties in attaining primary data from RoS, the study used secondary data published by regional and international organizations. Total numbers of different types of animals were: (6647200, camels; 5531100, cattle, 30516600, goats and 12983100 sheep (FAO and World Bank, 2018). To estimate types and numbers of needed EASP, this study used the number of animals in 17 out of 18 regions in RoS. Estimations of needed numbers were based on the following criteria: For each 7000 camels, one Extension Worker (EW), one Veterinary Doctor (VD), one Feeding Program Specialist (FPS), in addition to one Marketing Specialist (MS) per each 12000 Camels. Same criteria were applied for cattle. For each 20000 goats and sheep, one EW, one VD, one FPS, are needed, in addition to one MS per each 25000 goats and sheep. Results indicate that the total estimated numbers of needed EASP are 3406 for camels, 2834 for cattle, 5791 for goats, and 2467 for sheep. Since these numbers are not currently available in RoS, the study recommends that the Ministry of Agriculture start by recruiting around 10% of these numbers of in each Region. These numbers could be gradually increased by adding 15 or 20% each year up to 2030.

KEYWORDS: Needed Extension personnel, livestock management, Republic of Somalia.

1. INTRODUCTION

Somalia is located in the horn of Africa, has the total land area 637,657 km². The country is bordered by Ethiopia to the west, Djibouti to the northwest, the Gulf of Aden to the north, the Guardafui Channel and Indian Ocean to the east, and Kenya to the southwest. The country between 2°S and 12°N altitudes and 41° and 52°E longitudes, Somalia has the longest coastline on African's mainland. The RoS's terrain consists mainly of plateaus, plains and highlands. (World Bank, 2020, p.28).

Somalia has been traditionally a pastoral society with livestock rearing a part and parcel of the economy and society. Somalia's terrain consists mainly of plateaus, plains and highlands with year-round hot climate with sporadic rainfall. This has resulted in arid and semi-arid lands where livestock becomes a vital source of livelihoods, (UNIDO, 2021, p. 11).

As an important sector in the economy of the RoS, agriculture contributes with around 40% of the GDP and 80% of the foreign currency exchanges. Livestock exports amounted to 4.9 million goats and sheep, 294000 cattle and 72000 camels in 2019.

(WBG, 2019, p.77). Somalia is divided into 18 geopolitical administrative regions sub-divided into 78 administrative districts. Under the Interior Ministry, each region is administered by a Governor and each district by a district commissioner. The national extension advisory service is headed by the director of the production and extension department who reports to the director-general of the MoA. At the regional level this department is represented by a regional agricultural superintendent, who works under the regional agricultural coordinator, (World Bank, 1979, pp.7-8).

Extension education is an informal educational process directed toward the rural population. This process offers advice and information to help them solve their problems. Extension also aims to increase the efficiency of the family farm, increase production and generally increase the standard of living of the farm family, (FAO, 2019, p. 1).

Agricultural extension is in transition worldwide and under pressure to reform its purpose as well as the way it is managed. Countries have been responding to the calls for reform in various ways with mixed results. (BLUM, M.L., Cofini, F., Sulaiman, R.V.2020p.2).

Since 1980s, and due to the civil war and the absence of any extension organization in the country, there were no data about the conditions of agricultural extension in Somalia. For the time being data and information about agriculture extension are also not available neither at local level of Somalia nor in international organization.

2. PROBLEM AND OBJECTIVES

The problem of this study was to review the current profile of livestock production and the conditions of extension advisory service that was available in the RoS, before the civil war, and suggest an estimation of the number of extension personnel needed for providing livestock producers, with basic extension advisory services.

The study objectives could be summarized as follows:

1. Describe the current profile of livestock production in the RoS,
2. Review the conditions of extension advisory services, that were available before the civil war, in the RoS.
3. Estimate the number of extension personnel needed for providing livestock producers, in the RoS, with the basic extension advisory services.

3. METHODOLOGY

The research study area covered 17 Regions (out of the total of the 18 Regions of RoS). To estimate the number of extension personnel needed for providing livestock producers, in the RoS, with the basic extension advisory services. Due to the unavailability of reliable primary data and the extreme difficulty of collecting such data, the study utilized the relevant secondary data, about livestock production, published in highly credible national, regional and international reports and studies. Sources of these secondary data include: the Ministry of Agriculture in the RoS, different International Organizations (such as Food Agricultural Organization (FAO), World Bank Group (WBG), and Somalia Water and Land Information Management (SWALIM), etc. Data about the different types of livestock were collected from the reports and studies published by these Organizations. Frequencies and percentages were used for data presentation and analysis. The estimations of the numbers of needed EASPs were based on the following criteria: For each 7000 Camels, one EW, one VD, one FPS, in addition to one MS per each 12000 Camels. Regarding cattle estimations were based on the same criteria of camels. For each 20000 goats and sheep, one EW, one VD,

one FPS are needed, in addition to one MS per each 25000 Goats.

4. RESULTS & DISCUSSIONS

This section describes the estimation numbers of EASPs needed for each type of animal and it clarify in the following tables.

4.1. The current profile of livestock production in the RoS.

There are several livestock subsector found in RoS but with varying relative economic importance across regions due to the underlying differences in the natural resource endowment, the availability of water, pasture and labour, and the sizes and types of livestock species reared and systems of production.

Ruminant animals (camels, cattle, sheep and goats) are widely reared, mostly on the traditional pastoral or agro-pastoral grazing system. There exists a short value chain extending from pastoral or agro-pastoral producers to two key inputs for their production and marketing: animal health services and feed/fodder. Main animal products produced are milk, meat, hides and skins.

However, there are also emerging commercial dairy systems in per-urban areas of most cities and relatively new value chains and subsectors for poultry and beekeeping. The market-oriented per-urban camel and cattle dairy systems are driven by growing demand in ever more expanding towns and cities where the sale of raw milk is already a very important economic activity.

Although the livestock sector remains key to economic growth and poverty reduction, the sector's performance and growth prospects are undermined by considerable structural weaknesses, severe exposure to downside risks, and vulnerability to climate and market shocks.

First, the current large livestock population, estimated at 56 million, compared to historical pre-war level of less than 40 million, is putting a major strain on limited natural resources, such as rangeland, vegetation cover, and water. In particularly, the high stock density in the face of increasing frequency of severe droughts in the Horn of Africa means that rangelands have less time to rebound and recover before the next cycle of drought. Consequently, available resources are insufficient to support rangeland grazing systems and sustain rural livelihoods largely based on traditional nomadic and semi-nomadic livestock production. Severe deforestation from decades of unsustainable charcoal

production and resulting land degradation complicates the situation.

Second, there is limited and patchy information on the sector’s structure and economic performance. There is insufficient knowledge and data on animal populations, offtake rates, incidence of diseases, and domestic consumption, among others. Somalia conducted its last national census of livestock in 1975. The existing animal population and offtake estimates are largely based on limited surveys and extrapolations. Thus, reliable information, including a comprehensive picture of animal population and its geographical distribution, as well as status of rangelands and water sources, is acutely needed to appropriate inform sectoral policies.

Third, there is a lack of and/or inconsistent implementation of regulations and policies, including critical sanitary and phytosanitary measures. Compliance with such measures is a pre-requisite for export of both live animals and animal products. The failings are due to a weak institutional and policy framework, which has resulted in limited and largely informal organization of the livestock value chain; lack of coordination and integration among its actors; weak human capacity; minimal or zero budgetary

resources; lack of enforcement of existing rules and regulations; and poor linkages and ineffective negotiations with main trading partners. Therefore, there is an acute need for government interventions to strengthen resilience to climate change, improve productivity and ensure the quality and safety of livestock products. (Ministry of Plan, (MoNDP, 2020-2024, pp.183-184).

As shown in table (1), the total numbers of camels are (6647200). The highest number of camels (912500) is found in Hiraan Region, whereas the lowest number (67400) is found in Bari Region. whereas the total numbers of cattle are (5531100). The highest number of cattle (more 1 million) is found in Middle & Lower Shabelle Regions, whereas the lowest number (4500) is found in Togdheer Region. Also, the total numbers of goats are (30516600). The highest number of goats (more than 2 million) is found in more than 13 Regions, whereas the lowest number (781900). The total numbers of sheep are (12983100). The highest numbers of sheep (more 1 million) are found in Sanaag, Nugaal and M. shabelle Regions, whereas the lowest number (242300) is found in Bay Region.

Table 1. Numbers of different types of livestock in RoS.

Type of animals by each region	No. of Camels	No. of Cattle	No. of Goats	No. of Sheep
Awdal	411600	65700	1965500	893300
W.Galbeed	535400	96600	2360900	968400
Togdheer	446000	4500	1601500	477500
Sool	186100	N/A	899600	668400
Sanaag	174100	N/A	1656500	1084300
Bari	67400	N/A	1472600	672800
Nugaal	311300	N/A	2040700	1125300
Mudug	324600	13300	1883400	777200
Galgadud	293900	35800	1305600	530100
Hiraan	912500	420900	2719800	940000
M. Shabelle	210500	395900	2325500	1037900
L. Shabelle	511100	1088800	2409500	945400
Bay	430600	1206600	2287000	242300
Bakool	725700	566900	2788400	783600
Gedo	546000	302900	882300	346400
M. Juba	190100	622100	781900	659500
L. Juba	370300	711100	1135900	830700
Total	6647200	5531100	30516600	12983100

(MoNDP, 2020-2024, pp. 186-187)

4.2. The conditions of extension advisory services, that were available before the civil war, in the RoS:

Somalia had an active extension advisory service in all regions. The agricultural extension service was

to be reorganized and strengthened and was to be operate in 33 districts of 10 agricultural regions of RoS. An extension methodology was to be introduced (the training and visit system) with an emphasis on continuous staff training and regular contact with

farmers. Regional extension programs were to be developed, and technical back-up provided for regional extension staff in the form of subject matter specialists.

Two existing farmer training centers at Bonka and Jannale were to be upgraded to become extension training centers. Trainees would be intermediate level school leavers (8 years schooling) who would take a two-year course leading to a certificate in agriculture. After the course finished it was expected that:

1. At regional level:

Regional Extension Officer, Regional Crop Production Specialist, Regional Plant Protection Specialist would all be graduates of the faculty and of FMETC.

2. At district level:

District Extension officer (graduate of the agricultural secondary school plus FMETC) plus Field

Extension Agents would be graduates of the two extension training centers at Bonka and Jannale.

The evolution of the different types of extension staff, working in different administrative levels (during the period 1979 - 1983), were as shown in the following table (2).

As shown in table (2) the total number of extension staff had increased from 45 in 1979 to 495 in 1983. During the period from 1979 to 1981 the number of extension staff doesn't change in the sections of Regional Extension Officer, Crop Protection Specialist and Plant Protection Specialist but during 1982 the number started to jump and doubled in 1983. Concerning District Extension Officer and Field Extension Agent the numbers have considerably increased.

Table 2. The extension staff working in the Ministry of Agriculture in the RoS during the period (1979-1983)

Year	Regional Extension Officer	District Extension Officer	Field Extension Agent	Crop protection Specialist	Plant Protection Specialist	Total no. of extension staff
1979	2	9	30	2	2	45
1980	2	9	69	2	2	84
1981	2	22	85	2	2	113
1982	3	34	153	3	3	196
1983	10	52	413	10	10	495

(ADBG,1988).

4.3. Estimation of the number of extension personnel needed for providing livestock producers, in the RoS, with the basic extension advisory services.

Based on the number of camels, the number of EASP, for providing demand driven services are shown in the next table (3).

These results indicate that 3406 represent the total number of needed EASPs for Camel Husbandry in all the Regions of RoS. Considering the fact that this total

number is not available in the country for the time being, the Ministry of Agriculture could start by appointing / recruiting around 10% of the estimated numbers of needed EASPs for Camel production management in each Region.

For example, in the first Region (Awdal) the currently total needed number of EASPs is around 20, and the total needed number for the country is 340. These numbers could be gradually increased by adding 15 or 20% each year up to 2030.

Table 3. Estimated numbers of Extension Advisory Service Personnel (EASP) for providing demand driven services in the area of Camel production management RoS Regions*.

Regions	Type of Animal	Estimation of Extension Advisory Service Personnel				
	Number of Camels	No. of EASP (1 extension worker per each 7000 Camels)	No. of EASP (1 Veterinary Doctor per each 7000 Camels)	No. of EASP (1 Feeding Program Specialist per each 7000 Camels)	No. of EASP (1 Marketing Specialist per each 12000 Camels)	Total number of needed EASPs
Awdal	411600	59	59	59	34	211
W.Galbeed	535400	76	76	76	45	273
Togdheer	446000	64	64	64	37	229
Sool	186100	27	27	27	16	97
Sanaag	174100	25	25	25	15	90
Bari	67400	10	10	10	6	36
Nugaal	311300	44	44	44	26	158
Mudug	324600	46	46	46	27	165
Galgadud	293900	42	42	42	24	150
Hiraan	912500	130	130	130	76	466
M. Shabelle	210500	30	30	30	18	108
L. Shabelle	511100	73	73	73	43	262
Bay	430600	62	62	62	36	222
Bakool	725700	104	104	104	60	372
Gedo	546000	78	78	78	46	280
M. Juba	190100	27	27	27	16	97
L. Juba	370300	53	53	53	31	190
Total	6647200	950	950	950	556	3406

*Estimations were based on the criteria identified in the methodology.

Based on the number of cattle, the number of EASP, for providing demand driven services are shown in the next table (4).

These results indicate that 2834 represent the total number of needed EASPs for Cattle Care in all the Regions of RoS. Considering the fact that this total number is not available in the country for the time being, the Ministry of Agriculture could start by appointing/recruiting around 10% of the estimated umbers of needed EASPs for Cattle Care in each Region.

For example, in the first Region (Awdal) the currently total needed number of EASPs is around 20, and the total needed number for the country is 280. These numbers could be gradually increased by adding 15 or 20% each year up to 2030.

Based on the number of goats, the number of EASP, for providing demand driven services are shown in the next table (5).

These results indicate that 5791 represent the total number of needed EASPs for Goat Breeding in all the Regions of RoS. Considering the fact that this total number is not available in the country for the time being, the Ministry of Agriculture could start by appointing / recruiting around 10% of the estimated umbers of needed EASPs for Goat Breeding in each Region.

For example, in the first Region (Awdal) the currently total needed number of EASPs is around 40, and the total needed number for the country is 580. These numbers could be gradually increased by adding 15 or 20% each year up to 2030.

Table 4. Estimated numbers of Extension Advisory Service Personnel (EASP) for providing demand driven services in the area of Cattle production management in RoS Regions *.

Regions	Type of Animal	Estimation of Extension Advisory Service Personnel				
	Number of Cattle	No. of EASP (1 extension worker per each 7000 Cattle)	No. of EASP (1 Veterinary Doctor per each 7000 Cattle)	No. of EASP (1 Feeding Program Specialists per each 7000 Cattle)	No. of EASP (1Marketing Specialists per each 12000 Cattle)	Total number of EASP needed
Awdal	65700	9	9	9	5	32
W.Galbeed	96600	14	14	14	8	50
Togdheer	4500	1	1	1	1	4
Sool	N/A	N/A	N/A	N/A	N/A	N/A
Sanaag	N/A	N/A	N/A	N/A	N/A	N/A
Bari	N/A	N/A	N/A	N/A	N/A	N/A
Nugaal	N/A	N/A	N/A	N/A	N/A	N/A
Mudug	13300	2	2	2	1	7
Galgadud	35800	5	5	5	3	18
Hiraan	420900	60	60	60	35	215
M. Shabelle	395900	57	57	57	33	204
L. Shabelle	1088800	156	156	156	91	559
Bay	1206600	172	172	172	101	617
Bakool	566900	81	81	81	47	290
Gedo	302900	43	43	43	25	154
M. Juba	622100	89	89	89	52	319
L. Juba	711100	102	102	102	59	365
Total	5531100	791	791	791	461	2834

*Estimations were based on the criteria identified in the methodology.

Table 5. Estimated numbers of Extension Advisory Service Personnel (EASP) for providing demand driven services in the area of Goats production management in RoS Regions*.

Regions	Type of Animal	Estimation of Extension Advisory Service Personnel				
	Number of Goats	No. of EASP (1 extension worker per each 20000 Goats)	No. of EASP (1 Veterinary Doctor per each 20000 Goats)	No. of EASP (1 Feeding Program Specialists per each 20000 Goats)	No. of EASP (1Marketing Specialists per each 25000 Goats)	Total number of EASP needed
Awdal	1965500	98	98	98	79	373
W.Galbeed	2360900	118	118	118	94	448
Togdheer	1601500	80	80	80	64	304
Sool	899600	45	45	45	36	171
Sanaag	1656500	83	83	83	66	315
Bari	1472600	74	74	74	59	281
Nugaal	2040700	102	102	102	82	388
Mudug	1883400	94	94	94	75	357
Galgadud	1305600	65	65	65	52	247
Hiraan	2719800	136	136	136	109	517
M. Shabelle	2325500	116	116	116	93	441
L. Shabelle	2409500	120	120	120	96	456
Bay	2287000	114	114	114	91	433
Bakool	2788400	139	139	139	112	529
Gedo	882300	44	44	44	35	167
M. Juba	781900	39	39	39	31	148
L. Juba	1135900	57	57	57	45	216
Total	30516600	1524	1524	1524	1,219	5791

*Estimations were based on the criteria identified in the methodology.

Based on the number of sheep, the number of EASP, for providing demand driven services are shown in table (6).

These results indicate that 2467 represent the total number of needed EASPs for Sheep Care in all the Regions of RoS. Considering the fact that this total number is not available in the country for the time being, the Ministry of Agriculture could start by

appointing / recruiting around 10% of the estimated umbers of needed EASPs for Sheep Care in each Region. For example, in the first Region (Awdal) the currently total needed number of EASPs is around 20, and the total needed number for the country is 250. These numbers could be gradually increased by adding 15 or 20% each year up to 2030.

Table 6. Estimated numbers of Extension Advisory Service Personnel (EASP) for providing demand driven services in the area of Sheep production management RoS Regions*.

Regions	Type of Animal	Estimation of Extension Advisory Service Personnel				
	Number of Sheep	No. of EASP (1 extension worker per each 20000 Sheep)	No. of EASP (1 Veterinary Doctor per each 20000 Sheep)	No. of EASP (1 Feeding Program Specialists per each 20000 Sheep)	No. of EASP (1Marketing Specialists per each 25000 Sheep)	Total number of EASP needed
Awdal	893300	45	45	45	36	171
W.Galbeed	968400	48	48	48	39	183
Togdheer	477500	24	24	24	19	91
Sool	668400	33	33	33	27	126
Sanaag	1084300	54	54	54	43	205
Bari	672800	34	34	34	27	129
Nugaal	1125300	56	56	56	45	213
Mudug	777200	39	39	39	31	148
Galgadud	530100	27	27	27	21	102
Hiraan	940000	47	47	47	38	179
M. Shabelle	1037900	52	52	52	42	198
L. Shabelle	945400	47	47	47	38	179
Bay	242300	12	12	12	10	46
Bakool	783600	39	39	39	31	148
Gedo	346400	17	17	17	14	65
M. Juba	659500	33	33	33	26	125
L. Juba	830700	42	42	42	33	159
Total	12983100	649	649	649	520	2467

*Estimations were based on the criteria identified in the methodology.

5. RECOMMENDATION

Based on the results of the study, it is recommended that the Ministry of Agriculture start by recruiting around 10% of the estimated numbers of each type of EASP, in each Region. These numbers could be gradually increased by recruiting 15 - 20% each year up to 2030.

5. REFERENCES

African Development Bank Group (1988). Somalia agricultural extension and farm management training project, project performance evaluation report.

BLUM M.L., Cofini F., Sulaiman R.V. (2020). Agricultural Extension in Transition worldwide: Policies and strategies for reform. Rome, FAO.

<https://doi.org/10.4060/ca8199en>.

FAO (2019). agricultural extension manual for extension workers.

MoNDP (2020-2024). The Ministry of Planning, Investment and Economic Development, Somalia National Development Plan.

United Nation Industrial Development Organization (2021). Sub-sector Mapping and Value Chain Analysis of the Livestock sub-sector in Somalia.

WBG (2019). Somalia Drought Impact & Needs Assessment.

World Bank (1979). Somalia Agricultural Extension and Farm Management Training Project, Staff Appraisal Report.

World Bank (2020). Somalia Environmental Analysis, Diagnostic study on trends and threats for environmental and natural resources challenges.

الملخص العربي

الاحتياجات من العاملين بالخدمات لارشادية والاستشارية الزراعية لتطوير الانتاج الحيواني في جمهورية الصومال

عماد مختار الشافعي، دينا حسن إمام و عبدالله محمد محمود

كلية الزراعة- جامعة القاهرة

استهدفت هذه الدراسة استعراض أوضاع الانتاج الحيواني في جمهورية الصومال وتقدير اعداد العاملين بالخدمات الارشادية والاستشارية الزراعية لكي يمكن تقديم نوعيه جيده من الخدمات الارشادية والاستشارية الزراعية لمربي الحيوانات. ونظرا لصعوبة الحصول على بيانات أوليه من مربي الحيوانات بجمهورية الصومال فقد اعتمدت الدراسة على البيانات الوارده في التقارير المنشوره للمنظمات الدولية ذات العلاقة. وفقا لتقارير منظمة الأغذية والزراعة والبنك الدولي (٢٠١٨) فقد تبين أن الأعداد الكلية للأنواع المختلفة من الحيوانات هي كالتالي: (٦٦٤٧٢٠٠ جمال - ٥٥٣١١٠٠ ماشية - ٣٠٥١٦٦٠٠ أغنام - ١٢٩٨٣١٠٠ ماعز) ولتقدير الاعداد المطلوبة من العاملين بالارشاد الزراعي لتوفير خدمات إرشاد واستشارية زراعية جيده في جمهورية الصومال فقط استخدمت الدراسة المعايير التالية: يحتاج كل قطيع من ٧٠٠٠ جمل إلى مرشد زراعي واحد وطبيب بيطري واحد وأخصائي برامج تغذية واحد، هذا بالاضافة إلى أخصائي تسويق واحد لكل قطيع من ١٢٠٠٠ جمل. وطبقت نفس المعايير على قطعان الماشية. وبالنسبة لقطعان الاغنام والماعز يحتاج كل قطيع من ٢٠٠٠٠ أغنام أو ماعز إلي مرشد زراعي واحد وطبيب بيطري واحد وأخصائي برامج تغذية واحد، هذا بالاضافة إلى أخصائي تسويق واحد لكل قطيع من ٢٥٠٠٠ أغنام أو ماعز. وتشير النتائج إلي أن إجمالي الاعداد المطلوبة من العاملين بالارشاد الزراعي قد بلغت ٣٤٠٦ لقطعان الجمال، و٢٨٣٤ لقطعان الماشية، و٥٧٩١ لقطعان الأغنام، و٢٤٦٧ لقطعان الماعز. ونظرا لأن هذه الأعداد من العاملين بالارشاد الزراعي لا تتوفر حاليا في جمهورية الصومال لذلك يمكن لوزارة الزراعة أن تبدأ بإعداد وتدريب وتشغيل ١٠% من هذه الأعداد في كل إقليم ثم زيادة الأعداد تدريجيا بنسبة ١٥-٢٠% حتى عام ٢٠٣٠.