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REQUIREMENTS FOR CONTRIBUTIONS

Articles in the field of agricultural economics, suitable for publication in the journal, will be welcomed.

Articles should have a maximum length of 10 folio pages (including tables, graphs, etc.), typed in double spacing. Contributions, in the language preferred by the writer, should be submitted in triplicate to the Editor, c.o. Department of Agricultural Economics and Marketing, Pretoria, and should reach him at least one month prior to date of publication.

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Contents

The Agricultural Economy of South-West Africa

by

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The main purpose of this article is to furnish a condensed picture of the agricultural production of South-West Africa, its diversity and its problems. It should also serve to furnish the reader with an idea of the relative importance of products produced in the Territory as well as the potentialities of agriculture.

Statistical data were obtained from the agricultural censuses, government departments, control boards and other sources.

INTRODUCTION

To comprehend the agricultural economy of this vast Territory it is first necessary to become acquainted with the utilisation of land and the resulting agricultural pattern. Functionally South-West Africa (318,261 square miles) is subdivided into a northern and a southern sector. The "Red Line" signifying the northern limit of White settlement and the police zone, separates the two sectors. The Territory is further divided into magisterial districts, surveyed farms, town and township areas, proclaimed non-White areas, proclaimed Native Reserves, "Sperr" areas and Government lands. These subdivisions are given in table 1.

TABLE 1 - Functional subdivision of the area of South-West Africa - 1965

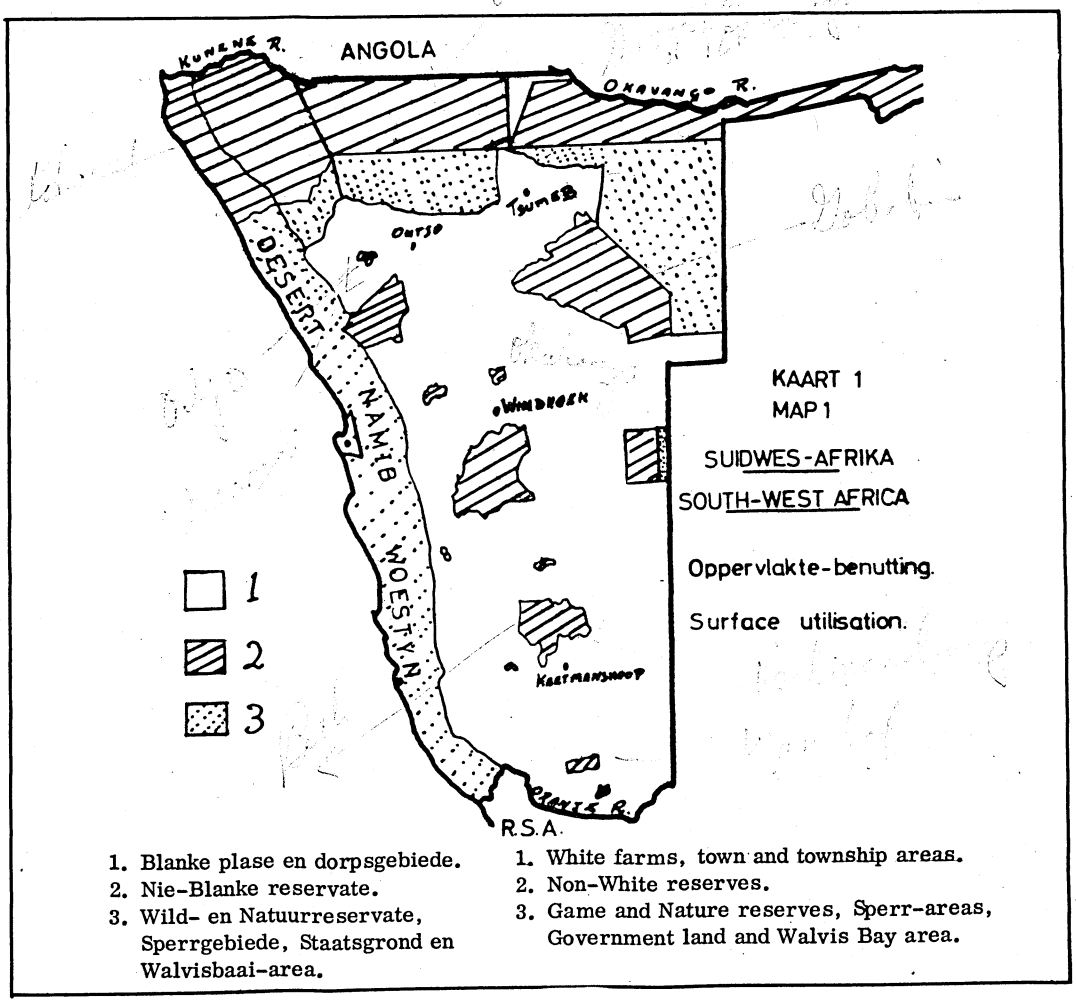
Subdivision	Area	Per cent of total
	sq. miles	
White farms	153,587	48.3
Non-White reserves		
Northern sector	56,690	17.8
Southern sector	28,084	8.7
Other areas		
Towns and townships	1,830	0.6
Game and nature reserves	23,380	7.4
"Sperr" areas[a]	21,182	6.7
Government lands	33,085	10.4
Walvis Bay area (R.S.A.)	423	0.1
Total	318,261	100.0

a) "Sperr" areas - Two areas in the Namib desert, reserved as protected diamond areas.

According to table 1 permanent agricultural activity is at present confined to 75 per cent of the Territory. Map 1 shows the distribution of land. The Namib desert occupies a strip from 80 to 120 miles wide along the western coastline and is unsuitable for any agricultural production.

THE AGRICULTURAL PATTERN

Agriculture in South-West Africa is primarily dominated and stratified by the rainfall, amount as well as distribution. Map 2 shows the incidence of average rainfall over the Territory. Rainfall conditions may be described as ex-

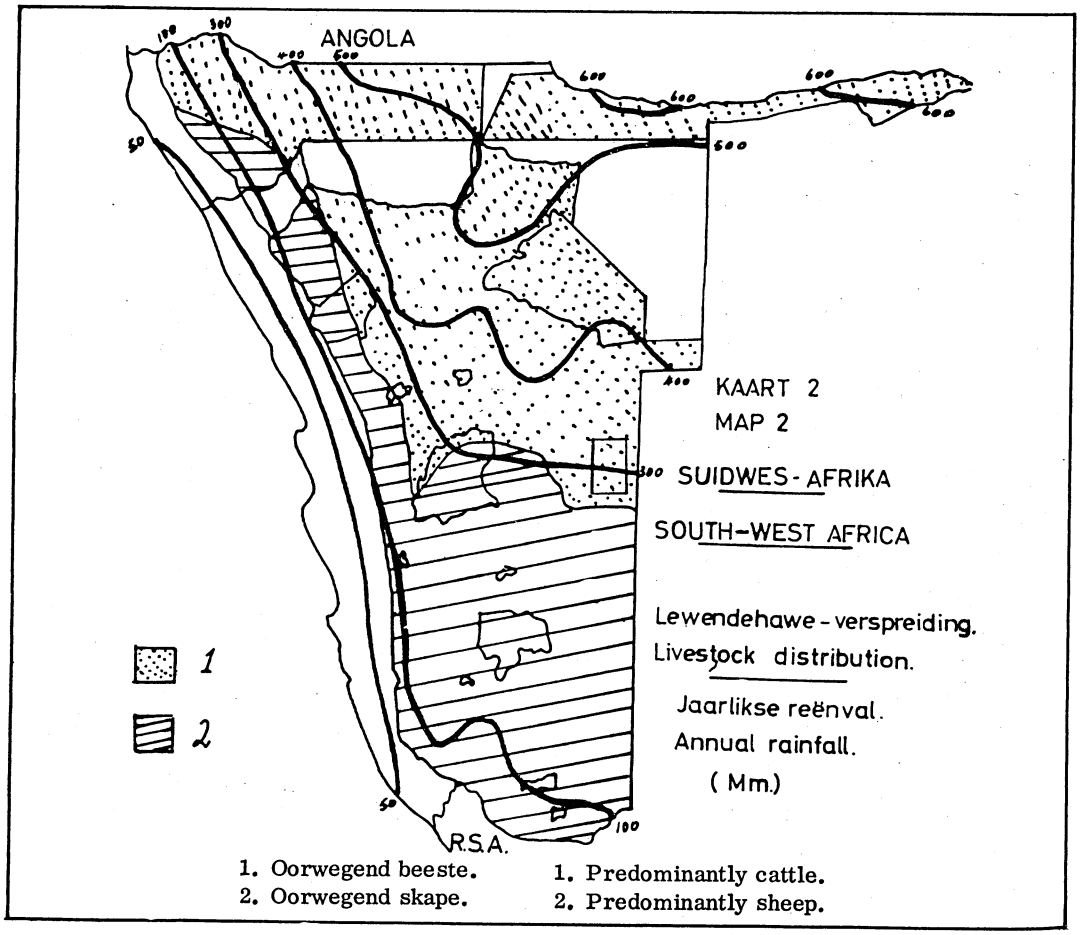


1. Blanke plase en dorpsgebiede.
2. Nie-Blanke reservate.
3. Wild- en Natuurreservate, Sperrgebiede, Staatsgrond en Walvisbaai-area.

1. White farms, town and township areas.
2. Non-White reserves.
3. Game and Nature reserves, Sperr-areas, Government land and Walvis Bay area.

tremely arid (i.e. less than 100 mm) in the Namib desert, arid (100-200 mm) over Namaland, semi-arid (250-500 mm) over the central highland and sub-humid (more than 500 mm) over the north-eastern parts of the Territory. With the exception of parts of the northern non-White reserves and smaller portions of the northern White areas the rainfall is everywhere insufficient to support any but the most extensive systems of farming, namely the grazing of cattle, sheep and goats. Only one per cent of the surface of South-West Africa receives a rainfall of more than 600 mm annually, generally accepted as the minimum for dryland cultivation of crops.

The natural vegetation of the Territory may be divided into two main types, namely a savanna formation in the semi-arid and sub-humid parts and a shrub and grassland formation in the arid and extremely arid parts. The manner in which these types of vegetation are utilised depends upon numerous factors. Here only the two main physical factors determining the distribution of cattle or sheep as chief source of income are mentioned. Sheep are predominant in the lower rainfall regions where the "short" vegetation can be effectively utilised and cattle in the higher rainfall areas where abundant grass is encountered which is generally not suitable for sheep.



Map 2 illustrates the distribution of livestock in the Territory. This distribution is based on main sources of income, either from cattle or sheep. It is, however, understandable that there can be no clear-cut boundary between these areas and that there will be a varying degree of diversification on either side. For example large areas of the southern part of the Territory, normally considered to be exclusively suited to sheep and goats, are favourable for cattle during good rainfall seasons when the grass coverage is too dense for utilisation by sheep alone. The central part of the Territory, predominantly a cattle area, is to a lesser degree suitable for sheep which can constitute an important complementary enterprise along with cattle. Livestock numbers are given in table 2.

As mentioned, only one per cent of the Territory qualifies for normal dryland cultivation of crops and this narrow strip lies in the northern non-White territory. (See Map 2). In the White farming areas dryland cultivation is quite general where the annual rainfall is between 500 and 600 mm. Success is, however, sporadic as is also the case in the remainder of the northern non-White areas, and rainfall must be considered to be marginal for dryland cultivation. Dryland crop cultivation though sporadic, is also encountered in parts of the Outjo, Otjiwarongo, Okahandja and Gobabis districts (400-500

TABLE 2 - Number of livestock in South-West Africa, 1965 census

	Sheep					
	Cattle	Karakul	Other	Goats	Poultry	Pigs
White farms, including animals owned by labourers	1,542,531	2,932,176	566,975	740,558	143,202	12,279
Non-White reserves (Southern sector)	139,817	96,308	21,779	273,843	18,640	142
Non-White reserves (Northern sector)	664,887	-	79,619	492,794	146,450	9,464
Total	2,347,235	3,028,484	668,373	1,507,195	308,292	21,885

mm) but the rainfall is of such a nature that years go by when lands are not even prepared for sowing.

The Territory's three perennial rivers flow along its north-east, north-west and southern borders, and irrigation from these sources is thus limited to one bank. The two northern rivers (Angolan border), the Kunene and Okavango both flow through the northern non-White territories. The former is as yet not utilised for irrigation, the latter though flowing through a high rainfall area sufficient for dryland cultivation serves to irrigate approximately 70 hectares of land at present. Irrigation on a limited scale also occurs along the northern bank of the Orange River and the White farming sector (approximately 230 hectares). Further irrigation in the latter sector is found at Mariental where approximately 330 hectares are presently irrigated from the Hardap Dam, in the artesian area of the Auob River, Osona on the banks of the Okahandja River and from the Otjikoto and Guinas Lakes.

Agricultural activity in South-West Africa is thus encountered on White farms, in the non-White homelands, on township commonages to a lesser degree and periodically on certain sections of Government lands for emergency grazing in times of severe drought. This activity ranges from a purely subsistence level of agriculture in the northern non-White territories to an efficient level of commercial agriculture on White farms in the southern sector.

THE AGRICULTURAL ECONOMY

Table 3 provides an indication of the relative importance of agriculture in the economy of South-West Africa.

According to table 3 Agriculture, Forestry and Fisheries provided for 24 per cent of the Territory's gross domestic product.

In the northern non-White reserves a subsistence level of economy is still found and any possible contribution to the economy of the Territory in the form of cattle is prevented by the presence of the so-called "lung sickness" (contagious bovine pleuro-pneumonia) which up to the present has prevented any movement of livestock south of the "Red Line". It is thus convenient to exclude the northern non-White territories from any further discussion on the agricultural economy of South-West Africa.

The remaining area responsible for permanent commercial agricultural pro-

TABLE 3 - Gross national income and domestic product, South-West Africa - 1962

Source	R million[a)]	Per cent of G.D.P.
Agriculture, Forestry and Fisheries	35.2	24.0
Mining	47.3	32.2
Manufacturing and construction	14.2	9.7
Transportation	10.7	7.3
Trade	9.7	6.6
Government	15.1	10.3
All other services	14.5	9.9
Gross domestic product	146.7	100.0
Gross national income	104.4	-

a) Preliminary.

duction represents a mere 57 per cent of the Territory, namely White farms, non-White homelands in the southern sector and town and township areas. Most commercial agriculture is, however, confined to the approximately 6,000 White-owned farms representing 48.3 per cent of the Territory. The agricultural economy of South-West Africa is therefore dependent upon the following:

Sheep

Karakul. - According to the 1965 agricultural census there were 2.93 million Karakul sheep on White farms and 96,000 in the southern non-White reserves making a total of 3.03 million sheep in the Territory. South-West Africa which is pre-eminently suited to the production of Karakul pelts presently enjoys an impressive position on the international market. Of the 10 million pelts sold during 1964 in London, South-West Africa offered approximately 3.0 million, the U.S.S.R. 3.5 million, Afghanistan 2.5 million and the Republic of South Africa approximately 1.0 million. During 1965 2,240,801 pelts were exported from the Territory at an average price of R6.26.

The number of pelts exported from South-West Africa during the past decade fluctuated between two and three million a year. Prices have increased steadily. In addition to producing a valuable pelt, the Karakul sheep is an excellent slaughter animal. The 1965 wool clip comprising mostly Karakul wool amounted to 6.9 million pounds.

Karakul wool is a fairly important by-product of pelt production and a regular source of income. On account of its coarseness and length it is classed as carpet wool in the trade. Through improved methods of processing part of the fleeces, particularly the finer fibres, are used for making blankets, coats and other articles of clothing, while the coarser fibres are used in the carpet industry.

The United Kingdom, West Germany and the U.S.A. are the major importers while smaller quantities are bought by a number of other countries. There are three factories in South Africa which manufacture blankets from the wool and hand-woven carpets are made.

From South Africa there is also a substantial demand for breeding stock which is an additional source of income.

Other sheep. - The sheep population, excluding Karakuls, may be classified as woolled, non-woolled and unspecified types. Table 4 shows their distribution based on the 1965 census.

When the Blackhead Persian, a non-woolled breed is crossed with the Karakul and gradually graded up, a good quality pelt is produced by the resultant breed which consequently plays a considerable

TABLE 4 - Distribution of sheep (other than Karakul) in the southern sector of South-West Africa - 1965

Area	Non-woolled	Woolled	Unspecified
White farms	513,339	40,088	13,548
Non-White reserves	19,082	2,194	503
Total	532,421	42,282	14,051

role in the pelt industry. During 1965 a total of 192,558 sheep and goats were marketed for slaughter in the Territory and 21.4 per cent was exported to South Africa.

Goats

The Territory as a whole is very suitable for goat farming and this, if employed judiciously, has a role to play in the control of bush encroachment. This animal occupies an extremely important place in the life of the indigenous non-White population, supplying both meat and milk. Of the 1.01 million goats in the southern sector during 1965, 37 per cent was either found in the non-White reserves or belonged to non-White labourers on White farms. Of all goats in the Territory 58 per cent was owned by non-Whites, i.e. including the northern sector.

Cattle

Large areas of South-West Africa are exceptionally suited for cattle ranching and in 1965 there were 1.68 million cattle in the southern sector of which 1.54 million were on White farms.

Beef. - The majority of cattle are reared for the production of beef although many farmers also tend to practice ranch milking in varying degrees. It is estimated that approximately 1,040 farmers delivered cream to creameries during 1965.

The fact that South-West Africa supplied 17 per cent of the cattle slaughtered in the controlled areas of the Republic of South Africa during 1964/65, indicates the importance of the territory as a source of supply to South Africa.

According to table 5, 22.4 per cent of the total cattle in the southern sector of the Territory was thus marketed during the year.

TABLE 5 - Number of cattle marketed in South-West Africa - 1965

Destination	Number	Percentage
Controlled markets (R.S.A.)		
On the hoof	229,620	60.9
Carcasses	192	0.1
Non-controlled markets (R.S.A.)		
On the hoof for later slaughter	15,507	4.1
Slaughtered in S.W.A.	27,756	7.3
Canning factories	102,674	27.2
Breeding stock		
South Africa[a]	198	0.1
Other (Angola etc.)	1,059	0.3
Total	377,006	100.0

a) Estimate.

Dairying. - The primary producer's market is represented by 4 butter factories, 1 cheese factory, 1 casein processing plant and 58 fresh milk consuming centres. Milk production in the Territory is almost entirely complementary and secondary to extensive beef production, with the exception of fresh milk producers in the proximity of the townships. It is understandable that this extensive mode of milk production is very subject to adverse climatic conditions and that large fluctuations in production are inevitable.

According to table 6, 83.2 per cent of the commercial milk produced on farms was sold as cream to the butter factories.

TABLE 6 - Estimated farm production of commercial milk in South-West Africa, 1965.

Product	Weight	Percentage
	lb	
Factory milk		
Butter	86,557,500	83.2
Cheese	1,484,804	1.4
Fresh milk	15,580,000	14.9
Farm milk		
Butter	382,500	0.4
Cheese	68,196	0.1
Total	104,073,000	100.0

Pigs

As may be expected in an area where grain is cultivated on a very limited scale, pig farming plays an insignificant role. Pigs are kept largely as a complementary enterprise on dairy farms where they are fed skimmed milk. According to the 1965 census there were 12,421 pigs in the southern sector of the Territory. It was estimated that 17,586 (141.6 per cent) were slaughtered locally during 1965, indicating that the turnover is rapid.

Poultry

Due to the lack of grain in the Territory poultry too plays an insignificant role in the economy. According to the 1965 census the poultry population of the southern sector was a mere 161,842.

Agronomy

Crops can be cultivated under either irrigation or dryland conditions. Suitable areas for dryland cultivation in the southern sector of the Territory are those north of the 400 mm rainfall line. (See Map 2). As has been mentioned only one per cent of the entire Territory receives a rainfall sufficient for normal dryland cultivation, 600 mm, and this falls in the northern non-White homelands. The remainder of the area where dryland cultivation is practised (500-600 mm) must, however, be considered as marginal and the area with 400 to 500 mm as sub-marginal. Maize and cotton are the chief cash crops, whilst sorghums and cowpeas are also cultivated for fodder.

Cultivation under irrigation in the southern sector is not generally encountered, due to the absence of water sources such as perennial rivers. The Orange River, the only perennial river, on the southern border of the Territory allows limited irrigation possibilities along the north bank. Lucerne is extensively produced at the Vioolsdrif Scheme (Orange River), at the Hardap Dam Irrigation Scheme and in the artesian basin at Stampriet (Auob River). Maize and wheat is also produced in the latter area, cotton is irrigated from the Guinas Lake and fodder crops from the Otjikoto Lake. The estimated production is given in table 7.

TABLE 7 - Estimated production of the more important commercial crops in the southern sector of South-West Africa - 1965

Crop	Bags 200 lb	Ton
Wheat	16,818	-
Maize	18,397	-
Cotton	-	58
Lucerne	-	2,880

Horticulture

South-West Africa at present imports approximately 75 per cent of its fruit and vegetable requirements from the Re-

public of South Africa. This state of affairs is partly due to the lack of sufficient water for irrigation purposes, the incidence of frost in many areas and inadequate marketing facilities and organization.

Producers are widespread throughout the Territory and congregated around the bigger towns. The largest producers are encountered at the Otjikoto Lake at Tsumeb, Osona at Okahandja, along the Omaruru and Swakop Rivers and at the Hardap Dam Irrigation Scheme.

A summary of the estimated gross value of farm production of agricultural products is given in table 8.

TABLE 8 - Estimated gross value of agricultural production in South-West Africa - 1965

Product	Value	Percentage
	R	
Cattle		
Beef	24,945,976	56.2
Breeding stock	215,166	0.5
Dairy products	2,041,200	4.6
Sheep		
Pelts	14,027,414	31.6
Breeding (R.S.A.)	33,117	0.1
Wool	1,079,727	2.4
Mutton	970,596	2.2
Other		
Hides and skins	376,631	0.8
Pigs	351,720	0.8
Cash crops	230,001	0.5
Horticulture	120,000	0.3
Total	44,391,548	100.0

According to table 8 the gross value of agricultural production for the Territory during 1965 was R44.4 million.

THE CONTRIBUTION OF THE NON-WHITE HOMELANDS IN THE SOUTHERN SECTOR OF THE TERRITORY TO THE ECONOMY

The non-White homelands in the southern sector of the Territory make a considerable contribution to the agricultural production. For example cattle are bought in these areas by White buyers because the Bantu prefer cash payments to selling through other channels. Karakul pelts are similarly bought in these areas for later sale. Table 9 indicates the extent of this contribution for all the southern sector homelands (81.7 per cent) except the "Rehoboth Baster Gebiet" for which figures were not available.

TABLE 9 - Estimated quantity and value of agricultural production from southern non-White reserves - 1965

Product	Quantity	Value
		R
Cattle	11,772	491,325
Sheep	2,823	12,992
Wool	40,779 lb	3,972
Hides and skins	-	4,759
Pelts	6,065	24,607
Total	-	537,655

FUTURE AGRICULTURAL PRODUCTION

South-West Africa is still a young agricultural country, (the oldest White farms were established about 70 years ago) and being young will still develop rapidly. Further it must also be remembered that although the Territory is about two-thirds the size of the Republic it carries only about one-thirtieth of the population.

The Report of the Commission of enquiry into South-West Africa affairs (The Odendaal Plan) 1962/63 and the subsequent implementation of this Com-

mission's recommendations has and will serve to rejuvenate the agricultural economy indirectly as well as directly. Of importance to the agricultural economy of the Territory will be the recommended reallocation of certain portions of land. The present non-White reserves will be increased by 50.6 per cent, i.e. 48,745 square miles. This additional land will come from (see table 1) White farms, Government land and game reserves. What is important at present is that approximately 13,305 square miles of current White farm land will be withdrawn from a relatively high level of production and added to the non-White homelands, where production at this stage is as yet not of such a high order.

The most important direct implication of the "Odendaal Plan" for the agricultural economy of the Territory is likely to be a very rapid development of the non-White homelands. For example water supplies in Ovamboland will by controlling floods and the proposed diversion of water from the Kunene River by means of canals to the central and western parts of Ovamboland, amongst others ensure greater stability for livestock farming. Although there is sufficient water in this area during the rainy seasons, serious problems are encountered during the dry seasons in providing for animals as well as human beings. The water from the Kunene River will also create possibilities for irrigation. This will result in the non-White areas changing from a subsistence economy to a commercial economy and thus increase agricultural production.

FARMER CO-OPERATIVES

One aspect of our American farmer co-operatives needs special mention. It is their importance in preserving our family farm type of agriculture. Co-operatives provide a system of organization for agriculture which helps, and does not penalize, the individual operator. Co-operatives retain decision power on the farm and this encourages individual initiative and creativity. Compared with Russia, our agriculture is outstandingly successful. Why? Is it due to our superior soil and climate? Or is it due to our system of agricultural organization, which calls for a high degree of response from farm people? If the latter is true - and there is much evidence to support it - the importance of co-operatives, which encourage in farmers the spirit of freedom, independence, and responsibility, cannot be ignored. Broad recognition of this fact will do much to gain stronger public support of co-operatives.

- J.G. Knapp. The Scope of farmer co-operatives - present and future. American Journal of Farm Economics, May 1962.