

THE SOMALI BOUNDARY:  
DISPUTE AND FUNCTIONAL EVOLUTION

AND

ARIDITY AND LAND USE  
IN NORTHEAST AFRICA

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THE SOMALI BOUNDARY: DISPUTE AND  
FUNCTIONAL EVOLUTION

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## TABLE OF CONTENTS

	Page
LIST OF TABLES . . . . .	iv
LIST OF ILLUSTRATIONS. . . . .	v
INTRODUCTION. . . . .	1

### Chapter

I. AN ANALYSIS OF THE SOMALI BORDER DISPUTE FROM A HISTORICAL-POLITICAL GEOGRAPHIC VIEWPOINT . . . . .	6
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#### Causes

Somali Conflicts: Pre-colonial  
History  
Menelik  
Somali Holy War and Movements into  
Kenya  
Colonial Partition of the Horn

British Somaliland  
French Somaliland  
Italian Somaliland

Menelik and the Colonial Powers  
Treaty of London  
Italo-Ethiopian War  
Post-War Politics

#### Trigger Action

Ethiopian Nationalism  
Nationalism in French Somaliland  
Somali Nationalism  
The Northern Frontier District and  
Kenyan Nationalism



## Aims of the States Concerned

The Preservation of Ethiopia  
 Somali Politics  
 Peace and Status Quo in Africa  
 French Neo-colonialism

## Geographic Arguments

Economic Geography and Nomadism  
 Tribal Boundaries and Islam

## Results of the Dispute

Detente in the Horn of Africa  
 Recent Developments in the Somali  
 Republic

II. FUNCTIONAL EVOLUTION OF THE SOMALI BOUNDARY  
 SINCE 1960 . . . . . 49

Boundary Functions and Their Evolution  
 The Boundary of the Somali Republic  
 Regional Politics and Somali Boundary  
 Functions Existent in 1960

Foreign Policies in the Horn  
 The State Functions Evident at the  
 Somali Boundary

Correlation between Foreign Policies and  
 State Functions at the Boundary after  
 1960

Somali-Ethiopian Boundary  
 Somali-Kenya Boundary  
 Boundary between the Somali Republic  
 and the French Territory of Afars  
 and Issas  
 Conclusions Regarding Correlation  
 between Policy and State Functions  
 Applied at the Boundary

CONCLUSION . . . . .	69
BIBLIOGRAPHY. . . . .	74

## LIST OF TABLES

Table	Page
1. Air Passengers During Selected Months Flying between Ethiopia and the Somali Republic. .	60
2. Somali Trade with Neighboring Countries. . .	65

## LIST OF ILLUSTRATIONS

Map	Page
1. The Horn of Africa . . . . .	7
2. Political Boundaries in the Horn 1888-1972 .	12
3. Regional Political Units 1950-1960. . . .	26

## INTRODUCTION

During the 1960's armed conflict occurred in the Horn of Africa between the Somalis and the troops of Kenya, Ethiopia and French Somaliland. The conflict arose ostensibly from disagreement concerning the political boundaries separating the Somali peoples. The irredentist calls for Somali unification and self-determination have provided much material for students of boundary disputes.

Boundary studies in disputed areas have traditionally been a favorite research subject for political scientists, historians, international lawyers and political geographers, "but the facility of geographers with maps and their understanding of regional characteristics, have given them an advantage in such studies."<sup>1</sup> Among geographers "there seems to be no standard methodology for studying disputed areas, although the backgrounds of the areas in terms of the bases of the conflicting claims are always deemed very important."<sup>2</sup>

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<sup>1</sup>J. R. V. Prescott, The Geography of Frontiers and Boundaries, Chicago, 1965, p. 110.

<sup>2</sup>J. V. Minghi, "Boundary Studies in Political Geography," Annals, Association of American Geographers, Vol. 53, 1963, p. 416.

An oft-quoted example of the work of geographers on disputed areas is Hartshorne's<sup>3</sup> article on the Polish Corridor, in which he presented the problems associated with the Corridor and outlined the political and geographic background of the area. He formulated several generalizations about areas with disputed boundaries, which were corroborated in later studies.<sup>4</sup> One of Hartshorne's most important observations is that "the time element . . . is very important because the factual basis of a dispute is always shifting. Historical associations readily amend with time, and economic ties can easily be realigned, but the slowest to change is the cultural association."<sup>5</sup>

Most research concerning disputed areas has included the historical-political geographic approach in order to present a basic background to a specific problem area. Held's<sup>6</sup> study of the Saarland begins with a brief

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<sup>3</sup>R. Hartshorne, "The Polish Corridor," Journal of Geography, Vol. 36, May, 1937, pp. 161-176.

<sup>4</sup>H. R. Wilkinson, "Yugoslav Kosmet: The Evolution of the Frontier Province and Its Landscape," Institute of British Geographers, Transactions and Papers, No. 21, 1955, pp. 171-193; and R. R. Randall, "Political Geography of the Klagenfurt Basin," Geographical Review, Vol. 47, July, 1957, pp. 405-419.

<sup>5</sup>Minghi, p. 414.

<sup>6</sup>C. C. Held, "The New Saarland," Geographical Review, Vol. 41, Oct. 1951, pp. 590-605.

history of the problem before he details the evolution of the boundary.

Recently, boundary studies have been the focus of novel approaches, and new concepts concerning border areas have arisen. The state functions which occur at the boundary have been analyzed in their restrictive impact on trans-boundary communications.<sup>7</sup> The boundary has been viewed as affecting "many of the forms of organization within the state, and in turn, the way in which the state's various arms of organization function affects the nature of the boundary."<sup>8</sup> The independence of many former colonies during the recent past has given rise to new state governmental systems, which likewise create new sets of processes, in many cases radically altering pre-existing functions applied at the boundary.<sup>9</sup>

This paper includes two analyses of the Somali border: The first views the problem from a historical-political geographic view, while the second traces the functional evolution of the present Somali boundary. These approaches are derived from J. R. V. Prescott's suggestions

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<sup>7</sup>J. R. MacKay, "The Interactance Hypothesis and Boundaries in Canada," Canadian Geographer, No. 11, 1958, pp. 1-8.

<sup>8</sup>H. J. deBlij, Systematic Political Geography, New York, 1967, p. 206.

<sup>9</sup>V. K. Shaudys, "Geographic Consequences of Establishing Sovereign Political Units," Professional Geographer, Vol. 14, March, 1962, p. 18.



on the contributions that political geographers might make in boundary studies.<sup>10</sup>

The first approach involves initially an analysis of the "causes" of the dispute. Without some causal factor or factors, the dispute over the boundary would never have occurred. The analytical pattern then proceeds to seek out the "trigger action" which creates a favorable situation for a claim to be made. Events or conditions within any of the states whose border is contestable may precipitate a territorial claim being made. Political weaknesses or strengths may be exploited to obtain new lands for the state. Usually closely related to the "trigger action" are the underlying "aims" of the states concerned. This third facet of the analysis attempts to determine what the actual goals are of the bordering states. An important question here is whether the official objectives of the states, in fact, conceal ulterior motives. The analysis continues with an evaluation of the "arguments based on geography." Such an evaluation would include the spatial interrelationships within the region and how each side uses these interrelationships to support their case for the positioning of the boundary. The final aspect of this approach deals with an assessment of the "results" of the dispute. "Results" incorporates the resolution phase of

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<sup>10</sup>Prescott, pp. 76-77, 110.

the problem, and the regional or international consequences of a settlement.

The second part of the paper is an analysis of the evolution of the present Somali boundary from a functional point of view. The functional analysis includes a correlation between foreign policies of the states involved and the state functions applied at the boundary. Changes in policies between neighboring countries may have a decided effect upon alterations in the restrictiveness of regulations imposed at boundaries.

The two approaches outlined above provide differing vantage points from which political geographers may view boundaries in disputed areas. The basic tasks undertaken in this work are to analyze the Somali boundary within the frameworks provided and to determine the productivity of each approach.

## CHAPTER I

### AN ANALYSIS OF THE SOMALI BORDER DISPUTE FROM A HISTORICAL-POLITICAL GEOGRAPHIC VIEWPOINT

#### Causes

The causes for the Somali dispute may be traced back to (1) the traditional animosities between the Somalis and the other peoples of the Horn of Africa, and (2) the colonial legacy of boundary definition. A brief review of the history of the Horn of Africa provides background of these factors in the Somali border dispute.

#### Somali Conflicts: Pre-colonial History

The origins of the long-standing animosities in the Horn begin with the expansionist migrations of the Somalis southward from the northern Somali coast. At least two of the largest Somali tribes probably migrated from the Arabian peninsula sometime between the 7th and 13th centuries.<sup>11</sup> Their movement southward from the coast was accompanied by much fighting with the Gallas, who

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<sup>11</sup>I. M. Lewis, Peoples of the Horn of Africa, London, 1955, p. 18.

occupied much of the Horn of Africa. Some of the conquered peoples were assimilated into Somali tribes, but most of the displaced Gallas moved south and west into present-day Ethiopia and Kenya.<sup>12</sup> This Somali expansion southward continued until the early 1900's when the colonial powers intervened and the Somalis assumed roughly their present population distribution.<sup>13</sup> The loss of territory previously held by the Gallas has not been forgotten and even today the Gallas harbor resentment for the Somali invaders.

Early in the fifteenth century other events contributed to the continued friction between the peoples of the Horn. At that time the Islamic Sultan of Ifat, based at Zeila, turned sporadic fighting with the "Abyssinian infidels" into a full-scale religious war. The initial campaigns of the Sultan were quite successful, but the Coptic Abyssinians routed the Muslims and killed the Sultan in 1415.<sup>14</sup>

This Ethiopian victory was followed by almost a hundred years of peace. At that time, the Muslims, not having forgotten their defeat at the hands of the Abyssinians, rose in power again. Under the charismatic leadership of Imam Ahmed ibn Ibrahim al-Ghazi, Ethiopia was invaded and almost conquered, an event which "surpassed

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<sup>12</sup>I. M. Lewis, The Modern History of Somaliland, London, 1965, pp. 22, 24.

<sup>13</sup>Ibid., p. 31.

<sup>14</sup>Ibid., p. 25.

anything seen before or since in Ethiopia."<sup>15</sup> Although the Imam was killed and his troops routed near Lake Tana in 1541, his holy war was extremely significant in the history of the region. The results of conflict were (1) continued Somali expansion in the Horn and displacement of other peoples (primarily Gallas); and (2) "among the Somalis, the memory of Ahmed Gran (Imam-al-Ghazi) as a folk hero has lingered on and is emphasized today in the context of Somali nationalism."<sup>16</sup>

### Menelik

A major interruption to the southward movement of the Somalis occurred with further conflict in the late nineteenth century, when the expansionist ambitions of Ethiopian leader Menelik became evident. This expansion was motivated by (1) Menelik's desire to reassert Ethiopian control over those areas which, according to Ethiopian tradition, were once a part of the Empire; and (2) a defensive reaction to the European colonialism in the Horn.<sup>17</sup>

Ethiopia's extension into Somali-inhabited regions brought into the open the traditional hostilities. During

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<sup>15</sup>Jesman Czeslaw, The Ethiopian Paradox, London, 1963, p. 28.

<sup>16</sup>Saadia Touval, Somali Nationalism, Harvard U. Press, 1963, p. 51.

<sup>17</sup>Ibid., p. 47.

Menelik's reign as emperor (1889-1913), tribute and cattle were exacted from the previously independent Somalis. This fact helped intensify animosities and many local skirmishes occurred between the Somalis and the Ethiopian garrisons.<sup>18</sup>

Somali Holy War and Movements  
into Kenya

During Menelik's time, another important period of population movement and conflict occurred. At this time, there arose among the Somalis of British Somaliland a rebellious leader, Sheikh Mohammed Abdille Hassan. The "Mad Mullah's" rebellion and movement of trying to unite a people under one Muslim sect had the effect of uniting them politically. The Mullah's brutal tactics were scorned by some Muslim sects, while others enthusiastically supported the holy war. It took the English, Italians and Ethiopians twenty-one years to suppress the rebellion, and the movement died with the Mullah in 1921. He is remembered by many Somalis as a great leader who tried to unite the Somalis in a struggle against foreign influences.

In their quest for the Mullah, the powers in the Horn invaded a great deal of the Somali-held territory. The Mullah's "campaigns had also engendered a tradition of Anglo-Ethiopian collaboration and had drawn the slender arm of Ethiopian rule farther into the Ogaden."<sup>19</sup> Thus,

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<sup>18</sup>Ibid., p. 48.

<sup>19</sup>Lewis, History, p. 90.



this holy war for freedom actually entrenched and extended alien rule in Somali areas.

Another result of the war was the migration of many Somali tribes into British East Africa to avoid the conflicts which had arisen or just to find new grazing lands. "In order to limit Somali expansion into Kenya, which was considered detrimental to the interests of the native Galla population, the Kenya government decided in 1909 to regulate grazing and to restrict the movement of Somali tribes beyond a fixed border, the so-called 'Somali Line.'"<sup>20</sup> Although the Somali advance had now been limited, the traditional hostilities were frequently brought out in the open when the Somalis made incursions across the Line into Galla territory.

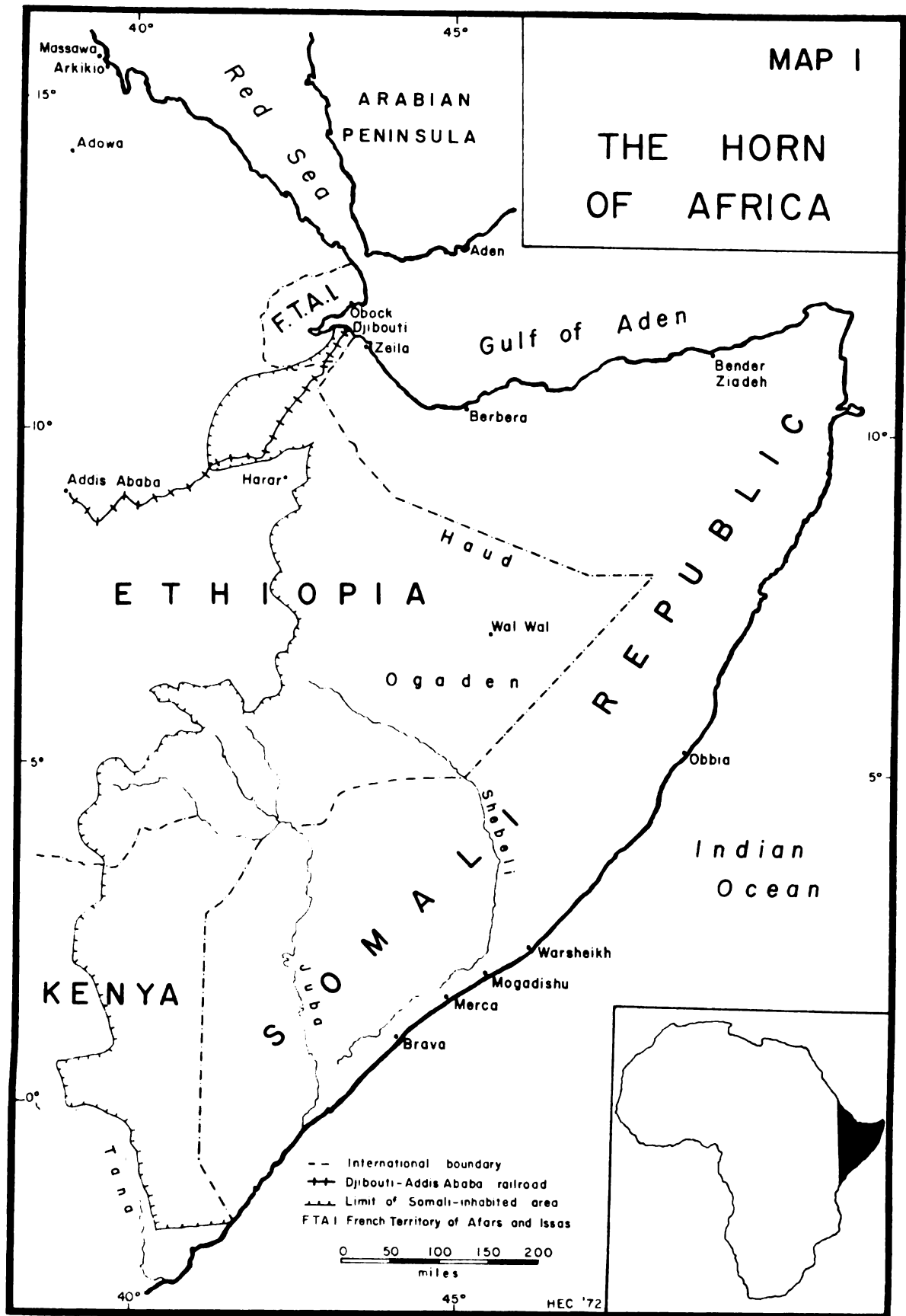
#### Colonial Partition of the Horn

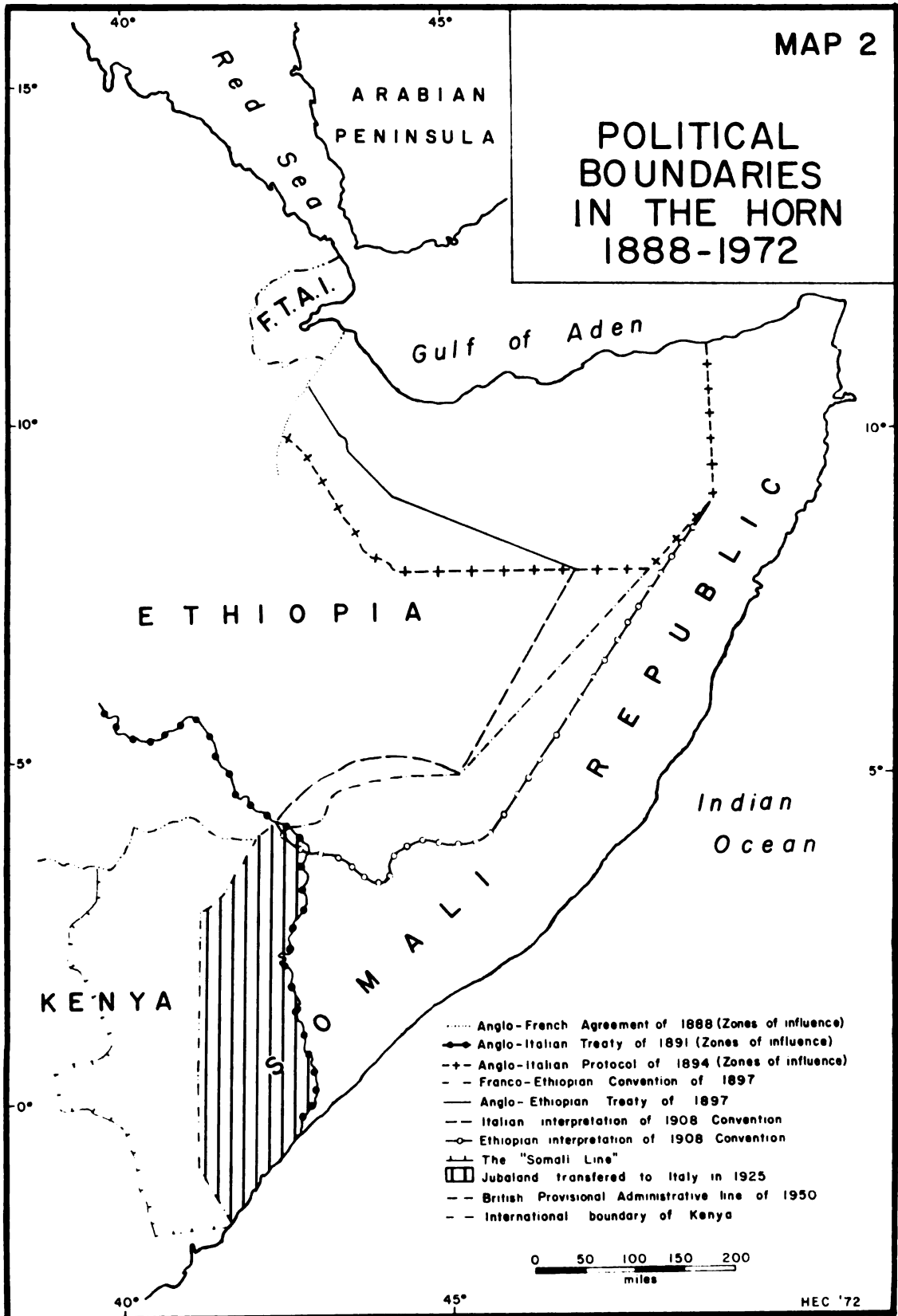
Upon this framework of hostility between the Somalis and the other peoples of the Horn is superimposed the colonial partition. Although the actual partition did not take place until the late nineteenth century, several coastal settlements were occupied. The Turkish occupation of Massawa and Arkikio in 1557 was a result of their assistance to the Somalis in the holy wars of the 1500's.<sup>21</sup> This early occupation by the Turks became

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<sup>20</sup>Touval, p. 68.

<sup>21</sup>Lewis, History, p. 27.





extremely significant as the British began the partition of the Horn.

#### British Somaliland

A combination of two factors were probably responsible for the small amount of exploration along the Somali coast by Europeans: The first was the presence of hostile tribes, and the second was the lack of economic gain for the Europeans from this barren land. Ironically though, it was the former of these factors which eventually led to the British occupation of the coast. British interest in the Somali coast was originally motivated by a concern for the security of trade and communications with India. Thus, in the early 1800's the British made treaties with several of the coastal tribes to keep them from endangering British shipping. The event which necessitated further British security in the Red Sea area was the opening of the Suez Canal in 1869 and the increased British trade through this avenue. The Britons were also interested in protecting the caravan trade from northern Somaliland which supplied the important garrison at Aden.<sup>22</sup>

The strategic importance of this area influenced Britian in the 1870's to go into negotiations with Egypt to secure safety for British operations in the Sea along the Somali coast. Egypt had become (since 1860) the

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<sup>22</sup>Touval, pp. 32-33.

"de facto" ruling force along the Somali coast, but since the Turkish government exercised nominal suzerainty over Egypt itself, the treaty reached by Egypt and Britain in 1877 was meaningless in law because of Turkey's rejection of it. However, this treaty points out the extent to which the Egyptians had attempted to be influential in the Somali coast area (and a probable reason for continued Egyptian attempts to influence the Somalis today).

Naturally, this treaty rejection was not the end of the British colonial fortunes in the Horn. As a result of the Mahdist revolt in the Sudan in the 1880's, Egypt decided to withdraw its commitments from the entire Somali coast. This decision did not go unnoticed in Europe. In 1881, Great Britain realized that if she were to protect her interests in the Horn, she must act quickly. As it became clear that the Egyptians were going to withdraw, Britain informed Turkey that she would recognize Turkey's claim over the coast as far as Zeila as long as Turkey would replace Egypt and maintain its authority in the area. Even as the Turks were belatedly contemplating the situation, Britain "notified them that in view of information regarding the imminent outbreak of disturbances in the area, British forces would be there at once to maintain order, unless the Turks did so. . . ." <sup>23</sup> With no clear

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<sup>23</sup>Ibid., p. 36.

reply from the Turks, the British quickly moved into Zeila in 1884.

During the years 1885 and 1886, the British obtained new treaties with the Somali tribes along the coast. In these pacts several tribes pledged "never to cede, sell, mortgage or otherwise give for occupation, save to the British government, any portion of the territory presently inhabited by them or being under their control."<sup>24</sup> These agreements were to be cited in the dispute when the Somalis perceived their territory given to their enemies, the Ethiopians, in the years that followed.

#### French Somaliland

In the formation of French Somaliland, France had three main objectives in mind: "(1) her need for a base and coaling station along the route to Madagascar and Indochina, (2) her desire to develop trade, and later (3) the exigencies of the competition among the powers."<sup>25</sup> On March 11, 1862, a treaty initiated the colonial influence on the French in the Horn of Africa.

The French, as the British, had seen that the Egyptian withdrawal from the coast opened up new possibilities for colonial expansion. During the years 1884

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<sup>24</sup>British and Foreign State Papers, Vol. 76, 1884-85, pp. 101-107.

<sup>25</sup>Touval, p. 37.



and 1885, the French obtained additional territory from the Issa Somali and other nearby tribes.

Unfortunately, both the French and the British had concluded treaties with the Issa tribe and a boundary dispute arose between the colonial powers. The possibility for open conflict was great, but conflict was averted by direct negotiations. The result of this Anglo-French Agreement of 1888 was that the Issa tribe was divided between two colonial countries. This became one of the first of many examples where little thought was given to the distribution of ethnic groups in the partitioning of the Horn of Africa. Although the original motives have relatively little relevance in today's world, France still maintains her foothold in the Horn.

#### Italian Somaliland

The Italians ventured into the Horn in the 1870's, motivated by aspirations for imperial grandeur and nationalistic fervor. Italian activity first became evident in Eritrea and the Red Sea coast. Then in 1884 the Italian government decided to send an exploratory mission to the Benadir region (in present-day southern Somali Republic). The Italians received many rebuffs from the Sultan of Zanzibar when they made known their desires for land along this coast. Nevertheless, on November 18, 1889, with the help of Britain, Italy acquired control over the towns of Brava, Merca, Mogadishu and Warsheikh. Italy

acquired these towns under the terms and conditions of the Sultan's concession, which meant that Italy was entitled only to the hinterlands of these towns within a radius of from five to ten miles. "But the Italian government assumed a protectorate over the portions of the coast lying between the aforementioned towns and so notified the European powers on November 19, 1889."<sup>26</sup>

In that same year the Italians gained concessions in the North at Obbia and all the coast to Bender Ziadeh. Thus, by 1889, the Italians had claimed the Somali coast to the approximate extent that Italian Somaliland would eventually have.

#### Menelik and the Colonial Powers

Menelik began his invasions of Somali territory in 1886; and, by 1891, he had advanced his claims over a large amount of Somali territory. He then decided to send a circular letter to the Powers defining the boundaries of Ethiopia. The Somali territories that were claimed were the province of Ogaden, the tribes of the Habar Awal, the Gadabursi, and the Issa (the last three being peoples with whom Britain, and in the case of the Issa, France, had treaties of protection). These claims seem to have suited the Italians and the Ethiopians, the

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<sup>26</sup>Raffaele Ciasca, Storia coloniale dell'Italia contemporanea (Milan: Ulrico Hoepli, 1938), pp. 237-238 found in Touval, p. 42.

former of which had become recognized as the "protectors of Ethiopia." But the other Powers took little notice of this letter or had no knowledge of its existence.<sup>27</sup>

It was in this role as "protector" that Italy entered into negotiations with Britain concerning the boundaries in the Horn. In March, 1891, an Anglo-Italian protocol was signed which defined the boundary between East Africa and Italian Somaliland, and the Italians proceeded to press for further definition between her and Britain's Somali territories. At this time Britain was reluctant to negotiate, but in May, 1894, a protocol was signed defining their respective spheres of influence (see Map 2).

The British reluctance to negotiate was justified when Menelik invaded areas of the British sphere. But since the Italians insisted that they should be the party consulted about Ethiopia, the British cries were heard by those who could do little with the Ethiopian raiders. Nevertheless, the outcome of the negotiations with Italy "amounted to a recognition that the Ogaden lay within the Italian sphere, and the Haud in the British."<sup>28</sup> Italy's later claims, therefore, derived mainly from her "protectorate" over Ethiopia and the raids of the "protected" people in the Ogaden area.

In 1896, with Italian defeat by the Ethiopians at Adowa, it was clear that Ethiopia was not a protectorate

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<sup>27</sup>Touval, p. 48.

<sup>28</sup>Ibid., p. 56.

of Italy. It was then that Britain realized that she must deal directly with the Ethiopians. The French had already recognized this fact, and, a few days before the British arrived in Addis Ababa, the French reached an agreement with Menelik which established the boundaries between French Somaliland and Ethiopia. The price for this concession to the French was a railroad from Djibouti to Addis Ababa.<sup>29</sup> Thus, by this treaty the French violated their earlier treaty with the Issa Somalis never to cede their territory. This fact contributed to the resentment of the colonial policies in the French sphere in the Horn.

The British, too, had to pay dearly for their territorial claims in the Horn. The British Envoy, Rennell Rodd, went to Addis Ababa and talked with Menelik about the boundaries and some "other important matters." These other matters included an assurance from Menelik that he would prevent the passage of arms to the revolting Mahdists in the Sudan. With this favor in mind, the British were told by Menelik to negotiate with Ras Makonen rather than himself, for he himself had little knowledge of the local situation in the disputed area. Thus, the negotiations were held in Harar with Ras Makonen, one of Menelik's ablest military leaders and skillful diplomats, with the result being a line about halfway between the

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<sup>29</sup>O. Homberg, "Future of Djibouti," Asiatic Review, October 1936, 32:850-854.

coast and the 1894 Anglo-Italian boundary (see Map 2). In an analysis of this Treaty of 1897, one author sees simply that "the Somali territory was bargained away to stop Ethiopia from sending help to the Mahdists in Sudan."<sup>30</sup> This boundary, more or less dictated by Makonen, was again determined with little respect to the wishes to the inhabitants of the territory. However, a provision in the Treaty provided that tribes on either side of the border would have the right to use the grazing grounds on the opposite side.

After these negotiations and an Italo-Ethiopian peace treaty, the Italians attempted to discuss their boundaries with the Ethiopians. The vaguely-defined sphere of the Italians was approximately 180 miles from the coast running from the boundary of the British Somali-land Protectorate to the Juba River. The 1908 convention between Italy and Ethiopia did little to clear up the boundary definition (see Map 2). In later years this ambiguity resulted in a "tradition of uncertainty and conflict which eventually led to the WalWal incident and Italo-Ethiopian war. . . ."<sup>31</sup>

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<sup>30</sup>G. W. Waterfield, "The Trouble in the Horn of Africa? The British Somali Case," International Affairs, Vol. 32, January, 1965, p. 54.

<sup>31</sup>Lewis, History, p. 62.

### Treaty of London

The vagueness of the Italo-Ethiopian agreements was not duplicated when Britain divested itself of 33,000 square miles of Jubaland to Italy in 1920. "Britain's commitment arose out of a secret undertaking (Treaty of London), between Italy and Britain in 1915, that 'in the event that Great Britain increased her territory in Africa at the expense of Germany, Her Majesty's Government would agree in principle that Italy might claim some equitable compensation.'"<sup>32</sup> (See Map 2.)

### Italo-Ethiopian War

The events leading up to the war in the Horn point out the great potential for conflict that the Somali boundary area has held. Initially, events centered around the wells of WalWal, which, from 1930, had been permanently occupied by authorities from Italian Somaliland. Although documents of the time indicated that these wells were over 100 kilometers west of the boundary of Italian Somaliland, the Ethiopian government had not lodged a protest with Italy during the four years after 1930.

Then, in November 1934, we observe a force of 600 Ethiopian troops moving into WalWal as a protective escort for an Anglo-Ethiopian boundary commission, which was

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<sup>32</sup>J. Drysdale, The Somali Dispute, New York, 1964, p. 38 quoting J. Ramsey MacDonald, House of Commons, March 3, 1924.



ascertaining information about which tribes had the right to graze on either side of the British Somaliland-Ethiopian border. There was a sizable contingent of Italian Somalis at WalWal and after some minor incidents, reinforcements were sent in by both sides. On December 5, fierce fighting broke out and the Ethiopians were routed when the Italians brought in tanks and aircraft. The WalWal incident and some political maneuvering by Italy gave that country a pretext for the invasion of Ethiopia on October 3, 1935. England and France seem to have stood idly by while Italy embarked on her conquest of Horn.

During the Second World War, nationalism arose in Ethiopia, and as a counterweight, the Italians paid special attention to the Moslem population there. This favoritism caused an even greater rift between the Somalis and the Ethiopians.

After the Italians had taken over Ethiopia in 1936 and British Somaliland in 1940, the British took the offensive and in a few months had taken both Italian and British Somalilands as well as Ethiopia. Thus, some of the tribes of the Horn had come under three separate administrations in the space of five years.

The British victory was accomplished with many British Bantu troops, whom the Somalis regarded as inferior. However, these Black Africans were literate and skilled in their jobs, and the Somalis then realized their

own "backwardness." The realization produced many demands for education after the war and aided in the rise of Somali nationalism and awareness.

Another boost to the Somali nationalistic fervor during the war was probably the Allied propaganda. This influence was not overwhelming, "but the propaganda could hardly have failed to raise in their minds the question whether 'freedom' and 'the right of all peoples to choose the form of government under which they will live' might not have some relevance to their own problems."<sup>33</sup>

#### Post-War Politics

In 1946, the Haud and the Ogaden were kept under British Military Administration rather than being turned over to the Ethiopians. The British had apparently planned to unify the Somali territories after placing them under British trusteeship. Concerning this plan of the British Foreign Secretary: "There was a great outcry in Ethiopia against Ernest Bevin's plan to unite all the Somalis under a British protectorate, and the proposal was immediately exploited by the Russians as an indication of the British imperialistic tactics in Africa and the Near East."<sup>34</sup>

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<sup>33</sup>Touval, p. 78.

<sup>34</sup>C. J. Jaenen, "Whither Somalia?" Middle East Affairs, April, 1957, 8:135.

In 1948, a commission composed of American, Russian, French, and British officials formally took up the Somali question. British Secretary Bevin again proposed "that British Somaliland, Italian Somaliland and the adjacent part of Ethiopia, if Ethiopia agreed, should be lumped together as a trust territory."<sup>35</sup> But the Russians were against the British trusteeship and the French (who controlled Djibouti) were against any suggestions of a Greater Somalia. The result was the Longrigg solution whereby Italy assumed trusteeship over former Italian Somaliland, while Britain remained in British Somaliland.

It should be clear by now that the causes for the Somali border dispute lie in the history of colonial rule over the Horn and the lack of accurate boundary definition by the parties involved. This framework then overlies the complex relationships of the Somali tribes, their movements in the Horn, and age-old animosities between the Somalis and the other peoples of Northeast Africa. These causal factors set the stage for the "trigger action" which marks the beginning of the modern history of the Somali boundary dispute.

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<sup>35</sup>Parliamentary Debates, House of Commons, fifth series, 432:1840-1 in Touval, p. 79.

### Trigger Action

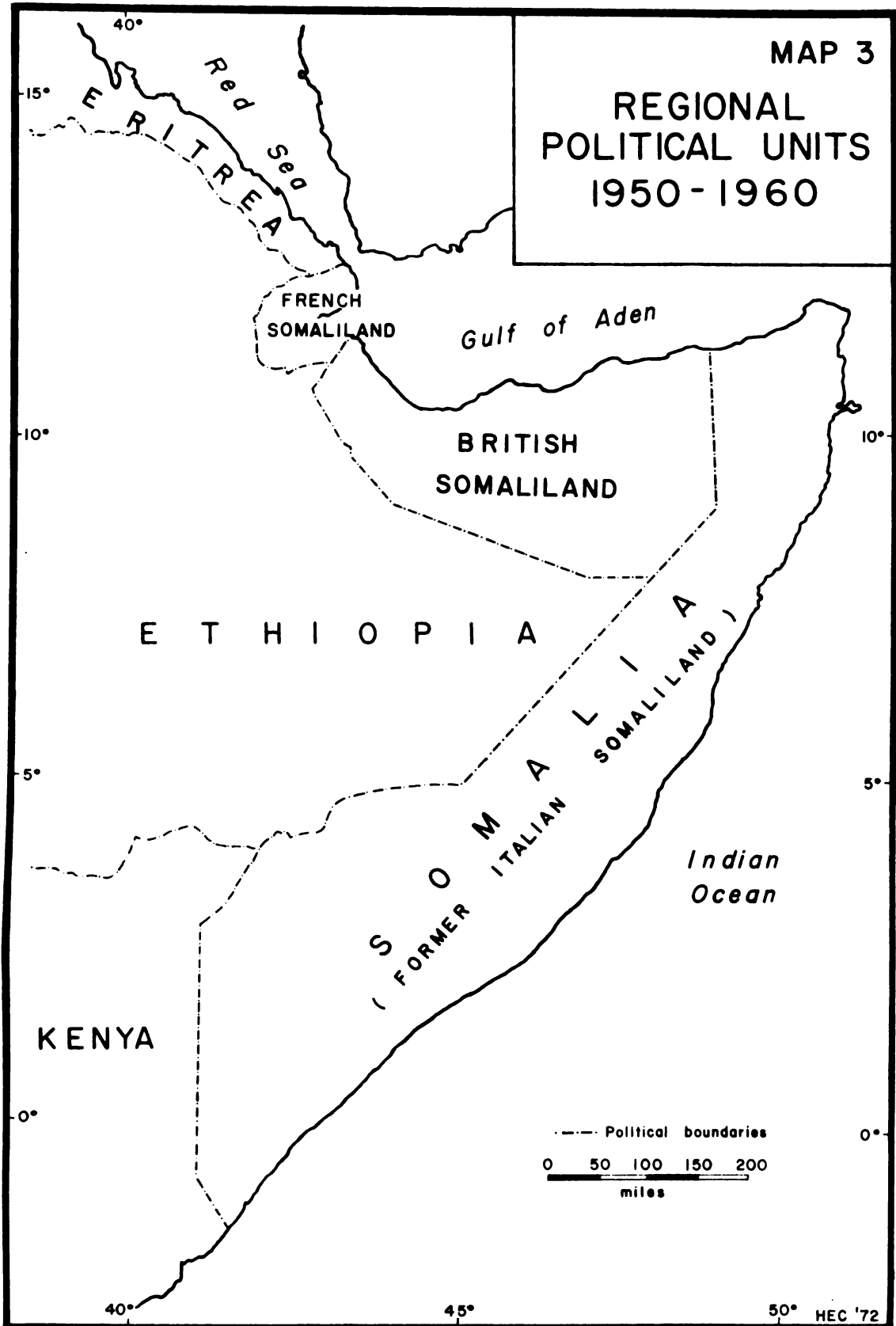
The "trigger action" is defined by Prescott as that action "which creates a favorable situation for a claim to be made."<sup>36</sup> In the case of the Somali boundary dispute, the situation is more complex than to suggest a single trigger action. In any analysis of this dispute, confusion is created by the mere number of disputants: Ethiopia, Italy, Kenya, Great Britain, and the Somalis.

### Ethiopian Nationalism

If one had to select the most important factor as a "trigger action," it would have to be the rise of nationalism within Africa. Ethiopia was the first part of the region to attain its former autonomy after the War, while the rest of the Horn remained under a British Military Administration. Ethiopian nationalism initially took the form of a desire to unify the Horn under one administration and consolidate the greatest area possible into a nation-state. The first steps that Ethiopia took were to push Britain for a settlement of the boundaries in the Horn, and in so doing started a series of events which have brought dispute and disagreement in the region. Britain settled on a "provisional" boundary that was somewhat a compromise between the two interpretations of the 1908 Italo-Ethiopian Convention (see Map 2). It was fixed in the Anglo-Ethiopian Protocol "as being without

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<sup>36</sup>Prescott, p. 110.



prejudice to the international frontier between Ethiopia and former Italian Somaliland."<sup>37</sup> The Italians took over the administration of Somalia on April 1, 1950, and inherited this boundary.

Although the British wished to remain in the "Haud and Reserved Area" after the War, the Ethiopians pushed for a settlement of the boundary in this area, too. After some years of delaying the action, Britain finally decided to uphold the 1897 Treaty previously mentioned. This meant that Ethiopia would be sovereign in Somali-inhabited areas even through the tribes on either side of the boundary had grazing rights on the other side. The Somali were outraged by this agreement, for they said their territory had been given to Ethiopia without their knowledge or consent. Despite the efforts of Somali political leaders to urge Britain to reconsider, the 1954 agreement was upheld.<sup>38</sup>

The problems associated with the new Anglo-Ethiopian agreement were (1) its vagueness on certain points, and (2) its lack of consideration of the conditions which had arisen since 1897. Perhaps the main reason which demonstrates the two faults of the Treaty is the seemingly purposeful failure to mention the

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<sup>37</sup>Drysdale, p. 71.

<sup>38</sup>M. Perham, The Government of Ethiopia, Northwestern University Press, 1969), pp. xxxiv-xxxv.

citizenship of the nomadic inhabitants concerned. This omission led Ethiopia, not unnaturally, to claim that any person spending more than six months in the Haud was an Ethiopian. Coincidentally, the increase in Somali population since 1897 had caused the Somalis to spend more time in the Haud in search of food. The seasonal migration of thousands of Somali herders was usually in search of pasture, "but what had been happening is that many British Somalis had been staying in the Reserved Area longer than they used to in order to sow and reap a crop."<sup>39</sup> The Ethiopians argue that these people were no longer nomads, that they were Ethiopian subjects, and that the provisions of the 1954 agreement did not apply to them.

Ethiopian nationalism and the successes in the acquisition of territory led Emperor Haile Selassie to try even more daring demands. In 1956, "The Emperor spoke about 'Greater Somalia,' saying he hoped it would materialize because 'our country would thereby become yet stronger and larger. We do not want what belongs to others, and will not give up what is ours.'"<sup>40</sup> However, Selassie's speech was reinterpreted by the [London] Times a month later, stating that Selassie "dismissed the idea of a

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<sup>39</sup>B. Braine, "Storm Clouds Over the Horn of Africa," International Affairs, Vol. 34, October, 1958, p. 441.

<sup>40</sup>Times (London), August 31, 1956, p. 6c.

Greater Somalia and claimed that Somalia was united with Ethiopia by colour, race, and economic ties."<sup>41</sup> However, "Ethiopia found only very little support for her claim on Somalia and soon abandoned her claim."<sup>42</sup>

Ethiopia met stiff opposition to her territorial claims from the Italian administration of trusteeship for Somalia. During the ten years that the Italians administered Somalia, several meetings were held to settle the provisional boundary set up by the British. Even arbitration failed, however, and "as no solution was in prospect prior to Somalia's becoming independent, the parties informally agreed in December, 1959, that the provisional administrative line should remain in force until a final settlement was made."<sup>43</sup>

Ethiopian nationalism was also evident when the British decided in the late fifties that the British Somaliland Protectorate should be joined with Somalia when Somalia became independent. The Ethiopian reaction to the union of the Somalilands and the British-American pressure for such a union was that there was a plot

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<sup>41</sup>Ibid., October 23, 1956, p. 10g.

<sup>42</sup>Mesfim Wolde Mariam, The Background of the Ethio-Somalia Boundary Dispute, Addis Ababa, 1964, p. 49.

<sup>43</sup>United Nations Document A/C.4/SR.1001 in Touval, p. 163.



against Ethiopia. It is obvious from statements made by the Ethiopian government at this time that it considered the union of the Somalilands a direct threat to its territorial integrity. Nevertheless the union took place and further antagonized the Ethiopians.

Ethiopia carried this antagonism to its logical conclusion and retaliated prior to Somali independence in 1960 by unilaterally declaring that the 1954 Anglo-Ethiopian agreement would terminate upon independence. Some hasty negotiations were conducted in Addis Ababa between the Somalis and the Ethiopians, but when a "Greater Somalia" was mentioned, a rift in the negotiations developed and no agreement was reached. Fortunately, Ethiopia did modify her position, and hinted that "so long as the Somali Republic was willing to accept the 1897 frontier, Ethiopia would continue to allow Somali clans to cross the border and make use of the grazing lands in Ethiopian territory."<sup>44</sup>

#### Nationalism in French Somaliland

Another question decided prior to Somali independence was the status of French Somaliland. The political situation in French Somaliland was relatively calm until 1958 when the referendum on the proposed constitution of the French Fifth Republic was held. The choice

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<sup>44</sup>Drysdale, p. 96.

in the referendum was essentially between continued association with France (Yes), or independence with the object of joining a "Greater Somalia" (No). The results were over 3 to 1 in favor of continued French association. Although the Somalis made up 43 per cent of the colony's population, one of the reasons for the large "yes" vote was that most of the Somalis here are Issa Somalis, and at that time they were more interested in uniting their tribe than in uniting the Somalis as a whole.

### Somali Nationalism

Independence for the Somali Republic came on July 1, 1960, with much of the Somali population outside the boundaries of the new country. This date serves as a convenient time to describe the next "trigger action" in the dispute--Somali nationalism. Somali nationalism had been rising steadily since 1950 when the Somalis learned that they would soon be independent. Upon independence, the Somalis became even more politically conscious and the question of "Greater Somalia" took on tremendous importance in forming the new state. The problem of uniting all the Somalis under one administration became almost a *raison d'être* for the Somali Republic. It was the one idea with which most of the diverse and sometimes warring tribes seemed in accord.

The border dispute between Ethiopia and the Somali Republic involved threats and counter-threats, but

few actual major skirmishes. The "trigger action" of Somali nationalism now focused upon the southern boundary problem with the British colony of Kenya.

The Northern Frontier District  
and Kenyan Nationalism

Due to the Somali secessionist claims in the Northern Frontier District (N.F.D.) of Kenya, Britain had appointed a commission in 1962 to study the problems there and ascertain the wishes of the people regarding their future. The findings were that a vast majority of the population<sup>45</sup> wanted secession from Kenya. The British, however, hesitated on a decision on the commission's findings, and on March 8, 1963, the British announced that the N.F.D. would become the seventh district of Kenya. The Somalis, who had been confident of some sort of agreement concerning the cession of this territory to themselves, were furious with this announcement. "The Somali Government accused the British Government of duplicity and broke off relations on March 14 on the ground that the British had failed 'to recognize the wishes expressed by the overwhelming majority of the peoples inhabiting the N.F.D.'"<sup>46</sup>

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<sup>45</sup>A total population of 388,000 out of which 240,000 are Somalis (1962), Drysdale, p. 103.

<sup>46</sup>J. Drysdale, "Somali Frontier Problems," World Today, Vol. 20, January, 1964, p. 2.

In Kenya, although "privately, some of the political leaders would be delighted to see an administrative thorn removed from their flesh . . . ,"<sup>47</sup> most of the feelings in the Colony were in favor of retaining the N.F.D. In most African political circles the Kenya cause was more supported than the Somali. It is perhaps this reason that the Somali Republic decided to establish diplomatic relations with Kenya after her independence. The arguments in favor of the Kenya view include "the fact that the disputed territory is half of the area of Kenya; the hope that oil might be found; and the belief that if the existing artificial boundaries in Africa are let slip, there is no knowing where Balkanization will stop."<sup>48</sup>

Kenya became independent in December, 1963, and this is a good point at which to look at the last "trigger action"--Kenyan nationalistic fervor. The Kenyans were quite successful in their drive to influence Britain to retain the N.F.D. in Kenya. Britain's original idea of a Greater Somalia had been abandoned in favor of strengthening Kenya's independence.

The fighting that occurred in the N.F.D. in the years following Kenya's independence served also to stir

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<sup>47</sup>London Times, May 30, 1963, p. 10f.

<sup>48</sup>"Somali Republic: Desert Fix," Economist, Vol. 206, March 2, 1963, p. 792.

Kenyan nationalism and tended to submerge the nation's internal problems and focus upon an external enemy. Although the fighting in the N.F.D. was not strictly political in nature, the nationalistic propaganda value was enormous for both the Somalis and the Kenyans.

The relationship of the border dispute and nationalism in the Horn of Africa is extremely important. This relationship becomes clearer in the next section as the aims of the states concerned are analyzed.

#### Aims of the States Concerned

The aims of the concerned states have already been partially hinted at in the previous section. Closer scrutiny reveals that the internal situation in each country is closely connected to the border dispute.

#### The Preservation of Ethiopia

"Ethiopia is not so much a nation as a group of races being ruled by a dominant people, the Amharas, or Abyssinians."<sup>49</sup> The Amharas represent only 35 per cent of the total Ethiopian population and this ruling minority sets upon a delicate balance of power. The rise of nationalism has also reached some of the other Ethiopian peoples, and the government in power treats this

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<sup>49</sup>E. A. Bayne, "Somalia on the Horn," Part IV: "The Ethiopians," American Universities Field Staff Reports, Northeast Africa Series, Vol. VII, No. 9, March 11, 1960, p. 6.

nationalism as a threat to its existence. Any such threat has been handled with harshly repressive tactics.

In December of the same year Somalia received its independence (1960), a coup d'etat was unsuccessfully attempted against Haile Selassie. Ethiopia's internal situation was extremely fluid. Thus, when it was proposed that Ethiopia cede part of its land to Somalia, the Ethiopian Government viewed the suggestion as a possible further erosion of its position and refused to accede to the demands. E. A. Bayne sums up the Ethiopian attitude at the time: "I had doubt that a fruitful conversation could be held on this issue (Ogaden), so vital to the continuation of the Emperor's power in that any relinquishment of control of the Ogaden would likely be a signal to Ethiopia's other minorities to break away also."<sup>50</sup>

Ethiopia's aims then, after World War II, took the form of consolidation of the greatest amount of real estate possible, under the guise of nationalism. In the 1950's and 1960's, the idea of Greater Somalia turned Ethiopia's goals to sheer preservation of the existing governmental power structure.

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<sup>50</sup>E. A. Bayne, "Chiaroscuro on the Horn," Part II: "Origins of Detente," American Universities Field Staff Reports, Northeast Africa Series, Vol. XV, No. 2, December, 1968, p. 13.

### Somali Politics

The Somali claims were also closely tied to internal politics. Since the formation of Somalia, the dominant political party had been the Somali Youth League (SYL). The SYL was composed primarily of the two dominant tribal groups of Somalia: The Hawiye, "who inhabit central Somalia and are a nomadic people in the process of settlement"; and the Darod, "whose nomadic roaming leads them into areas of British Somaliland, the Ethiopian Ogaden, and northern Somalia."<sup>51</sup> The Hawiye tended to be more moderate of the issue of Greater Somalia, while the more nomadic Darod were adamantly in favor of the issue. The Darod initially held a slight edge in the government<sup>52</sup> and their power was influential enough to unite the country in support of unification of all the Somali peoples.

At the first anniversary celebration of the Somali Republic, the unfinished business of irredentism was the theme "and the politicians of the new state vied with one another in their enthusiasm for action."<sup>53</sup> E. A.

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<sup>51</sup>E. A. Bayne, "Somalia on the Horn," Part III: "Politics," American Universities Field Staff Reports, Northeast Africa Series, Vol. VII, No. 8, March 8, 1960, p. 3.

<sup>52</sup>Darod, 44; Hawiye, 35; Rahanwinn, 22; Others, 20 members in the legislative body in 1961.

<sup>53</sup>E. A. Bayne, "Birthday for Somalia," American Universities Field Staff Reports, Northeast Africa Series, Vol. VIII, No. 1, August, 1961, p. 2.

Bayne relates: "No Somali politician can effectively survive who does not endorse his government's commitment to unite all Somalis."<sup>54</sup>

The underlying aims of the Somalis rested mostly in the politics of the new state. The local support of the government officials was derived from their fervor in calling for a Greater Somalia.

#### Peace and Status Quo in Africa

Like Somalia, Kenyan politics in the early independence years influenced governmental attitude toward the dispute. But in Kenya the main impetus for retaining Somali areas in Kenya come from the British. The threat of "Balkanization" was uppermost in the minds of the British when they decided to keep Kenya intact. The thought of redrawing all African boundaries based on tribal differences was not a happy one. A precedent in the Somali case could cause widespread conflict which the British did not want. A dialogue with the Ethiopian Ambassador to Somalia at the time reflects the awesome possibilities which might have resulted:

E. A. Bayne: "And if the Somalis win the Territory (the N.F.D), or the British cede it to them? What would be Ethiopia's position?"

Ambassador: "Of course, we would have to move into Kenya ourselves to protect the Gallas along our

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<sup>54</sup>E. A. Bayne, "The Issue of Greater Somalia," Part II: "Ethiopian Dialogue," American Universities Field Staff Reports, Northeast Africa Series, Vol. XIII, No. 2, March, 1966, p. 1.



southern border. And then, no doubt, others would take action--Uganda, perhaps, and Tanganyika to unite the Masai--it would mean the end of Kenya, and perhaps another Congo situation."<sup>55</sup>

The very existence of Kenya, then, seemed to depend upon retention of the N.F.D. in Kenya. If Kenya were partitioned into tribal units, all of Africa might be in turmoil because of similar cries for nations built upon strictly tribal lines.

#### French Neo-colonialism

The one other participant in the Somali dispute was France. The French desires reflected growing concern that the Somalis in French Somaliland would opt for joining the Somali Republic. The French utilized various questionable methods to influence referendums and politics in the tiny colony. France's view of the geographic situation of French Somaliland led her to use even mass deportations of Somalis prior to voting day. The French realized that Ethiopia would never allow the railhead in Djibouti to be in Somali hands. The French themselves wished to remain in the territory as long as possible.

France's goals were primarily economic, in that through French hands, the large amounts of goods would be transported into Ethiopia. To sustain this position, France needed to plot a course that would secure for

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<sup>55</sup>E. A. Bayne, "Brinkmanship on the Horn," American Universities Field Staff Reports, Northeast Africa Series, Vol. X, No. 1, March 1963, p. 8.

France the firmest hold on French Somaliland within the new wave of African nationalism. This course was to exclude Greater Somalia and to obtain independence for the colony with close association with the former mother country.

### Geographic Arguments

The analytical framework suggested by Prescott has as its fourth proposition that the geographer should evaluate those arguments of the dispute based in geography. Each state's claims may be considered from a geographic standpoint, and the character of the spatial interrelationships within the region may be evaluated. An appraisal of factors such as ethnic homogeneity, economic interdependence, historical-political ties, and linguistic similarities form the basis for such an evaluation. Geographic arguments in the Somali border problem are two main types: economic and cultural.

### Economic Geography and Nomadism

Nomadic herding or some combination of farming and livestock raising is the predominant economic activity in the Horn of Africa. The feeding of livestock often necessitates long traverses to find adequate resources in the more arid regions. Since the Somalis occupy the driest parts of the Horn, they must travel over wide expanses to support their existence. These travels often

cross the present international boundaries. The Somalis advance the argument that the international boundaries should be redrawn to provide for this nomadism, so that the herdsmen would never be deprived of pastureland by being forbidden to cross the border.

The Somalis may also argue that the agriculture of the Somali Republic relies almost totally on runoff from Ethiopia and that the watersheds of the Shebeli and Juba rivers should logically be within the Republic. Mariam observes: "Whatever little Somalia has by way of agricultural potential is almost exclusively dependent on the two Ethiopian rivers, for the use of which there is no international agreement yet."<sup>56</sup> This lack of formal agreement means that at any time the Ethiopians might restrict the river flow for their own purposes and the collapse of agriculture in the Somali Republic would surely follow.

Another economic argument in support of the Somalis' case is the actual shape of the Republic. The wedge of the Ethiopian Ogaden between the northern and southern regions of the Republic makes communications between the regions "very difficult and expensive and will tax heavily its meagre resources."<sup>57</sup>

The Ethiopians also see possible economic gain in the Somali-inhabited areas of Ethiopia. Mariam observes:

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<sup>56</sup> Mariam, p. 20.

<sup>57</sup> Ibid., p. 59.

"The prospect of petroleum in the Ogaden is obviously important. The valleys of the Wabi Shebele and Ghenale have great possibilities of agricultural development."<sup>58</sup> But the abysmally poor Somalians could use this economic argument equally as well as the Ethiopians.

From a standpoint of economic geography, the Ethiopians have little to stand upon, while the Somalis can make a strong case for annexation of Somali areas into the Somali Republic. In the case of the N.F.D. in Kenya, "The Somali case for union with the Somali Republic is supported not only by a common culture, but also by the fact that the present geometric boundary divides tribal wet and dry season pastures, and by the remoteness of this area from the rest of Kenya."<sup>59</sup>

However, the economic arguments break down when the Somali parts of former French Somaliland are discussed. The Ethiopians are tremendously dependent upon the rail-head at Djibouti for much of their imports. If the Somali lands of the former French Somaliland were ceded to the Republic, the Ethiopians would be forced to depend upon the Somalis to let goods through Djibouti--an intolerable situation as far as Ethiopia is concerned.

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<sup>58</sup>Ibid.

<sup>59</sup>Prescott, p. 144.

### Tribal Boundaries and Islam

Perhaps the strongest argument used by the Somalis lies in the cultural geography of the region. The irredentist call for unification of lands which are inhabited by peoples of the same cultural heritage provides the basis for the Somali claim that they should be united into one nation-state based on the Somali tribal boundaries. The religious union of Islam, the customs of the people, and the similarities in mode of life are all put forth to justify the cultural homogeneity of the Somali peoples.

Ironically, it is probably their cultural background which creates a case against the Somalis. Although the Somalis claim to be a nation, they "are divided into clans and sub-clans, frequently resolving their differences in short-lived feuding."<sup>60</sup> Even the casual observer should be able to note that, at present, the strongest Somali ties are to the clan rather than any "Somali nation."

The longer that prudent administration exists in Somali-inhabited areas outside the Somali Republic, the more likely the Somalis in these areas will develop ties to the local administrations rather than the Somali Republic. Such a statement leads logically to a discussion of the actual results of the Somali border dispute.

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<sup>60</sup>E. A. Bayne, "The Issue of Greater Somalia," Part 2: "Ethiopian Dialogue," American Universities Field Staff Reports, Northeast Africa Series, Vol. XIII, No. 2, March, 1966, p. 5.

### Results of the Dispute

The final part of Prescott's scheme for geographical analysis of a boundary dispute involves an assessment of the results of the dispute. These results may include the settlement or continued disagreement of the dispute and the resultant effects on the borderland and regional international level. At present, the concerned states in the Somali boundary dispute seem to have settled their differences, but the presence of a significant Somali population outside the Somali Republic may be, at some time in the future, a cause for renewed irredentism.

### Detente in the Horn of Africa

In assessing the results of the Somali border dispute, one begins with a study of events in the Somali Republic in 1967. In June, 1967, the government of President Abdiraschid Schermarche was elected. As his Prime Minister, Schermarche chose Mohamed Egal, a Somali of former British Somaliland who had aided in obtaining the necessary votes for Schermarche's election. However, Schermarche and Egal did not share the same views of the Somali dispute. The President favored a hard line, while Egal desired a new approach to the problem.

Nevertheless, circumstances in 1967 were such that Schermarche decided to give Egal a chance to solve the dilemma. Thurston relates that: "The willingness of the Somali political leaders and their followers to accept a

new stance on the 'Greater Somalia' issue is explicable on several grounds. One is that the preceding government . . . had proved unable to gain significant support for the Somali cause."<sup>61</sup> Other influences on the Somali attitudes included the Arab states' loss to the Israelis in 1967 and the Soviet Union's restraint on the Arabs' behalf. Any hopes that the Soviets would come to the Somalis' aid in a showdown over Greater Somalia were dashed by the Arab-Israeli War. The United States decision to grant aid only to regional groups of countries additionally contributed to the Somalis' decision to try a new tact.

In September of 1967 Egal put his detente policy into action. After initial contacts through the Organization of African Unity (OAU), a Somali delegation was sent to Addis Ababa and an important joint communique was issued. The main points which relate to the border are as follows:

1. Both governments reaffirmed previous undertakings to remove all causes of tension and undertook not to engage in subversive activities against the other.
2. The two governments have agreed to give overflight rights and an agreement to this end will be concluded soon.
3. In conviction that the suspension of the emergency regulations would contribute to the strengthening of good-neighborly relations between the sister countries, the Imperial Ethiopian Government has

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<sup>61</sup>Raymond Thurston, "Detente in the Horn," Africa Report, Vol. 14, No. 2, February, 1969, p. 7.

agreed to suspend existing emergency regulations along its border with Somalia as of September 16, 1968.

- 4a. The Imperial Ethiopian Government has submitted a draft cultural treaty which will be studied by competent authorities in Somalia prior to its signature in the near future.
- 4b. The two governments have agreed to open further negotiations over establishment of a tele-communications agreement.
- 4c. The two governments have agreed to conclude a trade agreement.<sup>62</sup>

Then in October, with the assistance of President Kaunda of Zambia, Egal established contacts with Kenyan officials. A meeting at Arusha with Kenyatta resulted in another communique on October 28, 1967. The important points of the Kenya-Somali Memorandum of Understanding are as follows:

In order to facilitate development and ensure maintenance of good relations, both governments have agreed to:

1. The maintenance of peace and security on both sides of the border by preventing the destruction of human life and property.
2. Refrain from conducting hostile propaganda through mass media such as radio and press against each other and encourage propaganda which promotes the development and continuance of friendly relations between the two countries.
3. The gradual suspension of any emergency regulations imposed on either side of the border.
4. The reopening of diplomatic relations between the two countries.
5. A consideration of measures encouraging development of economic and trade relations.<sup>63</sup>

In the case of French Somaliland, the rise of Somali nationalism reached its apex in 1966. The tribal differences had by then become secondary to Pan-Somali

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<sup>62</sup>Thurston, p. 12.

<sup>63</sup>Ibid., back cover.



unity. Riots and disturbances occurred during August of 1966 and French President de Gaulle's visit to the colony. Strong arm tactics of the French combined with the new policy of the Somali Republic in 1967 have contributed to a decrease of Somali nationalism in the French territory of Afars and Issas.<sup>64</sup>

The embodiment of the new policy of Prime Minister Egal is seen in a statement in October, 1968: "Like us, both Kenya and Ethiopia are building a modern nationhood, but of diverse peoples. So long as Somalia exists, the Somali minorities in these countries will be loyal to us, and not a part of these other nations."<sup>65</sup> The pursuance of this policy has brought relative calm to the Horn of Africa and has seemingly submerged the issue of Greater Somalia under international ideals and Somali internal economic and political problems.

#### Recent Developments in the Somali Republic<sup>66</sup>

The same Egal who brought peace to the Horn also proved to be a source for the downfall of the democratic

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<sup>64</sup>French Somaliland was renamed The French Territory of Afars and Issas (F.T.A.I.) in December, 1966.

<sup>65</sup>Bayne, "Chiaroscuro on the Horn," p. 11.

<sup>66</sup>The Somali Republic has been called officially the Democratic Republic of Somalia since the October, 1969 coup d'etat. However, in this work, Somali Republic is utilized to prevent confusion.

government in the Republic. In late 1969, President Schermarche was assassinated while on a tour of the northern Republic. His death was followed by a bloodless coup by the Somali army. The reasons given for the coup stemmed from political corruption in the government and election irregularities by Egal and his supporters.

The overthrow of the government and the substitution of a Supreme Revolutionary Council (SRC) seemed to be a victory for hard-liners who thought Egal had forgotten the issue of Greater Somalia. But "the SRC defined its foreign policy as one of positive neutrality and the attainment of self-determination (Pan-Somali Unity) through peaceful means and denied that it will assume a more aggressive stance toward Kenya and Ethiopia."<sup>67</sup> Although the military government espouses a neutral policy, the realistic considerations of comparative strengths might suggest " . . . that any armed adventure against the Ethiopians could result in disaster. [Nonetheless,] the new regime . . . may think it necessary to jettison the detente policy and resume irredentism in order to foster national unity."<sup>68</sup> The future of the Somali border dispute

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<sup>67</sup> Al Castagno, "Somalia Goes Military," Africa Report, Vol. 15, No. 2, February, 1970, p. 27.

<sup>68</sup> E. A. Bayne, "Somalia's Myths Are Tested," American Universities Field Staff Reports, Northeast Africa series, Vol. XVI, No. 1, October, 1969, p. 16.

will rest largely with the wisdom of the Somali leaders and their ability to make Greater Somalia a live or dead issue.

## CHAPTER II

### FUNCTIONAL EVOLUTION OF THE SOMALI BOUNDARY SINCE 1960

#### Boundary Functions and Their Evolution

Analysis of the functional evolution of a boundary entails a "correlation between the foreign policies of the state and the state functions applied at the boundary."<sup>69</sup> Since any function at the "boundary is more a product of the nature of the states it separates and of the relationship between these states, than of its form,"<sup>70</sup> changes in functions should be the result of evolving interrelationships between the countries adjoining the boundary. Moodie has observed:

Where systems and levels of organization differ greatly on opposite sides of a boundary, there pressure is exerted on the dividing line and it becomes a focus of antagonism. Conversely, the existence of similar

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<sup>69</sup>Prescott, p. 77.

<sup>70</sup>R. E. Kasperson and J. V. Minghi, eds., The Structure of Political Geography, Chicago, 1969, pp. 79-80.

<sup>71</sup>S. W. Boggs, "Boundary Functions and the Principles of Boundary Making," Annals, Association of American Geographers, Vol. 22, March, 1932, p. 64.

systems side by side reduces strain at the periphery of each.<sup>72</sup>

Boundary functions have been classed<sup>73</sup> as those (1) in respect to persons, and (2) in respect to things. The first category includes such items as immigration control and exclusion of undesirables. Examples of "things" which may be affected by state functions at the border are commercial goods, the movement of money, aircraft flights, smuggling and ideologies.

Several factors may operate to create dynamism in the functional nature of the boundary. The recent emergence of several states from a colonial status has brought about abrupt changes in governmental structure and allied functions deemed necessary at the new state's borders. Boggs adds that "among the factors that have greatly modified the character and operation of boundaries are the constant growth of population in most parts of the Old World for centuries, the revolution in the means of communication and transport, and the extraordinary increase in demand for important resources within recent decades."<sup>74</sup>

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<sup>72</sup>A. E. Moodie, The Geography Behind Politics, London, 1957, p. 83.

<sup>73</sup>S. W. Boggs, International Boundaries: A Study of Boundary Functions and Problems, Columbia University Press, 1940, p. 10.

<sup>74</sup>Ibid., p. 8.

### The Boundary of the Somali Republic

The independence of the Somali Republic in 1960 officially marks the birth of the boundary of that state. Since both the former British and Italian Somalilands were joined to form the new Republic, the boundary did not exist prior to that time. A discussion of the functional evolution of the boundary must logically begin from that date.

The origins of the Somali boundary of 1960 consisted of (1) the juncture of the former Italian Somaliland and the Kenya colony created by the Treaty of London in 1925, (2) the "provisional" line drawn up by the British in 1950 between Ethiopia and the Trusteeship of Somalia, (3) the former border between British Somaliland and Ethiopia agreed upon in the Anglo-Ethiopian accords of 1954, and (4) the original boundary between French and British spheres of influence established in 1888.

### Regional Politics and Somali Boundary Functions Existent in 1960

#### Foreign Policies in the Horn

At the time of independence, Somali nationalistic fervor was at a peak. The leaders of the new state felt they had been betrayed because all the Somalis had not been united in one nation. All efforts in 1960 were to achieve the goal of a "Greater Somalia," and importance of this aim was emphasized when the Somalis outlined

their prime foreign policy consideration in their constitution as the union of Somali territories.

The primary target for Somali irredentism was Ethiopia. Ethiopia's response to the possibility of "Greater Somalia" in 1960 was reactionism. The maintenance of the status quo became uppermost on the government's list of priorities for Somali border areas. The strengthening of the garrisons in the Ogaden and the sometimes brutal tactics used to quell any Somali dissension were meant to preserve the existing political geographic pattern.

In 1960, Kenya was not yet independent; therefore, the British were the originators of foreign policy. By this time, Britain had abandoned the idea of forming a "Greater Somalia." Although not openly against this notion, Britain's earlier support had now been replaced by a non-committal state of confusion on the subject.

The policies in the former colony of French Somaliland at the time reflected the French adherence to the preservation of the status quo.<sup>75</sup> Even before this date, France had shown determination to retain her foothold in the Horn of Africa. The questionable practices during the 1958 referendum were characteristic of the pattern the French would follow in succeeding years.

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<sup>75</sup> Somali Republic, Ministry of Foreign Affairs, French Somaliland: A Classic Colonial Case, Mogadishu, March, 1967, p. 6.

Several ploys had been utilized to disenfranchise elements in the population of former French Somaliland who might terminate French influence in the colony. Using any necessary means to achieve continued French presence in the Horn was the main policy in French Somaliland in 1960.

The State Functions Evident at  
the Somali Boundary

The state functions applied along the Somali boundary in 1960 were indeed few. The major movements across the borders consisted of tribes of nomadic Somalis in search of water or grazing lands. The primary zones of migration, between Ethiopia and the Somali Republic, were supposedly areas of free access under the 1897 Anglo-Ethiopian Treaty. The borders merely served their primary purpose of "marking the limits of authority and ownership."<sup>76</sup> Few state functions were evident at the delimited boundary, but on the Ethiopian side, Somalis were taxed, disciplined, and treated as Ethiopian subjects during their tenure there. In French Somaliland and Kenya, little was done in 1960 to impede traditional Somali migrations across the international borders. Either a lack of personnel or interest precluded any extensive check upon the trans-boundary movements.

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<sup>76</sup>Prescott, p. 76.



Correlation between Foreign Policies and  
State Functions at the Boundary  
after 1960

Somali-Ethiopian Boundary

The first four years of independence were spent by the Somalis trying to attain a "Greater Somalia" via vigorous diplomatic efforts and a provocative propaganda campaign. Ethiopia remained the primary target of these activities, and antagonism between the two countries rose until an undeclared war was fought during the first months of 1964. During these four years, several events tended to exacerbate the situation. In December of the year the Somalis attained independence, an unsuccessful coup in Ethiopia resulted in tightened internal security and a strengthening of a reactionary policy. Any threat of Somali uprising was dealt with heavy-handed tactics. Many Somalis in Ethiopia who had had little contact with the Ethiopian administration were now faced with pressure to behave as Ethiopian citizens. Since Ethiopia could not legally restrict the flow of Somalis across the border, the state function of taxation was utilized within her territory, rather than at the territorial limit, to effectively inhibit the movement of possible revolutionary elements into the country.

An important function which did not operate effectively at the juncture of the Somali Republic and Ethiopia was the restriction on the dissemination of

hostile radio propaganda. In the case of this function, the "effective boundary"<sup>77</sup> is considered to be at the point where the foreign communication reaches the individual. Boggs<sup>78</sup> has stated that " . . . the international boundary is a wall within which one brand of propaganda is confined and against which another is supposed to beat ineffectually." If any government would move to reduce the effect of foreign radio broadcasts either by the elimination of radio receivers or by various methods of "jamming," then the state function of restricting subversive materials at the border would be satisfied. In addition, the "effective boundary" would take on new dimensions.

During the four years leading up to the war, inflammatory radio broadcasts emanating from both sides of the border added to the high tension in the disputed areas. "The widespread use of transistor radio receivers and the crisscrossing seasonal movements of the nomads across the boundaries of the Horn kept the Somalis in Ethiopia . . . aware of developments in the Republic. . . ."<sup>79</sup> In the Horn, little seems to have been done to

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<sup>77</sup>"Effective boundary" in this context is defined as delimiting the territorial space in which a state uses a means to effectively control particular elements within that space."

<sup>78</sup>Boggs, 1940, p. 5.

<sup>79</sup>N. Ayele, "The Politics of the Somalia-Ethiopia Boundary Problem: 1960-1967" (Ph.D. dissertation, Department of Political Science, University of California at Los Angeles, 1970), p. 490.

actually suppress the invasion of hostile radio propaganda. The need to establish a controlling function that would readjust the "effective boundary" to conform more to the delimited political boundary resulted in policies in both Ethiopia and the Somali Republic which furthered vicious verbal attacks upon each other and finally culminated in armed conflict.

Prior to the Ethiopian-Somali skirmish, the Soviet Union had provided massive military aid<sup>80</sup> to the Somalis. Such military assistance was considered a threat by both Ethiopia and Kenya; and "almost as soon as Somalia announced its decision to procure sizable military aid from the Soviet Union, Ethiopia and Kenya reacted by concluding a Mutual Defense Pact in which each country pledged to aid the other against aggression by a third party."<sup>81</sup> This alliance further provoked the Somalis and the incidence of fighting along the Somali border increased. Confrontations occurred between Somali and Ethiopian armed forces, and "in February 1964 this confrontation became an armed conflict, quickly extending

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<sup>80</sup>"In November, 1963, the Somali Government, having rejected a smaller Western offer, accepted an offer of [over \$30 million] of military aid from the Soviet Union. . . ." The British Society for International Understanding, "The Somali Republic," The British Survey, No. 203, February, 1966, p. 18.

<sup>81</sup>Ayele, p. 204.

along the entire length of the Somali-Ethiopian frontier."<sup>82</sup> The military functions apparent at the border had become the ultimate extension of the diametrically opposed policies of the concerned states.

The border war had ominous implications outside the Northeast African region. The United States policy in this part of the world was primarily motivated by the presence of a strategically important base in Eritrean Ethiopia. By 1960, the Americans had presented Ethiopia over \$100 million in military aid and advisory assistance as rental payment for the base. "Since Ethiopia and Somalia were in controversy, no amount of economic aid, nor a popular and successful Peace Corps program in Somalia, could convince the Somalis that the United States was being fair. . . ."<sup>83</sup> Thus, when the Somalis accepted Soviet aid in 1963, the two superpowers were indirectly pitted against each other. However, the ideological boundary characteristically existing between the two power blocs in the Cold War never developed in the Horn. Although the disagreements between Ethiopia and the Somali Republic could have created a wider area of confrontation, the boundary issue did not seem worthy of major concern to the United States and the Soviet Union, and the problem remained primarily regional in nature.

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<sup>82</sup>I. Kaplan et al., Area Handbook for Somalia, Washington, D.C., 1969, p. 230.

<sup>83</sup>Bayne, "Brinkmanship on the Horn," p. 9.

Although probably not originally intended, these four years of conflict provided a means to restrict the migrations of Somali herders across the border. " . . . The usual cycle of movements in the Horn [became] disrupted whenever tensions [occurred] between the two countries that sometimes lead to sporadic fighting along the border and inevitably [curtailed] the movements of the nomads."<sup>84</sup>

A cease-fire was affected through the auspices of the Organization of African Unity and the Sudan. The joint communique issued by Ethiopia and the Somali Republic from Khartoum called for a cease-fire and "withdrawal of military forces to a distance of between 10 to 15 kilometers from either side of the border."<sup>85</sup> The statement also called for "the cessation of all hostile propaganda through all media of information."<sup>86</sup> These changes in state functions required at the boundary were the result of moderation in the espoused policies of the adversaries.

However, this moderation did not mean the complete abandonment of previous policies. In pursuit of a "Greater

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<sup>84</sup>Ayele, p. 481.

<sup>85</sup>Somali Republic, Ministry of Foreign Affairs, The Somali Republic and the Organization of African Unity, Mogadiscio, 1964, p. 37.

<sup>86</sup>Ibid., p. 37.

Somalia," the Somalis presented their case against Ethiopia in international circles on a comparatively low-key basis from 1964 to 1967. Ethiopia's desire for a maintenance of the status quo caused continued hostility among the Somalis of the Ogaden during this period, but the occurrences of conflict were relatively few.

The most significant change in policy in the Somali Republic occurred following the election of Mohammed Ibrahim Egal as Prime Minister. "The Egal government began to seek support for regional detente by including improved relations with neighboring states in its program which obtained a parliamentary mandate in August, 1967."<sup>87</sup> This dramatic new tact led to drastic modification of the state functions applied at the boundary. Agreements were reached concerning overflight rights and a suspension of the emergency regulations along the Ethiopian boundary with the Somalis. The importance of overflight rights to the Somali Republic meant that flights between the Somali capital and Europe would not have to be routed through Aden. The "effective boundaries," and the functions were more non-restrictive since the intercourse was not considered detrimental to the internal security of the respective states. Table 1 illustrates the correlations between the shift in policy in 1967 and the Somali-Ethiopian air traffic.

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<sup>87</sup>Kaplan, 1969, p. 233.

Table 1. Air Passengers During Selected Months Flying between Ethiopia and the Somali Republic.

From	To	Sep 1966	Mar 1967	Sep 1967	Mar 1968	Sep 1968	Mar 1969	Jun 1969	Sep 1969
Addis Ababa	Mogadishu	0	0	223	222	202	169	369	268
Mogadishu	Addis Ababa	0	0	267	229	256	340	211	256
Asmara	Mogadishu	0	0	0	77	152	102	122	89
Mogadishu	Asmara	0	0	0	174	169	112	169	265
Total		0	0	490	702	779	723	871	878

Source: International Civil Aviation Organization (ICAO), Digest of Statistics, monthly statistics for selected months.

In the years following the detente, Somali-Ethiopian relations have only been marred by sporadic incidents which occur in the Somali-inhabited Ogaden of Ethiopia. These incidents have little influenced the basic policies of the two states, and a cautious spirit of cooperation has replaced the antagonism of the early 1960's.

#### Somali-Kenya Boundary

The boundary between the states of Kenya and the Somali Republic has existed only since Kenyan independence in December, 1963. However, independence did not change the position of the political boundary. It is possible to consider the boundary of Kenya Colony from 1960 through 1963 as serving the purposes of a valid international boundary.

Although the British were the policymakers during the pre-independence years, their decisions were largely based on the desires of those who were to ultimately receive power in Kenya. Therefore, foreign policies before and after independence were decidedly similar. Britain was interested in maintaining a viable Kenyan state during the years preceding their departure from their East African colony. To this end they devoted much time to ignoring any demands for secession from the colony. The Somalis of the Northern Frontier District (N.F.D.) were the most outspoken group desiring separation



from Kenya. In order to temporarily appease the Somalis, in October, 1962, the British appointed a "Commission to ascertain and report on public opinion in the N.F.D. regarding arrangements to be made for the future of the area. . . ." <sup>88</sup> But the British chose to disregard the finding of the Commission that an overwhelming majority of the population of the N.F.D. desired secession from Kenya and union with the Somali Republic. It was announced in March, 1963, that the N.F.D. would remain part of Kenya when independence arrived in December. The Somalis immediately severed diplomatic relations with Great Britain, although the Somalis still attempted to persuade the new African leaders of Kenya to accept their claims. However, the leaders were committed to a policy of prohibiting any fragmentation of the new country.

No resolution of the policy conflicts occurred prior to independence, and hostility between the two states began to increase. Shortly after freedom was granted, Kenya proclaimed a state of alert in the N.F.D. <sup>89</sup> The Kenyans were unable to create the "effective boundary" they desired between themselves and the Somali Republic, and much subversive trans-boundary activity occurred. Although the Somali government denied that military

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<sup>88</sup> Somali Republic, 1964, p. 54.

<sup>89</sup> Somali Republic, Ministry of Foreign Affairs, Le Peuple Somali à la Recherche de Son Unité, London, September, 1965, p. 34.

assistance was given to rebels in the N.F.D., the weapons and training of the "shifta" guerrillas there almost conclusively originated from within the Somali Republic. The Somalis "conducted a campaign against the Kenya police and army for more than four years."<sup>90</sup> The campaign included hostile radio propaganda from the "Voice of Somalia radio in Mogadishu which was able to greatly influence the level of guerrilla activity. . . ."<sup>91</sup> In reference to the radio broadcasts, Kenya was also unable to establish its "effective boundary" where it desired.

The state function of suppression of the entry of revolutionary materials into the country was only partially performed, even though overall movement across the border had been drastically reduced by the border closure in 1966-67. To further inhibit the infiltration of Kenya, the government "not only demarcated its border with Somalia more clearly, but also cleared a belt of adjacent land of all settlement."<sup>92</sup>

Not until the change of Somali governments in 1967 was the situation altered. The policy shift of the Somalis resulted in agreement to end the feud between the two states. The joint communique issued in October, 1967, also specified that the parties were to "refrain

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<sup>90</sup> Kaplan, 1969, p. 228.      <sup>91</sup> Ibid.

<sup>92</sup> de Blij, p. 205.

from conducting hostile propaganda through mass media . . . ,"<sup>93</sup> suspend emergency border regulations, re-establish diplomatic relations, and consider encouraging trade and economic cooperation. The previous closure of the border was suspended and new functions replaced the right of states to inhibit all movement across their boundaries. The abrupt alteration of policy has been followed by a period of relative tranquility and normal relations between the states.

The changes in policy and boundary functions may be correlated by observing the trade between the Somali Republic and her neighbors illustrated in Table 2. Major decreases in trade occurred (1) in the years following the border war with Ethiopia, and (2) during the closure of the Kenya border in 1967. The detente in late 1967 is reflected by increases in all categories except the export trade to Ethiopia, which does not reflect an increase until 1969.

Boundary between the Somali Republic  
and the French Territory of Afars  
and Issas

In 1960, the F.T.A.I. was called French Somaliland, but the name change in December, 1966, has done little to alter the character of French colonialism in the former colony. The policy makers from 1960 have

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<sup>93</sup>Thurston, back cover.

Table 2. Somali Trade with Neighboring Countries (1000 Somali Schillings).

Imports (origin)	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Kenya <sup>a</sup>	--	--	--	--	--	--	7736	182	8361	16941
Ethiopia	6464	7420	8648	9615	6171	6943	9612	8920	10836	12047
Exports (destination)	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Kenya <sup>a</sup>	--	--	--	--	--	--	4519	176	1056	1098
Ethiopia	212	175	211	261	165	28	31	73	53	410

<sup>a</sup>Trade statistics for Kenya were incorporated with those of Uganda and Tanganyika prior to 1966.

Source: United Nations, Yearbook of International Trade Statistics, for the years 1960-69.

continued to be the French, despite the fact that colonial status was supposedly terminated in the territory. The maintenance of the French position of power in the F.T.A.I. has nurtured a reactionary policy which includes tactics of suppression and extra-legal means to achieve goals. This policy was in direct opposition to the rise of Somali nationalism within the territory. Nationalism reached its peak in the riots of late 1966 during French President de Gaulle's visit. "After the riots, in which a demand for an immediate end to French rule was the main issue, all Somali who could not prove their citizenship were temporarily expelled from French Somaliland. A plebiscite was held under French supervision in March, 1967, which resulted in a victory for those supporting continued ties to France."<sup>94</sup> The pursuance of the French policy necessitated measures restricting the registration of voters who might favor independence in this referendum.<sup>95</sup> "The vote [was] denied to thousands of Somalis by alleging they [were] 'foreigners' not born in the territory. The existence of documentary proof of place of birth is very rare in these areas of the world, so that it

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<sup>94</sup>I. Kaplan, et al., Area Handbook for Ethiopia, Washington, D.C., 1971, p. 315.

<sup>95</sup>Somali Republic, 1967, p. 10.

[became] virtually impossible for the Somalis to counter this allegation."<sup>96</sup>

The French maneuvers were calculated to deprive from voting those Somalis who traditionally crossed the border frequently and whose allegiance was primarily to the Somali Republic. The state functions of restricting immigration and establishing requirements for citizenship were effectively utilized for the purposes of the French. Not only did the French disenfranchise Somalis who were considered illegal aliens, but many who were probably citizens of the territory were incarcerated prior to the referendum. "The French . . . rounded up 4,000 Somalis and trucked them out to a prison camp in the desert outside Djibouti."<sup>97</sup> Although the French governor had wanted to deport the Somalis over into the Somali Republic, Somali border officials refused, for they wanted to keep the problem in the French territory and before the world as an example of French oppression. The situation soon stabilized after the referendum, and the election of the Egal government later that year furthered a lessening of

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<sup>96</sup> Somali Republic, Ministry of Foreign Affairs, Memorandum on French Somaliland Submitted by the Government of the Somali Republic to the United Nations Special Committee on the Situation with Regard to the Implementation of the Declaration on the Granting of Independence to Colonial Territories and Peoples, Mogadishu, June 1, 1965, p. 6.

<sup>97</sup> New York Times, March 26, 1967, p. 2.

tensions and a return to functions of a non-restrictive nature at the Somali border.

Conclusions Regarding Correlation  
between Policy and State Functions  
Applied at the Somali Boundary

The Somali boundary forms a case characteristic in many areas inhabited by nomadic peoples. Historically, few functions have ever been applied at these boundaries, and specific border crossing points are few. However, the divergent policies promoted by the countries in the Horn following 1960, and the dramatic changes in those policies, resulted in a rapid evolution of the state functions found at the Somali boundary. A close correlation exists between policy and the nature of functions at a boundary. The policies of adjoining states effect the degree to which the state functions are applied at the boundary, and the amount of agreement between the two states on the geographical realities of the region.

## CONCLUSION

The nature of the analytical framework in boundary studies will obviously determine the types of observations made concerning the boundary. The conclusions reached through the utilization of the two different approaches in this research are of varying degrees of usefulness to the political geographer.

In the historical political geographic approach, the Horn of Africa is seen as a region which, for several centuries, has contained a zone of confrontation between the Somalis and the area's other inhabitants. The present Somali political boundary may be viewed as "superimposed" upon the actual dividing line between the conflicting cultures. Such "superimposed" boundaries are characteristic in many parts of Africa, where the colonial legacy of boundary-making has been a source of irredentism.

The basic causes of the Somali border dispute still exist, but the catalytic factors (so-called "trigger actions") have since abated and active opposition to the position of the boundary has almost been eliminated. The rise of nationalism in Africa following World War II has been largely replaced by a realization of the monumental



tasks required in building a nation-state within the framework of colonial boundary definition. The decline of nationalistic fervor has served to focus attention upon the internal economic and political problems of the individual states.

The nature of these problems may be traced, in part, to the political boundaries separating the various states in the Horn. The economic consequences of (or threat of) being deprived of traditional grazing areas have been adverse on the Somali herders. Such a problem is only one of many facing the Somalis.

The massive loans from the Soviet Union and the lack of a resource base have created a situation from which the Somalis will be hard-pressed to extricate themselves. The dependence upon outside aid for development of the economy has plunged the country into enormous debt. From the Somali standpoint, the integration of Somali lands would greatly improve the economic viability of the state.

The drawing of the political boundaries of the Horn has affected not only the economic interrelationships in the region, but also the power structure of the countries defined by those boundaries. The multitude of tribal and clan units within all the states of Northeast Africa provides the challenge of unification to any governmental structure.

The future of the states of the Horn will depend heavily upon the effectiveness with which they deal with their internal problems and the degree to which regional cooperation overshadows national differences. The recent past has shown that negotiation may replace confrontation, and that the development of the region may now take place, unimpeded by armed conflict.

The above approach reveals several political geographic relationships in a framework of history. This view emphasizes the time element<sup>98</sup> in boundary disputes. In fact, a possible criticism of this traditional approach is that historical aspects of the problem are treated more thoroughly than geographical factors. Although one section of the analysis specifically treats geographic operables, the bulk of the approach is usually only indirectly related to a geographic view.

The historical-political geographic view provides one of the most comprehensive examinations of boundaries in disputed areas. The framework suggested by Prescott can be useful if the political geographer realizes its limitations. The facts concerning individual boundaries will not always fit neatly into the categories of Prescott's approach. The uniqueness of each boundary tends

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<sup>98</sup>See Minghi, p. 414, for detailed discussion.

to invalidate many of the generalizations concerning them.<sup>99</sup>

The second of the approaches involves unique examples of political geographic processes in reference to boundaries. The state functions applied at the Somali boundary are viewed as directly related to the foreign policies of the countries of the Horn. The conflict between the Somalis and the Ethiopians and Kenyans in the early 1960's resulted in policies restricting movements across the border. The restriction on movements included not only people but also goods and ideas. The policy of detente in 1967 was reflected by an easing of the regulations imposed at the Somali border and a return to the pre-existing cross-boundary movements.

This view of the functional evolution of the boundary introduces the concept of the "effective boundary." Such a notion may be applied not only to international boundaries, but also to ideological boundaries. The division of the world into ideological blocs has given rise to a supranationalism that has "transferred conflict from the boundaries of territorially organized states to the minds of man."<sup>100</sup>

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<sup>99</sup>S. B. Jones, Boundary-making, a Handbook for Statesmen, Washington, 1945, p. vi. Found in Prescott, p. 24.

<sup>100</sup>N. J. G. Pounds, Political Geography, New York, 1963, p. 95.

This type of study is capable of greatly augmenting our understanding of boundaries in disputed areas. The dynamic factors in the problem are emphasized and interrelationships between the political situation and the conditions at the boundary are readily apparent. Although numerical correlations between policies and the state functions applied at the boundary are often difficult to obtain in developing areas, intuitively related factors reveal the processes involved with disputed boundaries. The productivity of this approach will undoubtedly increase as the research data base is improved and as methods are devised to effectively measure the necessary variables.

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ARIDITY AND LAND USE IN NORTHEAST AFRICA

By

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## TABLE OF CONTENTS

	Page
LIST OF FIGURES. . . . .	iv
LIST OF MAPS. . . . .	v
Chapter	
I. INTRODUCTION . . . . .	1
Definition of Study Area. . . . .	2
Physiographic Regions. . . . .	3
II. THE CLIMATE OF NORTHEAST AFRICA WITH SPECIAL EMPHASIS ON THE DEGREE OF ARIDITY . . . . .	6
General Circulation Pattern. . . . .	6
Temperature and Precipitation . . . . .	9
Definition of Aridity. . . . .	11
Climatic Patterns of Northeast Africa According to Thornthwaite's Water Balance Method . . . . .	15
Problems of Water Balance Calculations in Northeast Africa . . . . .	16
Moisture Need. . . . .	18
Moisture Surplus. . . . .	21
Moisture Deficit. . . . .	23
Moisture Index . . . . .	25
Elevation-Moisture Index Relationship.	27
III. LAND USE PATTERNS, NON-CLIMATIC FACTORS, AND THE REGIONAL WATER BALANCE . . . . .	30
Bases for Land Use Data and Definitions.	30
Non-Climatic Influences on the Land Use Pattern. . . . .	32

Chapter	Page
The Impact of Culture . . . . .	32
Political Factors in Somali Areas . .	35
Spatial Interrelationships between Land Use Patterns, Ethnic Areas, and the Regional Water Balance in Northeast Africa . . . . .	37
IV. CONCLUSION . . . . .	43
BIBLIOGRAPHY. . . . .	46
APPENDIX . . . . .	49

## LIST OF FIGURES

Figure	Page
1. The Water Balance at Selected Stations in Northeast Africa . . . . .	14
2. Elevation-Moisture Index Correlation . . .	28

## LIST OF MAPS

Map	Page
1. Physiographic Regions and Weather Stations of Northeast Africa . . . . .	4
2. Mean Monthly Pressure and Wind Distribution, January . . . . .	7
3. Mean Monthly Pressure and Wind Distribution, April. . . . .	7
4. Mean Monthly Pressure and Wind Distribution, July . . . . .	7
5. Mean Monthly Pressure and Wind Distribution, October . . . . .	7
6. Moisture Need. . . . .	20
7. Moisture Surplus. . . . .	22
8. Moisture Deficit. . . . .	24
9. Moisture Index . . . . .	26
10. Land Use, Critical Climatic Zone, and Somali Regions of Northeast Africa . . . . .	39

## I. INTRODUCTION

The pattern of land use in a specific area is largely a consequence of the actions taken by the inhabitants of the region. These actions are the collective results of decisions based upon the individual's perception of his environment. In Northeast Africa, the most significant influence upon perception is usually the availability of water. The lack of water profoundly affects the life styles of the peoples of the region. The paucity of adequate water supplies is directly related to the regional climatic distribution, and this relationship is essential for the attainment of the objectives of this study.

The major purpose of this essay is to investigate climate and its influence on the land use pattern of Northeast Africa. The basic hypothesis states that there exists a critical climatic zone which overlies the division between non-irrigated agriculture and herding. Within this zone, decisions concerning the utilization of land depend primarily upon the degree of aridity. A corollary problem considered involves the influence of non-climatic factors upon the land use pattern. It is theorized that

analysis of the cultural and political elements of the societies of the region will explain irregularities in any correlation between the patterns of climate and land use.

Since aridity is the central subject of this research, its accurate definition is a necessity. The water balance method of Thornthwaite (and Mather, 1955) has been selected as the basis for judging the aridity of the region in relative numerical terms. There are few studies, such as the works of Garnier (1956) and Sibbons (1962), which effectively evaluate the application of the Thornthwaite system to an arid area. Northeast Africa provides unique evidence to test the usefulness of the water balance method in a predominantly arid region.

#### Definition of Study Area

The arbitrary western boundary of Northeast Africa used in this paper is represented on all maps by a dashed line. This line forms the border line from the Red Sea along the Western side of the rift valley south of Lake Rudolf. From Lake Rudolf, the border is parallel with and east of the Matthews Range until the Tana River, where it parallels the Tana to the coast. The Eastern boundary is defined by the coasts of the Indian Ocean, the Red Sea, and the Gulf of Aden.

The area thus defined encompasses the territory of the Somalis. In order to show more contrast of

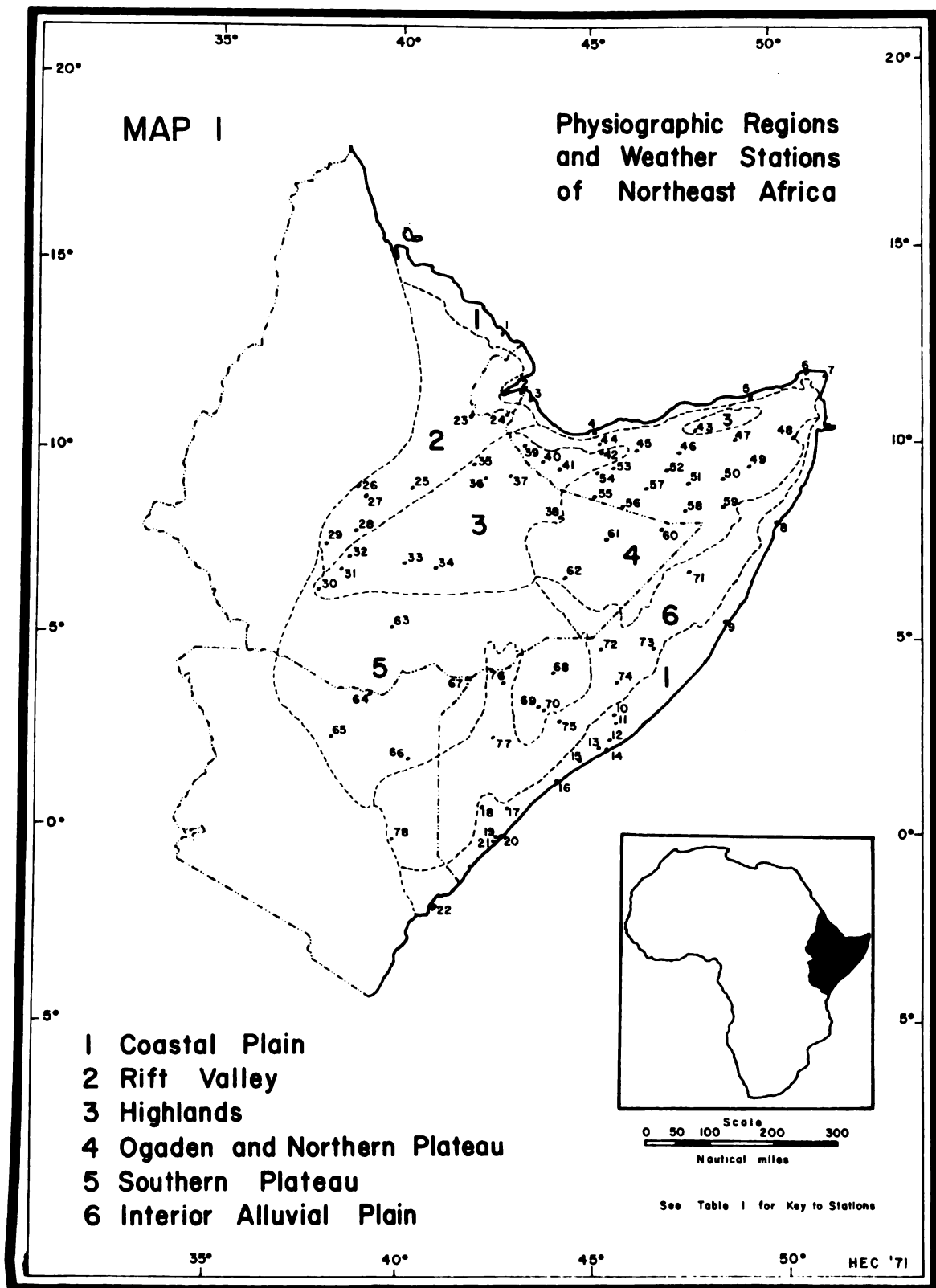


climatic and cultural phenomena, the study area was extended beyond the Somali-inhabited lands to include the wetter parts of Northeast Africa, where the population is primarily Galla.

### Physiographic Regions

The regions used in this study are adaptations from authors (Kendrew, 1961; Tato, 1964) who used physiographic criteria as a basis for explaining the rainfall distribution in Northeast Africa (see Map 1).

The coastal plain is a narrow strip which is extremely hot with little or no rainfall. Elevations are normally below 400 feet. The rift valley is also hot and dry in its lower elevations in the north, but as altitudes rise in the south, it becomes cooler and wetter. Zones of higher elevation along the sides of the rift also receive high amounts of rainfall, both in the north and the south. In this study, the highlands are considered as land above 3500 feet, and land between 1000 and 3500 feet has been arbitrarily selected as territory within the plateau regions. The Ogaden and Northern plateau slopes gently toward the east, but there is a steep escarpment to the Gulf of Aden. The Southern plateau slopes southeasterly toward the Somali coast, and elevations are generally lower than in the Northern plateau. The alluvial plain is found in the lower reaches of the southeasterly flowing rivers before they reach the



coast. Elevations here are between 400 and 1000 feet above sea level. The plateaus and the alluvial plain show a marked decrease in precipitation as altitude decreases from west to east.

These regions are only approximations of the physiographic areas of Northeast Africa. Their value lies in their convenient grouping of the weather stations, and they represent a framework to judge the climatological data.

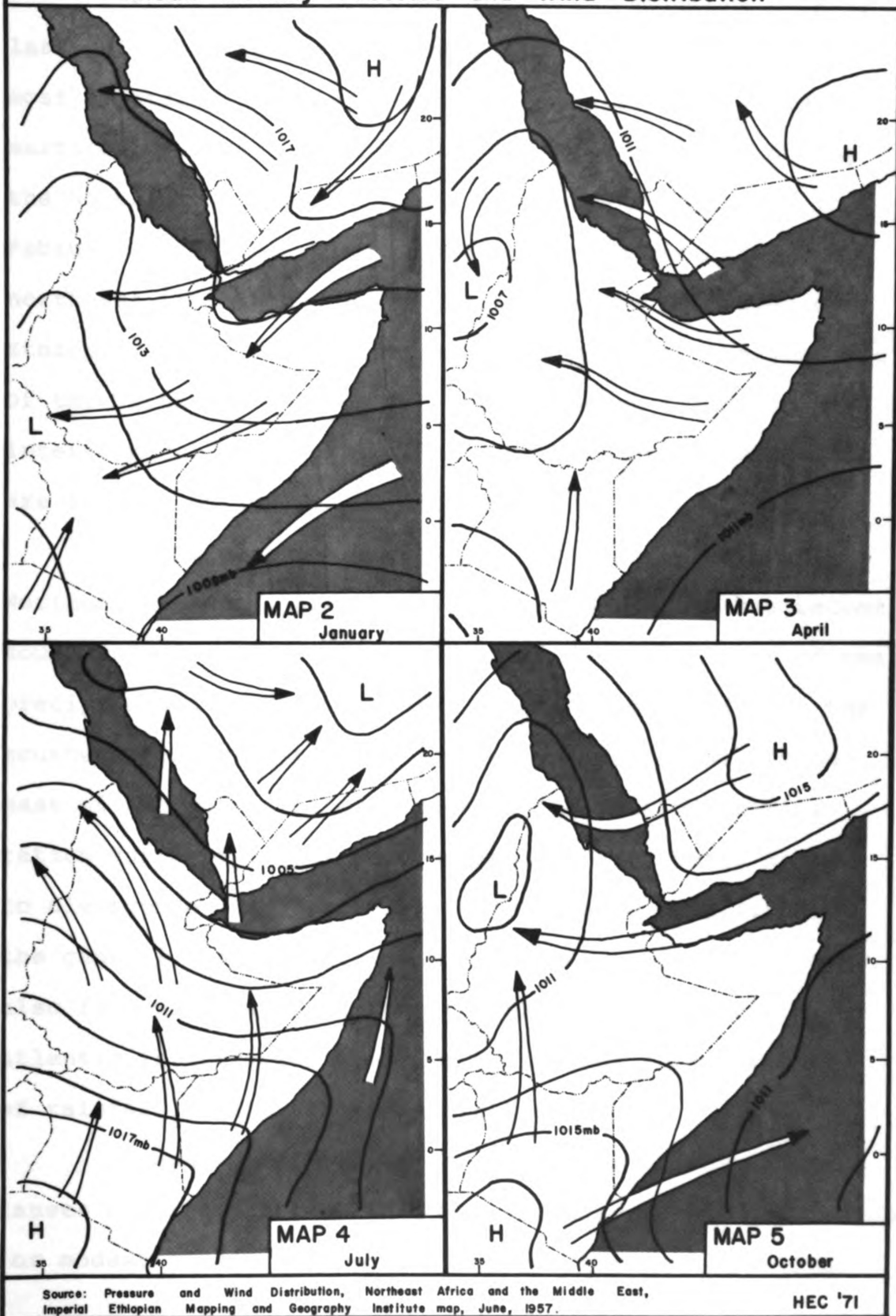
## II. THE CLIMATE OF NORTHEAST AFRICA, WITH SPECIAL EMPHASIS ON THE DEGREE OF ARIDITY

### General Circulation Pattern

A key to the understanding of the variation of rainfall is found in the general circulation pattern (Maps 2-5). The circulation pattern in Northeast Africa is dominated by the dry Northeast monsoon in winter and the wetter Southwest monsoon in summer.

The dry season begins in late October-early November, and the effects of the Northeast monsoon are evident until March. The mean surface air features during the period include two anticyclones, one centered over the Sudan, and the other overlying Arabia and projecting southward into Ethiopia (Tato, 1964). The other major surface feature is a Low over Eastern Sudan which moves generally north-south during the year. In the beginning of the dry winter, the mean air flow is southerly. As the season progresses, the winds abruptly change to easterly and northeasterly. The dry continental tropical air masses prevailing at this time are derived from the Asiatic winter High and can be considered as belonging to the planetary trade flow. They provide little moisture for precipitation in Northeast Africa.

# Mean Monthly Pressure and Wind Distribution



Transitional periods between the monsoons usually last only a few weeks. In regard to precipitation, the most important transition occurs in the spring. A mean surface Low, which has overlain the Eastern Sudan during the Northeast monsoon, begins its movement northward in February or March. Wind directions shift generally from northeast to the east and southeast as the Low moves over Ethiopia during late April and early May. At the juncture of the Northeast monsoon and the Southeast trades is the intertropical convergence zone (ITC), which produces what are locally called the "little rains."

By June, the low pressure cell has moved over Northern Ethiopia, and the flow over the region has become southwesterly. Trewartha (1960) observes that most of the precipitation in Northern East Africa is derived from the southwesterly air stream. However, in Northeast Africa east of the mountains of Ethiopia, the lack of precipitation during the Southwest monsoon is attributed mainly to divergence (Flohn, 1964). According to Tato (1964), the general winds in Ethiopia from June to September are also from the southwest, but the air from the South Atlantic is sufficiently moist to produce large amounts of rainfall in the Ethiopian highlands.

Trewartha (1960) has summarized both the main causes of precipitation in Northeast Africa and the reasons for modest amounts of rainfall in the region. He states:

There are developed two major zones of wind discontinuity and convergence, (1) an east-west zone, the ITC, separating hot, dry, anticyclonic Saharan-Arabian air to the north from the cooler, moister southwesterly air of maritime origin to the south, and (2) a north-south zone separating relatively moist westerly Congo air from the South Indian Ocean. Since Congo air rarely is able to penetrate east of the Abyssinian barrier, its influence on the weather of the Somalia area is slight and this no doubt is a partial explanation for that region's drought. The rainfall in Ethiopia, on the other hand, is to a much greater extent derived from Congo air.

His reasons for the low amounts of precipitation include:

(1) the divergent character of both monsoons over extensive land areas; (2) the modest depth of the Southwest monsoon, especially over the highlands; (3) the strongly meridional flow in all but the transitional seasons, a feature that limits the advection of sea moisture and reduces orographic effects; and (4) the stable stratification of the air aloft, including a marked decline in moisture content.

### Temperature and Precipitation

The small annual temperature ranges in the tropical regions are characteristic of Northeast Africa. The mean annual range is about 10°F for most stations, with only a few parts of the interior exceeding 30°F. Most of the variation from station to station is a consequence of elevation. The mean monthly temperatures vary from a high of 96.5°F in Djibouti (2)<sup>1</sup> in July to a low of 50.7°F at Goba (33) in December. The elevations for these two stations are 33 feet and 9100 feet respectively.

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<sup>1</sup>Values in parentheses indicate station numbers in Table 1 and on Map 1.

The small temperature ranges along the Eastern Somali coast are partly explained by the upwelling of cold waters. Besides lowering the annual temperature range (Walton, 1969), the cold current helps create high humidity and a high incidence of fog. The fog restricts insolation and in turn reduces temperature. But little of this moisture is precipitated because of the stable or even inversion structure of the air along the coast.

The precipitation of Northeast Africa is highly variable and most of it falls in the hottest months. Although rainfall, like temperature, is related to elevation, the general circulation pattern affects the relationship between precipitation and altitude. The general decrease in precipitation from west to east in Northeast Africa modifies the elevation-rainfall correlation. The range of annual rainfall is from 1mm at Guardafui (7) to over 1300mm at Cencia (30), but annual values may vary considerably from the long term averages.

Rainfall maxima occur at different times in different parts of the study area (refer to Map 1). In Region 1, almost no rain is recorded, and the rainfall regime shows little periodicity. Region 2 has a single summer maximum and, like Region 1, is almost without rain from October through February. Precipitation is fairly evenly distributed through the year in Region 3, with a summer maximum in some locations. In Regions 4, 5, and 6



there are double maxima, usually April-May and October, with April-May being the larger.

### Definition of Aridity

The lack of moisture in certain areas of the world produces environments which have traditionally been called arid. Early attempts to define aridity utilized average annual rainfall as a simple indicator of aridity. However, rainfall alone does not reveal accurate values of water available in the soil. Temperature, evaporation, and plant transpiration form the other major factors which are needed in calculating the water balance of an area.

Penck (1910) recognized the need for a better definition of aridity when he defined the arid boundary as the line where evaporation and precipitation are equal in amount. The difficulty of obtaining evaporation statistics, however, prevented development of this notion on a worldwide basis.

Koeppen (1931) linked temperature and rainfall in an attempt to better define climatic boundaries. Koeppen took into account the increased water losses in areas of higher temperature. The definition of the boundary of aridity required that an increase in mean annual temperature be offset by an increase in mean annual precipitation. Further revisions of the work took into account the seasonality of rainfall and the coastal desert phenomena of frequent mist and fog. Koeppen, and his

contemporaries Lang (1920) and de Martonne (1927), expressed indices of aridity in terms of relatively simple ratios between precipitation and temperature. The amount of evaporation was always approximated by considering it directly proportional to temperature.

The climatic classification proposed by Thornthwaite (1948) includes a definition of aridity based on the water balance. This concept refers to the balance between availability of atmospheric water, its storage, and its expenditure at a given place (Thornthwaite and Mather, 1957). The important factors in the Thornthwaite system are precipitation and evapotranspiration. Thornthwaite and Mather (1955) defined potential evapotranspiration as the amount of water which would be lost from a surface covered with vegetation if there was sufficient water in the soil at all times for the use of vegetation. This value is computed by means of an empirical formula involving mean monthly temperature.

A vital concept utilized in computing the water balance is soil moisture storage (Thornthwaite and Mather, 1954). When potential evapotranspiration (PE) is compared with precipitation (P) and allowance is made for the storage (ST) of water in the ground and its subsequent use, periods of moisture deficiency (D) or moisture surplus (S) are revealed. These values indicate the relative moistness or aridity of a climate. The seemingly complex

formulae of the system have been put in tabular form, which greatly simplifies working with the classification (Thornthwaite and Mather, 1957).

Although there are drawbacks to any determination of the water budget by an empirical formula, the Thornthwaite method has attained widespread popularity, both because it requires only records of commonly accessible parameters (i.e., temperature and precipitation), and because it is probably the best approximation of climatic-biospheric relationships on a worldwide basis. The climatic classification displays a general correlation to the world distributional patterns of soil and vegetation (Chang, 1959).

Thornthwaite's classification is based on the calculation of the moisture index which is obtained in the following manner:<sup>1</sup>

$$I_m = \frac{100 (S-D)}{PE}$$

All positive values are considered humid climates, and all negative values arid climates.

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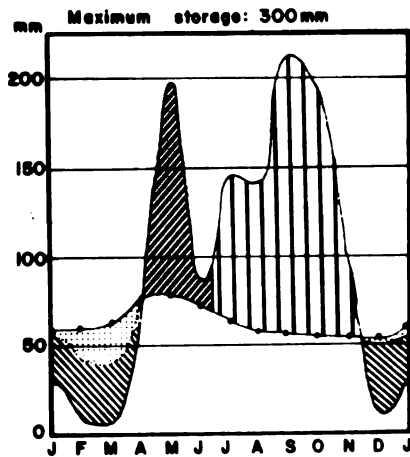
<sup>1</sup>The original Thornthwaite formula read

$$I_m = \frac{100 (S-0.6D)}{PE}$$

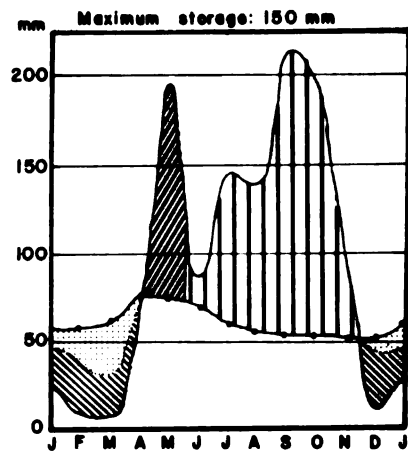
The six-tenths weighting factor had been justified in terms of soil moisture availability, but improvements in the estimation of soil moisture by Thornthwaite and Mather (1955) eliminated the need for this factor.

## The Water Balance at Selected Stations in Northeast Africa

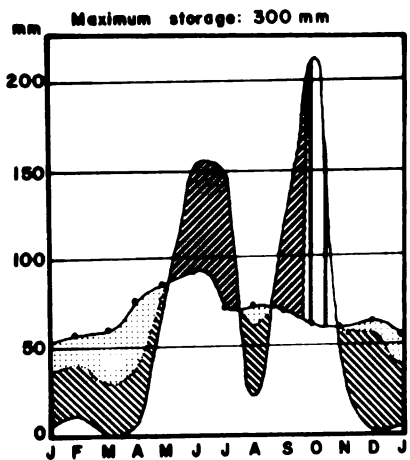
### Hosaina



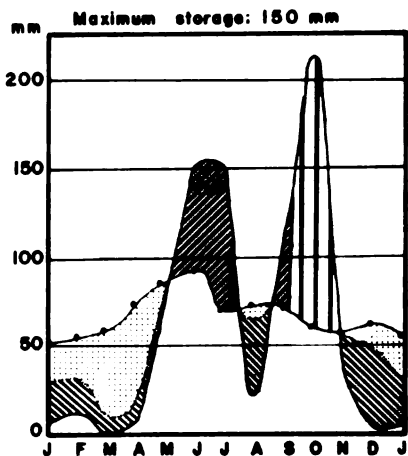
Moisture  
Index = +58.0



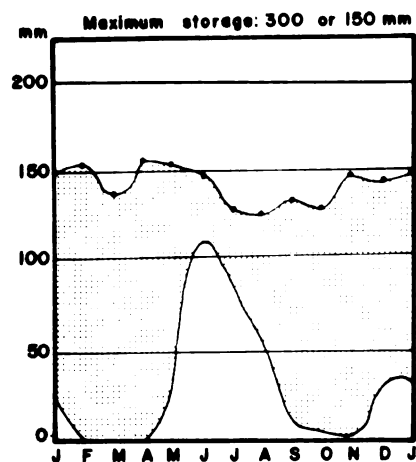
### Daloh



Moisture  
Index = -2.7



### Ionte



Moisture  
Index = -76.9

- Precipitation
- Potential evapotranspiration
- Actual evapotranspiration
- ▨ Moisture deficit
- ▤ Moisture surplus
- ▧ Soil moisture utilization
- ▩ Soil moisture recharge

Figure 1

Climatic Patterns of Northeast Africa  
According to Thornthwaite's Water  
Balance Method

Carter's study (1954) represents perhaps the most thorough application of the water balance method to classify the climates of Africa. Although the same author (with Mather, 1966) revised the classification system, the climatic maps of Africa in the latter work appear essentially unchanged.

The diagrams in Figure 1 represent water balance relationships at selected stations in Northeast Africa. The effect of the selection of differing maximums of soil moisture storage may be compared in these graphic displays.

The maps on the following pages were constructed utilizing Carter's original work as a base. Climatic values for 78 stations (see Map 1 and Appendix 1) were calculated using the formula of the 1966 revision and climatic isolines were redrawn where there were conflicts with the Carter maps.<sup>1</sup>

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<sup>1</sup>In areas of no water surplus, the 1966 formula simply increases the moisture index by a factor of 1.667. Thus, the boundaries of the arid and semiarid climates remained essentially unchanged except where more accurate values were found. But where water surplus occurs, the climatic boundaries may be greatly altered. For example, Bishoftu (27) had a climatic index of +3.6 from the original formula, while the revised calculations reveal a value of -10.2. Almost all areas with humid climates were reduced in size when the new formula was used.

Problems of Water Balance  
Calculations in Northeast  
Africa

Any investigation of climate in Northeast Africa suffers from a general lack of data. Also, the data that are available are often inaccurate and the periods of observation are not uniform. For instance, the climatic records used in this study range from 4 to 40 years of observation. Nevertheless, averages of temperature and rainfall, even for the shorter periods of observation, displayed only small deviations from mean values, facilitating the drawing of the isolines on the scale of the maps used here. Few, if any, inconsistencies due to climatically unusual years were observed in the distributional patterns.

In cases where a needed climatic parameter was missing, records were interpolated, utilizing nearby locations of similar altitudes.<sup>1</sup> Although measurements of precipitation were available for all stations, mean monthly temperatures had not always been recorded. Even though temperature values required estimation, the small ranges in Northeast Africa, in addition to temperature's close relationship with elevation, greatly reduce the margin of error in these estimations. Interpolation was

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<sup>1</sup>In emphasizing the importance of altitude and climate, Carter (1954, p. 46) states that "The topographic map is to some degree a guide to interpolation among climatic values."

kept to a minimum insofar as no gross generalizations have been based on estimated data only.

Lack of data also causes some speculation on the values of soil moisture storage, an essential ingredient for water balance calculations. In this study, soil moisture is estimated to reach a maximum storage of 300mm, although some observations have shown this figure to be much too high.<sup>1</sup> However, the selection of the maximum storage value effects only the magnitudes of the annual moisture deficit and surplus, and not the moisture index. This statement may be explained through examination of the Thornthwaite method of water balance accounting. The basic scheme requires that the sum of all monthly changes in soil moisture must equal zero. Thus, no matter what the maximum storage value at a given place, the net annual value of water supplied from the soil moisture for evapotranspiration is zero. Water deficits (D) and water surpluses (S) are computed in terms of potential evapotranspiration (PE), precipitation (P), and the change in

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<sup>1</sup>Thompson (1943) observes that soils have a low permeability in most areas. After rains and resultant surface flooding, moisture was not found at depths greater than 6 inches (150mm). Mud from surface floods would flow into the interstices and the sun would bake these surfaces into even more impenetrable barriers. Although other studies support the fact that there is little penetration in areas of surface floods, an increase in obstacles to the floods greatly improves soil moisture storage. Studies show that in areas of vegetation, the plant life may impede the massive surface runoff so that amounts well over 300mm can be stored (Glover, 1950).

soil moisture ( $\Delta st$ ). Since the net annual  $\Delta st$  is zero, this term may be omitted in an equation which summarizes the yearly water balance relationships:

$$S - D = P - PE$$

If both sides are now divided by PE and multiplied by 100, we obtain

$$\frac{100(S-D)}{PE} = 100 \left( \frac{P}{PE} - 1 \right) = I_m$$

Therefore, for any given P and PE, the moisture index ( $I_m$ ) is a constant. The only effect of the maximum soil moisture level on the computation of S and D is that these values will vary inversely with a change in the maximum storage selected, i.e., an increase in the maximum soil moisture level will result in a decrease in the amounts of S and D, but the difference between S and D will remain the same.<sup>1</sup>

### Moisture Need

The distribution of potential evapotranspiration (moisture need) in Northeast Africa (Map 6) displays a close relationship to topography. Regions of higher elevation generally have lower mean temperatures and thus

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<sup>1</sup>In the original formula,  $I_m = 100(S - .6D)/PE$ , the maximum soil moisture storage would obviously affect the index value. Since S and D vary with each different maximum storage level, the 0.6 factor would, of course, change the resultant value of the moisture index.



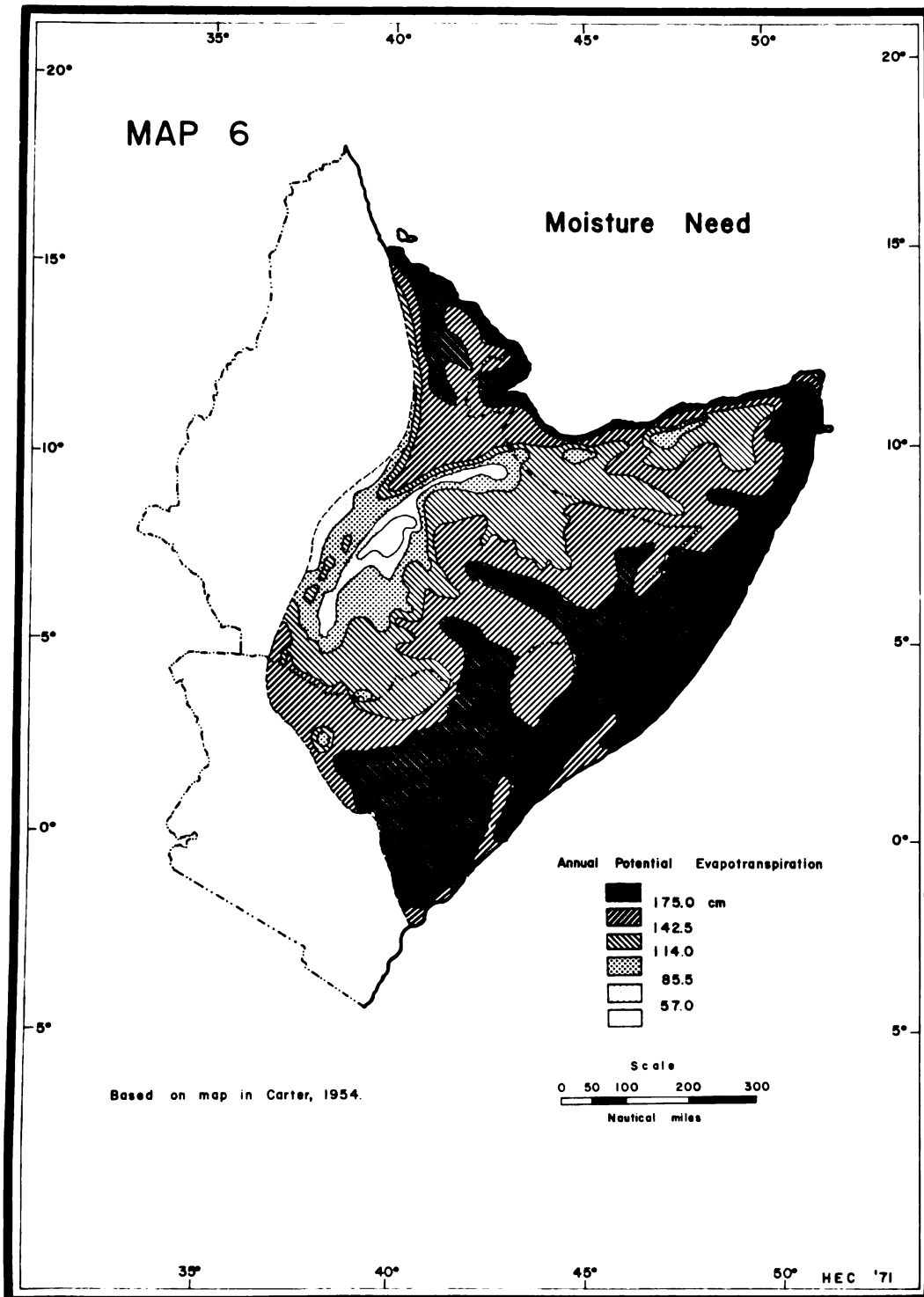
lower potential evapotranspiration values. The lowest values are found in the Ethiopian highlands. Additional examples of the effect of altitude on potential evapotranspiration occur in the highland parts of the northern Somali Republic and the mountainous areas at Moyale and Marsabit in North Central Kenya.

Conversely, the lower elevations generally show a marked increase in moisture need. The upper valleys of the Shebeli and Juba river systems are striking examples of this phenomenon.<sup>1</sup> An increase in moisture need is also obvious in the rift valley as altitudes decrease.

Notable exceptions to the elevation-potential evapotranspiration relationship occur along the Indian Ocean coast. There are two phenomena along the coast that produce cooler mean temperatures than expected. In the lower valleys of the Juba and Shebeli, the surface area of these rivers is expanded and actual evaporation increases immensely. The large marshy areas in the lower river valleys also add great amounts of moisture to the air through transpiration. Evapotranspiration (1) reduces surrounding air temperatures by the use of specific heat, (2) increases relative humidity, (3) increases cloudiness and fog, and (4) results in reduced moisture need. The

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<sup>1</sup>The highest station value of potential evapotranspiration is at Lugh Ferrandi (76) in the Juba river valley. The PE value here is an incredible 2067mm.



second influence along the coast is the cold ocean current and its cooling effect on coastal temperatures. The most distinct example is at Guardafui on the tip of the Horn where potential evapotranspiration is comparable to inland stations of over 2000 feet above sea level.

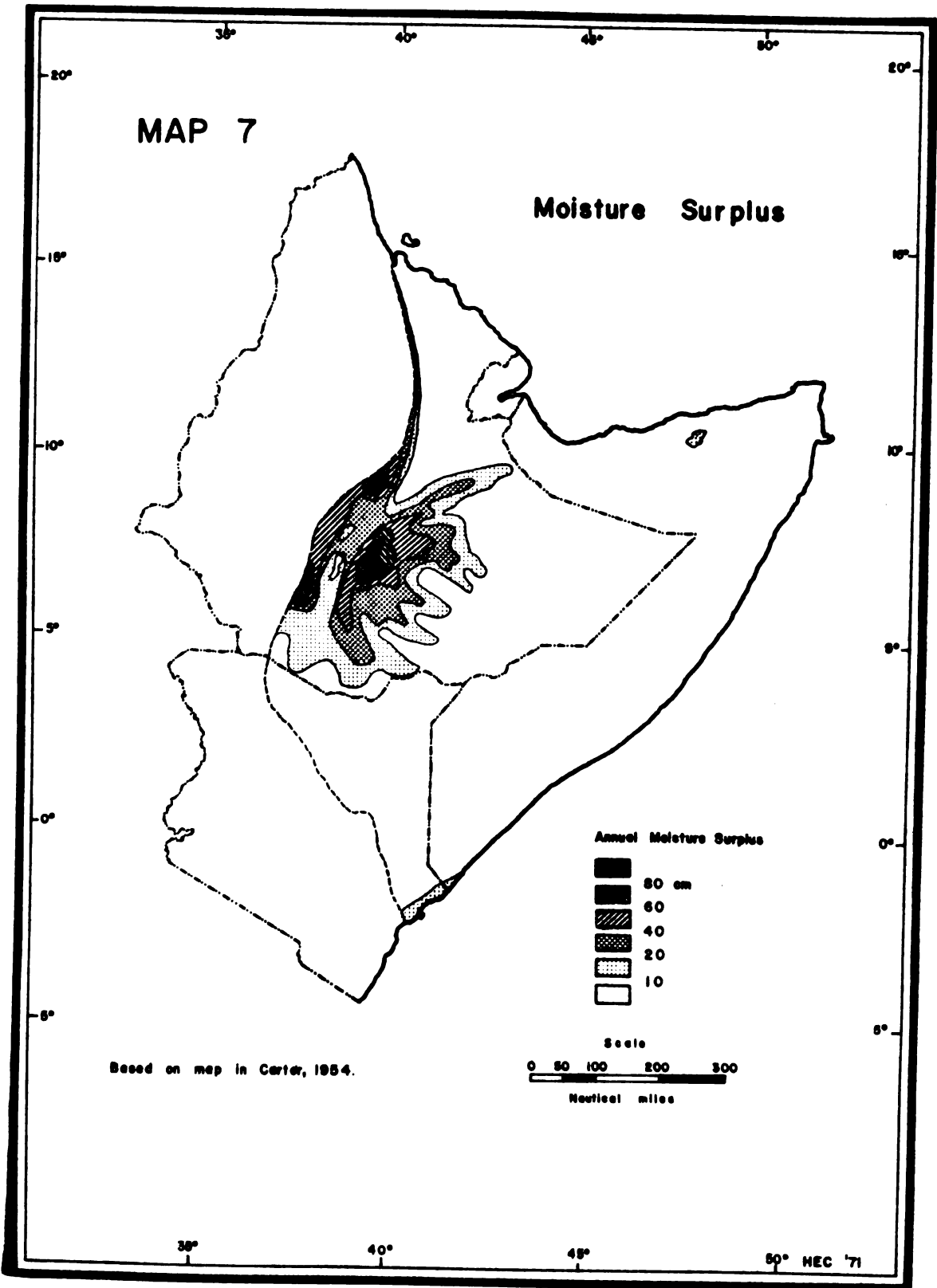
### Moisture Surplus

When precipitation exceeds evapotranspiration, the excess moisture is first used to bring the soil moisture storage to its maximum level. After this level is reached, the remaining excess water is considered moisture surplus (Map 7). Because of the low amounts of precipitation throughout the region, soil moisture rarely reaches its maximum in the winter months, even at the wettest of stations (Carter, 1954). In fact, large moisture deficits often occur in locales where, during the summer months, moisture surpluses are recorded.<sup>1</sup>

Moisture surplus in Northeast Africa is found primarily in the higher elevations of Ethiopia. In the plateau regions the distributional pattern of rainfall is an indicator of the location of areas where the soil moisture level is exceeded. Such areas are present in the Southern plateau, but not in the Northern plateau and Ogaden. Only in highland parts of the Northern Somali

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<sup>1</sup>As an example, Bishoftu (27) has a relatively large surplus of 216mm and an even larger deficit of 307mm.



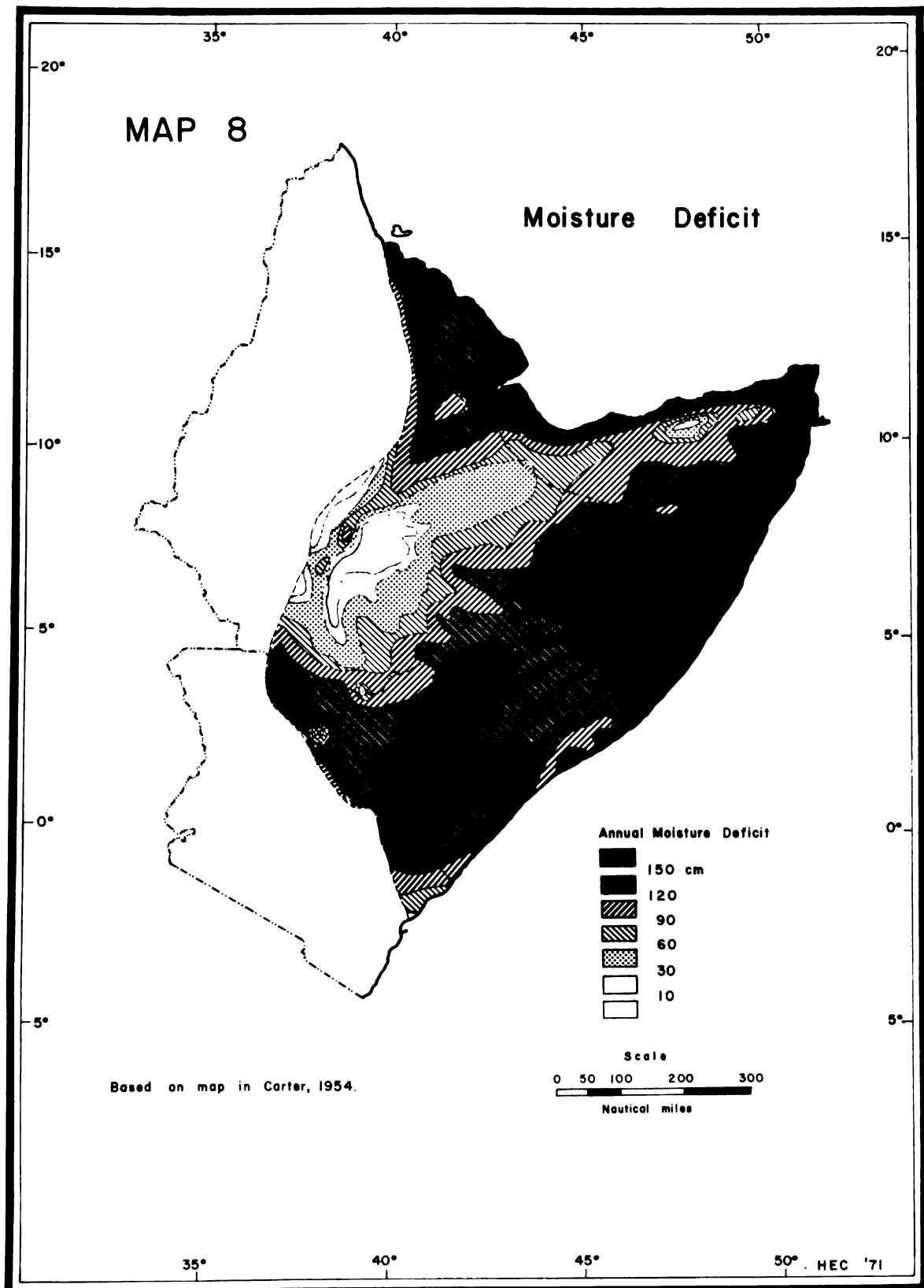
Republic are surpluses evident. The only other significant area where the amount of precipitation surpasses the water holding capacity of the soil is along the coast of Kenya. This coastal region is decidedly unique, for it is the only area of moisture surplus in Northeast Africa that is not related to high altitude.

### Moisture Deficit

Like other climatic parameters in Northeast Africa, moisture deficit (Map 8) is to a large degree a reflection of the topography. Low highland values and high coastal values form the normal distributional pattern, but there are a few notable exceptions.

At Guardafui, the upwelling of the cold sea water tends to reduce the moisture need and, in turn, the moisture deficit. A second major exception to the high coastal values is in the Lamu area of Kenya. The high amount of rainfall here greatly reduces the difference between potential and actual evapotranspiration.

North of Lamu, towards the interior, rainfall decreases rapidly, and the moisture deficit exceeds 1500mm. The rapid evaporation of water from the rivers that flow through this interior area is the cause of many rivers never reaching the sea. However, the river water supplied by evaporation to the water balance results in higher actual evapotranspiration and lower deficit values near the rivers.



The moisture deficit approaches zero only in the highlands. At all stations used in this study there was a deficit during at least one month of the year.<sup>1</sup>

### Moisture Index

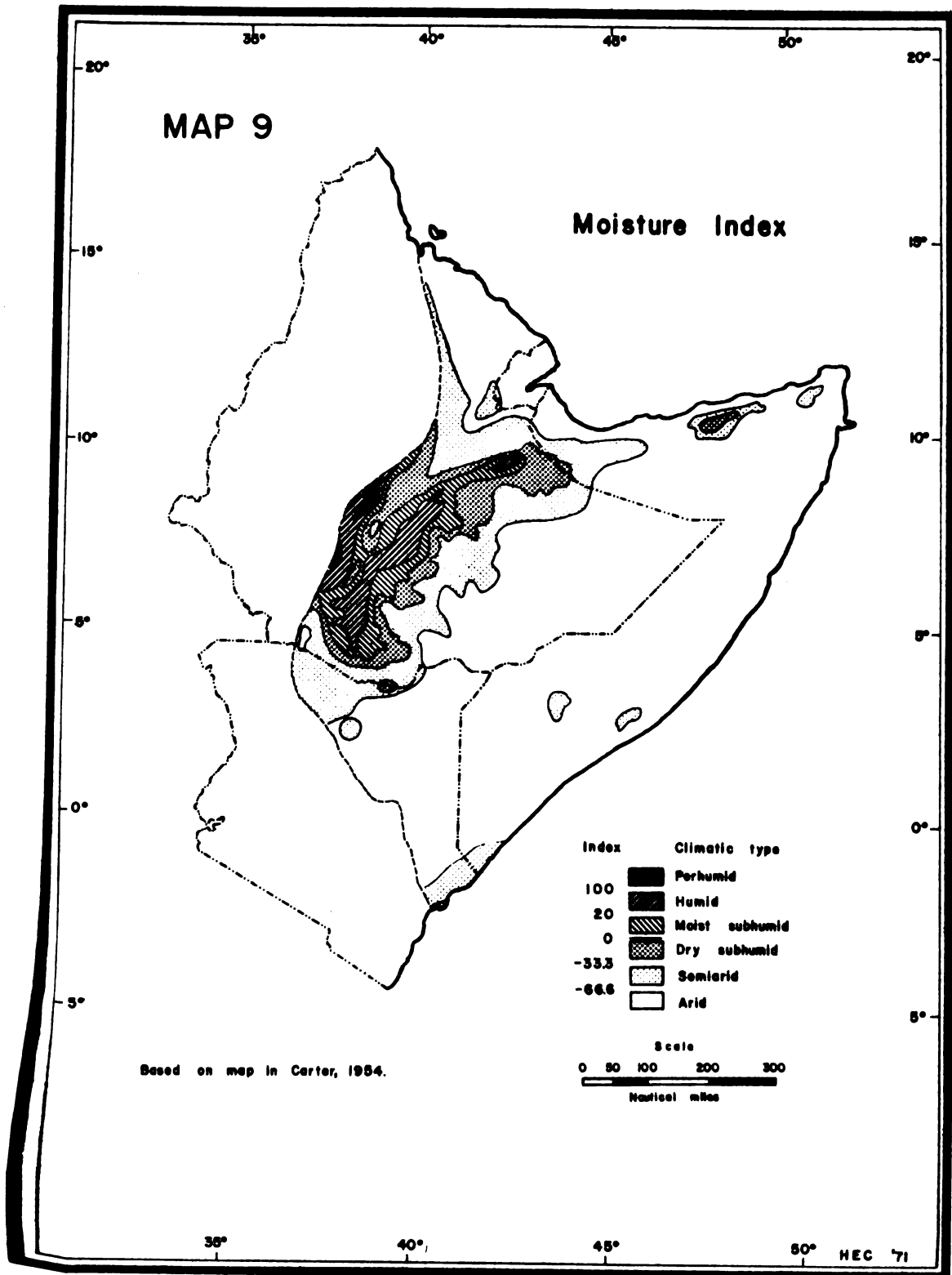
The map of the moisture index (Map 9) shows that a vast part of Northeast Africa is within an arid climate. The result of the revision of the Thornthwaite classification (Carter and Mather, 1966) reveals that the arid climates occupy an even more extensive area than under the original classification.

In addition to the large arid region surrounding the Ethiopian highlands, there is one small area of arid climate located in the Lake Rudolf region of Southern Ethiopia and Northern Kenya. The presence of the arid climate means that Lake Rudolf is dependent upon massive inputs of water from distant sources for its very existence.

The semiarid climate is found primarily encircling the Ethiopian highlands. Elevations of the semiarid climate boundary range from about 1500 feet in the south and north to about 4000 feet in the east. The low values of evapotranspiration in the highlands of the Northern Somali Republic result in isolated areas of semiarid climate. Two patches of semiaridity are found in the lower valleys of the Shebeli and Juba rivers where evapotranspiration

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<sup>1</sup>The range of moisture deficit in the study area was from 15mm at Cencia (30) to 1857mm at Eil (8).





values are reduced by the effect of river evaporation. The relatively high rainfall amounts in the Southern Somali Republic and Kenya also help to produce a semiarid climate.

The dry subhumid climate is generally confined to the Ethiopian highlands. Minor areas also occur along the Southern Kenya coast where rainfall is more plentiful. The rift valley in Ethiopia and the higher mountains in Kenya also have some areas of the dry subhumid climate.

#### Elevation-Moisture Index Relationship

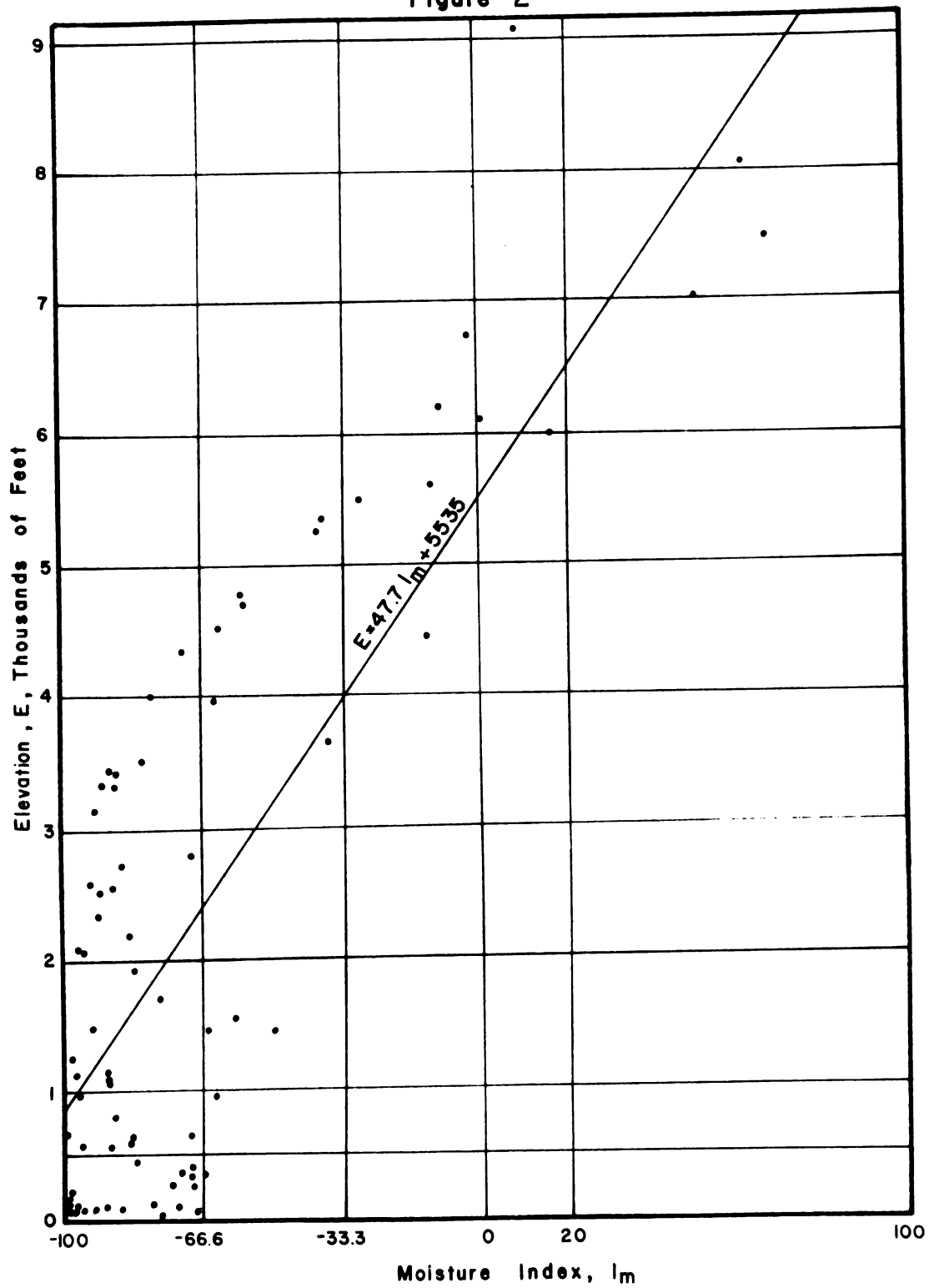
Throughout this study, the importance of elevation in relationship to climatic factors has been stressed. The effect of height upon the moisture index is seen in Figure 2. Arid climates are found from sea level up to 4500 feet. The semiarid areas range from about 400 to 5600 feet, and the dry subhumid climates are found between 2500 and 7000 feet. Humid climates occur only above 5000 feet.<sup>1</sup>

Most of the points on the graph above the regression line represent stations on the drier, eastern side of the Ethiopian highlands. Below the regression line, the points indicate stations which are primarily on the windward western side of the highlands. Some are coastal

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<sup>1</sup>The only station in Appendix I that is not on this graph is Lamu, which is on the Kenya coast. At this location, elevation is decidedly secondary to other climatic variables.

Figure 2



sites where elvation plays a smaller role in influencing the climate.

Examples where altitude seems to have little effect upon climate serve to caution against strict adherence to elevation as a guide to climatic patterns. Cases which illustrate this fact are in the lower Juba and Shebeli valleys, where the Baidoa plain has a moister climate than the surrounding areas of higher altitude. An understanding of the circulation pattern and local factors affecting climate is thus a necessity in explaining exceptions in the relationship between climate and elevation.

However, with these qualifications in mind, the altitude-climate correlation in Northeast Africa is quite strong, and the topographic map is perhaps the most valuable tool in determining unknown values of the regional water balance.

### III. LAND USE PATTERNS, NON-CLIMATIC FACTORS, AND THE REGIONAL WATER BALANCE

#### Bases for Land Use Data and Definitions

The information on land use activities in Northeast Africa is scarce and existing land use maps are drawn at relatively small scales. Map 10 is a compilation of several descriptions and various land use maps.<sup>1</sup>

The dichotomous choice of non-irrigated agriculture and herding as the main economic pursuits in Northeast Africa greatly simplifies the land use pattern of the region. In addition to the obvious problem of generalization, there are also difficulties which are derived from trying to define herding and non-irrigated agricultural lands. Herding and agriculture are sometimes practiced in the same area during the year. Climatic variability may annually affect the agricultural land use pattern, and livestock numbers can fluctuate widely from year to year depending on rainfall and the availability of water. However, the long-term land use patterns which were compiled are on such a scale that annual variations are usually not

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<sup>1</sup>The sources for land use data include Mariam (1962), Fullard (ed., 1962), Huffnagel (1961), Kaplan (1969), Hunt (1951), and FAO (1968).

significant. Since the climatic parameters are based on averages, comparing climate to a particular annual land use pattern would not serve the purposes of this research.

The selection of "non-irrigated agriculture" as a land use type, rather than any form of agriculture, was based on the fact that irrigation water, generally, is not water produced by local climatic conditions. In the case of Northeast Africa, irrigation water is often a product of precipitation which has fallen hundreds of miles away.

Irrigation plays a large role in producing the small amount of agriculture in the Somali Republic. Subsistence, as well as plantation agriculture, is practiced in the riverine areas where the presence of the tsetse fly makes it difficult to raise livestock (Karp, 1960).

The Somali government has utilized United Nations assistance to further develop the country's irrigated agriculture between the Shebeli and Juba rivers (Kaplan, 1969). However, farming in this area is almost totally dependent upon runoff from outside the Somali Republic. At present, there is no international agreement on the use of the two large rivers originating in Ethiopia (Mariam, 1964). Any utilization of the headwaters of these two rivers by Ethiopia would severely curtail development, or even destroy, the present land use pattern in the inter-river area.

Another major area of irrigated agriculture is located in the lower Awash river valley (Huffnagel, 1961). Agricultural enterprises in this region almost totally rely upon water produced by precipitation in the Ethiopian highlands.

Thus, for the purposes of this study, non-irrigated agricultural land is considered land outside the lower Shebeli, Juba and Awash river systems. Herding is assumed to take place wherever agriculture is not present, although some places may not even be suitable for nomadic activity.

### Non-climatic Influences on the Land Use Pattern

#### The Impact of Culture

The most prominent cultural division in Northeast Africa is between the Islamic nomads, called Somalis, and the other peoples (primarily Galla and Afar) of the region. The cultural influences on land use in the Somali-inhabited areas are readily apparent when contrasted with most non-Somali lands.

For almost all Somalis, the common denominator in their lives is the raising of livestock. Wealth and status are reckoned in stock, and most cultivators have some animals (Lewis, 1955). Agriculture has always been an activity essentially subsidiary to herding within the Somali perceptual scheme (Karp, 1960). Agricultural work was left to the slaves or dependents of the Somali, and

land cultivation has always been performed by low-class citizens. From the perspective of the tradition-oriented Somali, Somali lineages that have taken up agriculture have lost prestige, even if they have gained economically (Kaplan, 1969).

The image of the nomadic herdsman and warrior has been held in high esteem by the Somalis. Such reverence has led to constant conflict between the Somalis and neighboring peoples. After their arrival in Northeast Africa, from Arabia between the seventh and thirteenth centuries (Lewis, 1955), the Somalis continued their persistent expansion southward from the Northern Somali coast. The Somali warriors played an important role in displacing the Galla peoples to the west and south. The Somali expansionism resulted in the migration of many Galla tribes into regions which were moister than those which they had inhabited. Most of the Galla tribes adopted agriculture as a primary occupation in these wetter areas, while the Somalis retained their proud heritage of nomadic herding. Considering the present distribution of Somali tribes, the Somalis seem to have preferred herding their livestock in the dry habitat to which they were accustomed.

Although most of the Galla tribes practice agriculture, the Boran Galla of Southern Ethiopia and Kenya display cultural characteristics similar to Somalis. With the exception of a few semi-permanent farmers on Marsabit

Mountain and near Moyale, the Boran do not cultivate (Baxter, 1954). Even in those places where the soil and climate are comparable to other agriculturally developed areas, the Boran, like the Somali, shows a definite preference for nomadic herding. The northern extent of the Boran almost exactly coincides with the division between herding and agricultural land (Map 10). The territory is bounded by the Somalis on the east, and the western boundary of the study area approximates the extent westward of the Boran.

Recently, changes have occurred in the traditional Somali disdain for agriculture. The ethnic distinction that once prevailed between cultivators and herders seems to be disappearing to some extent (Kaplan, 1969). Perhaps the best examples are the agriculturalists in the areas of Hargeisa and Borama in the Northern Somali Republic. The clan-families of these Somalis were formerly of a nomadic tradition (Kaplan, 1969), but they have now chosen to practice dry land farming.

Nevertheless, the majority of the Somalis still prefer nomadic herding as a way of life. The cultural milieu undoubtedly influences the Somalis' perception of their arid environment, and any change in land use, even in the wetter areas, will require corresponding changes in social values and customs.



Political Factors in  
Somali Areas

The rise of nationalism in the developing nations has had its effect on the land use pattern of Northeast Africa. Following World War II, nationalist fervor led Ethiopia to claim vast areas of land which had formerly been the domain of nomadic Somali herders. Ethiopia's claims had historic bases, but the government of H.I.M. Haile Selassie had rarely administered previously in the Somali-inhabited areas (Touval, 1963). By the time the Somali Republic received its independence in 1960, skirmishes had occurred to protect the rights of the Somalis in Ethiopian territory. The threat of war caused the authorities to restrict movement across the international boundaries. Such restriction caused hardships to the Somali nomads who annually crossed and recrossed the border in search of pasture and water. Many of the nomads decided to forsake their transhumant life and wait for better times. They remained on one side of the border or the other with their flocks and, in the more favorable climatic areas, many began raising crops to supplement their basic milk diet. The easing of tensions in late 1967 was not followed by a mass return by the Somali cultivators to their former nomadic way of life. The political problems of Northeast Africa have thus furthered the decline in the pastoral nomadism and increased the use of cultivation to provide food for the Somalis.

An impetus to the rise of agriculture has also been the Somali government's development program (Kaplan, 1969). Somali requests for United Nations assistance have resulted in several worthwhile recommendations. Most of the United Nations effort has been concentrated on developing agriculture along the Juba and Shebeli rivers in conjunction with flood control and irrigation systems. The Somali government has reacted favorably to most agricultural development schemes. A statement in a United Nations report on Somalia (FAO, 1968) describes the Somali attitude:

The need for government participation in a program for raising production of traditional agriculture has been recognized, and the Ministry of Agriculture has announced plans to form an extension service, to introduce land tenure legislation, to carry out research, to make credit available to cultivators, and to improve marketing.

Such political pressures to develop agriculture should result in better utilization of available land. The under-utilization of land has been a serious problem in some parts of the country (Karp, 1960), and governmental assistance can help make agriculture more economically attractive to the nomadic Somali. The changing land use patterns in the valleys of the Juba and Shebeli probably are evidence that development programs are having their effect (FAO, 1968).

If the Somali Republic is successful in its effort to stimulate agricultural activity, it is likely that Somalis outside the country's borders will reassess

the value of agriculture in their traditional economic structure. Agricultural techniques which proved profitable would be adapted to new areas, and the land use pattern of Northeast Africa could change drastically. Naturally, much remains to be done, and the development schemes along the two main rivers of the country are only a beginning to the development work needed to alter the present land use scheme of Northeast Africa.

Spatial Interrelationships between Land Use  
Patterns, Ethnic Areas, and the Regional  
Water Balance in Northeast Africa

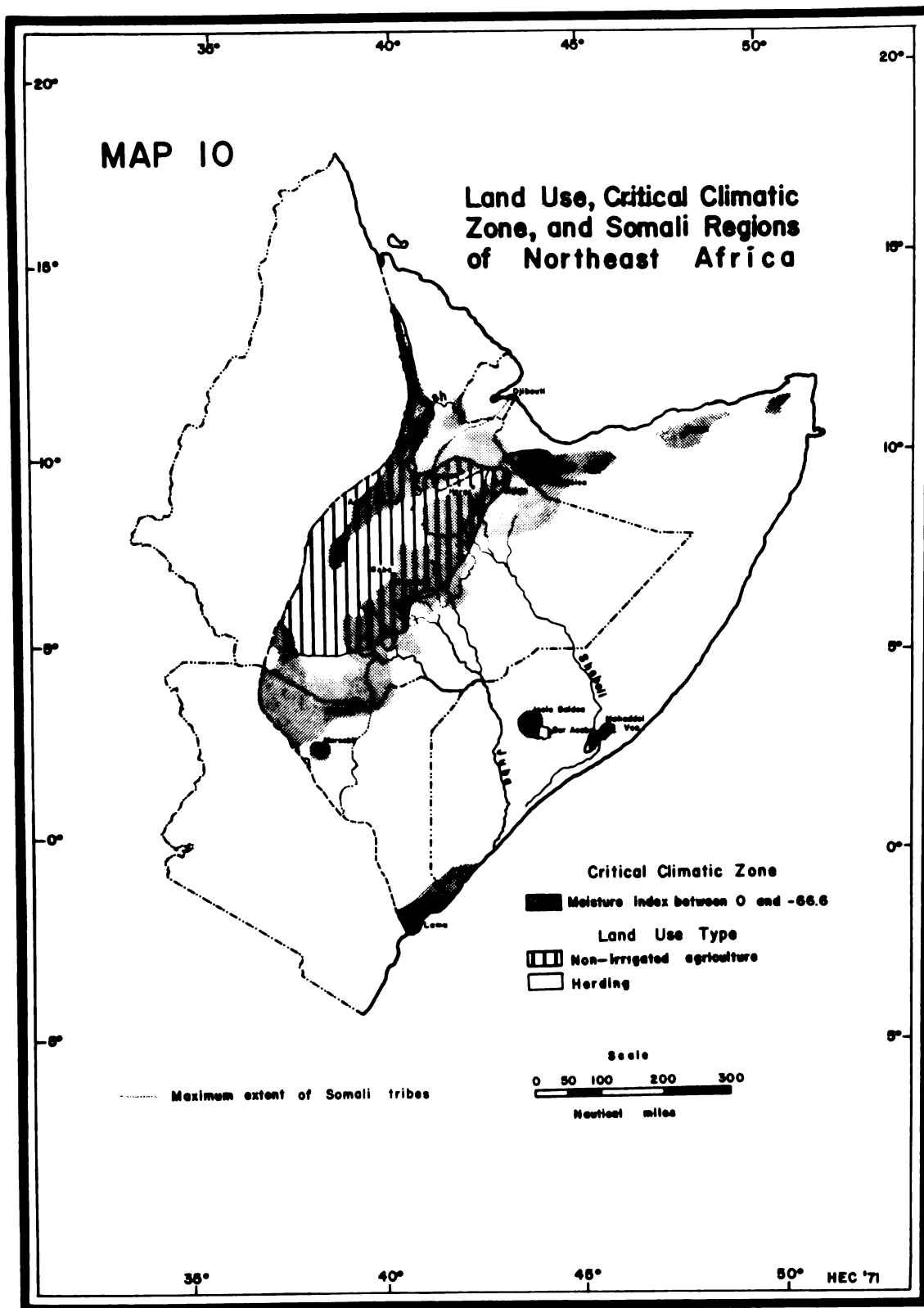
The pattern of land use in Northeast Africa is obviously a reflection of the decisions of the inhabitants of the region. Certain factors are considered before people decide upon the activities which will occur in a given place. In the case of the area under study, the primary consideration is the availability of water. Superimposed upon the framework of the regional water balance are the cultural and political factors which influence decision-making processes and thus the spatial arrangement of land use activities.

Analysis of the interrelationships of land use, the ethnic areas, and the regional water balance in Northeast Africa reveals several discernible patterns. From these patterns, a territory may be described which fulfills the aims of this research, namely, a critical climatic zone where lands on either side tend to favor

the development of either agriculture or herding activities.

Referring to Map 10, the first of these spatial interrelationships is that agriculture rarely occurs in areas with a moisture index below -66.6. Both the Somalis and the non-Somalis of Northeast Africa seem to perceive the semiarid/arid boundary as the limit below which agriculture is impractical. The only exceptions are found in the irrigated regions along the Shebeli, Juba and Awash rivers, where agriculture is not based on locally produced water.

Excluding the irrigated lands, little agriculture is found in Somali-inhabited parts of Northeast Africa. However, the Somali agriculture which does occur is extremely important. Two isolated areas of dry land farming, where the water balance is more favorable than the surrounding region, are found in (1) the Baidoa Plain between Ischia Baidoa and Bur Acaba, and (2) the area southwest of Mahaddei Ven. The more favorable water availability, the government support of agricultural development, and the closer Somali ties to land combine to further the development of agriculture in these areas. Other significant Somali agricultural regions are found around Diredawa and Jijiga in Ethiopia, and between Borama and Hargeisa in the Northern Somali Republic. The factors which have given rise to cultivation in these areas are



(1) changes in cultural attitudes, (2) the restrictions on movement across the political boundary, and (3) the relatively high moisture availability.

One of the reasons for the dearth of agriculture in Somali-inhabited regions is undoubtedly the high degree of aridity. In fact, most Somalis reside in parts of Northeast Africa with a moisture index below -33.3 (the dry subhumid/semiarid boundary). Notable exceptions occur near Direedawa, Jijiga, and Borama--the same areas where agriculture is also found. A region where the moisture index is well above -33.3, but where the Somalis practice little cultivation, is near Daloh in the north central Somali Republic. Here, the Somalis seemingly prefer to utilize their lands for herding activities rather than attempt to raise crops.

In contrast to the lack of agriculture in Somali regions, non-Somali lands are predominantly used for agriculture or agriculture and livestock-raising. A major case which does not fit this pattern is in Southern Ethiopia and Kenya where the tribal boundary of the Boran Galla almost coincides with the boundary between agricultural lands and herding areas. The Boran Galla seem to have an even greater disdain for agriculture than the Somali, for some of their herding areas are found in regions with a positive moisture index. The second major exception of non-Somali herding areas in Northeast Africa

is found in the northern part of the study area. This region extends from the western side of the rift valley to the Red Sea and is inhabited by the Afar (Danakil). Parts of this region are so devoid of water that even nomadic herding is a difficult occupation. Other non-Somali lands which are not agricultural are located adjacent to Somali-inhabited regions with a low moisture index. The non-Somali areas of Northeast Africa have a wide range of moisture index values, so it is difficult to draw any conclusions about interrelationships between these two spatial features.

The critical climatic zone sought in this paper becomes apparent when all three of the variables discussed are correlated. The earlier observation that little agriculture is found below a moisture index of -66.6 means that both Somalis and non-Somalis prefer not to attempt cultivation below that level of water availability. The arid-semiarid boundary thus forms a good choice for the lower limit of the critical climatic zone. However, the upper limit is not so easily discerned. With the exception of the Boran Galla mentioned previously, non-Somali peoples always practice agriculture at a moisture index of -33.3 or above. On the other hand, the Somalis do not always use land for agriculture in areas where the moisture index approaches a positive value. Therefore, the limit of aridity as established by Thornthwaite

( $I_m=0$ ) is perhaps the best selection for the upper boundary of the critical zone. Within this zone, the interrelationships between water availability and non-climatic factors combine to influence the inhabitants' perception of their environment and the resultant pattern of land use.



#### IV. CONCLUSION

Certain aspects of the Thornthwaite system are open to criticism (see, e.g., Chang, 1968); however, there is adequate evidence derived from this study that the water balance method is a useful vehicle for evaluating the effect of climate in a regional setting. The correspondence between areas of a certain moisture index and the location of specified economic activities provides an understanding of the relationship between climate and land use.

The arid regions of the world pose special problems, such as climatic variability, which are not considered within the scheme of the climatic classification devised by Thornthwaite. This fact was recognized (Thornthwaite, 1956) and methods were proposed to assess the annual variability of precipitation using water balance information. Unfortunately, the data are not yet available for obtaining an accurate assessment of the reliability of precipitation in Northeast Africa. However, in this study it has been assumed that the long term land use pattern is largely the result of climatic norms.

Thus, the factor of climatic variability should not affect the conclusions derived from this research nor the relevance of the Thornthwaite water balance method for determining water availabilities.

Perhaps the greatest usefulness of the water balance method of Thornthwaite is found in its basic reliance on only values of temperature and precipitation. Since these parameters are the most commonly recorded climatic characteristics, the system clearly has advantages over schemes requiring a multitude of input data.

Even though the use of the water balance method may result in an accurate evaluation of climate, its utility in analyzing land use patterns is limited by the inherent faults of viewing areal phenomena as products of single factors. The relationship between climate and land use is often modified by several influences upon the minds of the individuals who make the decisions concerning land use activities.

In Northeast Africa, the close relationship between climate and land use is affected by nonclimatic influences. The division between herding and non-irrigated agricultural activities has as its primary basis the degree of aridity as determined by the Thornthwaite method. There may be defined a critical climatic zone in which the division between land use activities are viewed within a framework of differing moisture index values. Anomalies

in the general correlation between the patterns of climate and land use usually can be explained through an investigation of the political and cultural factors operative in the region. The consideration of non-climatic influences will naturally provide a more thorough understanding of the regional interrelationships and the resultant land use pattern.

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## APPENDIX



# APPENDIX I

Source		PE mm	P mm	AE mm	D mm	S mm	Index	Location	Elevation feet	Years T	Climatic P Type	
REGION 1												
1.	Assab	A	1871	27	27	1844	0	-98.6	13.01N 42.45E	33	@	E A' d
2.	Djibouti	A	1910	125	125	1785	0	-93.6	11.33N 43.11E	33	16	55 E A' d
3.	Zeila	A	1904	77	77	1827	0	-96.0	11.21N 43.29E	33	@	@ E A' d
4.	Berbera	Ba	1843	59	59	1784	0	-96.8	10.26N 45.01E	33	14	7 E A' d
5.	Bender Cassim	A	1784	2	2	1782	0	-99.9	11.17N 49.10E	23	@	@ E A' d
6.	Alula	B	1683	19	19	1664	0	-98.9	11.58N 50.48E	98	5	5 E A' d
7.	Guardafui	A	1403	1	1	1402	0	-99.9	11.49N 51.17E	672	@	@ E A' d
8.	Eil	A	1861	4	4	1857	0	-99.8	7.59N 49.49E	110	@	@ E A' d
9.	Obbia	B	1661	198	198	1463	0	-88.1	5.23N 48.31E	49	5	5 E A' d
10.	Mahaddei Ven	A	1724	478	478	1246	0	-69.0	2.48N 45.29E	406	@	@ E A' d
11.	Villaggio Duca	A	1702	572	572	1130	0	-66.4	2.46N 45.30E	363	@	@ D A' d
12.	Balad	B	1806	560	560	1246	0	-69.0	2.22N 45.24E	351	5	5 E A' d
13.	Afgoi	A	1708	535	535	1173	0	-68.7	2.10N 45.06E	282	@	@ E A' d
14.	Mogadiscio	A	1661	498	498	1215	0	-73.1	2.02N 45.21E	56	@	@ E A' d
15.	Genale	A	1468	52	52	1416	0	-96.5	1.47N 44.42E	226	@	@ E A' d
16.	Brava	A	1634	511	511	1123	0	-68.7	1.06N 44.02E	33	@	@ E A' d
17.	Alessandra	A	1662	73	73	1589	0	-95.6	0.30N 42.46E	75	@	@ E A' d
18.	Afmadu	B	1804	458	458	1346	0	-74.6	0.28N 42.04E	282	5	5 E A' d
19.	Ionte	B	1729	400	400	1329	0	-76.9	0.09S 42.32E	16	5	5 E A' d
20.	Giumbo	A	1787	362	362	1425	0	-79.7	0.14S 42.37E	99	@	@ E A' d
21.	Kismayu	B	1705	225	225	1480	0	-86.8	0.23S 42.32E	39	5	5 E A' d
22.	Lamu	A	1532	928	928	614	10	-39.4	2.16S 40.54E	29	5	40 D A' d

## REGION 2

23.	Diota	A	1690	710	710	980	0	-58.0	11.13N 41.47E	961	@	@ D A' d
24.	Asseyla	Bb	1690	170	170	1520	0	-89.9	11.00N 42.06E	1145	10	10 E A' d
25.	Awash	B	1528	489	489	1029	0	-68.0	9.01N 40.10E	2800est	6	6 E A' d

26.	Addis Ababba	B	732	1237	673	59	564	+69.0	9.02N	38.45E	8052	37	37	B <sub>3</sub> B <sub>2</sub> 'r
27.	Bishoftu	A	890	799	583	307	216	-10.2	8.48N	39.01E	6200est	@	@	C <sub>1</sub> B <sub>2</sub> 'w <sub>2</sub>
28.	Adami Tulu	Bc	950	582	582	368	0	-38.7	7.53N	38.42E	5350est	24	24	D B <sub>1</sub> 'd
29.	Hosaina	B	755	1193	703	52	490	+58.0	7.30N	37.47E	7000est	4	4	B <sub>2</sub> B <sub>1</sub> 'r

REGION 3

30.	Cencia	Bd	754	1302	739	15	563	+72.7	6.17N	37.40E	7500est	4	4	B <sub>3</sub> B <sub>2</sub> 'r
31.	Kolaris	Be	913	1065	879	33	186	+16.8	6.55N	38.20E	6000est	8	8	C <sub>2</sub> B <sub>3</sub> 'r
32.	Kuyera	Be	912	799	799	149	0	-16.3	7.20N	38.30E	5600est	4	4	C <sub>1</sub> B <sub>3</sub> 'd
33.	Goba	B	670	732	625	45	107	+ 9.3	7.01N	39.59E	9100est	5	5	C <sub>2</sub> B <sub>1</sub> 'r
34.	Megalo	Bf	828	500	500	328	0	-39.6	6.53N	40.47E	5250est	5	5	D B <sub>2</sub> 'd
35.	Diredawa	A	1649	623	623	1026	0	-62.2	9.37N	41.51E	3980	@	@	D A 'd
36.	Harar	A	892	896	811	81	85	+ 0.4	9.18N	42.07E	6125	@	@	C <sub>2</sub> B <sub>3</sub> 'd
37.	Jijiga	B	831	575	575	256	0	-30.8	9.22N	42.50E	5500est	5	5	C <sub>1</sub> B <sub>2</sub> 'd
38.	Aware	Bg	1195	284	284	911	0	-76.3	8.16N	44.11E	4000est	6	6	E A 'd
39.	Bawn	Bh	1069	324	324	745	0	-69.7	10.12N	43.06E	4340	7	7	E B <sub>4</sub> 'd
40.	Gebile Ijara	Bh	1068	449	449	619	0	-58.0	9.42N	43.37E	4790	7	7	D B <sub>4</sub> 'd
41.	Hargeisa	B	1069	392	392	677	0	-63.3	9.31N	44.06E	4500	7	7	D B <sub>4</sub> 'd
42.	Sheikh	Ba	1069	457	457	612	0	-57.2	9.56N	45.12E	4726	5	5	D B <sub>4</sub> 'd
43.	Daloh	Bi	856	833	719	137	114	- 2.7	10.47N	47.18E	6780	6	6	C <sub>2</sub> B <sub>3</sub> 'w

REGION 4

44.	Manja Asseh Bihen	B	1590	258	258	1332	0	-83.8	10.10N	45.08E	1900	5	5	E A 'd
45.	Elal	Bg	1196	225	225	970	0	-81.1	9.56N	46.17E	3565	7	7	E A 'd
46.	El Afwein	Bj	1308	136	136	1172	0	-89.6	9.55N	46.15E	3346	7	7	E A 'd
47.	Buran	Bj	1308	127	127	1187	0	-90.7	10.13N	48.47E	3140	6	6	E A 'd
48.	Scusciban	B	1812	73	73	1739	0	-96.0	10.14N	50.14E	1132	5	5	E A 'd
49.	Gardo	B	1361	129	129	1232	0	-90.5	9.32N	49.06E	2460	6	6	E A 'd
50.	(Halin) Taleh	Bk	1588	80	80	1508	0	-95.0	9.09N	48.25E	2093	7	7	E A 'd
51.	Hudun	Bk	1588	101	101	1487	0	-93.6	9.09N	47.29E	2051	7	7	E A 'd
52.	Qaradag	Bl	1361	99	99	1262	0	-92.8	9.29N	46.53E	2600	6	6	E A 'd
53.	Burao	B	1196	146	146	1050	0	-87.8	9.31N	45.34E	3420	7	7	E A 'd
54.	Odweina	Bg	1195	206	206	989	0	-82.8	9.24N	45.04E	3460	7	7	E A 'd

55. Gudubi	B	1307	178	178	1129	0	-86.4	8.49N	45.00E	3335	7	7 E A' d
56. Yo'obyaboh	Bj	1307	183	183	1124	0	-86.0	8.30N	45.33E	2710		6 E A' d
57. Ainabo	Bl	1360	146	146	1214	0	-89.3	8.57N	46.26E	2579		7 E A' d
58. Las Anod	B	1314	122	122	1192	0	-90.7	8.28N	47.22E	2313	7	7 E A' d
59. Bihen	Bk	1586	127	127	1457	0	-92.0	8.26N	48.25E	1475		6 E A' d
60. Domo	Bk	1585	172	172	1413	0	-89.1	7.52N	46.49E	1100est		6 E A' d
61. Danot	Bk	1594	225	225	1369	0	-85.9	7.32N	45.20E	2220		6 E A' d
62. Gorrahei	A	1564	19	19	1545	0	-98.8	6.37N	44.20E	1250est	@	E A' d

## REGION 5

63. Negelli	A	963	483	483	480	0	-49.8	5.20N	39.34E	1449	@	@ D B4'd
64. Moyale	A	1070	653	653	417	0	-39.0	3.32N	39.03E	3663	6	27 D B4'd
65. Marsabit	A	917	805	805	112	0	-12.2	2.19N	37.59E	4439	8	30 C1B3'd
66. Wajir	A	1768	218	218	1570	0	-88.8	1.45N	40.04E	805	10	26 E A' d
67. Mandera	A	1902	207	207	1695	0	-89.1	3.57N	41.52E	1092	7	7 E A' d
68. Oddur	B	1685	377	377	1308	0	-77.6	4.06N	43.50E	1715	5	5 E A' d
69. Baidoa Bonka	B	1569	546	546	1023	0	-65.2	3.09N	43.40E	1430	5	5 D A' d
70. Ischia Baidoa	A	1568	689	689	879	0	-56.1	3.07N	43.41E	1584	@	@ D A' d

## REGION 6

71. Galcaio	B	1838	94	94	1744	0	-94.9	6.44N	47.26E	984	5	5 E A' d
72. El Bur	B	1768	104	104	1664	0	-94.1	4.42N	46.34E	574	5	5 E A' d
73. Belet Uen	A	1910	259	259	1651	0	-86.4	4.42N	45.11E	564	5	5 E A' d
74. Bulu Burti	B	1842	359	359	1483	0	-80.5	3.07N	45.32E	433	5	5 E A' d
75. Bur Acaba	A	1833	560	560	1273	0	-69.4	2.48N	44.05E	640	@	@ E A' d
76. Lugh Ferrandi	B	2067	355	355	1712	0	-82.8	3.48N	42.36E	637	5	5 E A' d
77. Bardera	B	1817	488	488	1329	0	-73.1	2.21N	42.16E	389	5	5 E A' d
78. Garissa	A	1864	309	309	1555	0	-83.4	0.29S	39.38E	604	6	17 E A' d

PE = Potential Evapotranspiration; P = Precipitation; est = Estimate; S = Moisture Surplus; AE = Actual Evapotranspiration; D = Moisture Deficit; T = Temperature; @ = Not Given.

Sources:

A "Average Climatic Water Balance of the Continents, Part 1, Africa," Publications in Climatology, Vol. XV, No. 2, Centerton, N.J., 1962.

B Frederick L. Wernstedt, World Climatic Data, Africa, Vol. 1, Penn. State University, 1959.

Lower case letters indicate the source of the temperature data if it differs from precipitation data source.

a C. E. P. Brooks, "The Meteorology of British Somaliland," Quarterly Journal of the Royal Meteorological Society, Vol. 46, No. 196, October, 1920, pp. 434-438.

The letters b through l represent other stations within the Appendix whose temperature means were utilized to estimate potential evapotranspiration.

b	Diota	d	Hosaina	f	Jijiga	h	Hargeisa	j	Gudubi	l	Gardo
c	Bishoftu	e	Harar	g	Burao	i	Goba	k	Manja Asseh Bihen		

# CLIMATIC TYPES ACCORDING TO THORNTWAITE'S CLASSIFICATION

First Letter	Climate	Moisture Index	Second Letter	Climate	Thermal Efficiency (PE)	Third Letter	Seasonality
A	Perhumid	100	A'	Megathermal	1140mm	r	small moisture deficit
B <sub>4</sub>	Humid	80	B <sub>4</sub> '	Mesothermal	997	s	moderate summer deficit
B <sub>3</sub>	Humid	60	B <sub>3</sub> '	Mesothermal	855	w	moderate winter deficit
B <sub>2</sub>	Humid	40	B <sub>2</sub> '	Mesothermal	712	s <sub>2</sub>	large summer deficit
B <sub>1</sub>	Humid	20	B <sub>1</sub> '	Mesothermal	570	w <sub>2</sub>	large winter deficit
C <sub>2</sub>	Moist Subhumid	0	C <sub>2</sub> '	Microthermal	427	d	small moisture surplus
C <sub>1</sub>	Dry Subhumid	-33.3	C <sub>1</sub> '	Microthermal	285	s	moderate winter surplus
D	Semiarid	-66.7	D'	Tundra	142	w	moderate summer surplus
E	Arid		E'	Frost		s <sub>2</sub>	large winter surplus
						w <sub>2</sub>	large summer surplus

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