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# CROSS-NATIONAL PATTERNS OF DEVELOPMENT AND POLITICAL VIOLENCE IN COUNTRIES FORMERLY UNDER FRENCH RULE

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CROSS-NATIONAL PATTERNS OF DEVELOPMENT AND POLITICAL VIOLENCE IN COUNTRIES FORMERLY UNDER FRENCH RULE

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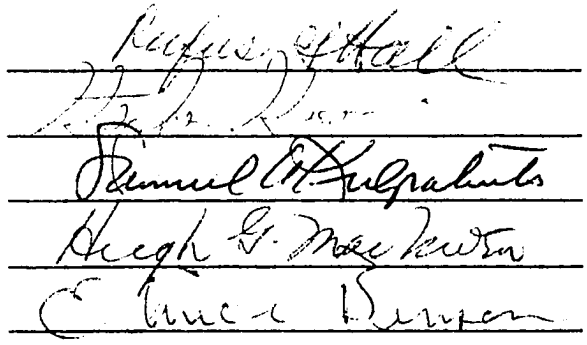

DISSERTATION COMMITTEE

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TABLE OF CONTENTS

LIST OF TABLES

# CROSS-NATIONAL PATTERNS OF DEVELOPMENT AND POLITICAL VIOLENCE IN COUNTRIES FORMERLY UNDER FRENCH RULE

## CHAPTER I

## SCOPE OF ANALYSIS

### Introductory Comments

In the last decade, the rapid emergence of new, less-developed states has precipitated interest among political scientists in the problems and processes of 'political development,' 'social mobilization,' 'national integration,' 'modernization' and related concepts. Some scholars have gone beyond the historical accounts of the emergence of new institutions and have attempted to spell out the basic processes involved in change and development.[1] From authors such as Pye, Almond, Powell, Coleman and Huntington have emerged models and paradigms whose purpose is a conceptual schemata for comparing the development of individual polities by utiliza-

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[1]For an historical account of development see J. Clogett Taylor, The Political Development of Tanganyika , (Stanford: Stanford University Press, 1963). The attempts to understand the problems and processes of development are well represented by David E. Apter, Ghana in Transition (New York: Atheneum, 1963), Lucian Pye, Aspects of Political Development (Boston: Little, Brown & Co., 1966) and Gabriel Almond and James Coleman, The Politics of Developing Areas (Princeton: Princeton University Press, 1960)

tion of somewhat objective criteria. This inquiry will be predominantly empirical rather than speculative in nature. It will be theoretical to the extent that empirical patterns may suggest new ways of viewing political phenomenon which have not been included in the models and paradigms of developmental theorists.

In general, this study will focus on comparing nations for their relative levels of political stability and national development during two separate time intervals. The first time period will include the years of the early 1960's, i.e., 1961, 1962 and 1963 while the second time interval will focus upon years of the second half of the decade, i.e., 1966, 1967 and 1968. An additional thrust in this research will be an attempt to explore the possible linkages between political instability and national development. Finally, explanation of levels and changes in development will be undertaken which will include an array of factors felt to have an influence on political stability and national development.

The new nations of Africa, the Middle East and Southeast Asia which have recently achieved independence from their former colonial rulers, have all set national development as their goal. The leaders in the new nations have made national development an 'article of faith' and the foremost doctrine of their political platforms.

France had been one of the major colonial powers prior to the upsurge of nationalism following World War II. Her

colonial empire was second only to that of Britain. No less than twenty-four nations have been carved out of the French colonial holdings. This study examines protectorates as well as colonies noting the differences in development and stability wherever such distinctions are appropriate.

The colonial heritage and its influence upon national development and political stability after independence has been explored by Von der Mehden. He concludes there are "...no striking differences among the different colonial systems in these statistics...on national development..." i.e., GNP per capita, energy consumption per capita, steel consumption per capita, newspaper circulation per 1,000 inhabitants, percentage of population with post-primary educations.[2] Von der Mehden continues with the statement that there is no significant relationship between political instability, defined as attempted coups and revolutions, and colonial heritage and that political stability "...can be correlated with the length of time a country has been independent."[3] Although such comparisons of colonial heritage are not the focus of this study, the factors we have included assume more general importance, given the point that the country which was the former colonial ruler is not significantly related to development or political stability.

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[2]Fred R. Von der Mehden, Politics of the Developing Nations (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1964) pp. 10-19.

[3]Ibid., p. 20.

The colonial powers have all too often left their former colonies ill-prepared for nationhood.[4] Most of the new nations inherited economies solely or in large part based upon a colonial mercantile exchange. Many of their economies have not yet been developed beyond mere extractive enterprise designed to supply the shops and factories of the ruling power with the raw materials to be made into produced goods to be placed on sale at a profit on the world markets.

The development of political institutions was crude where it occurred at all and was often entirely neglected by the colonial rulers. These new nations had not been prepared in the arts of government. They had not been prepared to become participant societies after years and decades of being administrative subjects to their colonial masters. The new nations look to the developed nations (and also to other developing nations, such as Communist China) for the models of development they so ardently seek to follow.

These new nations have become objects of contention between the East and West. Each bloc with its own ideology is trying to extend its influence into these underdeveloped nations. Each bloc offers competing models of how development can best be achieved. The elites in these underdeveloped nations are

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[4] Ibid., pp. 10-20. Von der Mehden concludes that former colonial countries have a higher level of development than continuously independent countries. This is probably because they were richer to begin with. See William John Hanna, Independent Black Africa (Chicago: Rand McNally and Co., 1964) pp. 1-46 for a good treatment of the effect of French and British colonial rule on the polities in this portion of the world.

looking for the best model to guide them in the rapid surge for development.

The elites in these new nations realize that rising expectations become insatiable and development must be constant. If development is upset the temptation to blame the model chosen is often too great to be turned aside. This is the point when revolutions become the only answer to achieving the goal of national development.

Political, economic, technological and national development in general go hand in hand. They become so interrelated that if development fails in one area it often endangers the possibilities of progress occurring in other areas. An attempt is made in this study of development of the former French colonies to measure quantitatively the stages of development these colonies have achieved.

The media carries the message of the chronic and sporadic acts of political violence being experienced by developed and developing nations throughout the world. A noted U. S. newspaper in one day typically carries the message of civil strife such as public hangings in Guinea, the crushing of a fifteen-year-old rebellion and public executions in the Cameroon, the inability of Chad's Christian government supported by French aid to subdue revolts in its Arabic-Moslem north and central areas.[5] Is the level of civil unrest on the increase? What

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[5]See "The Troubled Nations of Middle Africa" and "Guinea: A Sometimes Hero Now Resorts to the Noose" in the New York Times, January 31, 1971, E4.

political characteristics do nations possess where political instability is high or low? The answer to these questions will be sought in the course of this research project.

Very little scholarly work of an empirical nature has been conducted with the object of winnowing out patterns and relationships of 'how' political violence has influenced, either retarded or accelerated, national development. Notably, Ivo K. Feierabend, Rosalind L. Feierabend and Betty A. Nesvold have empirically demonstrated, with some success, how change has led to political violence.[6] These authors base their analysis largely upon the theoretical foundation of the gap between social expectations and social achievement, that is, relative deprivation theory. Their focus is thus upon the psychological 'causes' of political violence. These authors have not examined the reverse relationship of how political violence causes change. The latter is the focus of this inquiry. Missing from their work is attention to many transitional and traditional societies, as their sample included 82 nations having data available in the years 1948-1962. This indicates a heavy loading of countries which are further along on most continua of development.

Ted Robert Gurr approaches development from a similiar

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[6]Ivo K. Feierabend, Rosalind L. Feierabend and Betty A. Nesvold, "Social Change and Political Violence: Cross-National Patterns," in Hugh D. Graham and Ted Robert Gurr, Violence In America: Historical and Comparative Perspectives, (Washington, D.C.: Government Printing Office, 1969) Vol. 2 of the National Commission of the Causes and Prevention of Violence Staff Study Series.

perspective in constructing his model of civil strife by fitting his indices into his "relative deprivation" paradigm.[7] One advantage of Gurr's analysis is the large number of countries for which data were collected (consult Appendix E). His focus, as with the above mentioned study, is on the explanation of the psychological causes of political violence.

## Research Design

The scope of this research is selective, including the twenty-four nation-states which have emerged from the French colonial holdings. These nation-states were selected in part because of their location on most continua of development. The authors of the World Handbook of Political and Social indicators have constructed an index of economic and political development and established a five-fold classification of stages of development. Of our twenty-four polities, no country is in the "high mass-consumption" stage, one country is in the "industrial revolution" stage, three countries are in the "transitional" stage, three countries are in the "traditional civilization" stage, two countries are in the "traditional primitive" stage and the fifteen remaining countries are unclassified due to the lack of adequate data.[8] The reluctance of many research-

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[7]Ted R. Gurr, "A Causal Model of Civil Strife: A Comparative Analysis Using New Indices," American Political Science Review, Vol 62, No. 4, pp. 1,104-1,124.

[8]In addition to the studies in this preliminary proposal where hypotheses have been suggested, Max F. Millikan and Donald L. M. Blackmer in The Emerging Nations (Boston: Little, Brown and Co., 1961) suggest various hypotheses. Everett E. Hagen, "Some Observations on Political Stability and Change,"

ers of the phenomena of national development and political violence to concentrate analysis upon the traditional and transitional countries has served as the stimulus for the selection of this sample of polities for extended study and analysis.

Comparative research of the least developed polities in the world has been hindered by the lack of adequate data reported to the United Nations and other archival sources. This limitation, although continuing to exist, is becoming less of a problem with the improved assemblege of archival data banks and U. N. statistical efforts.

This study must rest upon the assumption that there is a relationship between the occurrence of political violence and the processes of development. The focus of research will be the linkages between these two phenomena. Assuming the dual phenomena of political violence and development are related, the focus of this research will be to indicate the patterns in that relationship. The likelihood of certain 'types' of political violence being related to given stages of development remains an area open to empirical analysis. Specific types and intensities of political violence are more likely to lead to national development or impede its objectives. Several hypotheses might be tested to answer the question of 'how' development is impeded or accelerated by the occurrence of political violence. Testing these hypotheses, the researcher expects

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in Robert E. Asher, ed., Development of the Emerging Countries (Washington, D.C.: The Brookings Institute, 1963) also suggests hypotheses regarding these variables.

that certain deviant cases will point to alternative explanations and possibly open new areas for inquiry. The following alternative hypotheses can be tested as possible explanations of the relationship between these two political concepts:

$H_1$ The scale (intensity) of political violence will be inversely correlated with the level of development.

$H_2$ The 'rate' of development is positively related to the rate of occurrence of political violence.

$H_3$ The intensity of political violence is likely to decrease as nations move from one stage of political, social and economic development to another.

$H_4$ The intensity of political violence at the time of independence will have a positive relationship to the intensity of political violence in the years following independence.

The examples above are tested throughout utilizing empirical data.

It is important to grasp the political history and culture of a society in order to make judgements as to how empirically observed phenomenon are related to the environment from which they have been extracted. In an attempt to provide an environment for our empirical research we have included in the following chapter a regional and country analysis of the political history of our sample countries. This inventory of the polities of our sample will allow for reference to the dates of independence, years of colonial rule, type of and health of economic systems, etc. in our later research findings in this paper.

In order to build a conceptual basis for the empirical analysis of national development in Chapter IV we include in Chapter III a discussion of the analytical reasons for use of our measures of national development. References are made throughout Chapter III to the authors who have operationalized national development indicators. We attempt to conceptualize logical dimensions of development which are examined empirically through employing a factor analysis technique in Chapter IV.

In Chapter IV we present our measures of national development and submit them to factor analysis to establish empirically verifiable dimensions of development. From our scales of development constructed in this chapter, it will be possible to examine the relative level of development in our sample of countries and to examine the manner in which the relative level of development changes for countries over time. We will hear explore what measures are developing at what rates and ask several theoretically based questions such as: Is there any structuring of developmental indicators which tend to persist over time? Do certain groupings of countries explain increases or decreases in relative level of development?

In order to establish a framework for the analysis of political violence levels in our sample of countries over time, we examine the concept of political violence with stress on definition, causes and consequences in Chapter V. In this chapter alternative theories of violence are explored. We

examine prior theory and analysis in an attempt to establish where analysis will be most fruitful.

In Chapter VI we present scales of political violence and examine changes in the relative level of violence for the countries in our sample over time. This chapter includes an ethnicity scale to ascertain whether the level of minority group strength is related to the phenomenon of domestic political unrest. Countries are grouped in an attempt to ascertain whether countries having common characteristics such as geographic locality have high or low levels of violence.

Chapter VII brings together the empirical findings of Chapters IV and VI on national development and political violence and intercorrelates them. An attempt is made in this chapter to profile those countries having high and low levels of political violence with increases and decreases in levels of political violence. Countries are first profiled for increases and decreases in political violence by developmental factors felt theoretically to be of significance. In addition, countries were profiled on the basis of political characteristics of countries reporting relatively high and low levels of political violence.

In summary, this study is planned as a contribution to the understanding of relational patterns which may aid in modifying the theoretical constructs dealing with development. Secondly, this type of research can suggest the role of political violence in the developmental process. Also, this use of data

can provide an empirical check upon hypotheses put forward by authors who have dealt with these concepts in analytical schemata. Finally, this research can lead to the answer to the question of 'why' national development is retarded by political violence in one nation and 'why' it accelerates national development in others.

## CHAPTER II

## AN INVENTORY OF THE FORMER FRENCH COLONIES

### The French Mandates in the Middle East

French influence in the Middle East dates back to agreements between the great powers made following World War I. In the Sykes-Picot Agreement (1916) negotiated in secret by France, Britain and Russia, the French were given Syria as a sphere of influence. In the San Remo Conference (1920), between the above mentioned powers, France was given mandate control over Greater Syria (including Lebanon). These mandates were placed under the League of Nation's mandate system.[1] This began the French control of the future states of Lebanon and Syria which did not culminate until 1946 when full independence was declared for both nations. The transfer of power in Lebanon went much more smoothly than in Syria where Britain finally moved in troops to make the transfer complete.

Syria is primarily an agricultural nation and at one time was a major trade route between Europe and the Orient. Because of sea travel this latter role has largely disappeared as a factor in the economic life of the nation. The grain and cotton

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[1]The Middle East and North Africa: 1966-67 (London: Europa Publications, 1967) pp. 400 and 622.

crops of Syria are usually large enough to supply an exportable surplus. Syria's only significant industries are related to these two crops, e.g., vegetable oil refining and textile mills. A major source of foreign exchange for Syria is derived from the two oil pipelines which cross her territory: one from Iraq to Lebanon and the other from Saudi Arabia to Lebanon.

Politically, Syria has been plagued by periodical coup d' etats which have upset the political process. The military has repeatedly intervened in the political life of the nation. Some examples of such military intervention in the recent political history of Syria are: March, 1949; December, 1949; December, 1951; September, 1961; March, 1962; March, 1963; July, 1963 (attempted coup); February, 1966; September, 1966 (attempted coup). The government has shifted from right to left or from left to right after these interventions, depending upon the clique in control at any given moment. The present regime has strong ties with the Soviet Union and is strongly influenced by the Syrian Communist Party led by Mr. Khalid Bagdash.[2] The Baath Party is in power at present and is a strong Arab socialist party.

Lebanon, in contrast to Syria, has come under the influence of the United States and good relations are maintained between these two governments. Lebanon has remained pro-Western in contrast to some of her Arab neighbors. Lebanon's

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[2]Ibid., p. 407.

President Chehab (1958-1964) requested the aid of U. S. Military troops who helped to restore order. Since that time, the Lebanese government has shown persistent political stability with no military coups to upset the development of her political process. The Lebanese have had the benefit of uninterrupted and peaceful elections and changes of government since independence.

The Lebanese economy is agriculturally based. Citrus fruits, olive oil, and other vegetable crops are the primary agricultural exports. Lebanon, like Syria, has few mineral resources. Lebanon receives foreign exchange from two pipelines which cross her territory. Manufacturing industries in Lebanon are among the most developed in the Middle East and according to an official survey conducted in 1962, some 5,000 industrial establishments employed some 21,000 workers.[3]

Side by side in the Middle East are two former French protectorates, each taking a different route to development--politically and economically.[4] Lebanon bases its economy on free enterprise and Syria bases its economy on state socialism. Lebanon has electoral participation and peaceful changes of government while Syria is plagued by demagoguery and military intervention in the political processes. The results of

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[3]Ibid., p. 407.

[4]Michael C. Hudson, "A Case of Political Underdevelopment," Journal of Politics, Vol. 29 (November, 1967) pp. 821-837. In Hudson's analysis of Lebanon he concludes that Lebanon is underdeveloped and that social mobilization appears to be overloading the circuits of the Lebanese political system.

their divergent experiments in development will be interesting to observe for those in new nations attempting to choose the best model to follow for development of their own countries.

## Former French Colonial Nations of Southeast Asia

The second group of countries to receive their independence from French colonial control is located in Indochina. The name Indochina is based upon the Indianization of Southeast Asia (except Vietnam) in that area's early history. This area was also on the main sea route between India and China. This early influence, generating from both India and China, still remains strong in Indochina. The belief that political leaders have mystical powers and can accomplish great feats by merely lifting their hand and saying, "Let it be done!" continues to prevail in the area.[5]

French colonial control was first established in this region in 1859. The French military intervention in Saigon (part of Cochin China) was precipatated by terrorist attacks upon the missionaries in that region. This control was steadily increased and in 1864, Cambodia came under French control and this event was followed by the declaration of protectorate status in 1893 for what is now Laos. This culminated the extent to which the French colonialism was established in Indochina.

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[5]Amry Vandenbosch and Richard Butwell, The Changing Face Of Southeast Asia (Lexington: University of Kentucky Press, 1966) p. 7.

The French used 100,000 Indochinese soldiers in Europe during World War I and the recruits came into contact with Western democratic concepts and ideas.[6] The period between the two great wars witnessed ever increasing agitation for national independence in these countries. The Japanese control during World War II further weakened French power and dominance in this region and the Japanese further raised the hopes of nationalism by declaring the end of colonial status for Indochina when their forces seemed doomed to defeat.

Civil war broke out in 1946 against the reestablishment of the French colonial administration. Heavy fighting broke out in North Vietnam and spread throughout the French colonial holdings in Indochina. It was not until the disastrous defeat of the French garrison at Dien Bien Phu, that the French politicians decided once and for all to disengage itself from this region. The major cities were all that remained under French control when the decision was made to call the Geneva conference to decide the final destiny of the French colonial holdings.

The provisions of the final agreement reached on July 20-21, 1954, are summarized as follows:

1) Partition of Vietnam at the 17th parallel and elections uniting the country to be held within two years.

2) Military withdrawal of French forces (all forces to be out of North Vietnam within 300 days).

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[6] Ibid., p. 164.

3) Laos and Cambodia would achieve full independence and not be divided.[7]

North Vietnam had been the scene of the bitterest part of the struggle that finally dislodged the French.

The French left Indochina ill-prepared for nationhood. The colonial economies were based upon production of raw materials and the extraction of minerals for shipment to other countries. Native industry had not been developed. The new elites were predominently urban-based as had been their colonial masters. The area was undeveloped in self government and had no acquaintance with representative institutions. This was the colonial legacy of the French in Southeast Asia.

North Vietnam is a large importer of foodstuffs and is unable to feed its over fifteen million population with home-grown products. It has a strong base to support industrialization, possessing large deposits of coal, iron, phosphates and some depostis of copper, lead, manganese, zinc and other mineral deposits. Its industry is small scale at present and will require some degree of time to develop the technological base necessary for development. The prospects for industrial development are as good if not better in North Vietnam than in all of Indochina. This, of course, cannot take place until the completion of the war between North and South Vietnam. U.S. bombing has taken a heavy toll on North Vietnamese industry and its transportation system.

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[7]Goerge M. Kahin, ed., Governments and Politics of Southeast Asia (Ithaca, New York: Cornell University Press, 1959) p. 337

North Vietnam is the only country in this study which has chosen a communist system of government as its model of political development. Ho Chi Minh was the revolutionary leader of the North and his heir apparent, Le Duan, seems more militant and a greater 'hard liner' toward the West than Ho himself. The leadership has been collective in style, since Ho's death in 1970. The only significant political party in the North is the communist party. Representation in governmental circles is achieved by party membership and is not dependent upon elections.

South Vietnam is primarily an agricultural nation and in time of peace would be a major exporter of rice and rubber. It has been forced to import these goods because of the present state of hostilities within the country. There is little in the way of a strong industrial base in the South and most of the goods consumed are imported from abroad. South Vietnam is fortunate in having several good port facilities which could be used to export her rice crops and the few industrial goods she does produce if war hostilities would subside.

South Vietnam has been plagued by coups aimed at overthrowing the inefficient governments. The military has readily intervened when it felt that politicians had outlasted their time. The country did have a strong rule during the Diem regime (1956-1963) and appeared to be developing itself and taking care of major ills inherited from the French. Diem won overwhelmingly in the election of 1955 against Bao Dai and was firmly estab-

lished in power until events turned on him in the early 1960's. His regime became oppressive and in 1963 trouble broke out between the militent Catholic regime and Buddhist demonstrators (about 70 per cent of the population is Buddhist and about 10 per cent is Catholic). This led to Diem's downfall and replacement by a military junta. The military has stepped in several times since Diem's fall to change the ruling clique.

The present rulers of South Vietnam were elected early in the fall of 1967. However, no communist or N.L.F. (National Liberation Front) candidates were allowed to run in the elections. The regime remains under the eye of politically concious military officers. The present regime is theoretically not military, but does have a strong military appearance to it.

The Laotian economy remains in bad shape. It has very little industry, is an inland country, and possess only sparse areas where food cultivation is possible. It will require large sums of investment before Laos can become economically self-sufficient.

Politically, Laos is a neutralist government and has a parliamentory-royalist government structure. Prime Minister of the neutralist government is Prince Souvana Phouma. He heads a shaky tripartite government of neutralists, right-wingers and left-wingers (Pathet Lao). The Pathet Lao has failed to take any active role in the government in recent years. Civil war continues in Laos between the various factions of the government. By the 1961-1962 Geneva conference

called to decide the fate of Laos, its neutrality was guaranteed by the great powers. Elections are held sporadically and military coups have plagued the country in recent years. The military forces of each faction in the year 1966 are estimated to be as follows: Neutralist, 10,000; Pathet Lao, 25,000; and Royalist, 70,000.[8]

Cambodia is an agricultural nation producing rice and rubber for export. It has begun a drive to industrialize on a small scale and has received foreign assistance from many varied countries. Its outlets to the sea are the tributaries to the Mekong River, which extends into Cambodia from Vietnam. It recently completed its own port on the South China Sea allowing some independence from the need to use South Vietnam's waterway to transport her exports. Industry is state-owned and operated and all trade was nationalized in 1964 after the completion of nationalization of the country's banking system.

Prince Norodom Sihanouk had been the real political power in Cambodia until the military coup which deposed him in 1969. The Sangkum political party fills all the seats in the National Assembly. It is split into several factions and is under the control of military leaders. The party campaigns vigorously for office and has not missed having an election since 1955.[9] The nation completed its fourth election on Sep-

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[8]Derik Davies, ed., Far Eastern Economic Review: Yearbook 1967 (Hong Kong: December, 1966) pp. 27 and 28.

[9]Ibid., p. 133.

tember 11, 1966, which indicates a remarkable success for a country located on the border of the world's number one trouble spot--South Vietnam.

North African Nations Formerly Under French Control

Algeria was the first of the North African countries taken over by the French in 1830. By 1881, the French had moved troops to Tunisia and established control of that country. It was not until 1912 that the French worked out agreements which would extend their control and power into Morocco. The latter two countries received independence from French colonial control in 1956. Algeria waged a long and bloody war before its independence was granted in 1962.

Morocco is primarily an agricultural and fishing nation. Over three-quarters of the population live in the countryside. Citrus fruits, wine and wood are the major export items from the agricultural sector. Fishing and fish processing account for another large portion of Morocco's exports. Morocco's industrial development is based on consumer industries but holds good promise of development. Morocco is the world's second largest producer of phosphates and is the largest exporter of phosphates in the world. Its other deposits of raw material, including a substantial amount of oil, make Morocco highly suited for industrial development in the future.

Morocco has a monarchial-parliamentary system and holds regular elections every four years. The king has a great deal of power and is one of the strongest constitutional monarchs

in the world. The king holds the post of Prime Minister at the present time. Morocco has developed rather stable political institutions since its independence in 1956.

The agricultural sector is the mainstay of the Tunisian economy. Tunisia exports citrus fruits, oranges, grapes, lemons, wheat, some barley and olives when the nation receives enough rainfall. Tunisia has many mineral resources which are as yet largely unexploited. Iron ore, phosphates, lead, zinc, mercury and petroleum exist in large enough quantities for both industrialization and export. Industry is local and is centered around processing of raw materials and foods. The latter being the most important type of industry.

The Destour Socialist Party is the leading political party in Tunisia. It holds all the seats in the National Assembly. Elections are held every five years by direct universal sufferage. The political climate in Tunisia has been relatively stable since independence.

Algeria, which had been under French rule longer than any other colony, received independence from France following the completion of the Evian agreements of 1962. French politicians had hoped to make Algeria a 'small France' and encouraged permanent emmigration to Algeria. In fact, Algeria was considered politically a part of metropolitan France, with representation in the National Assembly. The war for independence waged by Algerians lasted from 1954 until the Evian agreements.

Much of the industry in Algeria has been nationalized by

Ben Bella and Boumedienne. Industry is still rather small and geared to food processing and local factories producing consumer goods. Agriculture is the mainstay of the economy and citrus fruits, grapes, cereals and olives are grown for export. Algeria has many mineral deposits including zinc, iron ore, coal and phosphates. In addition, large fields of petroleum products are now becoming significant to economic development in Algeria.

The National Liberation Front presents the only slate of candidates to the electorate of Algeria. It is the single most important force in the government. The military conducted a coup in 1965 and Colonel Boumedienne replaced Ben Bella. The major leaders in the N.L.F. are colonels in the armed forces. The N.L.F. is pushing for development in Algeria at a frantic pace. The single party rule has become the model Algeria is following to achieve her goal of national government.

## Former French Countries of Sub-Sahara Africa

The new states in Africa carved out of the French colonial holdings will be discussed in groupings due to the large number of them and because similarities do become apparent when discussing them. In Table 2-1, we can see from the date of independence that similarities between these countries do exist. With the two exceptions of Guinea (1958) and Cameroon (1961) all these new states received independence in 1960.

The five inland states in this area are: Mali, Upper Volta, Niger, Chad and the Central African Republic. All of

TABLE 2-1: BACKGROUND INFORMATION ON FORMER FRENCH COLONIES
(1971)

| Country | Date of Coloni-zation | Date of Indepen-dence | Years of Coloni-zation | Years Since Indepen-dence | Popula-tion (1,000's) | Pop. Density (Persons per Square Mile) |
|---|---|---|---|---|---|---|
| Lebanon | 1920 | 1946 | 26 | 25 | 2,645 | 658.8 |
| Syria | 1920 | 1946 | 26 | 25 | 5,866 | 82.0 |
| Algeria | 1830 | 1962 | 132 | 9 | 13,547 | 14.7 |
| Morocco | 1912 | 1956 | 44 | 15 | 15,050 | 86.3 |
| Tunisia | 1881 | 1956 | 75 | 15 | 5,027 | 79.3 |
| Mauritania | 1858 | 1960 | 102 | 11 | 1,140 | 2.9 |
| Senegal | 1858 | 1960 | 102 | 11 | 3,822 | 50.2 |
| Guinea | 1883 | 1958 | 79 | 13 | 3,890 | 41.0 |
| Mali | 1881 | 1960 | 79 | 11 | 4,929 | 10.3 |
| Madagascar | 1885 | 1960 | 75 | 11 | 7,199 | 31.8 |
| Ivory Coast | 1842 | 1960 | 118 | 11 | 4,195 | 34.0 |
| Togo | 1920 | 1960 | 40 | 11 | 1,956 | 89.3 |
| Dahomey | 1892 | 1960 | 68 | 11 | 2,718 | 62.5 |
| Upper Volta | 1896 | 1960 | 64 | 11 | 5,330 | 50.3 |
| Niger | 1906 | 1960 | 54 | 11 | 3,909 | 8.5 |
| Chad | 1885 | 1960 | 75 | 11 | 3,510 | 7.1 |
| Cen. Afr. Rep. | 1889 | 1960 | 71 | 11 | 1,518 | 6.3 |
| Cameroon | 1920 | 1961 | 41 | 10 | 5,680 | 30.9 |
| Gabon | 1903 | 1960 | 57 | 11 | 485 | 4.7 |
| Congo (Brazz.) | 1903 | 1960 | 57 | 11 | 880 | 6.5 |

TABLE 2-1--Continued

| Country | Date of Colonization | Date of Independence | Years of Colonization | Years Since Independence | Population (1,000's) | Pop. Density (Persons per Square Mile) |
|---|---|---|---|---|---|---|
| North Vietnam | 1884 | 1954 | 70 | 17 | 19,900 | 324.7 |
| South Vietnam | 1859 | 1954 | 95 | 17 | 17,903 | 266.8 |
| Cambodia | 1864 | 1954 | 90 | 17 | 6,818 | 97.5 |
| Laos | 1893 | 1954 | 61 | 17 | 2,893 | 31.7 |

SOURCE: Hour of Independence Series, French Embassy (New York: Information Service Press, October, 1960).

Legum Colin, ed., Africa: A Handbook to the Continent (New York: Frederick A. Praeger, 2nd edition, 1962).

The Middle East and North Africa: 1966-67 (London: Europa Publications, 1967).

Amry Vandenbosch and Richard Butwell, The Changing Face of Southeast Asia (Lexington: University of Kentucky Press, 1966).

Britannica Book of the Year: 1971 (Chicago: William Benton Publisher, 1971).

these had limited contact with Western culture. These countries were the outlying areas during French colonial rule. They were not administrative headquarters within the colonial structure.

Economically, these states are nearly exclusively agricultural, with most of the land being devoted to the production of food crops for local consumption. The foreign capital and trade which is achieved by these nations is derived from one or two major crops of livestock raising, e.g., Niger exports peanuts and cottonseed; Upper Volta exports some sorghum and livestock; Chad exports some livestock and cotton; and the Central African Republic is the most highly developed of the inland nations.

These inland nations are beset by intense tribalism and sectionalism which hinders them politically. They are basically one-party states. Mali leans strongly in favor of the communist bloc and maintains good relations and trade with the U.S.S.R. and China.

Guinea is unique for its unilateral declaration of independence from France in 1958. Relations between the two nations have been strained since independence. President Sékou Touré is the strong man of this nation and maintains a tight control over the country's only party. Sékou Touré runs an authoritarian type government which occasionally uses unconstitutional methods for implementing his programs. The country has the means to begin development but is not financially strong at this point.

Togo, the Ivory Coast and Dahomey are former French colo-

nies on the Gold Coast of Africa. The Ivory Coast has a diverse and extensive transportation system and a good location on the Gulf of Guinea. It has a diversified and highly productive agricultural export product. Agriculture and fishing are the chief economic resources of the nation. Industrially, the Ivory Coast is just reaching a take-off point with power plants and construction industries producing at high rates. It maintains a free enterprise economic system. The Ivory Coast has received extensive economic assistance from France since independence.

Mauritania, Senegal and Guinea are countries located on the Western coast of Africa. Mauritania is overwhelmingly populated by nomadic tribes. It is fortunate in possessing large and rich deposits of iron ore, copper and tungsten which bring in foreign capital. It has a major sea port and a potential for development.

Senegal's economic life is dependent upon peanuts as its main cash crop. Senegal has a growing processing industry and is fast reaching an industrial take-off point. The development of a mining industry and the best port on the west coast of Africa, at Dakar, make Senegal an attractive investment country. It has a growing university in Dakar and registers students from all of west Africa. Senegal promises to be a major development success if current trends continue.

Togo and Dahomey are both agricultural economies. Fishing plays a major part in the economies of both nations. Their internal transportation systems are fairly well developed. The

government of Togo has been hampered by an interventive military. A military coup took place in Dahomey in December, 1967, and it appears that intervention by the military may be setting precedents in both countries.

Cameroon, Gabon and the Congo (Brazzaville) are the countries of the former French holdings in equatorial Africa. Cameroon was divided into two mandates (French and British) following World War I. The two sections voted to be joined together in 1961, and to form the new state of Cameroon. The country is ruled as Eastern and Western regions. It is the only federal system in operation among the former French colonies. This nation has developed diversified exportable agricultural enterprises. In addition, Cameroon has rich deposits of aluminum in exportable quantities.

Gabon and the Congo are the centers of the former French colonies of equatorial Africa. Both countries have good internal transportation systems and excellent ports for trading with the outside world. Gabon has some of the world's best forest land and it is accessible for planned exploitation. The Congo's forests are one of its assets and forest products constitute a major export for that country. Both countries have a high proportion of their populations in schools. Both are rich in natural resources including iron ore, uranium, potassium, gold, diamonds and manganese. They have just scraped the surface in development of their mineral resources.

The Malagasy Republic (referred to interchangeably as

Madagascar in this paper) is a large island country off the southeastern coast of Africa. The island's economy is based upon agricultural production. Because of the varied topography and climate in the island republic, many different types of crops grow well. The island is nearly self-sufficient in foodstuffs. Because the land is so rugged and mountainous, it has been difficult to establish good internal transportation systems. Madagascar is not an industrial country. Its industries are based upon products grown within the country. The maximum use of the country's resources is still a long way off.

It has been the purpose of this chapter to present an overview of the countries involved in this study. These countries are undergoing rapid change in the drive to become modern societies. It is important for students of comparative government and international relations to keep abreast of developments taking place within these societies. Quantitative measures have been becoming increasingly important in carrying out this task. The significance of the factors used to measure development in this study will now be examined.

## CHAPTER III

## FACTORS SIGNIFICANT TO THE CONCEPT OF POLITICAL DEVELOPMENT

Several independent variables relevant to the concept of national development have been selected for this study. The former French colonies have been ranked on these variables in order that certain generalizations can be made about their current level of development.

These variables have been selected because of their apparrent relationship with the concept of political development and their hypothesized relationship with overall national development. Political development is here examined as one aspect of a multi-dimensional process of social change.[1] It is necessary at the outset to indicate the significance of these variables to political development, how they have been conceptualized by various authors, what they can tell us about development and, in particular, political development, as well as some of their limitations when used for comparative analysis.

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[1]This is one of the ten definitions of political development discussed by Lucian Pye, Aspects of Political Development (Boston: Little, Brown and Company, 1966) Chapter Two especially pp. 44-45. This is the approach underlying Max F. Milliken and Donald L. M. Blackmer, The Emerging Nations (Boston: Little, Brown and Company, 1961) and Daniel Lerner, The Passing of Traditional Society (New York: Free Press of Glencoe, 1958).

An attempt will be made to point out the more important limitations involved in using each of the statistical indicators.

The variety of factors which have been shown to have an effect upon development is quite great. Those variables for which data were avialable and which indicate various aspects of development have been selected for use in this paper. It should be stated at the outset that data were not available for some factors this author felt would be of value. The major reason for this lack of data for some factors is the relative recency of independence for these nations and often their lack of reporting to the United Nations.

The concepts and related statistical series which have been selected as criteria for each of the two time periods included in this study are as follows:

1. Urbanization--The indicator related to this concept is PERCENTAGE OF POPULATION IN CITIES OF 20,000.

2. Communications--The indicators related to this concept are TELEGRAPH MESSAGES PER 1,000 POPULATION; TELEPHONE UNITS PER 1,000 POPULATION; DAILY NEWSPAPER CIRCULATION PER 1,000 POPULATION; RADIOS PER 1,000 POPULATION and CINEMA ATTENDANCE PER CAPITA.

3. Recruitment--The indicator related to this concept is MILITARY PERSONNEL PER 1,000 POPULATION.

4. Education--The indicators related to this concept are STUDENTS ENROLLED IN SCHOOLS PER 1,000 POPULATION and STUDENTS ENROLLED IN POST-PRIMARY SCHOOLS PER 1,000 POPULATION.

5. Economics--The indicators related to this concept are GROSS DOMESTIC PRODUCT PER CAPITA; IMPORTS IN U. S. DOLLARS PER 1,000 POPULATION and ENERGY CONSUMPTION PER CAPITA.

6. Social--The indicators related to this concept are INHABITANTS PER PHYSICIAN and NUMBER OF AVAILABLE SOCIAL SERVICES.

Discussion of the basis for selection and use of these factors related to political development will follow in the order indicated above. The variables were thought *a priori* to be conceptually related in the above groupings. Our factor analysis verifies some of these relationships alone or in combination over time.

The concepts of political development, modernization, social mobilization, political development and national development have been among the many concepts examined by a variety of scholars having in common a focus upon the developmental process. As these terms are variously employed throughout this research project, perhaps some attempt to clarify these concepts will aid the reader in determining the author's use of these terms.

The academic genesis for developmental scholars has as its source the efforts of economists who have employed as part of their lexicon the term 'economic development'. The theory of economic development has been explored and operationalized by economists for a number of years. Courses in major universities and colleges throughout the United States are taught by economists who share a general concensus that positive economic change is the *sine qua non* of economic development.[2] In

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[2]See Robert A. Packenham's excellent treatment of the economic analogy to political development in his chapter entitled, "Political Development Research" in Michael Hass and Harry S. Kariel, eds., *Approaches to the Study of Political Science* (Scranton, Pennsylvania: Chandler Publishing Company, 1970), pp. 169-193.

view of the early success of economists in theory construction, operationalizing their concepts and describing and explaining economic phenomenon, political scientists have with varying emphases employed economic development theory or the indicators operationalized by economists.[3] A significant group of scholars have explored the manner in which political development may facilitate economic growth.[4]

The term political modernization has received much attention by David Apter.[5] Apter concludes that modernization is a 'process' and a special case of development. The process of modernization is used essentially "...with regard to the spread and use of industrial-type roles in non-industrial settings."[6]

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[3]For early attempts by scholars to relate social economic change to political and especially democratic development see Seymour Martin Lipset, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," American Political Science Review, LIII (March, 1959), pp. 69-105; Walt W. Rostow and his emphasis upon the relationship between stages of economic growth and forms of political organization in The Stages of Economic Growth (Cambridge: Cambridge University Press, 1960); and, Rostow earlier in The Process of Economic Growth, (New York: W.W. Norton, 1952).

[4]See particularly Paul A. Baran, The Political Economy of Growth, (New York: Monthly Review Press, 1956); Norman S. Buchanan and Howard S. Ellis, Approaches to Economic Development, (New York: The Twentieth Century Fund, 1955); Benjamin Higgins, Economic Development: Principles, Problems and Politics, (New York: W.W. Norton, 1959); and Albert O. Herschmar, The Strategy of Economic Development, (New Haven: Yale University Press, 1958).

[5]For an early statement of the 'modernization' thesis one should refer to David E. Apter, The Politics of Modernization, (Chicago: The University of Chicago Press, 1965).

[6]See David E. Apter chapter entitled, "Political Systems and Developmental Change," In Robert T. Holt and John E. Turner, eds., The Methodology of Comparative Research, (New York: The Free Press, 1970) expecially pages 157-158.

In terms of development Apter is concerned with showing how political roles, i.e., management problems, as well as other roles undergo significant change as societies are exposed to industrialization.

The notions of social mobilization have received increasing attention by Karl Deutsch who defines social mobilization as the degree to which a society is able to mobilize its populations for the accomplishment of various societal goals.[7] Social mobilization creates burdens as well as blessings for developing polities and the ability of a government to respond to demands created by social mobilization will be related to its level of stability.

The three previously mentioned developmental concepts are only examples of how political scientists have attempted to conceptualize aspects of political development. One scholar has noted no less than ten different, though overlapping, meanings attached to political development.[8] There is much ambiguity in the concept of political development despite--perhaps because of--its increasing usage. Because of this confusion we shall explore briefly the manner in which this author views political development. In dealing with the complex processes of development one thing seems evident, nearly all aspects of social life come to have potential political

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[7]Karl W. Deutsch, "Social Mobilization and Political Development," American Political Science Review, LV No. 3 (September, 1961), pp. 493-497.

[8]Pye, Aspects, op. cit., pp. 31-48.

significance. Hence, this author views political development as one aspect of a multidimensional process of social change. The various patterns of development conceptually explored in this chapter and operationally defined in the succeeding chapter are felt to be significantly related. Political access measured by a series of weighted variables is the only expressly political index created. However, it is assumed that the index of national development implicitly measures a significant aspect of political development in these polities. The political access index was not designed as a measure of political development as this would have necessitated inclusion of other political variables.

In short, the index of development to be presented in Chapter IV will be employed to ascertain diachronically (through time) and synchronically (between systems) the relationship between overall national development and the occurrence of political violence. In this way, the index of development can be employed as both a dependent and independent or intervening variable.[9]

## Urbanization

The concept of urbanization is an important factor in determining when any given country is ready to modernize and

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[9]Apter has suggested that political parties may be viewed as either independent, intervening, or dependent variables in David E. Apter, The Politics of Modernization, (Chicago: The University of Chicago Press, 1965) pp. 181-182, 223-231.

industrialize. The data for this variable can tell us several important things about the development of a country. It can indicate to us the proportion of any given population which has been exposed to modernity. Exposure to modernity is one of seven indicators of social mobility in given societies advanced by Karl W. Deutsch. He feels there is a strong relationship between social mobilization, change and development. The definition of social mobilization advanced by Deutsch in his landmark study states that "Social mobilization is a name given to an overall process of change, which happens to substantial parts of the population in countries which are moving from traditional to modern ways of life."[10] Deutsch further states that in a highly developed and fully mobilized country the percentage living in cities should be above 50 per cent.[11]

Daniel Lerner, in his study of development in the Middle East, has indicated that urbanization is an indicator of modernity and is related to participation on the part of the population. He is credited with the origin of the oft-quoted statement regarding urbanization as the necessary first phase of

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[10]Deutsch, "Social Mobilization", op. cit., pp. 493-495.

[11]Ibid., p. 493. Deutsch's seven indices of social mobolization are: (1) Percentage of population exposed in any substantial way to significant aspects of modern life. (2) Percentage of population exposed to mass media. (3) Percentage of population who have changed locality of residence (or their district, province or state). (4) Percentage of population living in towns. (5) Percentage of population in non-agricultural occupations among the total of those gainfully employed. (6) Percentage of population who are literate. (7) New GNP or by GNP in dollars per capita.

modernization--that is, the "take off" phase. Discussing the significance of urbanization, he states:

> The first phase, then, is urbanization. It is the transfer of population from scattered hinterlands to urban centers that stimulates the needs and provides conditions needed for "take off" toward widespread participation. Only cities require a largely literate population to function properly...cities produce the machine tools of modernization...cities create the demand for impersonal communication.[12]

Lerner defines urbanization as the proportion of population living in cities of over 50,000. He states that only after the "critical minimum" of urbanization is reached (from 7-17 per cent of the total population) does the nation's literacy rate begin to rise significantly. He sets the "critical optimum" of urbanizatinn at 25 per cent and believes that beyond this level literacy continues to rise independently of the growth of the cities.[13] Further reference to these figures will be made in the chapters dealing with analysis of this variable. Tables D-1 and D-2 indicating a rather high correlation between urbanization, literacy, media participation and political participation are included in the Appendix of this study. Both tables are extracts from Lerner's above mentioned work.

Phillips Cutright, in his article, "National Political Development: Measurement and Analysis," constructed an index

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[12]Lerner, Passing, op. cit., p. 61.

[13]Ibid., pp. 57-59.

of political development and correlated this with independent indices of development. The high correlation between these indices, of which one is urbanization, is shown below:

TABLE 3-1: MATRIX OF CORRELATIONS OF NATIONAL MEASURES OF POLITICAL DEVELOPMENT AND LEVELS OF COMMUNICATION, URBANIZATION, EDUCATION AND EMPLOYMENT IN AGRICULTURE: N-77

| | 2 | 3 | 4 | 5 | Means | S.D. |
|---|---|---|---|---|---|---|
| 1. Communications | 74 | 88 | -86 | 81 | 204.5 | 36.4 |
| 2. Urbanization | -- | 77 | -75 | 69 | 49.9 | 8.2 |
| 3. Education | | -- | -78 | 74 | 109.8 | 16.7 |
| 4. Agriculture | | | -- | 72 | 53.1 | 10.5 |
| 5. Political Development | | | | -- | 49.9 | 9.7 |

SOURCE: Phillips Cutright, "National Political Development: Measurement and Analysis," American Sociological Review XXVIII No. 2 (April, 1963) p. 295.

The table concerns national political development and was taken from Cutright's article. Inspection of the matrix shows a high degree of correlation between the predicting variables and political development. Cutright concludes that 67 per cent of the observed variation around the mean of the dependent variable, political development, can be accounted for by the covariation in the independent variables. Communication shows the highest degree of correlation. However, all the predicting variables indicate high individual correlation with political development.

It can be observed from the above discussion that urbanization is related to political development. It also supplies

us with clues as to the readiness of a given society to "take off " along the path to modernization and development.

Some of the limitations involved in using urbanization as a predicting variable should be pointed out at this stage. Urbanization can have a negative or retarding influence upon development as well as a positive influence. The large influx of a population into cities can create frustrations for many who are uprooted from their traditional ways of life and find themselves in an impersonal urban center where jobs do not grow on trees as fruit would in their previous agrarian background. This often opens the avenue for many new city-dwellers to follow extremist leaders who promise them jobs and job-advancement. In short, a great life the easy way. One group of authors suggests that urbanization must also be studied on the basis of "pull and push."[14] If the agrarian population is attracted to the city by jobs and not because the land of the countryside is too densely populated, frustrations will be far less and assimilation can take place. Conversely, if they are pushed off the land because of high rural population density and the hope of a "good life" in the cities, many will find only over-crowded slums awaiting them.

Another possible limitation to the use of this measure is involved more with the nature of the data itself. The figure of 20,000 or more population to indicate urbanization was

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[14]Bruce M. Russett, et al., World Handbook of Political and Social Indicators (New Haven: Yale University Press, 1964) p. 50.

utilized for Time Period I and is based on the assumption that in a city of this size urban functions will be fairly certain to be represented. There are, no doubt, many cities with a population of 20,000 or more which are merely large villages where traditional ways of life are still followed. However, it can be argued that this condition will be balanced by cities under 20,000 which are urban centers where development is taking and can continue to take place. The figure of 100,000 or more population to indicate urbanization in Time Period II creates problems of comparison. The high correlation between both indicators is pointed out in Chapter IV. The difficulty was finding data for correspondingly sized cities for both time intervals. Ginsburg made this observation in his book on indicators of development when he stated that "...urbanization in given countries will have larger proportions of their populations living in cities; the poorer, smaller proportions."[15]

## Communications

Few factors related to political development have been more studied and written about by development specialists than communications. This author has collected data on four variables which he feels are related to the concept of communications and mass media for each time period. It will be necessary from the outset to make some distinction among them.

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[15]Norton Ginsburg, Atlas of Economic Development (Chicago: The University of Chicago Press, 1961) p. 34.

Telephone units and telegraph messages per 1,000 population could easily be thought of as being more closely related to technological development or economic development. They have been placed under the heading of communications in this study. Their significance will be discussed at the outset of this section and then the more often discussed and studied factors related to mass media and communication (i.e., radio units and newspaper circulation per 1,000 population) will be examined. The distinction between "elite" and "mass" communications is employed in our analysis of the results of factor analyzing our developmental variables for both time periods.

Telephone units and telegraph messages per 1,000 population can indicate to us the relative percentages of the population exposed to significant aspects of modern life.[16] This can be one indication as to what percentage of the population can secure items above a subsistence level, thus indicating economic development. It also illustrates to what degree a given society has advanced technologically. Without communication from village to village and district, province, state and national centers of government, political decisions are inhibited. The ability of village leaders to communicate directly with political and bureaucratic leaders in the capital city about new laws and directives can aid in those directives being properly understood and executed. The village

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[16]Exposure to aspects of modern life was one of the seven indicators of social mobilization referred to in Footnote 7 from the article written by Karl W. Deutsch.

chief or political leader can feel himself an integral part of the national system. It thus breaks down the wall of isolation and enlarges the village leaders' space perspective to include the district and perhaps the nation.

The traditional method of passing messages by drums or by the grapevine can work for such great events as the Kennedy assassination or the launching of a Sputnik, but it is nearly impossible to pass via the grapevine interpretive news such as the results of devaluation of the British pound or technicalities of the Non-proliferation of Nuclear Weapons Treaty. As Schramm maintains in his book on information in the developing countries,

> ...if village communications are traditional communications, and if roads, telephones, good postal services, and other extenders are not available, then the country is not very likely to move its villages out of their isolation ahd their traditionalism.[17]

Another significant reason for using these two variables in discussing development is the hypothesis that telegraph messages per capita and mail flow per capita indicate the level of involvement of a state in international affairs.[18] A nation going through the process of development and change needs international communications and relations on a much broader

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[17]Wilbur Schramm, Mass Media and National Development: The Role of Information in the Developing Countries (Stanford, California: Stanford University Press, 1964) pp. 77-78.

[18]For further discussion of this hypothesis, see Karl W. Deutsch, "International Communication: The Media and Flows", Public Opinion Quarterly XX (Spring, 1956) pp. 143-160.

scale than a nation which is stagnant and traditional.

Because of the lack of information on mail flow for the countries under study, this variable was not used. However, there seems to be a strong correlation between the two variables--lending credence to the hypothesis that they are related.

TABLE 3-2: NUMBER OF PIECES OF FOREIGN MAIL AND OF FOREIGN TELEGRAMS PER YEAR PER CAPITA IN SELECTED COUNTRIES

| Country | Pieces of Mail | Telegrams |
|---|---|---|
| Indonesia | .18 | .01 |
| India | .37 | .02 |
| Nigeria | .97 | |
| Turkey | 1.1 | .03 |
| Chile | 1.6 | .14 |
| Poland | 2.3 | .03 |
| United Arab Republic | 3.5 | .003 |
| Morocco | 3.6 | .08 |
| France | 8.4 | .16 |
| United Kingdom | 17.1 | .34 |
| Norway | 17.5 | .41 |

SOURCE: Wilbur Schramm, Mass Media and National Development: The Role of Information in the Developing Countries, (Stanford, California: Stanford University Press, 1964) p. 66.

Using telephones as one of his indices of communications, Phillips Cutright has also proven that communication is highly correlated with political development. His table showing this correlation was presented earlier in this chapter (see page 39).

The remaining two communications indices associated with political development (newspapers and radios) can also tell us

much about the countries selected. As Pye states, "Without a network capable of enlarging and magnifying the words and choices of individuals there can be no politics capable of spanning a nation."[19] He is saying that for national development to exist, media must be available which are national in scope and content. The media thus serve as a strong politicizing and socializing effect upon new nations. Communications can lead to national unity. A population having shared values and aspirations can hardly exist without a reasonably widespread communication system.

Mass media such as newspapers and radios may not only have a strong influence (positive and negative) for citizenship training, but also may mobilize the population for productive purposes. As Ginsburg stated, "The accessibility to printed materials provides some measure to which ideas circulate in a society and therefore some clue to the ease with which innovation might spread..."[20] The "take off" level of communications in newly developing countries has been set by UNESCO at 10 newspapers per 100 persons. This is probably not a low estimate and development can become significant beyond this level.[21]

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[19]Lucian W. Pye, Aspects, op. cit., p. 154.

[20]Ginsburg, op. cit., p. 40

[21]For a further explanation of communications and political development, consult Lucian Pye, ed., Communications and Political Development: Studies in Political Development, I (Princeton, New Jersey: Princeton University Press, 1963) p. 43.

In Deane Neubauer's recent research we see how one communication indicator was used to ascertain the degree of equality of access to information. Using information on the number of separately owned papers, the average circulation of these newspapers and the size of the capital, Neubauer developed a formula to measure the degree of equality of access to information. He employs this information with a wide range of other criteria of democracy and polyarchy to measure how ten countries are ranked in democratic performance. This work is a fine example of the type of analysis which can take place by imaginative thinking and methodological astuteness combined with precisely measured data.[22]

Some of the limitations involved in using mass media to predict political development can be seen from what happens when communications arouse expectations which go beyond a nation's ability to answer the demands of its people. If media are used to create demands and these demands are not met, frustration of aspirations sets in. Mass media has been credited with causing many of the anxieties which accompany the revolution of rising expectations. The miracles of mass communication in the twentieth century have awakened expectations in the masses in the developing nations that their general poverty is not inevitable as the Western example has proven. They gain an awareness of a better life and a conviction that some-

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[22]Deane Neubauer, On the Theory of Polyarchy: An Empirical Study of Democracy in Ten Countries (New Haven: Yale University Press, 1967).

thing can be done by government to create such an existence. Governments in the new states are forced to answer these demands by increasing the available consumption goods at the cost of expanding capital investment which would lead to further development.

## Recruitment

The military organization in the underdeveloped countries has become one of the critical 'institutional groups' associated with change and development.[23] In many underdeveloped countries it has become part of the avant guarde of nation building.

Pye has analyzed the political role of the military in developing countries from two points of view: (1) The military as a modern organization and (2) The military as a modernizing agent for the entire society.[24] The Army as a modern organization is modeled after the industrially-based organization. Its members are taught staff functions and a chain of command. The Military of the newly independent states look beyond their own society for models of organization. World War II appears to have given emphasis to the creation of modern professionalized armies in the new states.

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[23]For a fuller description of this broad-gauged term, consult Gabriel Almond and James Coleman, eds., The Politics of the Developing Areas (Princeton, New Jersey: Princeton University Press, 1960). The introduction to this book gives an excellent discussion of current terms being used by students and researchers of comparative government in the developing nations.

[24]Pye, Aspects, op. cit., 173-182.

Morris Janowitz estimates that during this period nearly one-half million Sub-Sahara Africans were mobilized and received organizational discipline appropriate for modernization.[25] This created a reservior of technically trained personnel for the private and public sectors of the new states. The technological skills and organizational discipline (due in part to mass armies) developed during the French Revolution and the American Civil War were effectively used by those societies in industrializing and modernizing these nations. The military establishments have been easier to create than other forms of modern social structure, e.g., civil administration and political parties, because of outside economic aid and consistent models in the more developed nations. The military organization itself can become directly involved in various developmental projects such as reclamation work, developing public works, roads and engineering projects.[26] However, the major impact of the military's organizational training,

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[25]Morris Janowitz, The Military in the Political Development of Nations (Chicago: University of Chicago Press, 1967) pp. 76.

[26]For an excellent discussion of the increased role of the military in civil action projects consult Richard M. Leighton and Ralph Sanders, eds., New Dimensions of the Cold War (Washington, D.C.: Industrial College of the Armed Forces, 1963) especially Chapter II which was prepared by the Civil Affairs Directorate, Deputy Chief of Staff for Military Operations, Department of the Army. For a contrast to this view of the new generation of military leaders in the developing countries consult J. H. Thompson and R. D. Reischauer, eds., Modernization of the Arab World (New York: D. Van Nostrand Company, 1966) especially Chapter Five, "The Role of the Army in the Traditional Arab State," by Sir John Bagot Glubb.

structure and discipline is in providing new nations with such persons as trained managers, competent administrators and executives to fill jobs in public and private enterprise. The military organizational structure does help directly and indirectly in the economic development of the state.

Shils, in his article "The Military in the Political Development of New States," presents the idea that the military institution is one of the few ubiquitous national institutions in new states. He further states that the military serves as a national symbol in societies with a "scarcity of nation-wide institutions."[27] Institutionally, it can serve to build ties between various linguistic and ethnic groups within the new state.

When discussing the military as an agent for social change, it is well to look at the military's impact upon both the individual recruit and society as a whole.

The military aids in the acculturation of the individual recruit and helps him to make the transition from his traditional background to a more modern view of the nation and state. The recruit learns that events are not merely the results of chance and fate, but are controlled by individuals. He learns that through merit one can climb the ladder of success. The military thus becomes a channel of social

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[27]John J. Johnson, ed., The Role of the Military in Underdeveloped Countries (Princeton, New Jersey: Princeton University Press, 1962), pp. 32-33.

mobility for the recruit. Janowitz makes the observation that "...in new nations, the military is recruited from the middle and lower-middle class groups."[28] In many of the new and rising nations, feudal aristocracies did not exist (e.g., Sub-Sahara Africa) and mobility awaits the recruit who possesses a need, skill or talent. Pye feels that this can also have a carry-over effect into the other sectors of society.

There are some limitations in the use of this measure in predicting political development. This acculturation process helps in training the recruit in citizenship. He sees himself in some relationship to a national community. He develops a sense of national identity. He begins to break with his dependence on close kinship ties and parochialism. By becoming literate, through the facilities in the armed forces, the recruit can read about his nation and develop a psychological feeling for its existence. This socializing influence of the state helps to inculcate values that are nation oriented. The military may become dissatisfied with the rate of progress in society and feel that the military institutions could do a more efficient job of moving the nation along to development. A military takeover is often the result.

Large military establishments may actually indicate internal tensions or repression as in the case of many Latin-American countries. The military may actually perform an

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[28]Janowitz, op. cit., p. 49.

interventive function within a country where such tensions exist. It may not show the patience necessary for politics to exist and thrive when it feels political leaders are slow and ineffectual in carrying out the functions of government. The military personnel, unimpressed by the bargaining process necessary in a democratic government, may step in and attempt to apply the rational order of a military hierarchy to problem solving.[29] The experience with such intervention by the military is not encouraging, as pointed out by Joseph La Palombara when he concluded that:

> ...where the military has assumed control, it is often apparent that democratic development is impeded...The history of Latin America clearly illustrates one pattern of political development that can emerge when the military bureaucracy gets into the driver's seat...As national political policy makers, they tend to be less able than their civil bureaucratic counterparts.[30]

Another author, Lee, argues that the African military is one of the leading contenders for the rewards of "senior service" following the colonial transfer. Because government is based largely upon a "spoils system" and the military is uncertain as to who will succeed the current office holders, they feel that they are justified in taking over the reigns of power. According to Lee, developing predictable succession policies

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[29]For a fuller discussion of this limitation, The World Handbook of Political and Social Indicators, previously cited, should be examined, p. 72.

[30]Joseph La Palombara, ed., Bureaucracy and Political Development: Studies in Political Development II (Princeton, New Jersey: Princeton University Press, 1963) p. 32.

and politics where control of government is not viewed as control of jobs in the public sector but a place for group conflicts to be resolved is the only answer to an interventive military in Africa.[31]

More will be said on the limitation of the data itself when discussing this variable in the following chapter.

## Education

Few factors are more requisite for development and modernization than education. The industrial states of the twentieth century are based upon a foundation of science and technology. The material composing the foundation of these developed states is their educational institutions.

The importance of education as a pre-condition for modernization in the newly independent and underdeveloped states can be derived from the statements of many authors of development. Statements like, "Education is the key that unlocks the door to modernization," appear throughout the literature dealing with national development.[32] The educational institutions are now being looked to as one of the leading forces of change in society. Students and intellectuals have become the force in many emerging nations which demand change in the

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[31]See J. M. Lee, African Armies and Civil Order (New York: Frederick A. Praeger, Publishers, 1969) especially pages 56-86 and 154 to 187.

[32]Frederick Harbison and Charles A. Meyers, Education, Manpower and Economic Growth: Strategies of Human Resource Development (New York: McGraw-Hill, 1964) p. 181

more conservative institutions of their countries. Officials face an opposition which can and does topple regimes. Rather than a culture-preserving and transmitting institution of society, education has become the vanguard of development.

What can quantitative data on education tell us about the levels of development in the emerging nations? (1) Education statistics can reveal clues to the degree of economic and technological development possible within a given country. (2) This information can give insights as to the ability of given nations to develop political institutions and practices. (3) This statistical information may add more information about the social mobility and recruitment discussed under military personnel per 1,000 population. (4) Educational statistics can give us a clue as to the degree of acculturation taking place within any given nation. Education is also used as an indicator of the level of development in many other aspects of society which will be discussed under the above typologies.

Economic development is dependent upon the educational level of a nation's population. Education has become a major concern of the leaders in underdeveloped countries in their drives to industrialize and modernize their economies. Industrial economies depend upon technological advancements and innovations for their existence. This technological skill must be cultivated in the classrooms of a nation. Therefore, education and technology have become nearly synonymous terms and must go hand in hand if progress is to be maintained in these

new nations.

Access to the modern technological world must be based upon the educated manpower resources of a nation. One group of authors, when discussing nation-building, contends that "...each phase of economic planning demands not only capital, but skilled manpower, which can only be drawn from the reservoir of the educated population."[33] Education as a factor in the development of a given country is important in that developing countries suffer from shortages of highly-skilled, professional personnel (i.e., doctors, accountants, veterinarians, architects and engineers); technicians, such as nurses, instrument repairmen and other trained personnel who aid and assist the professionally-trained individuals; administrators and managerial personnel who can assume high-level jobs of leadership in government, commerce, industry; teachers, particularly those at the secondary and vocational levels; clerical personnel and artisans, such as secretaries, stenographers. These are some of the many manpower demands which must be met in developing societies through the full use of the educational system. Professor Norton Ginsburg states that "...the quality of any population depends in part upon the skills it has to perform certain productive tasks and to communicate within itself."[34] The manpower skills of a nation must be developed by

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[33]Gray Cowan, et al., eds., Education and Nation Building in Africa (New York: Praeger, 1965) p. v.

[34]Ginsburg, op. cit., p. 42.

the educational institutions so that the traditional society can reach a "take off" level in its economic sector. No formula has been worked out between percentage having educational training and an economic "take off" level, but it appears that such a correlation may well exist between them. The United States government has taken the stand that a causal relationship does exist between education and economic growth in a policy statement made explicit in 1961. The Act for International Development made the following statement dealing with this relationship:

> In countries and areas in the earlier stages of economic development, programs of development of education and human resources through such means as technical cooperation shall be emphasized, and the furnishing of capital facilities for purposes other than the development of educational and human resources shall be given a lower priority until the requisite knowledge and skills have been developed.[34]

That education is a prime mover in economic growth and should receive priority when considering aid programs has thus become an article of faith on the part of many government officials.

The governments and leaders in underdeveloped countries are viewing education as an essential element on the road to economic progress. Apter, in his classic book on moderniza-

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[34]This appears as a footnote in the book edited by James S. Coleman, Education and Political Development: Studies in Political Development IV (Princeton, New Jersey: Princeton University Press, 1965) p. 4, quoting from an article in Education and the Development of Human Technology (Washington, D.C.: United States Department of Health, Education and Welfare, 1962), p. 1.

tion theory states that "...high government investments are made in education and social welfare on grounds that an efficient labor force is the sine qua non of economic development."[35] Thus, the educational skills present in a society can give a strong clue as to a nation's ability to develop technologically and economically. These skills are prerequisites for nations set on a drive for economic development.[36]

Data were gathered for the variables of students enrolled in post-secondary schools per 1,000 population in order to determine the various nations' ability to provide the critical manpower resources necessary for economic and political development. This data will better illustrate the potential skills available in the different nations under study than the overall school enrollment per 1,000 population. Overall school enrollment figures would tend to inflate the number actually able to contribute to needed technological skills. Most of the new nations seem to emphasize heavy primary school enrollment as a means to alleviate illiteracy which they feel is the stigma of a poor and underdeveloped nation. The primary school is the tool used by many governments to erase the stigma associated with illiteracy. The new leadership in dev-

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[35]Apter, Politics, op. cit., p. 262.

[36]For a very thorough examination of "how" education influences development and an emphasis upon type of education and "how" each type aids or hinders development one should consult Guy Hunter, Modernizing Peasant Societies: A Comparative Study in Asia and Africa (London: Oxford University Press, 1969) especially Chapter 10, pp. 240-260.

eloping countries must come from the secondary schools and universities. Also, expansion in this area will provide the urgently needed manpower for middle-level technical personnel which any nation going through development must possess. This leadership is necessary to fill government posts as well as jobs within the economy. Education is a factor which can help us predict how ready a society is to develop the political institutions necessary for a nation undergoing development. Education provides a channel of communication between the masses of a nation and its political leadership. The aims and goals of the leadership regarding modernization can be transmitted to the population and accepted as values and attitudes by the citizenry. Without universal literacy, the attitude necessary for modernization will lag in a country.[37]

Citizens of any state who do not possess the abilities acquired in school remain merely subjects and do not have the privileges of participating as effective members of their societies. They cannot read the newspaper of their nation or even increase their space perspective to include that of the entire nation. They are bound within the confines of their own villages and maintain their traditional attitudes and behaviors. Education is one means by which they can become participating members of their societies and acquire a sense of national identity. The bonds of the kinship culture can

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[37]For further discussion of the importance of "attitudes" and modernization, consult James S. Coleman, op. cit., p. 77.

be broken effectively only through education. As one author stated when talking about education and political participation, "...mass literacy is an essential prerequisite for identiciation with political participation in a national culture, as opposed to a local or kinship culture."[38] Thus, education serves the practical purpose of motivating the citizens of underdeveloped nations into participation in a national culture. This politicising of the population can lead to a "modern participating state" in which the citizen feels a part of the governing process as in the United States, or is aware of its work as in the totalitarian Soviet Union. Although we should not assume political development to be synonymous with Western democracy, Lipset has found encouraging evidence to support a hypothesis that education may well lead to an attitude supporting democratic institutions.

> Data gathered by public opinion research agencies which have questioned people in different countries about their beliefs on tolerence toward ethnic or racial minorities, and their feelings for multi-party as against one-party systems have shown that the most important single factor differentiating those giving democratic responses from the others has been education. ..The higher one's education, the more likely one is to believe in democratic values and support democratic practices...All the relevant studies indicate that education is more significant than either income or occupation.[39]

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[38]Richard L. Merritt and Stein Rokkan, eds., Comparing Nations: The Use of Quantitative Data in Cross-National Research (New Haven, Connecticut: Yale University Press, 1966), p. 206.

[39]Seymour Martin Lipset. Political Man (Garden City, New Jersey: Doubleday and Company, 1959) p. 36.

An investment in education regardless of its content would appear to be an investment in political development toward democracy.

Another important and related aspect of political development, which is affected by the level of education within nations is recruitment, or social mobility within society. This concept was discussed when talking about the effect of military personnel upon development. Education has become a qualification which must be fulfilled for entry into the elite positions of the newly emerging nations. This qualification, while barring some who are ambitious, opens the door to a better life for many.

Where the military did not take over in developing nations the intellectuals did, because they were often the only strong force within the new states.[40] They respect education and therefore it has been one means of mobility within these societies.

Education serves the very necessary function of socialization and acculturation within new states. This can be good or bad, depending on the controls placed upon education by the nation's leaders. It can be used to indoctrinate young children in the principles of the ruling class. This is necess-

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[40]An excellent discussion of the role of the intellectuals in new states can be found in an article entitled "The Intellectual in the Political Development of the New States" by Edward Shils, appearing in a book by John H. Kautsky, ed., Political Changes in Underdeveloped Countries (New York: Wiley and Sons, Inc., 1962) pp. 195-234.

ary if the rulers are to mobilize the population to understand the goals of rulers upon which they seek to remodel their state and national society.

This process of acculturation is necessary if traditional societies are to break the bonds of parochialism which can only lead to such unsocial and regressive moves as tribal warfare. Education must raise the banner of progress so that it can become a value for all to work toward within the state. The process of absorbing new cultural traits which fit the goal of modernization must take place in any traditional society before further development can take place.

Cutright has proven statistically that the educational level is related to economic and political development. He states as his basic hypothesis:

> ...that political institutions are interdependent with educational systems, economic development, communications systems, urbanization and labor force distribution, i.e., a nation's economic system can develop only if its educational system keeps pace, if people concentrate in urban areas, if communication and transportation systems emerge and if changes occur in family and social life that induce people to fit into the demands of the unfolding system.[41]

Some limitations are involved in using education statistics in predicting development. It is very difficult to determine the "quality of education" in different countries. Some underdeveloped nations use the primary school merely as a tool to raise literacy rates--dealing with additional subjects,such

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[41]Cutright, op. cit., pp. 253-254.

as arithemetic, only incidently. The teachers, in some countries, are often those who have only completed primary school and have only a year or two of secondary work.

A further limitation is the fact that many who enroll in schools do not attend, or for a variety of reasons fail to complete their work. This creates a waste for the governments concerned. Money is often allocated to education which could be used for capital investments. The waste involved on those who do not complete their work is difficult to measure statistically.

No doubt the greatest problem for development is that of "who" receives the education. Statistics can not tell us this directly, but they can give clues to determine if only an elite is receiving an education or if the system is actually open to all. The political consequence involved in selective access to educational opportunity need to be explored by different indicators. As national census statistics become more complete, data will be available to evaluate such factors as selective access.

Education can also have a negative effect upon development by creating desires and expectations and failing to fulfill them. It is only logical that you can not seek primary education on a universal basis and not fulfill the job desires created by exposure to a new culture. Masses of young people may migrate to the urban areas in search of jobs which do not exist and may become unemployed and slum dwellers. These slums

easily become beds of discontent and a liability rather than an asset to national development.

## Economics

The level of economic development of a nation has long been used as a yardstick in determining whether or not a given nation is considered developed or underdeveloped. Among government officials and scholars of social change there is a near unanimity that economic progress is essential and desirable. These same individuals have found that economic progress is dependent upon prerequisites which are not directly related to economic matters. As Pye has indicated,"... the habits of mind, the values and world views, the social conditions of life, and the stability and effectiveness of government are clearly crucial factors determining the prospects of economic growth."[42] The drive for economic development in underdeveloped countries must go hand in hand with development in other areas such as communications, education, acculturation and urbanization. For rapid economic growth to take place in transitional societies, it is almost imperative that a "participant society" exist.[43] Industiral societies produce newspapers, radios, and motion pictures which in turn develop institutions of participation, e.g., voting which can be found in nearly all advanced nations in some form or

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[42]Pye, op. cit., Communications, p. 15.

[43]Lerner, op. cit., p. 60.

another.[44] Political development is clearly related to the state of economic development within any given nation.

Several authors go further and correlate democracy and democratic institutions with economic development. Lipset maintains that "...the more well-to-do a nation, the greater the chances that it will sustain democracy..." and in another quote from his research he summarizes that, "...indices of wealth are consistently correlated with the stability of democratic institutions."[45] The belief that democracy can thrive only where there is a relative absence of poverty has been a belief held from the time of Aristotle to the present. Before man can choose rationally between opposing candidates and programs, he must be above a mere subsistence level of life.

A study of the relationship between democratic governments and economic conditions has been conducted by Seymour M. Lipset. He correlates democratic and non-democratic governments with economic levels for countries in Latin America and Europe. Lipset correlates eight indices of wealth and industrialization with democratic and non-democratic governments in the two area groups. His results have been reproduced in Table 3-3 to indicate the results of his findings. The results indicate that the basic hypothesis is valid. On all the economic measures, democracies and unstable dictatorships scored

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[44]Daniel Lerner discusses this fully in his book, The Passing of Traditional Society, op. cit., pp. 60-63.

[45]Lipset, op. cit., pp. 48-50.

TABLE 3-3: A COMPARISON OF EUROPEAN, ENGLISH-SPEAKING AND LATIN AMERICAN COUNTRIES DIVIDED INTO TWO GROUPS, "MORE DEMOCRATIC" AND "LESS DEMOCRATIC," BY INDICES OF WEALTH, INDUSTRIALIZATION, EDUCATION AND URBANIZATION

A. INDICES OF WEALTH

| Means | Per Capita Income in $ | Thousands of Persons per Doctor | Persons per Motor Vehicle | Telephones per 1,000 Persons | Radios per 1,000 Persons | Newspapers Copies per 1,000 Persons |
|---|---|---|---|---|---|---|
| European and English-speaking Stable Democracies | 695 | .86 | 17 | 205 | 350 | 341 |
| European and English-speaking Unstable Democracies and Dictatorships | 308 | 1.4 | 143 | 58 | 160 | 167 |
| Latin American Democracies and Unstable Dictatorships | 171 | 2.1 | 99 | 25 | 85 | 102 |
| Latin American Stable Dictatorships | 119 | 4.4 | 274 | 10 | 43 | 43 |
| Ranges | | | | | | |
| European Stable Democracies | 420-1,453 | .7- 1.2 | 3- 62 | 43-400 | 160-995 | 242-570 |
| European Dictatorships | 128- 482 | .6- 4 | 10-538 | 7-196 | 42-307 | 46-390 |
| Latin American Democracies | 112- 346 | .8- 3.3 | 31-174 | 12- 58 | 38-148 | 51-233 |
| Latin American Stable Dictatorships | 40- 331 | 1.0-10.8 | 38-428 | 1- 24 | 4-154 | 4-111 |

TABLE 3-3 (Continued)

B. INDICES OF INDUSTRIALIZATION

| Means | Percentage of Males in Agriculture | Per Capita Energy Consumption |
|---|---|---|
| European Stable Democracies | 21 | 3.6 |
| European Dictatorships | 41 | 1.4 |
| Latin American Democracies | 52 | .6 |
| Latin American Stable Dictatorships | 67 | .25 |
| Ranges | | |
| European Stable Democracies | 6-46 | 1.4 -7.8 |
| European Dictatorships | 16-60 | .27-3.2 |
| Latin American Democracies | 30-63 | .30-0.9 |
| Latin American Stable Dictatorships | 46-87 | .02-1.27 |

SOURCE: Seymour Martin Lipset, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," American Political Science Review LIII (March, 1959) p. 76.

higher than dictatorships and unstable democracies.[46]

Four measures of economic development have been selected by this author for analysis with the former French colonies: Income I (Gross Domestic Product per Capita for Time Period I and Gross National Product per Capita for Time Period II); Income II (Per Capita Real Income for Time Period I and Per Capita Income for Time Period II); Energy Consumption (Energy Consumption per Capita for both time intervals); Trade (Imports and Exports in U. S. Dollars per 1,000 Population for both time intervals); and Transportation (Scope of Modern Transportation for both time periods). Some of these indicators were used by Lipset in the above mentioned article. The remaining indicators were selected because of their ability to indicate internation intercourse and transactions.

The use of Gross Domestic Product (referred to below as GDP) per Capita as a tool in politics has long been a source of rich cross-national comparative analysis material. Gross National Product (GNP) was not used for Time Period I because of the unavailability of such data on many of the countries concerned. GDP is, in fact, nearly as accurate as is GNP for

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[46]It should be noted that Eckstein's study of stable democracy in Norway concludes that, "Democracies function as they do not because of any particular substantive aspects of society (i.e., economic level cited by Lipset) but because of the ways in which these aspects are patterned...In short, democracies tend to be stable if governmental and social authority patterns are highly congruent." For a full account of this thesis consult Harry Eckstein, Division and Cohesion in Democracy (Princeton, New Jersey: Princeton University Press, 1966) especially pages 185-186.

indicating the strength of a nation's economy. By definition, GDP at factor cost is GNP at factor cost less net factor income from abroad. It should be cautioned that such data as were available were based on United Nations estimates using the latest data possible. The year 1958 was used for GDP because of lack of data for other years for many of the countries.

A country's GDP and GNP can tell us a great deal about the economic capability of that country. The major consideration in using GDP as well as GNP is that it does give us an indication of the strength available for a given country to marshal for short periods of time and thus have actual or potential major roles in international relations. For this reason GDP and GNP figures in U. S. dollars has been included with per capita figures. GDP and GNP figures are misleading in that they are strongly influenced by the size of a country's population rather than the economic strength present in a given nation. More people will produce more goods.

A better index to the level of living and long-run economic strength in a given nation is GDP and GNP per capita. It can indicate the resources being utilized for each individual unit of society. The capability of a country to provide luxuries or necessities for its citizenry is best measured by these figures. Simon Kuznets, in his research, has found that means for GDP per capita in the three area groupings which include the former French colonies are as follows: Asia, $75

(1958); Africa, $128 (1958); and the Middle East, $196 (1958).[47] He has found that over one half of the population of the world lives in countries with a per capita product below $100 (1958) and that a minimum level for a developed country would be $575 per capita (1958).[48] These findings will be discussed further in the next chapter when analyzing the collective data on the former French colonies.

The limitations involved in using GNP and GDP per capita are few. Perhaps a few of the more salient should be mentioned at this time. Each country computes GDP and GNP in its own manner and this makes cross-national comparison more difficult. Figures for underdeveloped countries are understated as a result of the subsistence-based agriculture and bartering systems which still exist in many of these traditional societies. These are the two most important limitations to the use of this factor as an indicator of development and in comparing cross-nationally. However, as statistical uniformities and competencies increase throughout the world this index will have few important limitations.

The amount of energy available and its use in a given society can indicate the degree to which a country can harness and make use of its resources for productive purposes. In fact, some experts of economic development consider energy as more

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[47]Simon Kuznets, Modern Economic Growth (New Haven: Yale University Press, 1966) pp. 360-361.

[48]Ibid., pp. 380-381.

precise and useful as an indicator of economic development than any other single factor.[49]

This indicator can be used to determine the capability of a country to move toward further development in the future. Without energy, machines can not run and industrialization can not take place. Energy figures may indicate the amount of technical skills available in a society. The machines associated with energy often require skills that are necessary for technological industrialization. The data indicate the relative degree to which a nation's population is exposed to modernity. Thomas Edison gave the American industrial revolution a shot of adrenaline when he discovered the uses to which electrical energy could be put. Electric lights can have an effect upon the modernization outlook of a population.

As an indicator of development, energy consumption per capita does have a few limitations. Energy consumption per capita does not tell us what percentage of this energy is used for industrial or commercial use. All figures have been computed for kilograms per capita of coal units and conversion of data also brings limitations which should be cautioned against. Despite the qualifications, the data, which are for the year 1964, represent the best information currently available for energy consumption on a world basis.

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[49]Ginsburg, op. cit., p. 78.

International trade can tell us many things about the level of development in a country. Trade measures the degree to which nations have organized themselves to carry out relations with other nations. It can tell us if a nation has developed beyond a subsistence level and can offer goods for sale to other nations in the world. Imports into a country that are not measured in statistics are the new ideas and knowledge which are infused into a developing society. Deutsch advances the hypothesis that "...the proportion of foreign trade in a nation's economy is likely to have a major effect on that nation's orientation toward the external world."[50] This gives some justification for use of this measure as an indicator of awareness in a country.

When discussing the development of Western economies and the stages gone through in those countries, W. W. Rostow concluded that pre-industrial society in the West was forced to allocate 75% of its work force and resources to food production. He continues to say that three things were necessary for "take off" in these Western societies: (1) Building of social overhead capital, notable transport; (2) Technological revolution in agriculture; and (3) An expansion of imports financed by the more efficient production and marketing of some natural resources. [51] Although we must be cautious about

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[50]Deutsch and Russett, "International Trade", op. cit., p. 18.

[51]W. W. Rostow, "Stages of Economic Growth," in David E. Novak and Robert Lekachman, eds., Development and Society (New York: St. Mary's Press, 1964) pp. 44-46.

drawing too many analogies between newly developing nations and the experience of industrialization in the West, some consideration should be given to Rostow's last prerequisite. Trade is important in developing nations economically and politically.

One qualification in using this data should be pointed out before moving on to a discussion of the scope of a modern transportation network. It was necessary to compute data to dollar estimates and this involved using exchange rates which can vary from actual rates of exchange. With this qualification in mind, use of this data can prove valuable indeed.

Scope of a modern transportation system was felt to be a good measure of economic growth of a nation and its capabilities for future growth. The indicator for Time Period I is a composite index constructed by Ted Gurr and the indicator for Time Period II is a composite index constructed by this author. Thus, some discrepancy might be expected depending upon the emphasis assigned the measures of the composites.

## Social Indicators

Inhabitants per physician can tell us some important things about the level of development in a given country. It can give us some idea as to specialization of skills within a given country. These skills are essential to economic growth. The degree to which any society can use its resources to create professionally trained personnel also indicates the ability of that society to develop these needed skills within

society and answer demands made upon them.

No unhealthy population can become a productive element within a society. A great deal of human resources is lost if an epidemic spreads across a nation. As Ginsburg notes in his research, "...the health of a nation's population partly determines the capacity of that population to produce. A healthy population, it can be argued, is a productive one."[52]

This may be an indicator of relative tranquility of a given nation. The physicians would be those most willing and able to leave a country if civil strife existed. To support this argument one can look at the mass exodus of doctors from Cuba after Castro came to power.

There are a few important limitations to the use of this data which should be examined. The definition of who is a physician may vary from country to country. The quality of doctors may vary--inadequate training may inflate figures. There may be a heavy concentration of physicians in urban centers with few resident doctors living in the countryside. Information on these factors could be gathered only by more in-depth studies of single countries.

With these qualifications in mind, some pertinent observations can be made about the ability of a society to provide services for its people. It also leads to some comparability on the level of health of a given society.

Data on social service programs available and in opera-

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[52]Ginsburg, op. cit., p. 28

tion in various countries has recently been used as a measure of development by students and researchers in comparative government. This is largely due to the efforts of the U. S. Social Security Administration. This organization has compiled national statistics, regarding social service programs, on a global scale. The programs in operation are covered under five different headings: (1) Old age assistance, (2) Health insurance, (3) Worker injury assistance, (4) Unemployment insurance and (5) Family allowance.

This rich new source of data can be used to measure any given society's ability and desire to satisfy the demands of its citizenry by providing social services. Benson has used the number of social services available in selected countries as one measure of "...how well the society is satisfying six general aspirations: for money, food, medical care, industrialization, energy and social services."[53] Using six indicators of awareness and six indicators of distribution within societies, postulates the possibility of predicting "possible tension" in the future for eleven countries. Benson has computed a value satisfaction quotient for these selected countries by dividing the awareness index by the distribution index. He then uses military personnel and derives a pressure scale and a power scale. By using the Markov Matrix as a sta-

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[53]Oliver E. Benson, "U. S. Department of State Symposium on Great World Problems of the Next Decade: Escalating Expectation," page 14 of an unpublished paper.

tistical tool he then figures a tentative action/inaction scale for each country.[54]

When discussing social welfare programs and their part in controlling the modernization process, Apter made the point that social welfare is one method leaders have at their disposal to control economic resources. He states that "...in mobilization systems, the 'socialism' of many of the leaders represents little more than an effort to control economic resources."[55] Social welfare systems, in effect, give decision-makers a degree of control over their population and the nation's economic resources. Apter further states that "...high government investments are made in education and social welfare on grounds that an efficient labor force is the sine qua non of economic development."[56] A labor force which is healthy and secure can become productive and throw off the bonds of traditionalism. Men have a stake in the government that provides services to them and raises their individual health and society.

In summary, this chapter has been an attempt to present those indicators which will be utilized in Chapter IV to measure national development. Where possible we have attempted to explore the measures for their political characteristics.

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[54] Ibid., pp. 13-28 of submitted draft.

[55] David Apter, Politics, op. cit., p. 130.

[56] Ibid., p. 262.

Further, we have mentioned some of the conceptual limitations involved in using these measures. The lack of agreement among scholars as to the relative importance of any single indicator gives added credence to the notion that empirical relationships need to be examined in an attempt to ascertain their significance to conceptual models of development.

## CHAPTER IV

## A COMPARISON OF THE FORMER FRENCH COLONIES ALONG DEVELOPMENTAL DIMENSIONS

The indicators selected for studying the level of development in the former French colonies will be presented in this chapter for the purpose of constructing an overall scale of development, constructing composite scales of development measuring selected factors, comparing scales of development for two separate time periods, and factor analyzing the indicators to facilitate comparisons of political violence and development.

The data gathered for each polity for each variable studied have been assembled in a manner to facilitate ranking of the polities on each variable. Generalizations and conclusions have been made about the level of development in these countries from their rankings on these variables. Comparable information is available and is analyzed for each indicator for two separate time periods.[1] Thus, each polity is ranked

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[1]For an extended treatment of the limitations imposed by the data one should refer to Chapter I, Introductory Comments, particularly pages 6-8. It was necessary to substitute three variables for the second time period where it was not possible to replicate data available for the first time period. Per cent of population in cities 100,000+ was utilized in the second time period, whereas, per cent of population in cities

on each variable for Time Period One, i.e., 1961, 1962 and 1963, and Time Period Two, i.e., 1966, 1967 and 1968.

Composite indices have been constructed for the former French colonies along five dimensions: Urbanization, Communications, Education, Recruitment and Economic factors. Three of these dimensions are arrived at by combining the ranking of each country on two or more variables, e.g., the Communication dimension is the mean rank score of each country for the following variables: "Telephones per 1,000 Population", "Telegraph Messages per 1,000 Population", "Radios per 1,000 Population", and "Daily Newspaper Circulation per 1,000 Population". The composite indices are analyzed as they appear in the chapter.

In addition, an overall Index of Development has been constructed by utilizing the mean rank score for each country on all variables. Comparison is made between the Index of Development for both Time Period One and Time Period Two.

One method of comparing the level of development in the nations under study with that of other nations has been through use of world mean and regional mean for a given indicator. Where world means and regional means were not available in other sources, they have been computed by the author. The

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20,000+ was used in the first time period. GDP per capita in time period one was replaced with GNP per capita in time period two. Per capita real income in Time Period One was replaced by per capita national income in Time Period Two. It was possible to replicate the other eleven variables for Time Period One and Time Period Two.

polities as a whole will be discussed in relation to the world as a whole. In addition, each table has been examined to explain why certain countries score high or low on a given indicator. Comparisons of the various levels of development within this sample of countries are made and an attempt has been made to explain these variations. When possible, groupings of these polities have been made in an attempt to show why certain groupings placed consistently high or low in the rankings. This method permitted deviant case analysis.

## Urbanization

In Table 4-1 the percentage of population in cities over 20,000 has been selected as a measure of urbanization for Time Period One.[2] Other figures could have been utilized, however, it was felt from reading the literature that this is one of the more generally accepted figures used to determine urbanization of a population in cross-national research.

A major limitation in use of this measure for urbanization was that no one data source provided information on all the countries in the study and it was necessary to extract it

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[2]A distinction should be made between "urban" and "metropolitan". In Kingsley Davis, et al., The World's Metropolitan Areas (Berkley, California, University of California Press, 1959) p. 25, the authors use the following criteria to distinguish metropolitan centers: The metropolis is "...an area with 100,000 or more inhabitants, containing at least one city of 50,000 or more inhabitants." The U.S. Census Bureau defines an urban area as an incorporated area having 2,500 population. For reasons of availability of data the figure of 20,000 has been selected for this study and no additional criteria such as "urban in character" has been applied to the data.

from several sources. It was decided by the author that it would be best to select data from Gurr's datafile for twenty-one countries and supplement this source for the three countries not reported in his research.[3] Several advantages seemed to support this choice: Figures from the Yale World Handbook covered too wide a range of years, 1950 to 1960; figures were not available on enough countries in the Ginsburg book Atlas of Economic Development; and the Gurr data on urbanization concentrated on data for the early 1960's, thus, coinciding with Time Period One for this study.

After examining the ranking of countries which emerges from the data in Table 4-1, it is possible to attempt to explain why certain groupings rank high, medium or low on this measure and what significance can be attached to such ranking. With regard to the four highest ranked countries (Syria, Lebanon, Morocco and Tunisia) several observations can be made: (1) All have a long history of contact with western civilization; (2) All received their independence from France early (before 1956); (3) All of these countries are above or closely approach the world mean; (4) All are located in North Africa or the Middle East; (5) All of these countries have passed the "critical minimum" of urbanization and are approaching or are above the "critical optimum" of urbanization established by

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[3]The data were made available by the Inter-University Consortium for Political Research and were collected originally by Ted Gurr and Charles Ruttenberg. Neither source can bear responsibility for interpretation or analysis.

TABLE 4-1: PERCENTAGE OF POPULATION IN CITIES OVER 20,000, 1962

| Rank | Country | Percentage of Population In Cities Over 20,000 |
|---|---|---|
| 1 | Syria | 39.0 |
| 2 | Lebanon | 37.0 |
| 3 | Morocco | 24.0 |
| 4 | Tunisia | 20.0 |
| 5 | Gabon | 16.7[a] |
| 6 | Cambodia | 16.0 |
| 7 | Congo (Brazzaville) | 15.4[b] |
| 8 | Algeria | 14.0 |
| 9 | Central African Republic | 11.0 |
| 11 | Cameroon | 10.0 |
| 11 | South Vietnam | 10.0 |
| 11 | Senegal | 10.0 |
| 13.5 | North Vietnam | 8.0 |
| 13.5 | Madagascar | 8.0 |
| 15 | Ivory Coast | 7.0 |
| 16 | Dahomey | 6.0 |
| 18 | Togo | 5.0 |
| 18 | Chad | 5.0 |
| 18 | Guinea | 5.0 |
| 20 | Laos | 4.0 |
| 21 | Mali | 3.0 |
| 22 | Upper Volta | 2.0 |
| 23 | Niger | 1.0 |
| 24 | Mauritania | 0.0[c] |
| Mean for Countries in Study | | 11.3 |
| World Mean | | 21.6[d] |

[a]The figure for Gabon is taken from Britannica Book of the Year: 1966, pages 174-175, and is for the year 1960. This is the population defined as urban by the individual political unit.

[b]The figure for the Congo (Brazzaville) is taken from Bruce Russett, et al., World Handbook of Political and Social Indicators (New Haven, Connecticut: Yale University Press, 1964).

[c]The figure for Mauritania is taken from Britannica Book of the Year: 1966, p. 492, and is based upon an estimated total population of 1,000,000 with no city of over 20,000 population.

[d]The world mean is taken from Norton Ginsburb, in the Atlas of Economic Development (Chicago: University of Chicago Press, 1961).

SOURCE: Adapted from Ted Gurr and Charles Ruttenberg magnetic tape data which was first reported in a paper delivered at the annual meeting of the American Psychological Association, New York, September, 1966 entitled "The Genesis of Violence: Frustration and Aggression Theory as a Framework for the study of Violent Civil Conflict".

Lerner and discussed in the previous chapter--from this ranking, these countries should have reached the "take-off" point in urbanization so that literacy rates, in addition to other related developmental characteristics, can proceed at an accelerated rate independent of further increases in this factor; (6) They are well on their way to achieving the level of urbanization (50%) which Deutsch feels necessary for social mobilization to occur within a given society--they are approaching the level where it will be possible to mobilize large segments of the population for change; (7) All rank high on communication indices; and, (8) All rank high on economic indices.

The eight countries at the lower end of this ranking of the urbanization level (Togo, Chad, Guinea, Laos, Mali, Upper Volta, Niger and Mauritania) have several common characteristics: (1) All display a lack of strong influence of Western culture and civilization over a sustained period of time; (2) With the exceptions of Togo and Guinea, all are land bound countries;[4] (3) With the exception of Laos, which has had

[4]The Central African Republic is the only other country in the study which is landlocked. Rose Hum Lee in The City--Urbanism and Urbanization in Major World Regions (Philadelphia:

internal tensions and civil war, none of these countries rank high on military personnel per 1,000 population; (4) All rank low on the economic indicators except Laos which ranks high on inhabitants per physician; (5) With the exception of Togo, all rank below the median for the countries studied on the educational development measures for total student enrollment and post-primary school enrollment.

Four countries (Gabon, Cambodia, Congo (Brazzaville) and Algeria) have reached the "critical minimum" of urbanization and are in the beginning stages of development on most other measures of development. They will need to continue urbanization until they reach the optimum (25%) in order that development can become independent of urbanization. Cambodia and the Congo (Brazzaville) consistently fall in the middle range on most of the indices of development collected for this study while Algeria and Gabon consistently rank in or approach closely the highest quartile of countries on most indices.

With the exception of the Central African Republic the remaining countries in the ranking (Cameroon, South Vietnam, Senegal, North Vietnam, Madagascar, Ivory Coast and Dahomey) usually fall around the median in rankings of these countries on the indices in the study. The Central African Republic

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J.B. Lippincott Co., 1955) Chs. 4 and 5; and United Nations Demographic Yearbook, 1962, pp. 310-311 has concluded that the major African cities tend to lie on the pheriphery of the continent and states without cities such as Niger will find it difficult to maintain an independent existence in the modern world.

usually falls in the lowest quartile on indices of development. It approaches the median only on the indices utilized to measure the communication dimension.

To establish the reliability of this ranking of countries utilizing the Gurr data on urbanization, a ranking of countries in this study was established from the World Handbook of Political and Social Indicators (Supplemented by the Britannica Book of the Year, 1966) and a Spearman's coefficient of rank correlation of +.82 was computed.[5] A table ranking these countries based on the data in the World Handbook appears in the Appendices, Table A-1. By comparing the rankings of countries in this study for these two data sources it is possible to identify those countries having the greatest deviation. The Central African Republic ranked sixteenth in the countries where data were available in the World Handbook and seventh of the countries where similiar data were available in the Gurr datafile. A difference in ranking of 9 for the Central African Republic was greater than any other variation in the two rankings on the urbanization variable for Time Period One. The only other variations or splits in the two rankings greater than two occurred in the cases of Algeria, 3; Chad, 4: Cameroon, 4.4: and Togo with 7. Togo and the Central African Republic are reversed in the ranking between the two sources of

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[5]A coefficient of rank order correlation for 24 countries of +.82 is significant at the .001 level. The difficulty with the World Handbook data as has already been mentioned is the broad span of years, a decade, for which data were available on the countries in this study.

data. It is possible that Togo was higher in ranking when utilizing the World Handbook because of the fact that Togo's figures represent 1960 whereas the Central African Republic's figures represent 1950. The Gurr data were collected in the early 1960's.

Another measure of urbanization is the number of urban areas. This measure results in a completely different picture. The Political Handbook of the World, 1970 reports the number of urban centers in each country.[6] Chad and Niger report as many urban centers, four, as do Syria and Tunisia. It might be argued that the number of urban centers is more important than the percentage of population living in urban areas. This author felt that the greater the proportion of a population exposed to urban life the more accurate the guage of how urbanization influences development.

Two other variables thought at first to be related to urbanization were examined and found not to be correlated significantly with urbanization. A ranking of the countries on the basis of population density and correlation of this ranking with percentage of population in cities over 20,000 yielded a Spearman's coefficient of rank correlation of only +.22. A second variable, decennial increase in migrants to cities was ranked and correlated with percentage of population in cities over 20,000 yielding a Spearman's coefficient of +.11.[7]

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[6]A table listing the number of urban centers reporting is included in Table A-2 of the Appendices.

It is obvious that these variables are measuring something other than urbanization as this author has operationally defined it. They are of interest when considering relationship of population distribution and political violence and will be examined in Chapter VII when comparisons of violence and development are examined.

Regarding a composite index of urbanization, Table 4-1 will serve as a composite index of urbanization for Time Period I. This index will be utilized to create an overall index of development and will be correlated with the other developmental dimensions in this study.

In Table 4-2 the percentage of population in cities over 100,000 population has been selected as the measure of urbanization for Time Period II. A Spearman's rank order correlation of +.92 was obtained when comparing Table 4-1 with Table 4-2, thus indicating a strong positive correlation of the two variables. Variations in the rankings for the two tables may be attributed to one of several factors: (1) The two tables were measuring two different aspects of urbanization, or (2) the two tables were measuring essentially the same aspect of urbanization and the variation in rankings is accounted for by the change in urbanization from Time Period I to Time Period II in the countries of the studies.

A few final conclusions can be made regarding urbaniza-

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[7]Population Densities for the countries in this study can be found in Table A-3 and for Decennial Increase in Migrants to Cities in Table A-4 of the Appendices.

TABLE 4-2: PERCENTAGE OF POPULATION IN CITIES OVER 100,000, 1966

| Rank | Country | Percentage of Population in Cities over 100,000 |
|---|---|---|
| 1 | Lebanon | 32.84 |
| 2 | Syria | 26.71 |
| 3 | Morocco | 18.74 |
| 4 | Congo (Brazzaville) | 15.84 |
| 5 | Tunisia | 14.52 |
| 6 | Algeria | 13.75 |
| 7 | South Vietnam | 10.70 |
| 8 | Senegal | 10.21 |
| 9 | Gabon | 9.71[a] |
| 10 | Central African Republic | 8.68 |
| 11 | Dahomey | 7.14 |
| 12 | Cambodia | 6.29 |
| 13 | Ivory Coast | 6.25 |
| 14 | Laos | 5.87 |
| 15 | Cameroon | 5.54 |
| 16 | Madagascar | 5.07 |
| 17 | Togo | 5.01[a] |
| 18 | Guinea | 4.73 |
| 19 | Mali | 3.51 |
| 20 | Chad | 2.90[a] |
| 21 | Mauritania | 1.36[a] |
| 22 | Upper Volta | 1.17[a] |
| 23 | Niger | 1.13[a] |
| Mean for Countries in Study | | 9.42 |

[a]The figures for these six countries are based on population of the capital city as they reported no city of 100,000 or more population. In all cases the capital is the largest city and except for Mauritania these cities came fairly close to 100,000. Later data (Britannica Book of the Year, 1971) yield the following figures for these cities: Gabon, 73,000 (1969); Togo, 148, 443 (est. 1970); Chad 118,000 (est. 1967); Mauritania, 15,000 (est. 1967); Upper Volta, 115,500 (est. 1970); and Niger, 78,991 (est. 1969).

SOURCE: Adapted from the United Nations Statistical Yearbook: 1968. The population of the country figures utilized to obtain percentages was taken from the UNESCO Statistical Yearbook: 1968.

tion in the former French colonies: (1) Urbanization is low for all countries in this study: (2) There are clearly distinct levels of urbanization which vary from a high of 39 per cent of the population in cities over 20,000 in Syria to a low of zero per cent in Mauritania for Time Period I. There was a high of 32 per cent of the population of Lebanon in cities of over 100,000 to a low of 1.13 per cent in Niger; and, (3) The 'ratio' of urban growth, Table A-4, do not indicate evenness of growth in these developing nations.[8] It will be possible to make further generalizations when comparisons are made at the conclusion of this chapter and the overall Index of Development is examined for both time periods.

## Communications

The measures used to indicate the level of communications development for the selected countries are: Telephone units per 1,000 population; telegraph units per 1,000 population; daily newspaper circulation per 1,000 population; and, radios per 1,000 population.[9]

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[8]In Kingsley Davis, et al., op. cit., pp. 61-62; and Jack P. Gibbs and Leo F. Schnore, "Metropolitan Growth: An International Study," American Journal of Sociology, LXVI (September, 1960), pp. 160-170, the authors conclude that the highest rates of metropolitan growth occur in the world's underdeveloped areas. The data at hand supports this thesis only for some of the more transitional nations.

[9]Information was gathered on several other measures related to communications development and is included in the Appendices: Number of Newspapers With Circulation Reported (Table A-5) and Cinema Attendance per Capita (Table A-6). Because of the large number of ties (countries indicating the same number of newspapers in circulation, thus preventing any meaningful

Table 4-3 is a ranking of the selected countries on the variable of telephone units per 1,000 population for Time Period I. All figures for this table are based on the number of units and populations estimates for the year 1963. The data for this table has been adapted from the United Nations Statistical Yearbook: 1965.

Some observations for this measure with regard to the selected countries can be made on the basis of the ranking of countries which has emerged. The highest ranking country on this measure of development is Lebanon and its score is far ahead of any other country in the study. With the exception of Algeria, the five highest countries on this ranking are the same as those in the top five for the urbanization indicator and observations about them are similar: (1) They have a history of contact with Western civilization and culture; (2) They are located in the Middle East or North Africa; (3) All except Algeria, which was colonized by French nationals, re-

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ranking), this measure will be utilized only for descriptive purposes. Data on cinema attendance was available for only fourteen countries and therefore it was felt that this ranking lacked too much data to be included in computing a composite score. Cinema attendance per capita is reported in Table A-6 for Time Period I and Time Period II. The lack of adequage information for many countries in this study prevented its inclusion in the composite index of communication development. This medium can give us some insight as to the percentage of a given population exposed to modernity. This can give us insight into the awareness level of a population. As data become more available for this measure, it will increasingly find utility as a tool for measuring development. It has possibilities as an indicator of rising expectations and frustrations within newly developing nations. This can be a retarding influence on capital development within a country forced by internal pressure to provide consumer products displayed on the cinema screen.

TABLE 4-3: TELEPHONES PER THOUSAND POPULATION, 1963

| Rank | Country | Telephone Units | Units per 1,000 Population |
|---|---|---|---|
| 1 | Lebanon | 98,802 | 43.334 |
| 2 | Syria | 72,330 | 13.909 |
| 3 | Algeria | 139,473 | 12.708 |
| 4 | Morocco | 142,135 | 10.968 |
| 5 | Tunisia | 48,323 | 10.585 |
| 6 | Congo (Brazzaville) | 8,000 | 9.685 |
| 7 | Senegal | 25,000 | 7.352 |
| 8 | Gabon | 3,000 | 6.535 |
| 9 | Ivory Coast | 15,612 | 4.163 |
| 10 | Madagascar | 18,447 | 2.985 |
| 11 | Guinea | 6,000 | 1.754 |
| 12 | Togo | 2,779 | 1.733 |
| 13 | Central Afr. Rep. | 2,144 | 1.624 |
| 14 | Dahomey | 3,500 | 1.521 |
| 15 | South Vietnam | 20,140 | 1.281 |
| 16 | Mali | 4,400 | .981 |
| 17 | Chad | 2,800 | .848 |
| 18 | Cameroon | 4,100 | .803 |
| 19 | Cambodia | 4,294 | .701 |
| 20 | Niger | 2,258 | .697 |
| 21 | Upper Volta | 2,000 | .421 |
| Mean for Countries in Study | | | 6.408 |

Calculations for per thousand population are based on figures from the United Nations Demographic Yearbook: 1965.

SOURCE: Adapted from the U. N. Statistical Yearbook: 1965 (New York: United Nations Publication, 1966) pages 488+

ceived independence from French control before 1956; (4) They consistently rank in the upper quartile on most measures of development with few exceptions.

Interesting observations regarding the countries ranking in the lower third on this indicator are: (1) They have very low scores on this indicator; (2) Four (Mali, Chad, Niger and Upper Volta) of the seven are landlocked countries; (3) Two (South Vietnam and Cambodia) of the remaining three are located in Southeast Asia; (4) Cameroon was divided into British and French trust territories prior to its receiving independence; (5) All except South Vietnam have populations between three and six million; (6) None of them score above the world median on any of the communication indices; (7) None of them have had a long history of contact with "Western" culture and technology, and (8) Only South Vietnam was a center of French administrative rule.

Of the remaining nine countries in the middle range (Congo, Gabon, Senegal, Ivory Coast, Madagascar, Guinea, Togo, Central African Republic and Dahomey) the first five consistently rank above the median ranked country of this group on most indicators. Their population size range from Gabon with 450,000 to Madagascar with 6,000,000. They are all African trading nations with sizable seaports. The Congo (Brazzaville) and Senegal (Dakar) served as capitals for French Equatorial Africa and French West Africa respectively.

The remaining four countries (Guinea, Togo, Central

African Republic and Dahomey) are all small African countries with populations between one and three million. They scored below the mean of the countries in this study on most indices of development. With the exception of the Central African Republic which is an inland nation, they have small seaports on the Western hump of Africa.

Data were not available for three of the countries formerly under French rule (North Vietnam, Laos and Mauritania). The first two are located in Southeast Asia; the latter country has been building its capital and has very small government facilities. Its trade is largely handled by its Southern neighbor, Senegal. If data were available, these three countries would probably fall within the lower range of countries. They rank low on statistics for nearly all measures.

In Table 4-4 it is possible to make comparisons of how this grouping of countries is developing or not developing on this variable over time. For the twenty-one countries reporting data for both Time Period I and Time Period II, sixteen showed an increase in telephone units per thousand population and only five indicated a decrease. The eight nations which ranked lowest on this variable all indicated increases while three of the highest ranking countries, i.e., Algeria, Senegal and Morocco showed a decrease for number of telephones per thousand population. Guinea and Togo were the only other countries reporting decreases in the number of telephone units per thousand. It might be argued for Algeria, Morocco, and

TABLE 4-4: TELEPHONES PER THOUSAND POPULATION, 1967

| Rank | Country | Telephone Units | Units per 1,000 Population |
|---|---|---|---|
| 1 | Lebanon | 130,000 | 51.5873 |
| 2 | Syria | 91,407 | 16.4106 |
| 3 | Tunisia | 58,321 | 12.7897 |
| 4 | Algeria | 148,905 | 11.8744 |
| 5 | Morocco | 144,863 | 10.2449 |
| 6 | Congo (Brazz.) | 8,726 | 10.1465 |
| 7 | Gabon | 4,100 | 8.6681 |
| 8 | Senegal | 25,700 | 7.0027 |
| 9 | Ivory Coast | 6,500 | 5.5581 |
| 10 | Madagascar | 22,701 | 3.5750 |
| 11 | Cen. Afr. Rep. | 2,700 | 1.8506 |
| 12 | Dahomey | 4,600 | 1.8363 |
| 13 | Guinea | 6,500 | 1.7558 |
| 14 | Togo | 2,768 | 1.6056 |
| 15 | South Vietnam | 27,082 | 1.5956 |
| 16 | Chad | 3,841 | 1.1264 |
| 17 | Mali | 4,640 | .9879 |
| 18 | Cambodia | 5,900 | .9197 |
| 19 | Laos | 2,509 | .9081 |
| 20 | Cameroon | 4,800 | .8775 |
| 21 | Niger | 2,900 | .8178 |
| 22 | Upper Volta | 2,917 | .5772 |
| 23 | Mauritania | 500 | .5000 |
| Mean for Countries in Study | | | 6.7432 |

SOURCE: Adapted from the U. N. Statistical Yearbook: 1968 (New York: United Nations Publication, 1969), pages 486 to 489.

Senegal that the population has not generally begun to use this medium on a large scale and thus the need for development in this realm is not felt to be necessary. The countries at the lower ranges of this table which indicate increased numbers of telephones in use may reflect needs which are being met to provide a minimum service to government and industry. Telephones in use seem to be luxuries and widespread use would assume the existence of a middle class large enough to afford this convenience. This would account for development in the lower range of countries, a slacking off in the middle range of countries and the increase again at the upper range, i.e., Lebanon especially, along with Syria and Tunisia. This observation is merely suggestive and adequate information is not available to confirm or reject this observation.

Table 4-5 is interesting because of its many inconsistencies with the other indices of development. The importance of using telegraph messages per 1,000 population has been examined in detail in the preceeding chapter. Like telephone units, telegraph messages reflect the technological skills available in a given country. The year is an important factor when discussing this variable because of the previously mentioned correlation between telegraph messages and international intercourse.

Most of the French colonies received independence in 1960. Figures to this date would be expected to be high be-

TABLE 4-5: TELEGRAPH MESSAGES PER THOUSAND POPULATION
1961 - 1963

| Rank | Country | Telegraph Messages per 1,000 | Telegrams per 1,000 Population |
|---|---|---|---|
| 1 | Lebanon | 652 | 296.363 |
| 2 | Mauritania | 211 | 264.088[a] |
| 3 | Gabon | 42 | 92.105 |
| 4 | Congo (Brazz.) | 63 | 75.000 |
| 5 | Ivory Coast | 252 | 68.777 |
| 6 | Tunisia | 279 | 66.051 |
| 7 | Morocco | 439 | 34.662 |
| 8 | Togo | 45 | 30.405 |
| 9 | Syria | 41 | 26.852 |
| 10 | Senegal | 87 | 26.157 |
| 11 | Central Afr. Rep. | 24 | 20.769 |
| 12 | Cambodia | 116 | 20.209 |
| 13 | Laos | 36 | 18.701 |
| 14 | Upper Volta | 84 | 17.684[b] |
| 15 | Madagascar | 97 | 16.239 |
| 16 | Chad | 36 | 12.847 |
| 17 | South Vietnam | 166 | 10.836 |
| 18 | Cameroon | 46 | 9.185 |
| 19 | Dahomey | 17 | 8.790[c] |
| 20 | Niger | 9 | 3.005 |
| Mean for Countries in Study | | | 56.086 |

[a]Figure is for 1959
[b]Figure is for 1964
[c]Figure is for 1960

SOURCE: Adapted from the United Nations Statistical Yearbook: 1965 (New York: United Nations Publication, 1966). Previous volumes of this series were utilized where data were not available for a particular country.

cause of communication with the colonial administration in metropolitan France. This table will be discussed in two groupings with comments about countries ranking high or low with special note of nations which are unexpectedly high or low. These deviant cases make this indicator of great interest in analyzing the data and outside influences which affect the magnitude of the data.

The first two countries in this ranking, Lebanon and Mauritania, have nearly three to four times more telegraph messages than the next lowest country in the ranking, Gabon. Lebanon appears to be one of the more highly developed of the nations in this study and we might expect it to be high on this indicator. Mauritania usually falls in the lower quartile when ranking these selected countries on indices of development. One should note that the year for data on Mauritania is 1959. This is the only country which reported its latest figures for a date which was a pre-independence year. The unexpectedly high figure for Mauritania can be attributed to several probable causes: (1) The lack of data reported from Mauritania on the three other communication indices suggests that substitute modes of communication have not yet been developed since independence. Thus, a heavy reliance upon this mode of communication; (2) The year 1959 would indicate that this high figure might represent heavy use of this medium by the colonial administration prior to granting of independence. Unfortunately this latter explanation is not possible to verify

because of the lack of data for a later time period as is indicated in Table 4-6.

African countries in the upper half of the rankings include Gabon, Congo, Ivory Coast, Togo and Senegal. All these countries have significant seaports and trading facilities. The remaining countries in the upper half of this ranking, i.e., Tunisia, Morocco and Syria, are also high on most other indices of development.

In the lower half of this ranking three countries are loacted in Southeast Asia, i.e., Laos, Cambodia and South Vietnam. Five of the others have no coastal facilities, i.e., the Central African Republic, Laos, Upper Volta, Chad and Niger, and are landlocked nations. Madagascar has some modern port facilities, but has not developed its internal transportation system to fully utilize its trading potential. Cameroon and Dahomey have some trading facilities, however they also have the problem of poor internal transporation systems.

Table 4-6 provides us with the opportunity to make comparisons over time for this variable. The fluctuations in the rankings between Table 4-5 and Table 4-6 provide an opportunitiy to examine which countries are having the greatest fluctuations up and down in the rankings. Although measuring the same dimension over time, the correlation between these two tables is only +.71 which is significant at the .01 probability level for sixteen cases.

TABLE 4-6: TELEGRAPH MESSAGES PER THOUSAND POPULATION
1965 - 1967

| Rank | Country | Telegraph Messages | Telegrams per 1,000 Population | Year |
|---|---|---|---|---|
| 1 | Lebanon | 506,000 | 205.6911 | 1966 |
| 2 | Central Afr. Rep. | 170,000 | 116.5182 | 1967 |
| 3 | Madagascar | 565,000 | 88.9764 | 1967 |
| 4 | Senegal | 268,000 | 73.0245 | 1967 |
| 5 | Cameroon | 350,000 | 63.9854 | 1967 |
| 6 | Chad | 204,000 | 59.8240 | 1967 |
| 7 | Algeria | 700,000 | 55,8214 | 1967 |
| 8 | Ivory Coast | 191,000 | 47.6309 | 1967 |
| 9 | South Vietnam | 632,000 | 39.1962 | 1965 |
| 10 | Syria | 208,000 | 37.3429 | 1967 |
| 11 | Morocco | 471,000 | 33.3098 | 1967 |
| 12 | Tunisia | 110,000 | 23.5294 | 1965 |
| 13 | Niger | 61,000 | 17.2025 | 1965 |
| 14 | Dahomey | 35,000 | 14.5228 | 1966 |
| 15 | Laos | 36,000 | 13.0293 | 1967 |
| 16 | Upper Volta | 62,000 | 12.2675 | 1967 |
| 17 | Togo | 18,000 | 10.4408 | 1967 |
| Mean of Countries in Study | | | | |

SOURCE: Adapted from the U. N. Statistical Yearbook: 1968 (New York: United Nations Publication, 1969) pages 481-485.

Examining those countries having the greatest fluctuation in the number of telegrams per thousand population between Time Period I and Time Period II, it was felt, might clarify the cause for variance in this variable over time. Thus, those countries having an increase or decrease of 20 or more telegrams per thousand population from Time Period I to Time Period II were examined to discern if they had any characteristics in common.

Lebanon, Tunisia, Togo and the Ivory Coast all reflected decreases in telegrams per thousand population of more than twenty between Time Period I and Time Period II. When the sixteen countries for which data were available in both time periods were ranked and their rankings compared, Lebanon remained in the same position, the Ivory Coast moved five ranks lower in Time Period II than in Time Period I and both Tunisia and Togo fell eight ranks lower in Time Period II than in Time Period I. A possible explanation for the dropping of these countries on this variable is that substitute methods of communication were developing and receiving heavier use. Thus, the four countries were checked for increases or decreases on the other communications variables and it was found that in only two instances did one of the countries fail to show an increase on the other three communications variables, i.e., Lebanon dropped in daily consumption of newspapers per thousand population and Togo dropped slightly in the number of telephone units per thousand population. Although not con-

clusive, this tends to support the proposition that as development occurs there is a greater diversification in communication with less reliance upon any singular medium.

Senegal, Madagascar, Chad, South Vietnam, Cameroon and the Central African Republic showed an increase of more than twenty telegraph messages per thousand population from Time Period I to Time Period II. Thus, this grouping of countries is increasing in use of all medium of communication and its development of telegraph usage seems consistent with this accross-the-board development.

In Table 4-7 one can begin to appreciate the low level of development for nearly all of the former French colonies. All colonies fell below the world mean of 102.1 daily newspaper circulation per 1,000 population. Only one of these colonies, Lebanon, approaches the world mean, with a score of 97 daily newspaper circulation per 1,000 population. Only six countries (Lebanon, South Vietnam, Algeria, Morocco, Tunisia and Syria) arrange themselves above the mean of the former French colonies as a group. This illustrates the very low literacy level of the population in these selected countries.

The findings for the six countries at the upper range of this table are congruent with the other indices used to measure development with the exception of South Vietnam. South Vietnam scores this high only on two other indicators of development--military personnel per 1,000 population, and the education indices. These countries have historically had

TABLE 4-7: DAILY NEWSPAPER CIRCULATION PER THOUSAND POPULATION 1959 - 1961

| Rank | Country | Circulation per 1,000 Population |
|---|---|---|
| 1 | Lebanon | 97 |
| 2 | South Vietnam | 28 |
| 3.5 | Algeria | 22 |
| 3.5 | Morocco | 22 |
| 5 | Syria | 19 |
| 6 | Tunisia | 14 |
| 7 | Madagascar | 9 |
| 8.5 | Cambodia | 6 |
| 8.5 | Senegal | 6 |
| 10 | Togo | 4 |
| 11 | Ivory Coast | 3 |
| 12.5 | Cameroon | 2 |
| 12.5 | Dahomey | 2 |
| 14.5 | Congo (Brazzaville) | 1 |
| 14.5 | Mali | 1 |
| 16 | Laos | 0.6 |
| 17.5 | Central African Rep. | 0.4 |
| 17.5 | Niger | 0.4 |
| 19 | Chad | 0.3 |
| 20 | Guinea | 0.2 |
| 21 | Upper Volta | 0.1 |
| Mean for Countries in this Study | | 11.2 |
| World Mean | | 102.1 |

SOURCE: Bruce M. Russett, et al., World Handbook of Political and Social Indicators (New Haven, Connecticut: Yale University Press, 1964).

close contact with Western cluture and institutions, although South Vietnam only to a lesser degree. South Vietnam appears to have been more influenced by French and Western institutions than any other former French colony in Southeast Asia. The leaders of the government in South Vietnam are by and large Roman Catholic. Many of South Vietnam's government personnel received their education in French schools, missionary schools and metropolitan French schools.

The next grouping of countries (Madagascar, Cambodia, Senegal, Togo, Ivory Coast, Cameroon and Dahomey) fall below the mean for former French colonies as a whole. All of these countries have seaport and trading facilities. They do cluster around the median for the former French colonies as a whole. They are far behind the first group of countries on this indicator.

The final eight countries are very low on this indicator. They have a circulation of one or less per 1,000 population. Six of these countries, i.e., Mali, Laos, Central African Republic, Niger, Chad and Upper Volta, have no seaports and are landlocked nations. It was unexpected that the Congo (Brazzaville) would score so low on this indicator. It received early exploration and was a center of French colonial power immediately after its exploration. It has one of the few higher educational institutions among the former French colonies of Africa. A great deal of missionary work was done in the Congo by the early missionaries. It ranks number one in

both time periods for the number of students enrolled in school. Although Guinea rarely scores above the mean or median for the countries under study, it usually does not score as low as twentieth.

Statistics were not available for Gabon, Mauritania or North Vietnam. Data is rather scant for both Mauritania and North Vietnam over most of the indicators. Mauritania has a very small government and is building a very small capital city outside of a small village. It has a large population of nomadic tribesmen and therefore statistics are often difficult to gather and verify. North Vietnam, as mentioned previously, does not make its statistics available to the United Nations which is the final source for much of the data. Gabon usually has statistics available and scores fairly well on other indicators of development.

The authors of A Cross-Polity Survey ascertained data on freedom of press in sixteen of the former French colonies. Only North Vietnam was coded as having strict direct and indirect censorship of news gathering and reporting. Madagascar, Niger, Chad, Mali and Mauritania were coded as having no censorship or governmental control of either domestic or foreign news gathering and reporting.[10] This indicates a relative free press in most of the new nations formerly under French colonial control.

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[10]Arthur S. Banks and Robert B. Textor A Cross-Polity Survey (Cambridge, Massachusetts: The M.I.T. Press, 1963), pp. 67-69 and the Raw Characteristic Code Sheet in Appendix A.

Table 4-8 provides an opportunity to compare newspaper circulation in Time Period I with newspaper circulation from the earlier period from Table 4-7. While most polities indicated an increase in daily newspaper circulation, the countries of North Africa and the Middle East exhibited a marked decrease in circulation. The exception for the countries in these two regions experiencing a decrease was Tunisia which nearly doubled its circulation during this time interval. A partial explanation is that, with the exception of Morocco, the countries in these two regions doubled or tripled the number of radio receivers in use during this period. Tunisia and Morocco experienced only a moderate increase in the number of receivers in use during this period. The sharp drop for Algeria is probably due in part to the exodus of almost all of the one million French colons following independence.

It was not possible to establish a world mean for the 1966 time period. In lieu of a world mean, Norway was selected as a country near the mean of the first quartile on indices of development. Norway had a daily newspaper circulation per thousand population of 382 while that for Costa Rica was 59. Only Lebanon surpassed the circulation figure for Costa Rica although South Vietnam was approaching this figure with a daily newspaper circulation of 56 per thousand population. It is clear that the countries of this study as a whole are at a stage of underdevelopment in newspaper circulation.

In Table 4-9 we examine the number of radios available

TABLE 4-8: DAILY NEWSPAPER CIRCULATION PER THOUSAND POPULATION, 1966

| Rank | Country | Circulation per 1,000 Population |
|---|---|---|
| 1 | Lebanon | 77[a] |
| 2 | South Vietnam | 56 |
| 3 | Tunisia | 27 |
| 4 | Algeria | 15 |
| 5 | Morocco | 14 |
| 6 | Madagascar | 13 |
| 7.5 | Cambodia | 11 |
| 7.5 | Syria | 11 |
| 9.5 | Togo | 6 |
| 9.5 | Senegal | 6 |
| 11 | Cameroon | 4 |
| 12.5 | Ivory Coast | 3 |
| 12.5 | Laos | 3 |
| 14 | Congo (Brazzaville) | 1.3 |
| 15 | Central African Republic | .6 |
| 16 | Mali | .5 |
| 17.5 | Chad | .4 |
| 17.5 | Niger | .4 |
| 19 | Guinea | .3 |
| 20 | Upper Volta | .2 |
| 21 | Dahomey | .1 |

[a]The figure for Lebanon was adapted from UNESCO Statistical Yearbook: 1967 (Louvain, Belgium: Imprimerie Ceuterick, 1968) page 447.

SOURCE: Adapted from the U. N. Statistical Yearbook: 1968 (New York: United Nations Publication, 1969) pages 774-775.

TABLE 4-9: RADIOS PER THOUSAND POPULATION, TIME I

| Rank | Country | Radios per 1,000 Population | Year | Data Based on L or R[a] |
|---|---|---|---|---|
| 1 | Tunisia | 63.5 | 1961 | L |
| 2 | Lebanon | 60.8 | 1960 | L |
| 3 | Syria | 57.3 | 1959 | L |
| 4 | Senegal | 54.3 | 1959 | R |
| 5 | Algeria | 54.1 | 1960 | L |
| 6 | Gabon | 48.0 | 1959 | L |
| 7 | Morocco | 45.5 | 1961 | L |
| 8 | Madagascar | 22.4 | 1961 | R |
| 9 | Ivory Coast | 16.0 | 1960 | L |
| 10 | Congo (Brazzaville) | 13.0 | 1950 | L |
| 11 | Central African Rep. | 9.8 | 1960 | L |
| 12 | South Vietnam | 8.9 | 1960 | L |
| 13 | Laos | 8.0 | 1961 | L |
| 14 | Cambodia | 6.5 | 1961 | R |
| 15 | Chad | 5.6 | 1961 | L |
| 16 | Togo | 4.3 | 1961 | R |
| 17 | Cameroon | 2.5 | 1959 | R |
| 18 | Dahomey | 2.4 | 1961 | L |
| 19 | Mali | 2.0 | 1960 | L |
| 20 | Niger | .9 | 1959 | L |
| 21 | Upper Volta | .8 | 1959 | R |
| Mean for Countries in Study | | 20.8 | | |
| World Mean | | 111.2 | | |

[a]The data for this table is based on licensed radios (L) or estimated receivers (R) in the countries. Licensed receivers is believed to be deflated from actual sets existing in any given country.

SOURCE: Bruce M. Russett, et al., World Handbook of Political and Social Indicators (New Haven, Connecticut: Yale University Press, 1964).

in the selected countries. The estimates are based either upon number of receivers or actual licenses issued for radios. This has been indicated in the table. Figures for licensed radios, no doubt, indicate the number of radios available in a given country. It would also be rare to have more than half a dozen radios in a small homogenous village where the population has close family ties. One radio may serve many people. The number of radios does give us an indication of the degree to which a population is exposed to mass media. Radios can help to create a national culture and break the ties of the extended families. It gives the young population an awareness that a large world exists outside their village.

The seven highest ranking countries in this table include those from North Africa and the Middle East which consistently rank high on most developmental indices. Also included in the highest ranking countries are Gabon and Senegal. Both countries conduct a heavy volume of trade and are among the wealthiest of the former French colonies in Sub-Sahara Africa. Gabon is rich in natural resources and has excellent seaports. Senegal possesses an excellent seaport and many natural resources. Senegal, in addition, was the administrative headquarters for French colonial rule in French West Africa. Senegal and Gabon score high on most of the indicators used in this paper. The seven highest ranked countries all fall well below the world mean (111.2) for the number of radios per 1,000 population.

However, the seven highest ranking countries and Madagascar score above the mean for the former French colonies as a whole. The population of these nations can begin receiving a view of their nation through the mass media. They can be mobilized on a small scale for productive purposes. The top seven countries have reached the "take off" level set by UNESCO for newly developing countries. Only Lebanon has reached the "take off" level for newspaper circulation.[11]

The five countries at the lower range of this table are well below the mean for the former French colonies and second only from one-fortieth to one-hundredth of the world mean and "take off" levels. The three lowest ranked countries (Mali, Niger and Upper Volta) are inland countries. Of the nine lowest ranked countries (Laos, Cambodia, Chad, Togo, Cameroon, Dahomey, Mali, Niger and Upper Volta) only four countries, i. e., Togo, Cambodia, Dahomey and Cameroon are not land bound countries. These nations score low on most indices of development.

Of the five countries clustering around the mean (10.5), i.e., Madagascar, Ivory Coast, Congo, Central African Republic and South Vietnam, only the Central African Republic is a land bound country. The remainder of these countries have major ports and have experienced more contact with Western culture

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[11]The "take off" level is 5 radios per 100 persons and 10 newspapers per 100 persons. This is discussed more fully in the previous chapter and can be referred to in Footnote 12, page 38.

and Western communications systems. The Central African Republic is boardered by the 1,400 mile long Ubangi River, which is navigable from Banqui to the ocean. The Central African Republic is not as landlocked as those countries scoring low on the table. These countries are considerably below the "take off" level previously mentioned for independent development of newly developing states. Data were not ascertainable for Mauritania, North Vietnam and Guinea.

The data for this table were taken from the World Handbook of Political and Social Indicators. The U. N. Statistical Yearbook: 1965 has figures which are more current. The problem involved in using the latter source was a lack of complete data by the United Nations on some countries.

The most pronounced fact when one examines the change in the number of radio receivers per thousand population from Table 4-9 to Table 4-10 is that without exception all countries experienced an increase in radio receivers and in the majority of countries the increase is substantial. The mean increase from Time Period I to Time Period II for the countries in the study ranged from 20.8 to 65.5 radio receivers per thousand population. As a medium of communication, radios have had the greatest impact upon the populations of these developing nations. Use of radios does not necessitate literacy and in countries where literacy is often low this means of communication appears to be a substitute for communication through the printed word.[12] Because most radio transmission

TABLE 4-10: RADIOS PER THOUSAND POPULATION, 1966

| Rank | Country | Radios per 1,000 Population | Data Based on L or R[a] |
|---|---|---|---|
| 1 | Syria | 329 | R |
| 2 | Lebanon | 183 | L |
| 3 | Cambodia | 157 | L |
| 4 | Algeria | 129 | L |
| 5 | Gabon | 85 | R |
| 6 | Tunisia | 83 | L |
| 7 | South Vietnam | 79 | L |
| 8 | Senegal | 73 | R |
| 9 | Congo (Brazzaville) | 71 | R |
| 10 | Morocco | 56 | L |
| 11 | Madagascar | 44 | R |
| 12 | Cameroon | 37 | L |
| 13 | Laos | 26 | L |
| 14 | Central African Rep. | 23 | R |
| 15 | Guinea | 21 | R |
| 16 | Niger | 20 | R |
| 17 | Togo | 18 | L |
| 18.5 | Ivory Coast | 16 | R |
| 18.5 | Mauritania | 16 | L |
| 20 | Dahomey | 15 | R |
| 21 | Upper Volta | 11 | L |
| 22 | Chad | 9 | R |
| 23 | Mali | 6 | L |
| Mean for Countries in Study | | 655 | |

[a]The data show either the number of licenses issued (indicated by L) or the estimated number of receivers (radios) in use (indicated by R). In many countries, a licence may cover more than one receiver in the same household, and the data for number of licenses issued should be used with caution since they fail in varying degree to represent fully the number of receivers in use.

SOURCE: Adapted from the UNESCO Statistical Yearbook: 1967 (Louvain, Belgium: Imprimerie Ceuterick, 1968) pages 486-495.

is under governmental or regime control, this medium provides an opportunity for the political regime in these states to manipulate the political symbols in these emerging societies and to mobilize the population for social and political purposes. Syria, Lebanon, Cambodia and Algeria exceeded the number of radio receivers in Costa Rica (94) which is the mean country in the second quartile on various indices of development. Syria surpassed Norway (300) which is a mean ranked country in the first quartile on other indices of development.

It is now possible to begin a brief examination of the way in which communications development is moving in these countries through examination of the composite index of communications development for these societies for the four measures discussed thus far. This composite index or scale was computed by adding the rankings of the countries on the communications measures and dividing by the number of measures for which data were available for each polity. Thus, a mean rank score is given for each country reporting information on two or more measures.

One of the two measures or both, telegraph messages and radio receivers per thousand, seem to cause significant movement in rank order of more than three positions between Time Period I and Time Period II. Two countries, Togo and the

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[12]The Britannica Book of the Year: 1969 (Chicago: William Benton Publisher, 1969) reports the results of a national census in Algeria during 1968 which reported that 74 per cent of the population was illiterate.

TABLE 4-11: A COMPOSITE INDEX OF COMMUNICATION DEVELOPMENT, TIME I

| Rank | Country | Composite Mean Rank Score | Rank Table 4-3 | Rank Table 4-5 | Rank Table 4-7 | Rank Table 4-9 |
|---|---|---|---|---|---|---|
| 1 | Lebanon | 1.25 | 1.00 | 1.00 | 1.00 | 2.00 |
| 2 | Algeria | 3.83 | 3.00 | ---- | 3.50 | 5.00 |
| 3 | Tunisia | 4.50 | 5.00 | 6.00 | 6.00 | 1.00 |
| 4 | Syria | 4.75 | 2.00 | 9.00 | 5.00 | 3.00 |
| 5 | Gabon | 5.33 | 8.00 | 3.00 | ---- | 6.00 |
| 6 | Morocco | 5.375 | 4.00 | 7.00 | 3.50 | 7.50 |
| 7 | Senegal | 7.375 | 7.00 | 10.00 | 8.50 | 4.00 |
| 8 | Ivory Coast | 8.50 | 9.00 | 5.00 | 11.00 | 9.00 |
| 9 | Congo (Brazzaville) | 8.83 | 6.00 | 4.00 | 14.50 | 10.00 |
| 10 | Madagascar | 10.00 | 10.00 | 15.00 | 7.00 | 8.00 |
| 11.5 | Togo | 11.50 | 12.00 | 8.00 | 10.00 | 16.00 |
| 11.5 | South Vietnam | 11.50 | 15.00 | 17.00 | 2.00 | 12.00 |
| 13 | Central African Rep. | 13.125 | 13.00 | 11.00 | 17.50 | 11.00 |
| 14 | Cambodia | 13.375 | 19.00 | 12.00 | 8.50 | 14.00 |
| 15 | Laos | 14.00 | ----- | 13.00 | 16.00 | 12.00 |
| 16 | Guinea | 15.50 | 11.00 | ----- | 20.00 | ----- |
| 17 | Dahomey | 15.875 | 14.00 | 19.00 | 12.50 | 18.00 |
| 18 | Cameroon | 16.375 | 18.00 | 18.00 | 12.50 | 17.00 |
| 19 | Mali | 16.50 | 16.00 | ----- | 14.50 | 19.00 |
| 20 | Chad | 16.75 | 17.00 | 16.00 | 19.00 | 15.00 |
| 21 | Upper Volta | 19.25 | 21.00 | 14.00 | 21.00 | 21.00 |
| 22 | Niger | 19.375 | 20.00 | 20.00 | 17.50 | 20.00 |
|  | Mauritania | ------ | ----- | 2.00 | ----- | ----- |

TABLE 4-12: A COMPOSITE INDEX OF COMMUNICATIONS DEVELOPMENT, TIME II

| Rank | Country | Composite Mean Rank Score | Rank Table 4-4 | Rank Table 4-6 | Rank Table 4-8 | Rank Table 4-10 |
|---|---|---|---|---|---|---|
| 1 | Lebanon | 1.25 | 1.00 | 1.00 | 1.00 | 2.00 |
| 2 | Algeria | 4.75 | 4.00 | 7.00 | 4.00 | 4.00 |
| 3 | Syria | 5.12 | 2.00 | 10.00 | 7.50 | 1.00 |
| 4.5 | Gabon | 6.00 | 7.00 | ---- | ---- | 5.00 |
| 4.5 | Tunisia | 6.00 | 3.00 | 12.00 | 3.00 | 6.00 |
| 6 | Senegal | 7.42 | 8.00 | 4.00 | 9.50 | 8.00 |
| 7 | Madagascar | 7.50 | 10.00 | 3.00 | 6.00 | 11.00 |
| 8 | Morocco | 7.75 | 5.00 | 11.00 | 5.00 | 10.00 |
| 9 | South Vietnam | 8.25 | 15.00 | 9.00 | 2.00 | 7.00 |
| 10 | Congo (Brazzaville) | 9.66 | 6.00 | ---- | 14.00 | 9.00 |
| 11 | Cambodia | 9.83 | 18.00 | ---- | 7.50 | 3.00 |
| 12 | Central African Rep. | 10.50 | 11.00 | 2.00 | 15.00 | 14.00 |
| 13.5 | Cameroon | 12.00 | 20.00 | 5.00 | 11.00 | 12.00 |
| 13.5 | Ivory Coast | 12.00 | 9.00 | 8.00 | 12.50 | 18.50 |
| 15 | Togo | 14.38 | 14.00 | 17.00 | 9.50 | 17.00 |
| 16 | Laos | 14.88 | 19.00 | 15.00 | 12.50 | 13.00 |
| 17 | Chad | 15.38 | 16.00 | 6.00 | 17.50 | 22.00 |
| 18 | Guinea | 15.66 | 13.00 | ---- | 19.00 | 15.00 |
| 19 | Dahomey | 16.75 | 12.00 | 14.00 | 21.00 | 20.00 |
| 20 | Niger | 16.88 | 21.00 | 13.00 | 17.50 | 16.00 |
| 21 | Mali | 18.66 | 17.00 | ----- | 16.00 | 23.00 |
| 22 | Upper Volta | 19.75 | 22.00 | 16.00 | 20.00 | 21.00 |
| 23 | Mauritania | 20.75 | 23.00 | ----- | ----- | 18.50 |

Ivory Coast, dropped in rank by more than three positions from Time Period I to Time Period II. The Ivory Coast fell three places (5 to 8) for telegraph messages per thousand population and nine and one half rankings (9 to 18.5) for radios per thousand population. Togo experienced a drop of nine in the rankings (8 to 17) for radio receivers per thousand.

Five nations, Madagascar, South Vietnam, Cambodia, Chad and Cameroon, moved up on the rankings more than three positions. Examination of these countries and the measures selected to indicate communications development reveals that two variables, telegraph messages and radio receivers per thousand population, account for this movement. Madagascar rose twelve rankings (from 15 to 3) on telegraph messages per thousand population. South Vietnam climbed eight positions (17 to 9) on telegraph messages and five positions (12 to 7) on radio receivers. Cambodia experienced an upward movement of eleven ranks (14 to 3) on radio receivers. Cameroon rose thirteen ranks (18 to 5) on telegraph messages and five ranks (17 to 12) on radio receivers. Chad extended itself ten positions (16 to 6) on telegraph messages.

It appears from examination of those polities moving the furthest distance on the index of communications development from Time Period I to Time Period II that one of two variables explain such movement. In addition, none of the countries which moved more than three places in the ranking from Time Period I to Time Period II were located in the Mid-

dle East or North Africa. Although the movement of these countries was noted earlier when discussing the variable, telegraph messages per thousand, the influence of these two variables on the countries of the Middle East and Africa was not great relative to the other countries in the study even though they did exhibit a rather large absolute movement on these variables during the time period.

## Recruitment

In Table 4-13 the index of recruitment is measured by military personnel per 1,000 population. No world mean was figured for armed forces by any source used to derive data for this table. The countries under study are broken down for discussion under four headings relative to the strength of their armed forces. Data were found, after intensive research, for all countries being studied in this paper.

The military is one of the most important nation-building institutions.[13] It is based upon modern technology and looks to developed nations as models to be followed for their own national development. The military institution is a source of social mobility for many ambitious citizens and a source of basic citizenship training for young recruits, often from tra-

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[13]Consult John J. Johnson, ed., The Role of the Military in Underdeveloped Countries (Princeton, New Jersey: Princeton University Press, 1962), pp. 32-33 and Richard M. Leighton and Ralph Sanders, eds., New Dimensions of the Cold War (Washington, D.C.: Industrial College of the Armed Forces, 1963), Chapter II.

TABLE 4-13: MILITARY PERSONNEL PER THOUSAND POPULATION, 1964

| Rank | Country | Number in Military | Military Personnel per 1,000 Population |
|---|---|---|---|
| 1 | Laos | 60,000 | 20,000 |
| 2 | North Vietnam | 275,000 | 15.536 |
| 3 | South Vietnam | 250,000 | 15.504 |
| 4 | Syria | 50,000 | 9.260 |
| 5 | Lebanon | 13,000 | 6.040 |
| 6 | Cambodia | 24,000 | 4.703 |
| 7 | Algeria | 45,000 | 4.217 |
| 8 | Tunisia | 17,000 | 3.723 |
| 9 | Morocco | 42,000 | 3.152 |
| 10 | Congo (Brazzaville) | 1,660 | 1.937 |
| 11 | Senegal | 5,300 | 1.518 |
| 12 | Guinea | 4,800 | 1.371 |
| 13 | Ivory Coast | 3,800 | 1.013 |
| 14 | Dahomey | 1,800 | .782 |
| 15 | Mali | 3,500 | .764 |
| 16 | Togo | 1,200 | .732 |
| 17 | Mauritania | 600 | .666 |
| 18 | Cameroon | 3,300 | .635 |
| 19 | Madagascar | 3,900 | .631 |
| 20 | Gabon | 600 | .462 |
| 21 | Central African Rep. | 600 | .443 |
| 22 | Niger | 1,200 | .360 |
| 23 | Chad | 900 | .272 |
| 24 | Upper Volta | 1,200 | .245 |
| Mean for Countries in Study | | | 3.915 |
| World Mean | | | ----- |

SOURCE: U. N. Monthly Bulletin of Statistics (New York: United Nations Publication, July, 1966). (Population estimates are from this source).

Statesman's Yearbook: 1967-1968 (New York: St. Martin's Press, 1967).

ditional backgrounds.

Educational variables also give a measure of the type of recruitment process taking place in a society. The size of the bureaucracy and level of differentiation in the bureaucracy would be more accurate variables to measure the level of development of the recruitment process, however such data were not ascertainable.

High numbers of military personnel in a population can indicate that a country suffers from internal repression or external tension. The four countries ranking highest on this measure have had a great deal of one or the other of these influences which helped to inflate the size of their armed forces. Laos has been involved in trying to secure an uneasy peace after many years of civil war and outside subversion. North and South Vietnam are fighting one another in the rice paddies of South Vietnam.

Syria has been forced to use repression to keep dissident elements within its own nation from becoming strong. They have a neighboring country which has caused them much anxiety and a series of three military confrontations in the last two decades. Lebanon, the fifth ranked country on this list, has been confronted by a hostile Israel on her southern boundary. Cambodia and Algeria have completed wars of independence against their former colonial ruler, and might be expected to rank highly. Tunisia and Morocco had large segments of their populations mobilized in the North African campaigns of World War II.

The Congo (Brazzaville), Senegal, Guinea and the Ivory Coast form the next group of countries on this measure. Guinea has established a strongman rule and has found it necessary to maintain a sufficiently large army to support that regime. The recurring disputes which break out between Guinea and Portuguese forces in Portuguese Guinea is an additional explanation for such a large armed forces there. The other three countries are major trading countries of Africa with vested interests to protect.

The remaining countries hold few men under arms. They are either small countries in population as in the case of Gabon, Mauritania, Central African Republic and Togo, or are small in area with few hostile neighbors to defend against. The fifteen countries at the lower end of this measure have small armies in comparison to the other countries under study and the world as a whole. The role of the military in these countries is just beginning to become significant to development.

Banks and Textor have examined the political role of the military in these countries. Laos was not coded by the authors because of its ambiguous situation. Syria and Togo were the two countries where the military was coded as "interventive" in politics. In Algeria, Cambodia, Guinea, Lebanon, Senegal, North Vietnam and South Vietnam, the military was coded as "supportive to the political regime in power." The remaining countries were coded as having "neutral" military

participation in politics.[14] These countries rank far better than many of the more developed Latin American countries on this measure of participation by the military in national politics.

In reference to Table 4-14, there was little shifting in rank of the countries from Time Period I to Time Period II. A Spearman's correlation coefficient of +.95 indicates a high level of association between the two time periods. South Vietnam more than doubled and Cambodia nearly doubled the number of military personnel per thousand population between Time Period I and Time Period II. Although Laos indicated no absolute gain in military personnel, it remained relatively high in the ranking. The high rankings for these Southeast Asian countries indicates the influence of the military and political instability in this region. Syria and Lebanon, with their high level of military men under arms indicate the degree of military insecurity in the Middle East. The African countries south of the Sahara continued to show a low level of military personnel under arms for the second time period.

As no world mean was ascertainable from the data sources at hand, Norway with 9.5112 military personnel was used for comparative analysis outside the selected countries. Norway usually scores near the mean for the first quartile of countries on other indices of development. Syria, Laos and South

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[14]Banks and Textor, Op. cit., pp. 113-114, and Appendix A, Raw Characteristic Code Sheet.

TABLE 4-14: MILITARY PERSONNEL PER THOUSAND POPULATION, 1968

| Rank | Country | Number in Military | Military Personnel per 1,000 Population |
|---|---|---|---|
| 1 | South Vietnam | 546,000 | 32.1687 |
| 2 | Laos | 55,000 | 19.9059 |
| 3 | Syria | 79,800 | 14.3268 |
| 4 | Cambodia | 49,000 | 7.6383 |
| 5 | Lebanon | 14,300 | 5.6746 |
| 6 | Algeria | 50,000 | 3.9872 |
| 7 | Morocco | 54,000 | 3.8190 |
| 8 | Tunisia | 17,000 | 3.7281 |
| 9 | Congo (Brazzaville) | 1,600 | 1.8605 |
| 10 | Senegal | 5,300 | 1.4441 |
| 11 | Gabon | 650 | 1.3742 |
| 12 | Guinea | 4,800 | 1.2966 |
| 13 | Ivory Coast | 3,900 | .9726 |
| 14 | Togo | 1,600 | .9281 |
| 15 | Mauritania | 1,000 | .9091 |
| 16 | Mali | 4,000 | .8516 |
| 17 | Dahomey | 1,800 | .7186 |
| 18 | Madagascar | 3,900 | .6142 |
| 19 | Cameroon | 3,300 | .6033 |
| 20 | Niger | 1,400 | .5499 |
| 21 | Central African Rep. | 600 | .4112 |
| 22 | Upper Volta | 1,350 | .2671 |
| 23 | Chad | 900 | .2639 |

SOURCE: Adapted from The Statesman's Yearbook: 1970-1971 (New York: St. Martin's Press, 1970).

Vietnam would score above Norway on this variable. All three are militarized societies either engaged with external confrontation or major civil conflicts within their own states.

Several variables presented by Jean Blondel may aid in explaining the level of military personnel in the country. Three of Blondel's variables are of interest: Military rule, duration of military rule and present technique by which the regime maintains itself.[15] The present technique by which the regime maintains itself does not explain why certain countries are high or low on this variable. The army rules or is the technique of rule in seven of the former French colonies including South Vietnam at the higher end of the scale and Upper Volta at the lower end of the ranking. Of the five highest ranked countries only Lebanon and Cambodia had had no military rule since 1949. Syria, Laos and South Vietnam had had a total of thirteen years of military rule since 1949 or since independence. Since Blondel's study (January, 1969) the military has moved to power in Cambodia.[16] The military variable will be examined separately when comparing political violence and development as well as being included in the Scales of Development reported at the conclusion of this chapter.

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[15]Jean Blondel in his text An Introduction to Comparative Government (New York: Praeger Publishers, 1969) has included in the Appendix extensive coded data and a coding manual covering many political, social and economic variables. For further consideration of this data refer to pages 531-546 of Blondel's text.

[16]Table A-14 in the Appendices provides the information on military rule in the countries of this study.

## Education

In Tables 4-15, 4-16, 4-17 and 4-18 the index of educational development is measured by total school enrollment per 1,000 population and post-primary school enrollment per 1,000 population. No world mean has been established for these measures. Ginsburg has found the world mean of primary school enrollment as a proportion of children ages five to fourteen to be 42. This figure is not comparable with the data which has been assembled for this study. He has found the world mean of post-primary school enrollment as a percentage of the total population in secondary and higher education schools to be 2.29. This, converted to the figures in Table 4-17 would place the world mean at 22.9. Ginsburg used figures from a 1958 publication by UNESCO entitled World Survey of Education, II: Primary Education. This mean has no doubt moved upward since this study was reported. At the time of this study, in the first time period, Lebanon was above the world mean, scoring 2.35. Assuming Lebanon's relative position to have continued about the same, the world mean would probably have advanced to about 30 to 34 by 1963. Two of our countries would score above this adjusted mean score. Using the figures of 1953 as a par with 1963-1964, no other country scores above the world mean for post-primary school enrollment per 1,000 population.

Eight nations score above the mean of the countries under study for students enrolled in post-primary schools per 1,000

population. Eleven countries score above the mean of the countries under study for students enrolled in all schools per thousand population. The reason for this difference may be that many new nations have put forth a great effort to use the primary school as a literacy training institution of society. Literacy is a status symbol for many new nations and all too often is viewed as a solution for the difficulties involved in development. Another reason for this difference may be that many nations have felt it necessary to place their limited resources to work on primary school enrollment as a means to build citizenship among their population. Bad planning is no doubt another reason for the emphasis being placed on primary school enrollment. The newness of these states is also shown by the large emphasis being placed on primary school enrollment.

Data on students enrolled in all schools can give an indication of how a nation chooses to use its limited resources and of what percentage of their population is receiving the basic literary training.

Table 4-15 indicates an inflated ratio of overall school attendance for many nations not scoring as high on other developmental measures. The world mean figure for this table is not of value for analysis in this table because it is a measure of a given age group, the five to fourteen-year-old population. The Congo (Brazzaville) scores highest on this table. Gabon, South Vietnam, Cameroon and Cambodia also score unexpectedly high on this measure. These countries have devoted a large pro-

TABLE 4-15: STUDENTS ENROLLED IN SCHOOLS PER THOUSAND POPULATION, TIME I

| Rank | Country | Number Students Enrolled | Number Students per 1,000 Population | Year |
|---|---|---|---|---|
| 1 | Congo (Brazzaville) | 168,948 | 201.128 | 1963 |
| 2 | Lebanon | 376,673 | 171.215 | 1963 |
| 3 | Tunisia | 729,018 | 162.220 | 1963 |
| 4 | Syria | 790,783 | 150.596 | 1963 |
| 5 | Gabon | 65,190 | 142.960 | 1962 |
| 6 | South Vietnam | 1,900,075 | 124.050 | 1963 |
| 7 | Algeria | 1,339,063 | 122.010 | 1964 |
| 8 | Cameroon | 596,580 | 119.125 | 1962 |
| 9 | Cambodia | 697,917 | 118.291 | 1963 |
| 10 | Madagascar | 648,867 | 109.236 | 1963 |
| 11 | Ivory Coast | 352,553 | 96.194 | 1963 |
| 12 | Togo | 149,358 | 95.436 | 1963 |
| 13 | Morocco | 1,180,262 | 91.076 | 1964 |
| 14 | Central African Rep. | 110,664 | 85.126 | 1963 |
| 15 | Laos | 139,640 | 72.540 | 1963 |
| 16 | Senegal | 235,958 | 69.399 | 1964 |
| 17 | Guinea | 199,785 | 59.459 | 1962 |
| 18 | Dahomey | 133,652 | 54.956 | 1963 |
| 19 | Chad | 137,383 | 49.065 | 1963 |
| 20 | Mali | 125,817 | 28.861 | 1963 |
| 21 | Mauritania | 20,037 | 25.688 | 1963 |
| 22 | Upper Volta | 86,621 | 19.809 | 1963 |
| 23 | Niger | 52,403 | 16.811 | 1963 |
| Mean for Countries in Study | | | 95.010 | |

SOURCE: U. N. Statistical Yearbook: 1965 (New York: United Nations Publication, 1966).

portion of their national resources to education. Table 4-17 reveals that most of their emphasis is on primary education, with the exception of South Vietnam, Congo and Cambodia. These nations have a fairly high score on both measures. South Vietnam and Cambodia were under the strong influence of missionaries as a result of their colonial rule. The Congo was one of the countries of Africa which received a large proportion of early missionary personnel. The Cameroon, which scores high on overall school enrollment, was divided between French and British colonial rule and has a special trusteeship status. None of the countries above the median for either table in Time Period I are inland countries.

Morocco scores below the median, of the countries under study, for overall school enrollment. It does rank seventh of the countries when considering post-secondary school enrollment. Morocco is the only country, of the nations in this study, which has a monarachial-parlimentary type of rule.[17] Its society is traditional in many aspects as can be seen by its rather poor showing in these tables on education. The remainder of the countries in the Middle East and North Africa scored in the upper portions of both tables measuring the educational development for Time Period I. They usually score high on most indicators of development.

Table 4-17 gives us better indication of a country's

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[17]Banks and Textor, Op. cit., pp. 106-110; and Appendix A, Raw Characteristic Code Sheet.

TABLE 4-16: STUDENTS ENROLLED IN SCHOOLS PER THOUSAND POPULATION, TIME II

| Rank | Country | Number Students Enrolled | Number Students per 1,000 Population | Percent Change |
|---|---|---|---|---|
| 1 | Congo(Brazzaville) | 203.403 | 242.1464 | +15 |
| 2 | Lebanon | 488,788 | 198.6943 | +14 |
| 3 | Tunisia | 863,324 | 193.6572 | +16 |
| 4 | Gabon | 86,257 | 186.7035 | +24 |
| 5 | Syria | 1,010,437 | 185.4013 | +19 |
| 6 | Cameroon | 826,176 | 154.4254 | +23 |
| 7 | Cambodia | 886,099 | 144.9058 | +18 |
| 8 | Algeria | 1,511,056 | 133.8402 | + 9 |
| 9 | South Vietnam | 2,107,533 | 130.7078 | + 5 |
| 10 | Madagascar | 748,878 | 116,6477 | + 6 |
| 11 | Central African Rep. | 159,820 | 115,3935 | +26 |
| 12 | Ivory Coast | 421,198 | 107.4485 | +10 |
| 13 | Togo | 174,159 | 103.6661 | + 7 |
| 14 | Morocco | 1,343,905 | 99.9112 | + 9 |
| 15 | Senegal | 256,194 | 71.5626 | + 3 |
| 16 | Laos | 188,314 | 69.7459 | - 4 |
| 17 | Dahomey | 143,223 | 59.4286 | + 8 |
| 18 | Chad | 182,351 | 54.2550 | + 9 |
| 19 | Guinea | 187,217 | 53.4906 | -15 |
| 20 | Mali | 165,203 | 36.1021 | +22 |
| 21 | Upper Volta | 115,161 | 23,5889 | +17 |
| 22 | Niger | 75,578 | 22.0151 | +27 |
| 23 | Mauritania | 20,787 | 20.1816 | -20 |
| Mean for Countries in Study | | | 105.0000 | +11 |

[a]Figures are for the year 1966.

SOURCE: Adapted from tables in U. N. Statsitical Yearbook: 1968 pages 742 to 766 and from the UNESCO Statistical Yearbook: 1967, pages 94 to 175.

TABLE 4-17: STUDENTS ENROLLED IN POST-PRIMARY SCHOOLS PER THOUSAND POPULATION, TIME I

| Rank | Country | Number Students Enrolled | Number Students per 1,000 Population | Year |
|---|---|---|---|---|
| 1 | Syria | 179,229 | 34.132 | 1963 |
| 2 | Lebanon | 75,072 | 34.123 | 1963 |
| 3 | South Vietnam | 325,396 | 21.244 | 1963 |
| 4 | Tunisia | 70,252 | 15.632 | 1963 |
| 5 | Congo (Brazzaville) | 12,552 | 14.942 | 1963 |
| 6 | Cambodia | 72,889 | 12.354 | 1963 |
| 7 | Morocco | 154,262 | 11.903 | 1964 |
| 8 | Algeria | 108,508 | 9.886 | 1964 |
| 9 | Madagascar | 53,225 | 8.960 | 1963 |
| 10 | Senegal | 29,527 | 8,684 | 1964 |
| 11 | Gabon | 3,858 | 8.460 | 1962 |
| 12 | Togo | 9,355 | 5.977 | 1963 |
| 13 | Ivory Coast | 21,107 | 5.759 | 1963 |
| 14 | Cameroon | 26,772 | 5.345 | 1962 |
| 15 | Dahomey | 9,592 | 4.263 | 1963 |
| 16 | Mali | 14,872 | 3.384 | 1963 |
| 17 | Laos | 6,477 | 3.364 | 1963 |
| 18 | Central African Rep. | 4,310 | 3.315 | 1963 |
| 19 | Guinea | 11,068 | 3.294 | 1963 |
| 20 | Mauritania | 1,397 | 1.791 | 1963 |
| 21 | Chad | 4,186 | 1.495 | 1963 |
| 22 | Upper Volta | 5,495 | 1.181 | 1963 |
| 23 | Niger | 2,547 | .817 | 1963 |
| Mean for Countries in Study | | | 9.578 | |
| World Mean | | | 22.900 | |

SOURCE: Adapted from the U. N. Statistical Yearbook: 1965 (New York: United Nations Publication, 1966).

achievement in training personnel necessary for significant national development in economics and technology. Secondary schools, technical schools and higher education institutions provide the necessary manpower skills needed for economic "take off" in a developing nation. Of the African nations, Gabon, Senegal, Madagascar and the Congo show the greatest degree of development for this measure and compare favorably with the North African countries.

Of the eight lowest ranking countries on the measure of students enrolled in post-secondary schools (Table 4-17), only Guinea is not a land bound country. Guinea scores low on many of the indices used in this study. These countries are far below the mean for the former French colonies as a whole.

The five lowest ranking countries on the measure of overall school enrollment (Table 4-15) are land bound countries with limited resources (Table 4-21) available to their governments for Time Period I. These countries are limited in the resources which they can make available for education. Only a small elite can expect to receive the goal of political development. This measure of development should give some indication of the degree of acculturation possible in new states. The lowest ranked countries are educating a small group which does not build the base for a feeling of citizenry or of nation within the attitudes of the population.

Of the countries providing data on the two measures of

educational development, Madagascar, Tunisia and Lebanon have been coded by the authors of A Cross-Polity Survey as linguistically homogeneous. Syria, South Vietnam and Cambodia were coded as weakly heterogeneous linguistically, having a significant minority of fifteen per cent or less not speaking the same language. The remainder of the countries in this study were coded as strongly heterogeneous linguistically, having more than fifteen per cent of its population not speaking the same language.[18] All of the countries mentioned in the first two categories scored high on this table for Time Period I. This may be a factor accounting for some of the variance in the countries of this measure and could be studied more in a later work.

Although data were not available to determine linguistic homogeneity or heterogeneity of the population for the second time period, Blondel quoting from The Europa Yearbook, 1968, Volumes 1 and 2, has classified nations by religion,[19] and it appears that predominant religion does not account for countries scoring high or low on these variables. All of the five lowest ranked countries on the composite index are coded Muslim, while at the same time four, i.e., Lebanon, Syria, Tunisia and Algeria of the eight highest ranked countries on the composite index for Time Periods I and II are also coded Muslim. South Vietnam and Cambodia of the high ranking coun-

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[18]Ibid., pp. 72-75 and Appendix A, Raw Characteristic Code Sheet.

[19]Jean Blondel, Op. cit., p. 538.

TABLE 4-18: STUDENTS ENROLLED IN POST-PRIMARY SCHOOLS PER THOUSAND POPULATION, TIME II

| Rank | Country | Number Students Enrolled | Number Students per 1,000 Population | Percent Change |
|---|---|---|---|---|
| 1 | Lebanon | 123,375 | 50.1524 | +24 |
| 2 | Syria | 239,377 | 43.9224 | +21 |
| 3 | Tunisia | 126,708 | 28.4226 | +25 |
| 4 | South Vietnam | 408,515 | 25.3358 | +16 |
| 5 | Congo(Brazzaville) | 16,859 | 20.0702 | +25 |
| 6 | Morocco | 219,927 | 16.3502 | +31 |
| 7 | Gabon | 6,692 | 14.4848 | +50 |
| 8 | Cambodia | 81,356 | 13.3043 | + 8 |
| 9 | Algeria | 140,000 | 12.4004 | +22 |
| 10 | Madagascar | 68,315 | 10.6410 | +16 |
| 11 | Senegal | 37,399 | 10.4466 | +17 |
| 12 | Ivory Coast | 37,395 | 9.5395 | +37 |
| 13 | Togo | 14,059 | 8.3685 | +30 |
| 14 | Cameroon | 42,420 | 7.9290 | +33 |
| 15 | Guinea | 23,098 | 6.5994 | +47 |
| 16 | Dahomey | 11,533 | 4.7855 | +12 |
| 17 | Central Afr. Rep. | 6,083 | 4.3921 | +28 |
| 18 | Laos | 10,652 | 3.9452 | +13 |
| 19 | Chad | 9,089 | 2.7043 | +23 |
| 20 | Upper Volta | 7,670 | 1.5506 | + 5 |
| 21 | Mauritania | 1,684 | 1.6350 | -10 |
| 22 | Niger | 4,473 | 1.3029 | +54 |
| 23 | Mali | 3,398 | .7426 | -87 |
| Mean for Countries in Study | | | 13.0000 | +20 |

[a]Figures are for the year 1966.

SOURCE: Adapted from the U. N. Statistical Yearbook: 1968, pages 742 to 766 and the UNESCO Statistical Yearbook: 1967, pages 94 to 175.

tries are coded Buddhist yet Laos which appears lower in the rankings is also Buddhist. Gabon, which is the only country coded predominantly protestant, scores above the median of the countries for the composite index both in Time Period I and Time Period II.

A Spearman's coefficient rank order correlation for Tables 4-15 and 4-16 of +.98 and for Tables 4-17 and 4-18 of +.95 was computed. Thus, shifting in ranks was at a minimum for these variables from Time Period I to Time Period II. Only Laos, Guinea and Mauritania indicated a decrease in total enrollment in schools per thousand population from Time Period I to Time Period II. Only Mali and Mauritania indicated a decrease in student enrollment in post-primary schools per thousand population. These countries were far below the mean for the countries in this study for both measures in both time intervals. Because a large segment of the budgets for these countries are devoted to education, cutbacks may also indicate the influence of lack of revenues where the economy itself is not strong.

After computing the percentage increase from Time Period I to Time Period II, it became apparent that the countries in this study were providing greater resources for the development of post-primary education versus primary school enrollment. Thus these countries seem to have made a comitment to produce trained manpower in preference to mobilizing the entire population in such basic areas as literacy. The average percentage

increase for post-primary school enrollment was 20 per cent and only 11 per cent for total school enrollment. The real commitment is toward the creation of trained indigenous manpower. When looking at the seven highest ranked countries it is apparent that greater stress is being placed upon post-primary education as each has a greater percentage increase in post-primary enrollment than in total student enrollment per thousand. Of the seven countries ranking at the lower end of this variable and indicating an increase in enrollment in post-primary schools, only Niger, Chad and the Central African Republic indicated greater student enrollment percentage increases in post-primary schools than in overall student enrollment. Thus, as was pointed out when discussing recruitment, the polities which have significantly socialized the population through large total student enrollment per thousand have now begun to shift emphasis to recruitment training to fill positions in the social, political and economic sectors of society. Although the evidence is not conclusive, it appears that these states place a great emphasis upon mass education as a source for creating a feeling of nationhood among the population and then proceed to allocate resources for training the population to fill roles in the recruitment process which require a higher degree of training and education. Though all nations in the study seem to be making this shift in emphasis it appears that those which are more developed are persuing this type of policy more fervently.

When we examine the composite index of educational development for the two time periods of this study it is clear that although some shift in the country placement on the two scales does occur there is overall stability for this dimension over time. The five countries in the lower quartile in Time Period I are also in the lower quartile in Time Period II. The eight countries ranking at the top of these scales are the same for Time Period I and Time Period II although some shifting has occurred. The Sub-Sahara Africa countries and Laos generally place low on this dimension. The five countries in the lower quartile have no major seaports and four are landlocked nations. Laos is the one Southeast Asian nation placing low on this dimension in both time periods and is a landlocked country. Morocco continues in Time Period II to indicate a mediocre effort in educational development below the other countries in North Africa and the Middle East.

## Economics

Seven measures have been used for the index of economic development. Each measure indicates certain aspects of economic development and will give some clues as to a country's available resources which are being exploited and made use of for national development.

Five measures have contributed to the construction of the composite index of economic development for Time Period I and Time Period II. Because adequate data were not available for the same variables in the two time periods, substitu-

TABLE 4-19: A COMPOSITE INDEX OF EDUCATIONAL DEVELOPMENT
TIME I

| Rank | Country | Composite Mean Rank Score | Table 4-15 | Table 4-17 |
|---|---|---|---|---|
| 1 | Lebanon | 2.0 | 2.0 | 2.0 |
| 2 | Syria | 2.5 | 4.0 | 1.0 |
| 3 | Congo (Brazz.) | 3.0 | 1.0 | 5.0 |
| 4 | Tunisia | 3.5 | 3.0 | 4.0 |
| 5 | South Vietnam | 4.5 | 6.0 | 3.0 |
| 6.5 | Cambodia | 7.5 | 9.0 | 6.0 |
| 6.5 | Algeria | 7.5 | 7.0 | 8.0 |
| 8 | Gabon | 8.0 | 5.0 | 11.0 |
| 9 | Madagascar | 9.5 | 10.0 | 9.0 |
| 10 | Morocco | 10.0 | 13.0 | 7.0 |
| 11 | Cameroon | 11.0 | 8.0 | 14.0 |
| 12 | Ivory Coast | 11.5 | 11.0 | 13.0 |
| 13 | Togo | 12.0 | 12.0 | 12.0 |
| 14 | Senegal | 13.0 | 16.0 | 10.0 |
| 15.5 | Cen. Afr. Rep. | 16.0 | 14.0 | 18.0 |
| 15.5 | Laos | 16.0 | 15.0 | 17.0 |
| 17 | Dahomey | 16.5 | 18.0 | 15.0 |
| 18.5 | Guinea | 18.0 | 17.0 | 19.0 |
| 18.5 | Mali | 18.0 | 20.0 | 16.0 |
| 20 | Chad | 20.0 | 19.0 | 21.0 |
| 21 | Mauritania | 20.5 | 21.0 | 20.0 |
| 22.5 | Upper Volta | 22.0 | 22.0 | 22.0 |
| 22.5 | Niger | 22.0 | 23.0 | 21.0 |

TABLE 4-20: A COMPOSITE INDEX OF EDUCATIONAL DEVELOPMENT
TIME II

| Rank | Country | Composite Mean Rank Score | Table 4-16 | Table 4-18 |
|---|---|---|---|---|
| 1 | Lebanon | 1.5 | 2.0 | 1.0 |
| 2.5 | Congo (Brazz.) | 3.0 | 1.0 | 5.0 |
| 2.5 | Tunisia | 3.0 | 3.0 | 3.0 |
| 4 | Syria | 3.5 | 5.0 | 2.0 |
| 5 | Gabon | 5.5 | 4.0 | 7.0 |
| 6 | South Vietnam | 6.5 | 9.0 | 4.0 |
| 7 | Cambodia | 7.5 | 7.0 | 8.0 |
| 8 | Algeria | 8.5 | 8.0 | 9.0 |
| 10 | Cameroon | 10.0 | 6.0 | 14.0 |
| 10 | Morocco | 10.0 | 14.0 | 6.0 |
| 10 | Madagascar | 10.0 | 10.0 | 10.0 |
| 12 | Ivory Coast | 12.0 | 12.0 | 12.0 |
| 13.5 | Togo | 13.0 | 13.0 | 13.0 |
| 13.5 | Senegal | 13.0 | 15.0 | 11.0 |
| 15 | Central Afr. Rep. | 14.0 | 11.0 | 17.0 |
| 16 | Dahomey | 16.5 | 17.0 | 16.0 |
| 17.5 | Laos | 17.0 | 16.0 | 18.0 |
| 17.5 | Guinea | 17.0 | 19.0 | 15.0 |
| 29 | Chad | 18.5 | 18.0 | 19.0 |
| 20 | Upper Volta | 20.5 | 21.0 | 20.0 |
| 21 | Mali | 21.5 | 20.0 | 23.0 |
| 22.5 | Mauritania | 22.0 | 23.0 | 21.0 |
| 22.5 | Niger | 22.0 | 22.0 | 22.0 |

tions were made for the national accounts variables and will be explained as the array of countries on these variables are discussed and compared. In the area of national accounts, GDP per capita for Time Period I is compared with GNP per capita for Time Period II while the comparable measure for per capita real income in Time Period I is per capita national income in Time Period II. The remainder of the variables in Time Period I have comparable data for Time Period II using the same measures.

In Table 4-21, GDP per capita indicates the strength of a nation's economy. The raw GDP figures are given to show the economic resources available for a nation to marshal for short periods of time. These figures can indicate the potential role of a nation in international affairs. Algeria, Morocco and South Vietnam appear to be the three countries which could marshal the most strength in a short period of time to deal with a problem. The figures in this table are for the first time period.

The GDP per capita figures tells what the level of living is for each country's population. These figures were considered most important when analyzing political development. Countries having GDP's per capita of $100 or more are: Gabon, Algeria, Lebanon, Senegal, Morocco, Tunisia, Syria, Ivory Coast and the Congo (Brazzaville). They are countries which rank with the half of the world population with GDP per capita over $100. The remaining fourteen countries are among those

TABLE 4-21: ESTIMATES OF GROSS DOMESTIC PRODUCT PER CAPITA, TIME I

| Rank | Country | GDP Millions of U. S. Dollars | Per Caipta GDP (Dollars) |
|---|---|---|---|
| 1 | Gabon | 100 | 240 |
| 2 | Algeria | 2,286 | 220 |
| 3 | Lebanon | 437 | 218 |
| 4 | Senegal | 475 | 160 |
| 5 | Morocco | 1,752 | 159 |
| 6 | Tunisia | 618 | 153 |
| 7 | Syria | 619 | 143 |
| 8 | Ivory Coast | 398 | 129 |
| 9 | Congo (Brazzaville) | 85 | 113 |
| 10 | Cameroon | 413 | 92 |
| 11 | South Vietnam | 1,179 | 91 |
| 12 | Central African Rep. | 105 | 90 |
| 13 | Madagascar | 446 | 87 |
| 14 | Guinea | 249 | 86 |
| 15 | Laos | 137 | 80 |
| 16 | Cambodia | 387 | 74 |
| 17 | Togo | 96 | 71 |
| 18 | Mauritania | 55 | 70 |
| 19 | Niger | 180 | 68 |
| 20 | Dahomey | 117 | 60 |
| 21 | Mali | 235 | 60 |
| 22 | Chad | 154 | 59 |
| 23 | Upper Volta | 153 | 40 |
| Mean for Countries in Study | | | 111 |

SOURCE: U. N. Yearbook of National Account Statistics: 1965 (New York: Department of Economic and Social Affairs, Statistical Office of the United Nations, 1966) pp. 493-497.

comprising the poorer half of the population of the world.

Four of the nine countries in the richer half of the world population are located in Africa and have major trading ports and a heavy contact with developed nations. The nine countries at the upper range of this scale are above the mean for the countries under study. The GDP figures for these countries are not so high that one would assume that development has reached a high plateau but it can be said that they show strong potential for advances in economic measures overall. These countries can probably provide their citizens with many of the necessities of life. They are by no means affluent.

The five countries immediately below the $100 GDP per capita line are all port countries which can provide some of the necessities of life to their populations. They can use a large degree of assistance in raising their economic level to a minimum poverty level.

The remaining countries, no doubt, have large segments of their populations near or below subsistence levels of living. Most of them are land bound countries with few major natural resources to offer for sale on the world market. They are in a sub-developmental stage in economics and will need large influxes of capital in order to begin development to any substantial degree.

For lack of data on gross domestic product per capita for Time Period II, gross national product per capita was selec-

ted as a substitute measure. By definition, GDP at factor cost is GNP at factor cost less net factor income from abroad. Thus, GNP per capita is less likely to measure the native strength of an economy than GDP per capita. However, GNP per capita is able to give a more accurate picture of how a nation is actually performing. The concept of gross national product is important for the following reasons: (1) It indicates what the nation can produce in the short run. In case of an allout war, for instance, it would indicate how much armament production could be stepped up while we temporarily ignored depreciation; and (2) It is the broadest of all national products concepts and is equal to total expenditure, at market prices, of all spending agencies for the currently produced output.[20] An example for clarity might be in order. Lewis P. Fickett, Jr. in his analysis of the Algerian economy since 1961 reports that aid from the United States, France, Communist China and the Soviet Union has totaled approximately one billion dollars.[21] This billion dollars would be computed in the GNP per capita and excluded from computation of GDP per capita. In other words, trucks produced in France and included as part of a loan to Algeria are computed in the gross national product and excluded from the computation of the gross domestic product.

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[20]For further elaboration of use of measures of national accounts consult George N. Halm, Economics of Money and Banking (Homewood, Illinois: Richard D. Irwin, Inc., 1956) especially pages 67-69.

[21]Lewis P. Fickett, Jr., Problems of the Developing Nations, (New York: Thomas Y. Crowell, 1966) pp. 151-154.

TABLE 4-22: ESTIMATES OF GROSS NATIONAL PRODUCT PER CAPITA, TIME IIa

| Rank | Country | GNP per Millions U.S. Dollars | Per Capita GNP (Dollars) |
|---|---|---|---|
| 1 | Lebanon | 1,300 | 520 |
| 2 | Gabon | 195 | 410 |
| 3 | Algeria | 3,140 | 250 |
| 4 | Ivory Coast | 920 | 230 |
| 5 | Tunisia | 960 | 210 |
| 7 | Congo (Brazzaville) | 165 | 190 |
| 7 | Morocco | 2,685 | 190 |
| 7 | Senegal | 700 | 190 |
| 9 | Syria | 1,000 | 180 |
| 11 | Cambodia | 835 | 130 |
| 11 | Cameroon | 710 | 130 |
| 11 | Mauritania | 145 | 130 |
| 13.5 | Central African Rep. | 175 | 120 |
| 13.5 | South Vietnam | 2,040 | 120 |
| 1 .5 | Madagascar | 635 | 100 |
| 15.5 | Togo | 172 | 100 |
| 17.5 | Guinea | 355 | 90 |
| 17.5 | Laos | 250 | 90 |
| 19.5 | Dahomey | 200 | 80 |
| 19.5 | Mali | 375 | 80 |
| 21.5 | Chad | 240 | 70 |
| 21.5 | Niger | 250 | 70 |
| 23 | Upper Volta | 255 | 50 |

[a]Figures are for the year 1967.

SOURCE: Adapted from the Political Handbook and Atlas of the World, 1970 (New York: Harper & Row for the Council on Foreign Relations, 1971).

We would expect that in all cases gross national product will exceed gross domestic product.

Unlike data on gross domestic product per capita for Time Period I when three countries, Gabon, Algeria and Lebanon

were outdistancing all other countries in the study, Gabon and Lebanon have all but left behind the closest competitor, Algeria, for honors in the magnitude of this measure (gross national product per capita) for Time Period II. Three additional Sub-Sahara African countries, the Ivory Coast, Congo (Brazzaville) and Senegal have unquestionably joined the upper-middle range of countries in economic performance. The middle and lower-middle range of countries are large African nations or countries of Southeast Asia. The five nations placing lowest on this variable are the same for both time periods and are the small African nations with only Dahomey not completely landlocked. Mauritania experienced the largest shifting in relation to the other countries moving from eighteenth in Time Period I to eleventh in Time Period II. This can be accounted for by the large discoveries of mineral deposits shortly after independence.

Tables 4-23 and 4-24 allow for further comparison of national account statistics for the two time intervals. In the first time interval, Table 4-23, per capita real income has been ascertained for twenty-one countries. Real income is computed on the basis of U. S. dollars and is a measure of money adjusted for changes in the value of currency or, put another way, it is the output of the economy measured in constant dollars.

In the second time period per capita income is computed from gross national product by deducting depreciation and

TABLE 4-23: PER CAPITA REAL INCOME, 1962

| Rank | Country | Per Capita Real Income, 1962 (in U.S. Dollars) |
|---|---|---|
| 1 | Algeria | $229 |
| 2 | Lebanon | 225 |
| 3 | Tunisia | 199 |
| 4 | Senegal | 165 |
| 5 | Morocco | 159 |
| 6 | Syria | 142 |
| 7 | Ivory Coast | 118 |
| 8 | Dahomey | 80 |
| 9 | Mali | 79 |
| 10 | Central African Rep. | 78 |
| 11.5 | Togo | 73 |
| 11.5 | South Vietnam | 73 |
| 13 | Madagascar | 70 |
| 14.5 | Laos | 68 |
| 14.5 | Cambodia | 68 |
| 16 | Niger | 64 |
| 17 | Cameroon | 62 |
| 18 | Chad | 60 |
| 19 | North Vietnam | 58 |
| 20 | Guinea | 50 |
| 21 | Upper Volta | 43 |

SOURCE: Adapted from Ted Gurr and Charles Ruttenberg data on tape and available through the Inter-University Consortium for Political Research at the University of Michigan.

TABLE 4-24: PER CAPITA NATIONAL INCOME, 1967

| Rank | Country | Per Capita Real Income, 1967 (in U.S. Dollars) |
|---|---|---|
| 1 | Gabon | $460 |
| 2 | Lebanon | 423 |
| 3 | Ivory Coast | 212 |
| 4 | Syria | 204 |
| 5 | Algeria | 197 |
| 6 | Morocco | 185 |
| 7 | Senegal | 174 |
| 8 | Tunisia | 171 |
| 9 | Congo (Brazzaville) | 160 |
| 10 | South Vietnam | 155 |
| 11 | Cambodia | 129 |
| 12 | Togo | 127 |
| 13 | Cameroon | 119 |
| 14 | Mauritania | 114 |
| 15 | Guinea | 113 |
| 16 | Central African Rep. | 99 |
| 17 | Madagascar | 97 |
| 18 | Niger | 81 |
| 19 | Mali | 80 |
| 20 | Chad | 65 |
| 21 | Dahomey | 64 |
| 22 | Laos | 58 |
| 23 | Upper Volta | 42 |

SOURCE: Adapted from the U. N. Statistical Yearbook: 1969 (New York: United Nations Publication, 1969) pages 557 to 562.

indirect business taxes. This allows for measuring how the economy is performing by not inflating the figures with goods which cannot be considered new commodities for exchange. Thus, if a tractor costs $5,000 and the yield in one year from its use (other factors held constant) is $5,000 worth of farm products, the value of goods counted in national income would be $5,000 less the depreciation cost of the tractor for producing the products less indirect taxes of the business. Both Tables 4-23 and 4-24 are non-inflated measures of the health of the economy.

In Tables 4-23 and 4-24 it can be observed that Senegal and the Ivory Coast are two Sub-Sahara Africa nations which exhibit strong economies in relationship to their neighboring countries in this region. The countries of the Middle East and North Africa indicate strong economies in comparison to other nations of this study.

When comparing the Sub-Sahara Africa countries as a group for the two time intervals, the landlocked nations of Upper Volta, Chad, Mali, Central African Republic and Niger place below the median for countries of the study. Dahomey indicates a marked drop in economic strength from Time Period I to Time Period II, descending from the second quartile of countries to the fourth quartile of countries while its neighbor, Togo, a country of comparable size and population holds its own in the heirarchy of countries on these variables. Cameroon and Guinea both improved during this time interval.

The remainder of the countries had slight shifts from Time Period I to Time Period Two yet held their classifications relative to the array on these economic variables.

Of the three Southeast Asian nations, Laos displayed a less healthy economic picture in Time Period II than in Time Period I and South Vietnam maintained its position relative to the other countries under study. Cambodia placed higher during Time Period II than it had during Time Period I.

Data were not available for Congo (Brazzaville), Gabon and Mauritania for the first time period.

In Table 4-25, the energy consumption per capita is examined and a wide range of variation is shown for these countries. Those countries above the mean for the former French colonies are all those above the mean for GDP per capita, with the exception of the Ivory Coast which is just below the mean.

A country needs energy in order to industrialize. Lebanon appears to have enough energy fuels available or in use to contrive to industrialize. It is one of the most modernized of the nations of the Middle East and far above the remainder of the former French colonies on this measure. Guinea ranks above the median on this measure and has the potential energy to begin industrialization on a low level.

The remaining countries fall off sharply on this scale. They consume enough energy to provide for very light industrial establishments or just enough for businesses and small

TABLE 4-25: ENERGY CONSUMPTION PER CAPITA, TIME I

| Rank | Country | Energy Consumption per Capita |
|---|---|---|
| 1 | Lebanon | 689 |
| 2 | Syria | 351 |
| 3 | Algeria | 275 |
| 4 | Tunisia | 244 |
| 5 | Gabon | 196 |
| 6 | Congo (Brazzaville) | 157 |
| 7 | Morocco | 149 |
| 8 | Senegal | 136 |
| 9 | Ivory Coast | 107 |
| 10 | Guinea | 101 |
| 11 | Cameroon | 71 |
| 12 | South Vietnam | 63 |
| 13 | Mauritania | 56 |
| 14 | Laos | 44 |
| 15 | ogo | 41 |
| 16 | Cambodia | 40 |
| 17 | Madagascar | 37 |
| 18 | Dahomey | 30 |
| 19 | Central Afr. Rep. | 29 |
| 20 | Mali | 20 |
| 21 | Chad | 15 |
| 22 | Niger | 13 |
| 23 | Upper Volta | 11 |
| Mean for Countries in Study | | 125 |

SOURCE: U. N. Statistical Yearbook: 1965 (New York: United Nations Publication, 1966) pages 350+ (quantities are per capita of coal equivalent.).

TABLE 4-26: ENERGY CONSUMPTION PER CAPITA, TIME II

| Rank | Country | Energy Consumption Per Capita | Percent Change Time I to Time II |
|---|---|---|---|
| 1 | Lebanon | 648 | - 6.3 |
| 2 | Algeria | 421 | + 53.0 |
| 3 | Gabon | 397 | +103.0 |
| 4 | Syria | 393 | + 12.0 |
| 5 | South Vietnam | 296 | +370.0 |
| 6 | Tunisia | 234 | - 4.0 |
| 7 | Congo (Brazzaville) | 188 | + 20.0 |
| 8 | Morocco | 178 | + 19.0 |
| 9 | Ivory Coast | 151 | + 41.0 |
| 10 | Senegal | 138 | + 1.4 |
| 11 | Guinea | 97 | - 4.0 |
| 12 | Cameroon | 77 | + 8.0 |
| 13 | Madagascar | 66 | + 78.0 |
| 14 | Togo | 57 | + 39.0 |
| 15 | Mauritania | 53 | - 5.0 |
| 16 | Cambodia | 51 | + 28.0 |
| 17 | Laos | 41 | - 7.0 |
| 18 | Central Afr. Rep | 36 | + 24.0 |
| 19 | Dahomey | 29 | - 3.0 |
| 20 | Mali | 22 | + 10.0 |
| 21 | Chad | 16 | + 7.0 |
| 22 | Niger | 13 | 0.0 |
| 23 | Upper Volta | 12 | + 9.0 |
| | Mean for Countries in Study | 158 | |
| | World Mean | 1,648 | |

SOURCE: Adapted from the U. N. Statistical Yearbook: 1968 (New York: United Nations Publication, 1969) pages 349 to 352.

shops. The five lowest ranked countries are land bound and consume hardly enough energy to keep shops, businesses and government office buildings operating. They do not show any potential to industrialize. Figures in this table are based on the year 1964.

As regards energy consumption per capita in 1967, the world mean was 1,648 kilowatt hours per capita as compared with a mean of 158 kilowatt hours per capita for the countries reporting data for this study. This grouping of states is underdeveloped in comparison to the world at large. The range in Time Period I is from 11:689 kilowatt hours per capita to 12:648 for the second time interval. Thus, no major improvement in energy consumption per capita is evident from Time Period I to Time Period II. However, a slight improvement by the nations within the study indicates that the mean has ascended from 125 kilowatts in 1964 to 158 kilowatts in 1967.

Six countries, Lebanon, Tunisia, Guinea, Mauritania, Laos and Dahomey actually experienced a decrease in energy consumption of from 2 per cent to 7 per cent in the lapse of time between 1964 and 1967. These decreases occurred in countries from each region studied and from each quartile of the rankings. Of those countries reporting an increase in energy consumption, South Vietnam displayed the largest percentage increase, 370 per cent, followed by Gabon with a 103 per cent increase. Two countries, Algeria and Madagascar experienced more than a 50 per cent increase, 53 and 78 per cent respectively.

Four countries, Senegal, Mali, Chad and Upper Volta experienced increases in energy consumption of less than 10 per cent over the time lapse from Time Period I to Time Period II.

The most outstanding characteristics of those countries falling below the median country, Madagascar, is smallness in size and/or being land bound countries.

The figures in Table 4-27 are for the year 1963. International trade tells us how interdependent nations are upon commercial intercourse with other nations. It indicates the degree to which nations have been able to organize their economies toward productive and specialized fields. It gives a clue as to a nation's ability to conduct intricate and mature relations with other nations.

Gabon ranks highest on this measure and further is one of the few countries of tropical Africa with a continuous favorable balance of trade with exports exceeding imports by well over 30 per cent each year.[22] Gabon has some of the most valuable timber in the world and has forests which are vast and dense. It is also rich in mineral deposits which have not yet been fully explored and developed. The remaining eight countries ranking high on this indicator are located in North Africa and the Middle East. Senegal, Congo (Brazzaville) and the Ivory Coast are large trading countries of Africa and score high on this measure. These countries all produce goods or have resour-

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[22]The Gabon Republic: Hour of Independence Series, French Embassy (New York: Information Service Press, February, 1961) p. 15.

TABLE 4-27: IMPORTS AND EXPORTS IN U.S. DOLLARS PER THOUSAND POPULATION
TIME I

| Rank | Country | Imports & Exports[a] | Imports & Exports per 1,000 Population |
|---|---|---|---|
| 1 | Gabon | 120 | 263.157 |
| 2 | Lebanon | 442 | 198.206 |
| 3 | Algeria | 1,392 | 129.488 |
| 4 | Congo (Brazz.) | 104 | 128.078 |
| 5 | Ivory Coast | 400 | 109.140 |
| 6 | Syria | 424 | 84.800 |
| 7 | Senegal | 267 | 80.276 |
| 8 | Tunisia | 349 | 77.659 |
| 9 | Morocco | 826 | 65.219 |
| 10 | Cameroon | 226 | 45.127 |
| 11 | Mauritania | 35.1[b] | 39.886 |
| 12 | Cen. Afr. Rep. | 48 | 36.923 |
| 13 | Cambodia | 196 | 35.701 |
| 14 | Madagascar | 209 | 35.185 |
| 15 | Guinea | 101.2[b] | 30.119 |
| 16 | Togo | 47 | 30.031 |
| 17 | South Vietnam | 363 | 23.699 |
| 18 | Dahomey | 46.1[b] | 20.672 |
| 19 | Chad | 52 | 16.000 |
| 20 | Niger | 42.4[b] | 13.490 |
| 21 | Laos | 25.8[c] | 13.437 |
| 22 | Mali | 48.8[b] | 11.106 |
| 23 | Upper Volta | 47.3[b] | 10.172 |
| Mean for Count. in Study | | | 65.111 |

[a]Figures in this column are in millions of U.S. Dollars

[b]Data is from Yearbook of International Trade Statistics:1963.

[c]Data is from Britannica Book of the Year: 1965. Figure based on educated guess.

SOURCE: U. N. Monthly Bulletin of Statistics (New York: United Nations Publication, 1966).

ces available which are in demand by other nations in the world. They have good transportation and trading facilities.

The seven countries ranking in the middle range have low levels of trade with foreign nations. They either have some resources which are not fully developed or weak transportation systems on which to transport their goods. They are not significant trading nations at this time.

Of the six countries ranking at the lower range of this measure, four are land bound countries. The other two are nations which are based upon subsistence economies with few major items of exportable goods. Upper Volta is an example of one such economy which depends for its foreign trade on livestock which is its chief natural resource.[23] The cattle are often afflicted with sleeping sickness and large herds become nonexportable. The remainder of their economy consists of small handicraft items made throughout the state, and of course, subsistence farming.

From Table 4-28 it is possible to make comparisons of the change in trade between 1963 and 1967 for the countries under study. Although there is some shifting, the eight highest ranking countries in Time Period I are again the highest ranking countries in Time Period II. Two of these countries, Syria and Algeria, decreased their total volume of trade, 20 per cent

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[23]The Republic of Upper Volta: Hour of Independence Series, French Embassy (New York: Information Service Press, October, 1960) p. 21.

TABLE 4-28: IMPORTS AND EXPORTS IN U.S. DOLLARS

| Rank | Country | Imports & Exports[a] | Imports/Exports per 1,000 Population | Percent Change Time I - II |
|---|---|---|---|---|
| 1 | Gabon | 187 | 395.3488 | +50 |
| 2 | Lebanon | 590 | 234.1270 | +18 |
| 3 | Congo (Brazz.) | 130 | 151.1628 | +20 |
| 4 | Ivory Coast | 588 | 146.6334 | +34 |
| 5 | Algeria | 1,261 | 104.1977 | -20 |
| 6 | Tunisia | 409 | 89.6930 | +16 |
| 7 | Mauritania | 92 | 85.9813 | +125 |
| 8 | Senegal | 301 | 82.0163 | + 2 |
| 9 | Syria | 419 | 75.2244 | -11 |
| 10 | Morocco | 941 | 66.5488 | + 2 |
| 11 | Cameroon | 299 | 54.6618 | +21 |
| 12 | Central Afr. Rep. | 69 | 47.2927 | +28 |
| 13 | Togo | 77 | 44.6636 | +49 |
| 14 | Madagascar | 249 | 39.2126 | +11 |
| 15 | South Vietnam | 554 | 32.6401 | +38 |
| 16 | Guinea | 111 | 30.7680 | 0 |
| 17 | Cambodia | 179 | 27.9034 | -22 |
| 18 | Dahomey | 63 | 25.1497 | +22 |
| 19 | Niger | 72 | 20.3046 | +50 |
| 20 | Chad | 65 | 19.0616 | +19 |
| 21 | Laos | 44 | 16.2963 | +21 |
| 22 | Mali | 69 | 14.6902 | +32 |
| 23 | Upper Volta | 54 | 10.6846 | + 5 |

[a]Figures in this column are based on millions of U.S. dollars.

SOURCE: Adapted from the U. N. Statistical Yearbook: 1968, (New York: United Nations Publication, 1969) pages 387 to 397.

and 11 per cent respectively. Fickett reports that Algeria has suffered a continuous decline in economic strength since 1961.[24] Cambodian trade dropped off by 22 per cent between 1963 and 1967. This was the only other country showing a decline in trade from Time Period I to Time Period II.

Mauritania experienced an increase in trade by 125 per cent from Time Period I to Time Period II. The cause for this increase is the greater level of exports which rose by 331 per cent while the country witnessed a decrease of 30 per cent for imports entering the nation between the 1963 and 1967 time periods. The reverse is true for South Vietnam which experienced an increase of imports by 40 per cent and a decrease in exports of 381 per cent. Even though South Vietnam has experienced a 38 per cent increase in the volume of trade it was actually in much worse financial shape in 1967 than in 1963 because of the loss of any kind of favorable balance of trade. This points out a prominant feature of the trade statistics, that is, they indicate the level at which nations are trading with other nations and do not measure how advantageous that trade is to the nation in the study.

Table 4-28 reinforces the conclusion found in Table 4-27, that the landlocked countries have the lowest level of trade with the exception of the Central African Republic.

The final measure of economic development is the scope

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[24]Fickett, Jr., Op. cit., pp. 151-155.

of the modern transportation network in these nations for Time Period I (1962) and Time Period II (1967). This measure was developed by Ted Gurr and Charles Ruttenberg for the first time interval.[25] The figures for Time Period II were developed from statistics on the number of automobiles in use in these countries. Thus, the figures in the two tables are probably not measuring the same features of a modern transportation network. The figures in both tables do have a Spearman's correlation coefficient of +.73 indicating a rather high degree of association for the countries for the two time periods.

In Time Period I, Table 4-29, Togo, Dahomey and Upper Volta rank much higher than would be expected from their performance on the other indicators of economic development. In Time Period II, Table 4-30, these three countries place about where they do on other measures of economic development. All three of these countries possess extensive waterways. Algeria and Cameroon are the two nations exhibiting low rankings in Time Period I and ascend the ranking to their usual position of development in Time Period II. Neither of these countries possess extensive waterways. This leads one to the conclusion that the transportation dimension being measured in Time Period I is markedly different from that being measured in Time Period II.

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[25]After reading the codebook and examining their explanation of their coding procedure in Ted Gurr and Charles Ruttenberg, Cross National Studies of Civil Violence (Washington,D.C.: Center for Research in Social Systems, the American University, 1969) Appendix A, this author has not been able to ascertain what variables they utilized to arrive at their measure.

TABLE 4-29: SCOPE OF MODERN TRANSPORTATION NETWORK, 1962

| Rank | Country | Scope |
|---|---|---|
| 1 | Lebanon | 57 |
| 2 | Tunisia | 35 |
| 3 | Ivory Coast | 31 |
| 4 | Togo | 23 |
| 5.5 | Senegal | 22 |
| 5.5 | Dahomey | 22 |
| 7.5 | Morocco | 13 |
| 7.5 | Madagascar | 13 |
| 9 | Upper Volta | 11 |
| 10.5 | South Vietnam | 10 |
| 10.5 | Syria | 10 |
| 12.5 | North Vietnam | 8 |
| 12.5 | Guinea | 8 |
| 15 | Algeria | 7 |
| 15 | Cambodia | 7 |
| 15 | Cameroon | 7 |
| 17.5 | Central African Rep. | 6 |
| 17.5 | Chad | 6 |
| 19.5 | Mali | 3 |
| 19.5 | Niger | 3 |
| 21 | Laos | 1 |

SOURCE: Adapted from Ted Gurr and Charles Ruttenberg (Genesis of Political Violence Project) data on tape and available through the Inter-University Consortium for Political Research at the University of Michigan.

TABLE 4-30: SCOPE OF MODERN TRANSPORTATION NETWORK, 1967

| Rank | Country | Scope |
|---|---|---|
| 1 | Lebanon | 51.3 |
| 2 | Gabon | 20.5 |
| 3 | Tunisia | 19.5 |
| 4 | Ivory Coast | 17.9 |
| 5 | Morocco | 17.6 |
| 6 | Algeria | 14.3 |
| 7 | Senegal | 14.1 |
| 8 | Madagascar | 10.1 |
| 9 | Cameroon | 9.0 |
| 10 | Central African Rep. | 8.4 |
| 11 | Syria | 8.0 |
| 12 | Mauritania | 5.5 |
| 13 | Dahomey | 5.3 |
| 14 | Guinea | 5.2 |
| 15 | Togo | 5.1 |
| 16 | Cambodia | 5.0 |
| 17 | South Vietnam | 4.3 |
| 18 | Laos | 3.3 |
| 19 | Chad | 2.6 |
| 20 | Upper Volta | 2.1 |
| 21.5 | Niger | 2.0 |
| 21.5 | Mali | 2.0 |

SOURCE: Adapted from tables in the U. N. Statistical Yearbook: 1968 (New York: United Nations Publication, 1969) pages 411 to 458.

Tables 4-31 and 4-32 permit a comparison of the manner in which the former French colonies are performing on measures of economic development for two time periods relative to one another. Two countries, Lebanon and Gabon, maintained their ranking of first and second respectively while Laos and Upper Volta maintained their ranking of nineteenth and twenty-third respectively. The remaining nineteen countries shifted either upward or downward in the composite index rankings from Time Period I to Time Period II. Three countries, the Ivory Coast, Mauritania and Guinea, increased their positions by more than three ranks from Time Period I to Time Period II, while three countries, Senegal, Togo and Dahomey, fell in their position by more than three ranks from Time Period I to Time Period II. As all of the countries moving positions by more than three ranks are Sub-Sahara Africa nations, we may assume that major economic fluctuations are more likely to take place in these countries than in the other regions. Such a conclusion should be tempered by the observation that of those countries moving in position on this index from time interval to time interval by two positions, only Chad is a Sub-Sahara Africa country while Tunisia, Syria, Morocco and South Vietnam are countries from the three other regions (North Africa, the Middle East, and Southeast Asia) of the study. No geographic region demonstrated consistent improvement in the rankings.

TABLE 4-31: A COMPOSITE INDEX OF ECONOMIC DEVELOPMENT, TIME I

| Rank | Country | Composite Mean Rank Score | Rank Table 4-21 | Rank Table 4-23 | Rank Table 4-25 | Rank Table 4-27 | Rank Table 4-29 |
|---|---|---|---|---|---|---|---|
| 1 | Lebanon | 1.8 | 3.0 | 2.0 | 1.0 | 2.0 | 1.0 |
| 2 | Gabon | 2.3 | 1.0 | --- | 5.0 | 1.0 | --- |
| 3 | Tunisia | 4.6 | 6.0 | 3.0 | 4.0 | 8.0 | 2.0 |
| 4 | Algeria | 4.9 | 2.0 | 1.0 | 3.0 | 3.0 | 15.0 |
| 5 | Senegal | 5.7 | 4.0 | 4.0 | 8.0 | 7.0 | 5.5 |
| 6 | Syria | 6.3 | 7.0 | 6.0 | 2.0 | 6.0 | 10.5 |
| 7 | Congo (Brazz.) | 6.33 | 9.0 | --- | 6.0 | 4.0 | --- |
| 8 | Ivory Coast | 6.6 | 8.0 | 7.0 | 9.0 | 6.0 | 3.0 |
| 9 | Morocco | 6.7 | 5.0 | 5.0 | 7.0 | 9.0 | 7.5 |
| 10 | South Vietnam | 12.4 | 11.0 | 11.5 | 12.0 | 17.0 | 10.5 |
| 11 | Cameroon | 12.6 | 10.0 | 17.0 | 11.0 | 10.0 | 15.0 |
| 12 | Togo | 12.7 | 17.0 | 11.5 | 15.0 | 16.0 | 4.0 |
| 13 | Madagascar | 12.9 | 13.0 | 13.0 | 17.0 | 14.0 | 7.5 |
| 14.5 | Dahomey | 14.0 | 20.5 | 8.0 | 18.0 | 18.0 | 5.5 |
| 14.5 | Mauritania | 14.0 | 18.0 | ---- | 13.0 | 11.0 | --- |
| 16 | Central Afr. Rep. | 14.1 | 12.0 | 10.0 | 19.0 | 12.0 | 17.5 |
| 17 | Guinea | 14.3 | 14.0 | 20.0 | 10.0 | 15.0 | 12.5 |
| 18 | Cambodia | 14.9 | 16.0 | 14.5 | 16.0 | 13.0 | 15.0 |
| 19 | Laos | 17.1 | 15.0 | 14.5 | 14.0 | 21.0 | 21.0 |
| 20 | Mali | 18.2 | 20.5 | 9.0 | 20.0 | 22.0 | 19.5 |
| 21 | Niger | 19.3 | 19.0 | 16.0 | 22.0 | 20.0 | 19.5 |
| 22 | Chad | 19.5 | 22.0 | 18.0 | 21.0 | 19.0 | 17.5 |
| 23 | Upper Volta | 19.8 | 23.0 | 21.0 | 23.0 | 23.0 | 9.0 |

TABLE 4-32: A COMPOSITE INDEX OF ECONOMIC DEVELOPMENT,TIME II

| Rank | Country | Composite Mean Rank Score | Rank Table 4-22 | Rank Table 4-24 | Rank Table 4-26 | Rank Table 4-28 | Rank Table 4-30 |
|---|---|---|---|---|---|---|---|
| 1 | Lebanon | 1.4 | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 |
| 2 | Gabon | 1.8 | 2.0 | 1.0 | 3.0 | 1.0 | 2.0 |
| 3 | Algeria | 4.2 | 3.0 | 5.0 | 2.0 | 5.0 | 6.0 |
| 4 | Ivory Coast | 4.8 | 4.0 | 3.0 | 9.0 | 4.0 | 4.0 |
| 5 | Tunisia | 5.6 | 5.0 | 8.0 | 6.0 | 6.0 | 3.0 |
| 6 | Congo (Brazz.) | 6.5 | 7.0 | 9.0 | 7.0 | 3.0 | --- |
| 7 | Morocco | 7.2 | 7.0 | 6.0 | 8.0 | 10.0 | 5.0 |
| 8 | Syria | 7.4 | 9.0 | 4.0 | 4.0 | 9.0 | 11.0 |
| 9 | Senegal | 7.8 | 7.0 | 7.0 | 10.0 | 8.0 | 7.0 |
| 10 | Cameroon | 11.2 | 11.0 | 13.0 | 12.0 | 11.0 | 9.0 |
| 11 | Mauritania | 11.8 | 11.0 | 14.0 | 15.0 | 7.0 | 12.0 |
| 12 | South Vietnam | 12.0 | 13.5 | 10.0 | 5.0 | 15.0 | 17.0 |
| 13 | Guinea | 12.7 | 17.5 | 15.0 | 11.0 | 16.0 | 14.0 |
| 14 | Madagascar | 13.5 | 15.5 | 17.0 | 13.0 | 14.0 | 8.0 |
| 15.5 | Togo | 13.9 | 15.5 | 12.0 | 14.0 | 13.0 | 15.0 |
| 15.5 | Central Afr. Rep. | 13.9 | 13.5 | 16.0 | 18.0 | 12.0 | 10.0 |
| 17 | Cambodia | 14.2 | 11.0 | 11.0 | 16.0 | 17.0 | 16.0 |
| 18 | Dahomey | 18.1 | 19.5 | 21.0 | 19.0 | 18.0 | 13.0 |
| 19 | Laos | 19.1 | 17.5 | 22.0 | 17.0 | 21.0 | 18.0 |
| 20 | Chad | 20.2 | 21.5 | 20.0 | 21.0 | 20.0 | 19.0 |
| 21.5 | Mali | 20.4 | 19.5 | 19.0 | 20.0 | 22.0 | 21.5 |
| 21.5 | Niger | 20.4 | 21.5 | 18.0 | 22.0 | 19.0 | 21.5 |
| 23 | Upper Volta | 22.4 | 23.0 | 23.0 | 23.0 | 23.0 | 20.0 |

## Social Development

The number of inhabitants per physician in each country was selected as a measure of the level of social development in the countries of this study. Progress is being made at attempts to gather adequate data on social development by the United Nations Research Institute for Social Development and it is hoped that such efforts will lead to the development of more and better indicators for social development.[26] The figures for Table 4-33 are for the years 1961 through 1963. Only one of the selected countries has fewer inhabitants per physician than the world mean and that country is Lebanon. The other former French colonies remain consistent in continually scoring below the world mean for developmental indicators where the world means are ascertainable.[27] They are quite underdeveloped on most indicators. The mean for these selected countries is nearly twenty times greater than the mean for all the nations of the world.

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[26]The limitation in UNRID's efforts thus far has been the level of data for countries at the lower ends of the development process. See particularly the Handbook of Household Surveys: A Practical Guide for Inquires on Levels of Living (United Nations Publication, Sales No: 64 XVII.13).

[27]In an article by Michael C. Hudson entitled "A Case of Political Underdevelopment" from the Journal of Politics, XXIX (November, 1967) pp. 821-837, the author points out that Lebanon scores in the eighth decile when compared to other nations of the world in the World Handbook of Political and Social Indicators for inhabitants per physician. Lebanon ranks between the third and eighth decile on most of the indicators examined in this study.

TABLE 4-33: INHABITANTS PER PHYSICIAN, 1962-1963

| Rank | Country | Inhabitants per Physicians |
|---|---|---|
| 1 | Lebanon | 1,000 |
| 2 | Syria | 5,400 |
| 3 | Gabon | 5,700 |
| 4 | Algeria | 8,700 |
| 5.5 | Madagascar | 9,700 |
| 5.5 | Morocco | 9,700 |
| 7 | Tunisia | 10,000 |
| 8 | Congo (Brazzaville) | 15,000 |
| 9 | Ivory Coast | 19,000 |
| 10 | Senegal | 20,000 |
| 11.5 | Dahomey | 21,000 |
| 11.5 | Guinea | 21,000 |
| 13 | Mauritania | 27,000 |
| 14 | South Vietnam | 29,000 |
| 15 | Cameroon | 30,000 |
| 16 | Cambodia | 31,000 |
| 17 | Central African Rep. | 33,000 |
| 18 | Togo | 34,000 |
| 19 | Laos | 37,000 |
| 20 | Mali | 40,000 |
| 21 | Chad | 62,000 |
| 22 | Upper Volta | 63,000 |
| 23 | Niger | 65,000 |
| World Mean | | 1,508 |
| Mean for Countries in Study | | 25,965 |

SOURCE: Adapted from the U. N. Statistical Yearbook, 1965 (New York: United Nations Publication, 1966) pages 665+.

Five of the six countries with the highest number of persons per physician are inland countries and were, no doubt, reached by few missionary hospitals early in their development. They have limited resources at their disposal, as has been indicated in the preceeding measure of economic development. Their population is poorly trained in skills necessary for development. Only a small elite from these countries are educated, leaving a large shortage of professionally trained persons as well as technicians and other skilled personnel.

Gabon, for reasons mentioned in conjunction with Table 4-33, ranks high on this scale. It is doing well in development and should continue to do so because of its natural wealth.[28] Madagascar has acquired some of the skills necessary to develop. It has been influenced in this regard by the role played by migrants from the Indian Sub-continent and Southeast Asian countries. It was also a major port-of-call for ships traveling the route to the Orient before the Suez Canal.

The remaining countries are divided among those which are major trading centers in Africa and those which have subsistence farming and few or small port facilities. Because the years for which statistics were reported vary, these countries are not as wide apart as one might expect. They are all in need of profes-

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[28]Caution should be taken in attempting to draw causal relationships between indicators of social and economic development. A good discussion of the possible errors in establishing a causal relationship are found in an article by Donald V. McGranahan entitled "Analysis of Socio-Economic Development Through a System of Indicators" in The Annals CCCLXXXXIII (January, 1971) pp. 65-81.

TABLE 4-34: INHABITANTS PER PHYSICIAN, 1967

| Rank | Country | Inhabitants per Physician | Percent decrease of Inhabitants per Physician/ Time I - Time II |
|---|---|---|---|
| 1 | Lebanon | 1,390 | -39 |
| 2 | Syria | 5,080 | + 5 |
| 3 | Gabon | 5,860 | + 3 |
| 4 | Algeria | 8,550 | + 2 |
| 5 | Tunisia | 8,780 | +12 |
| 6 | Congo (Brazzaville) | 11,640 | +22 |
| 7 | Morocco | 12,120 | -25 |
| 8 | Madagascar | 12,200 | -20 |
| 9 | Senegal | 16,730 | +16 |
| 10 | Ivory Coast | 17,980 | + 5 |
| 11 | Guinea | 20,500 | + 2 |
| 12 | Dahomey | 21,000 | 0 |
| 13 | Togo | 22,110 | +35 |
| 14 | Cambodia | 22,500 | +27 |
| 15 | Laos | 24,550 | +34 |
| 16 | Cameroon | 26,680 | +11 |
| 17 | Mauritania | 30,000 | -11 |
| 18 | Central Afr. Rep. | 36,850 | -12 |
| 19 | South Vietnam | 37,430 | -29 |
| 20 | Mali | 49,200 | -23 |
| 21 | Niger | 65,460 | - 0.7 |
| 22 | Chad | 72,440 | -17 |
| 23 | Upper Volta | 76,230 | -21 |

SOURCE: Adapted from the U. N. Statistical Yearbook: 1968 (New York: United Nations Publication, 1969) pages 701-705.

sionally trained personnel in the medical field and probably in other areas as well.

Three countries (Lebanon, Morocco and Madagascar) above the median for the selected countries exhibited an increase in the number of inhabitants per physician when comparing Time Period I with Time Period II. The countries of the Middle East and North Africa display little or no decreases in the number of inhabitants per physician. Only four countries,Togo, Congo (Brazzaville), Cambodia and Laos showed a decrease of more than twenty per cent for number of inhabitants per physician. The seven countries having the largest number of inhabitants per physician in Time Period II all underwent increases in the number of inhabitants per physician from Time Period I to Time Period II. Thus, the selected countries exhibited a poor performance over time on this variable and those countries in the lower ranges indicated overwhelmingly a deteriorating performance on this measure of social development.

## Social Services

The final index to be presented in this chapter deals with social services available within a given country. In Table 4-35 we can see how different governments respond to the demands of their populations. This indicator illustrates the difficulty of scaling social data which is not adequate for scaling purposes for most countries. The data do not arrange themselves in such a manner that social development can actually be measured.[29] The four services reported are as follows: Old Age, In-

TABLE 4-35: NUMBER OF AVAILABLE SOCIAL SERVICES BY COUNTRY

| Country | Number of Services | Kinds of Service Programs Available[a] |
|---|---|---|
| Algeria | 4 | O.A.I.S. - H.S. - W.I. - F.A. |
| Lebanon | 4 | O.A.I.S. - H.S. - W.I. - F.A. |
| Morocco | 4 | O.A.I.S. - H.S. - W.I. - F.A. |
| Guinea | 4 | O.A.I.S. - H.S. - W.I. - F.A. |
| North Vietnam | 4 | O.A.I.S. - H.S. - W.I. - F.A. |
| Cent. Afr. Rep. | 3 | O.A.I.S. W.I. - F.A. |
| Congo (Brazz.) | 3 | O.A.I.S. W.I. - F.A. |
| Gabon | 3 | O.A.I.S. W.I. - F.A. |
| Ivory Coast | 3 | O.A.I.S. W.I. - F.A. |
| Mali | 3 | O.A.I.S. W.I. - F.A. |
| Mauritania | 3 | O.A.I.S. W.I. - F.A. |
| Niger | 3 | O.A.I.S. W.I. - F.A. |
| Tunisia | 3 | H.S. - W.I. - F.A. |
| Upper Volta | 3 | O.A.I.S. W.I. - F.A. |
| Cambodia | 2 | W.I. - F.A. |
| Cameroon | 2 | W.I. - F.A. |
| Chad | 2 | W.I. - F.A. |
| Dahomey | 2 | W.I. - F.A. |
| Madagascar | 2 | W.I. - F.A. |
| Senegal | 2 | W.I. - F.A. |
| Togo | 2 | W.I. - F.A. |
| South Vietnam | 2 | W.I. - F.A. |
| Syria | 2 | O.A.I.S. W.I. |
| Mean of Countries in Study | 3 | |
| World Mean | 3 | |

[a]The meaning of the abbreviations are as follows: O.A.I.S. indicates Old Age, Invalidity, Survivors; H.S. indicates Health Services, W.I. indicates Work Injury; and, F.A. indicates Family Assistance.

SOURCE: U.S. Department of Health, Education, and Welfare, S.S. Administration, Office of Research and Statistics, Social Security Programs Throughout the World, (Washington, D.C.: General Post Office, 1965)

validity, Survivors (O.A.I.S.); Health Services (H.S.); Work Injury (W.I.); and, Family Allowance (F. .). The world mean for this measure is three (3), which only five countries of the study exceeded.

There are nine countries reporting three social services and nine countries reporting only two social services. The former French colonies score better on this measure of development than on any other.

It would appear that France better prepared their colonies in providing social services to its population than did some other ruling powers. All of the countries have work injury compensation plans operating, and all but one have family allowance plans in operation. Fourteen of these countries have old age, invalidity, and survivors plans in operation. Six have health sickness plans in operation.

None of the English-speaking countries of Africa had any pension plans in operation beyond those available for government employees. Coverage in the French-speaking countries of Africa had been extended to all employees in most countries and to those employed in industry and commerce in all the rest. No country in this study had plans in operation for unemployment insurance benefits. The English-speaking countries of Africa

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[29]Another social indicator, Labor Union Membership as a percentage of nonagricultural employment, can be found in Table A-9 of the Appendices. Data were available for nineteen of the countries under study and more interestingly there seems no discernable relationship between this variable and inhabitants per physician or the overall index of development for this study.

scored lower on this measure than did the French-speaking countries of Africa.

The countries do not fall into the same categories on this measure as they have on most of the previous measures. There are some significant exceptions to the rule when trying to compare this indicator with those previously discussed. It is a good device for determining how nations distribute goods. Because of the nature of the data, precision and calibrations are not as easily made for this measure. A ranking of three (3) is all that is possible without weighting the types of services provided and how these are related to the needs of the population.

A final point should be made concerning the use of social indicators. Many of these indicators, such as percentage of employment population in labor unions, may be measuring a cultural bias rather than development.

## Index of Development, Time I and Time II

Because of the relationship shown in Chapter III between the measures used in this study and development, it was thought that an index of development could be constructed. The measures presented in the preceeding section of this chapter were used to construct such an index. The index would enable (1) more logical groupings of these nations, (2) more accurate overall generalizations about levels of development in the countries, (3) further analysis of the evenness of development within a country on the measures of this study, and (4) comparisons of dev-

elopment over time.

To derive this index of development for Time Period I and for Time Period II, the mean rank of each country on all measures was computed. The final index scores were computed by adding the rank of each country on each measure and dividing by the total number of measures where data were available for the country.

Several decisions regarding the data were made prior to the above mentioned computations. Because the data for Social Service Programs Available in Table 4-35 do not lend themselves to such computations, this measure was eliminated when constructing the final index shown in Table 4-36 for Time Period I and Table 4-38 for Time Period II. Figures were ascertainable for North Vietnam for such a small number of variables that a mean rank score for North Vietnam was not computed.

Possible scores range from one to twenty-three. The actual mean rank scores for individual countries ranged from 1.86 for Lebanon as a high to 20.57 for Niger as a low in Time Period I. The corresponding range in Time Period II was from 1.57 for Lebanon as a high to 21.36 for Upper Volta as a low. The mean rank score for all countries on all measures was calculated to be 11.63 for Time Period I and 11.70 for Time Period II. These figures were attained by adding the mean rank score of each country and dividing by the total number of countries.

## Grouping the Countries, Time I

The index for Time Period I was analyzed in order to find

TABLE 4-36: INDEX OF DEVELOPMENT, TIME I

| Rank | Country | Mean Rank Score[a] |
|---|---|---|
| 1 | Lebanon | 1.86 |
| 2 | Syria | 4.46 |
| 3 | Tunisia | 4.79 |
| 4 | Algeria | 5.35 |
| 5 | Gabon | 5.67 |
| 6 | Morocco | 6.60 |
| 7 | Congo (Brazzaville) | 7.04 |
| 8 | Senegal | 8.29 |
| 9 | Ivory Coast | 9.07 |
| 10 | South Vietnam | 10.36 |
| 11 | Madagascar | 11.50 |
| 12 | Cambodia | 12.21 |
| 13 | Togo | 13.25 |
| 14 | Cameroon | 13.89 |
| 15 | Central African Rep. | 14.43 |
| 16 | Dahomey | 14.79 |
| 17 | Guinea | 15.00 |
| 18 | Laos | 15.35 |
| 19 | Mauritania | 15.44 |
| 20 | Mali | 17.88 |
| 21 | Chad | 19.04 |
| 22.5 | Upper Volta | 20.57 |
| 22.5 | Niger | 20.57 |

[a]For the table of computation consult Appendix B, Table B-1.

groupings of countries which would explain the variation in the index scores. The countries were first arranged into four area groupings: (1) Middle East; (2) North Africa; (3) Southeast Asia; and (4) Sub-Sahara African countries. The mean rank index score for each regional grouping is illustrated in Table 4-37. The Sub-Sahara Africa group was further broken down and is discussed in detail.

TABLE 4-37: MEAN RANK INDEX SCORE OF THE FOUR REGIONAL GROUPINGS, TIME I

| Rank | Region | Mean Rank Score |
|---|---|---|
| 1 | Middle East | 3.16 |
| 2 | North Africa | 5.58 |
| 3 | Southeast Asia | 12.64 |
| 4 | Sub-Sahara Africa | 13.76 |

The two countries ranking highest on the Index of Development were Lebanon (1.86) and Syria (4.46), both Middle Eastern countries. The average mean rank score for both nations was 3.16, which was far below the mean rank score for all the countries in the study. Lebanon ranks first for six of the fourteen measures used to derive the index for Time Period I. In only one table, Military Personnel per 1,000 Population, does Lebanon fall to the fifth rank position on a measure. All nations ranking above Lebanon on that measure are engaged in civil war or are involved in hostilities with their neighboring states. In short, Lebanon is developing in all sectors and

ranks high on all measures. It is the most developed of the former French colonies. Lebanon has acquired many of the prerequisites for becoming an industrial society. Industry should continue to grow in Lebanon.

Syria does not score high on all measures. Its development is more uneven than that of Lebanon's. It scores below the third rank on eight of fourteen measures. Syria's lowest rank score is on Scope of Modern Transportation (10th) and Telegraph Messages per 1,000 Population (9th). Syria has reached a transitional stage of development and if it can solve its internal instability problems it could no doubt enter the early stages of industrialization.

The countries of North Africa (Algeria, Tunisia and Morocco) follow the Middle East in overall level of development. They received an average mean rank score of 5.58. Algeria and Tunisia show the most consistent rank score on the measures in the study. Each country is below the first quartile score on a given measure only three times in total. Morocco falls below the first quartile on eight of fourteen measures and on one measure, Students Enrolled in School per 1,000 Population, scores below the median rank score for all countries. Its development is more uneven on all indicators than that of Algeria and Tunisia.

The countries of Southeast Asia (Laos, Cambodia, and S. Vietnam) received an average mean rank score of 12.64, which was below but very close to the mean rank score of all coun-

tries (11.63) in the study. South Vietnam (10.36) had mean rank scores below the mean for all nations in the study. Cambodia was slightly above the mean rank score for all countries at 12.21 while Laos was substantially above the mean rank score for all countries in the study with a score of 15.35.

The extent and length of time each country was exposed to Western institutions may account for some of this variation in scores. South Vietnam had the longest and heaviest contact with colonial and Western institutions, although it was neither as intense nor as long as South Vietnam's. Because of the geographic position of Laos and her lack of important exportable goods, she had the least amount of contact with Western institutions and culture.

The Sub-Sahara African countries received an average mean rank score of 13.76 which was significantly above the mean. However, upon further examination, it was found that the landlocked nations (Mali, Central African Republic, Chad, Niger and Upper Volta) received an average mean rank score of 18.498. These countries account for the largest deviation above the mean for all countries in the study. The importance of this factor was further made clear when the average mean rank score for the coastal African nations was computed at 11.394. This is below the average mean rank score for all countries in the study. The inaccessibility of these land bound African states and rather limited contact with the ideas of the outside world may account for their consistently poor showing on the measures of development used in this study.

The deviation among the coastal African states were often great and some of these can be accounted for by a further breakdown of these countries. The West African states of Mauritania, Senegal and Guinea received an average mean rank score of 12.91. Only Senegal, which had been a colonial administrative center under the French, scored below the mean for all countries in this study. The index score for Senegal was calculated to be 8.29, and this score places Senegal in the upper third of the countries in this study. Mauritania and Guinea scored below the median of countries in the study and immediately above the scores for the land locked countries of the study.

The countries on the former Gold Coast of Africa (Ivory Coast, Dahomey and Togo) received an average mean rank score of 12.55 which is above the mean for all countries in this study but below the Sub-Sahara Africa mean score of 13.76. Togo and Dahomey have narrow coasts about 50 miles long. They stretch far into the interior of Africa and traverse many varied tribal groups and many varied climates. This, in addition to an interventive military in both nations, may help to account for their low rank scores on the index. The Ivory Coast in contrast, has sufficient natural resources, is politically moderate and possesses excellent internal and external transportation facilities to aid in breaking down ethnic and tribal taboos and barriers.

The two great success stories of French-speaking Africa

are the equatorial countries of Gabon and the Congo (Brazzaville). Both score high on the index and together have an average mean rank score of 6.355. They are both rich in natural resources and possess excellent ports with which to carry on trade with the outside world. Gabon ranks low on only two measures of development--Military Personnel per 1,000 Population (20th) and Post-Primary School Enrollment per 1,000 Population (11th). The Congo ranks low on two communications measures, Radios (10th) and Newspaper Circulation per 1,000 Population (14th); and on the recruitment measure, Military Personnel per 1,000 Population (10th).

The four highest scoring African countries on the index of development have an average mean rank score of 7.52. These four countries (Gabon, the Congo, Senegal, and Ivory Coast) have had little internal tension and relatively stable political institutions since independence.

## Reliability of Index, Time I

The index of development for Time Period I can be checked for reliability by comparing Table 4-36 to the results of an index of economic and political development previously constructed by the authors of the World Handbook of Political and Social Indicators.[30] They did not have data available for computing an index score for all the countries in this study. The countries they do report can be compared with the corresponding countries

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[30]Russett, et al., Op. cit., pp. 291-299.

included in the index of development constructed in Table 4-36. The table constructed in the World Handbook of Political and Social Indicators gives the additional subgrouping of countries by stages of development. The five stages are: (1) High mass-consumption societies; (2) Industrial revolution societies; (3) Transitional societies; (4) Traditional civilizations; and (5) Traditional primitive societies.[31]

Of the countries included in both the present study and the above mentioned study, Lebanon receives the highest rank in both and is the only nation included in the subgroup "industrial revolution societies." Syria, Algeria, Tunisia and Morocco are placed in the subgroup entitled "transitional societies." Syria ranks slightly below Tunisia and Algeria in the World Handbook study whereas this study places Syria slightly above Algeria and Tunisia.

Cambodia, Madagascar and South Vietnam are placed into the category of "traditional civilizations" and Togo and Laos are placed in the "traditional primitive societies" subgrouping in the World Handbook study.

Using these subgroupings as a guide for analyzing the former French colonies, the following groupings were made as a result of this study for development in Time Period I. Lebanon is the only "industrial revolution society." Syria, Gabon, Algeria, Tunisia, Morocco and the Congo (Brazzaville) are "transitional societies." Senegal, Ivory Coast, South Vietnam, Cam-

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[31] Ibid., pp. 291-299.

bodia and Madagascar fall under the heading of "traditional civilizations." The remaining eleven countries would fall into the last category, "traditional primitive societies."

The index of development for time interval two is presented in Table 4-38. Eight countries indicated an improvement in their rank positions of at least one rank, seven countries displayed a decline in their rank positions of at least one rank and eight countries exhibited no movement in rank position from Time Period I to Time Period II. Thus, this index permits a comparison of the manner in which countries and groupings of countries are developing in relation to the other countries in the study.

Regarding movement for the upper range of countries, Gabon improved its rank from 5th to 2nd and the Congo rose from 7th to 6th in the ranking. Algeria and Lebanon maintained their position in the overall ranking while Syria and Morocco each dropped one rank and Tunisia fell two rank positions. Several possible explanations exist for these shifts: (1) Those countries achieving higher ranks in Time Period II than Time Period I are developing at a faster rate than those falling in rank; (2) Those countries achieving a higher rank in Time Period II than in Time Period I are not regressing as rapidly as those countries showing a fall in rank position; and (3) Those countries achieving a higher rank in Time Period II than in Time Period I are improving while those descending in rank position are holding their own or falling in development. In order to

TABLE 4-38: INDEX OF DEVELOPMENT, TIME II

| Rank | Country | Mean Rank Score[a] |
|---|---|---|
| 1 | Lebanon | 1.57 |
| 2 | Gabon | 4.58 |
| 3 | Syria | 5.11 |
| 4 | Algeria | 5.21 |
| 5 | Tunisia | 5.43 |
| 6 | Congo (Brazzaville) | 6.67 |
| 7 | Morocco | 7.43 |
| 8 | Senegal | 8.68 |
| 9 | Ivory Coast | 9.43 |
| 10 | South Vietnam | 9.54 |
| 11 | Cambodia | 11.12 |
| 12 | Madagascar | 11.39 |
| 13 | Cameroon | 12.43 |
| 14 | Central African Rep. | 13.39 |
| 15 | Togo | 14.07 |
| 16 | Guinea | 15.04 |
| 17 | Laos | 15.71 |
| 18 | Dahomey | 16.32 |
| 19 | Mauritania | 16.38 |
| 20 | Chad | 18.93 |
| 21 | Mali | 19.54 |
| 22 | Niger | 19.82 |
| 23 | Upper Volta | 21.36 |

[a]For table of computation consult Appendix B, Table B-2.

determine which of the explanations or possible alternative explanations seem most probable we can examine the manner in which the two extreme countries shifting upward and downward are developing on the selected measures of the study.

On nine measures which had data available for both Gabon and Tunisia and where the measures in each time period were comparable, both countries had increases in the absolute value of each variable being measured with the exception of energy consumption per capita where Tunisia exhibited a slight decrease in energy consumption of 4 per cent between Time Period I and Time Period II.[32] In all cases, except inhabitants per physician, the percentage increase for Gabon for the value of each variable exceeded that for Tunisia. On the basis of this examination of the two countries it appears that the most plausible explanation for their shifts in rank positions of countries is a process where the countries are all making progress on measures of development yet certain countries, e.g., Gabon are exceeding the progress being made by other countries, e.g., Tunisia on nearly all measures of development.

To give added support to the above proposition, Dahomey and Chad were compared as two examples of countries in the lower range of nations which moved in rank position from Time Period I

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[32]The measures used to compare the two countries were: Telephone units per 1,000 population, radio receivers per 1,000 population, military personnel per 1,000 population, students enrolled in schools per 1,000 population, students enrolled in post-primary schools per 1,000 population, gross domestic product per capita, energy consumption per capita, imports and exports per 1,000 population, and inhabitants per physician.

to Time Period II. Dahomey, which exhibited a decrease in rank from 16th to 18th followed the same pattern as Tunisia having increases on all variables except energy consumption per capita. In all cases Chad, which moved from 21st to 20th in the ranking, had an increase in the value of the variable being measured. The major exception for both of these countries for the pattern mentioned above for Gabon and Tunisia was that both countries had an increase in the number of inhabitants per physician from Time Period I to Time Period II.[33]

## Index of Political Access

In addition to the index of national development previously discussed, it was felt that a dimension should be examined which would be composed of political variables. The development of this index and the decisions as to which variables to include has been influenced by two basic considerations; (1) Variables were included which would have adequate data available for both time periods relative to this study; and (2) Variables were included which had been found to measure the degree of access to political channels as defined in previous research.[34]

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[33]The peculiar qualities of this measure were discussed earlier in this chapter, pages 79-81.

[34]An article by Phillip M. Gregg and Arthur S. Banks, "Dimensions of Political Systems: Factor Analysis of A Cross-Polity Survey," American Political Review, Vol. LIX No. 3 (September, 1965), pp. 602-614, served as the source of variables which, after factor analysis, loaded high (over .80) on a dimension which was labeled by the authors as a political access factor. The authors have identified seven factors from the variables appearing in Arthur S. Banks and Robert B. Textor, A Cross-Polity Survey, op. cit.

Tables 4-39 and 4-40 present an index of political access for Time Period I and Time Period II. The possible range of values for each index is 28.57 to 100, whereas the actual range for Time Period I was 41.66 to 83.40 and for Time Period II was 31.83 to 91.71.[35]

It is possible with the data presented in the index of political access to examine the previously hypothesized relationship between development and democracy. There is the intriguing question of whether or not economic and social factors are related to political democracy. As was pointed out in Chapter III, Lipset suggests that nations with high indices of education, wealth, urbanization and industrialization tend to be stable and democratic.[36] Daniel Lerner, as has been mentioned in prior discussion, suggests that it is almost imperative that a "participatory society" exist for rapid economic growth to take place.[37] Von der Mehden points out that James Coleman has tested Lipset's hypothesis that "...there is a positive correlation between economic development and political competitiveness" and seems in basic agreement.[38] The degree of

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[35]For a complete explanation of the method used for computing this index consult Appendix C.

[36]Seymour Martin Lipset, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," American Political Science Review LIII (March, 1959) p. 76.

[37]Daniel Lerner, The Passing of Traditional Society, (Glencoe: The Free Press, 1958) pp. 60-63.

[38]Fred R. Von der Mehden, Politics of Developing Nations (Englewood Cliffs: Prentice-Hall, Inc., 1964) pp. 3-4.

TABLE 4-39: INDEX OF POLITICAL ACCESS, TIME I

| Rank | Country | Index Score[a] |
|---|---|---|
| 1 | Lebanon | 83.40 |
| 2 | Cameroon | 79.25 |
| 3 | Togo | 78.57 |
| 4 | Malagasy Republic | 77.43 |
| 5 | Syria | 69.14 |
| 7 | Chad | 67.86 |
| 7 | Mauritania | 67.86 |
| 7 | Morocco | 67.86 |
| 9 | Niger | 66.60 |
| 10 | Mali | 63.40 |
| 11 | Congo (Brazzaville) | 55.00 |
| 12 | Algeria | 51.14 |
| 14 | Laos | 50.00 |
| 14 | Senegal | 50.00 |
| 14 | Upper Volta | 50.00 |
| 16 | Tunisia | 48.71 |
| 17 | Gabon | 48.20 |
| 18 | Central African Rep. | 47.17 |
| 19.5 | Cambodia | 44.00 |
| 19.5 | Guinea | 44.00 |
| 21.5 | Dahomey | 43.20 |
| 21.5 | Ivory Coast | 43.20 |
| 23 | South Vietnam | 41.66 |

[a]For a discussion of the method utilized to compute the index score consult Appendix C.

SOURCE: Adapted from coded data in Arthur S. Banks and Robert B. Textor, A Cross-Polity Survey (Cambridge: The M.I.T. Press, 1963).

TABLE 4-40: INDEX OF POLITICAL ACCESS, TIME II

| Rank | Country | Index Score[a] |
|---|---|---|
| 1 | Malagasy Republic | 91.71 |
| 2 | Lebanon | 90.33 |
| 3 | Cameroon | 79.71 |
| 4 | Senegal | 64.42 |
| 5 | Chad | 64.29 |
| 6 | Tunisia | 63.14 |
| 7 | Gabon | 59.57 |
| 8 | Niger | 52.83 |
| 9 | South Vietnam | 52.42 |
| 10 | Mauritania | 51.33 |
| 11 | Cambodia | 48.85 |
| 12.5 | Ivory Coast | 48.66 |
| 12.5 | Laos | 48.66 |
| 14 | Central African Rep. | 48.50 |
| 15 | Morocco | 44.00 |
| 16 | Guinea | 40.43 |
| 17 | Algeria | 40.29 |
| 18 | Togo | 39.28 |
| 19.5 | Mali | 35.71 |
| 19.5 | Upper Volta | 35.71 |
| 21 | Dahomey | 35.43 |
| 22 | Syria | 32.14 |
| 23 | Congo (Brazzaville) | 31.83 |

[a]For a discussion of the method utilized to compute the index score consult Appendix C.

SOURCE: A large number of sources were scanned to get as complete as possible an accurate coding of the political access variables for Time II. Four sources were systematically searched: The Britannica Book of the Year, 1969; Newsyear (the annual volumes of Facts on File); The Political Handbook and Atlas of the World, 1970; and the coded data in Jean Blondel's An Introduction to Comparative Government, 1969. This information was supplemented from a variety of other sources.

political access in a polity, it can be argued, is one dimension of the level of democracy present in the polity. As most of the studies of the relationship between development and democracy are a spin-off of Lipset's early investigation of the democracy dimension, the analysis which follows will compare the findings of this research withthose of the Lipset study.

TABLE 4-41: CORRELATION OF DEVELOPMENT AND POLITICAL ACCESS

| | $D_{t2}$ | $A_{t1}$ | $A_{t2}$ |
|---|---|---|---|
| $D_{t1}$ | +.98 | +.07 | +.07 |
| $D_{t2}$ | | +.12 | +.15 |
| $A_{t1}$ | | | +.27 |

Initially a Spearman's rank order correlation was run for the countries in the study for development and political access in both time intervals. Table 4-41 presents a matrix of these correlations. It can be observed that there is only a weak relationship between development in either time period and access in either time period. The only significant relationship was between development in each time period when the coefficient of correlation was +.98. Political access varied considerably between Time Period I and Time Period II with a coefficient of correlation of +.27, indicating the possibility that great change was affecting the ordering on this dimension.

Because of the low correlation coefficients it can be determined that there tends to be little relationship between the level of development and the political access level of given polities of this study. The countries of this study are, of course, part of a selection of Afro-Asian countries, whereas, Lipset was studying Latin American and European nations.

It is possible to make a further comparison of these countries on the basis of 'more' or 'less' political access and the means of development for countries in each group. This corresponds to Lipset's mode of analysis, in part, as he compared 'more' or 'less' democratic countries on individual dimensions of development and found a significant relationship to exist in nearly all cases.[39]

A note of caution should be issued in regard to analysis of Table 4-42. Lipset divided the nations of his study into area groupings, i.e., European and Latin American. Table 4-42 utilizes the same descriptive statistics yet does not break the countries down by area groupings. Though the countries having a high index score on political access consistently have higher mean rank scores on development when viewed as a group, this difference does not seem significant enough to support the contention that political access is positively correlated to development. In short, this table may be suggestive of a relationship between the variables yet it does not support the conclusion that a significant association exists between political

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[39]Refer to Tables 3-3 on pages 64 and 65.

TABLE 4-42: COMPARISON OF 'HIGH POLITICAL ACCESS' AND 'LOW POLITICAL ACCESS,' TIME I AND TIME II BY LEVEL OF DEVELOPMENT, TIME I AND TIME II

| Means | Indices of Development Time I | Time II |
|---|---|---|
| High Political Access, Time I | 11.41 (1.86-20.57) | 11.55 [a] (1.57-19.82) [b] |
| Low Political Access, Time I | 11.77 (4.79-20.57) | 11.87 (4.58-21.36) |
| High Political Access, Time II | 11.64 (1.86-20.57) | 10.87 (1.57-19.82) |
| Low Political Access, Time II | 12.00 (4.46-20.57) | 12.34 (5.11-21.36) |

[a] This is the mean of the mean rank scores from the index of development for countries in 'high' (above 50 score) and 'low' (50 and below score) categories of political access during Time Periods I and II.

[b] This is the range of the mean rank scores from the index of development for countries in 'high' (above 50 score) and 'low' (50 and below score) categories of political access during Time Periods I and II.

access as a dimension of democracy, and development, as measured by the index of development.

It was decided that for comparison with the Lipset study a grouping of countries by area would be undertaken which might identify significant differences. In Table 4-43 countries are grouped by these areas: (1) The Middle East and North Africa; (2) Sub-Sahara Africa; and (3) Southeast Asia. It is apparent that political access and development are positively correlated

TABLE 4-43: A COMPARISON OF COUNTRIES IN STUDY AS AREA GROUPINGS, DIVIDED INTO 'HIGH' AND 'LOW' POLITICAL ACCESS GROUPS, TIME I AND TIME II BY INDICES OF DEVELOPMENT, TIME I AND TIME II

| Region | Level of Access | Indices of Development[a] Time I | Time II |
|---|---|---|---|
| Middle Eastern/ North African | High: t1 | 4.57 | 4.83 |
| | Low: t1 | 4.79 | 5.43 |
| Southeast Asian | High: t1 | none | none |
| | Low: t1 | 12.64 | 12.12 |
| Sub-Sahara African | High: t1 | 14.82 | 14.90 |
| | Low: t1 | 12.55 | 12.70 |
| Middle Eastern/ North African | High: t2 | 3.33 | 3.50 |
| | Low: t2 | 5.47 | 5.92 |
| Southeast Asian | High: t2 | 10.36 | 9.54 |
| | Low: t2 | 13.78 | 13.41 |
| Sub-Sahara African | High: t2 | 12.06 | 11.77 |
| | Low: t2 | 13.89 | 13.35 |

[a]This is the mean of the mean rank scores from the index of development for countries in 'high' (above 50 score) and 'low' (50 and below score) categories of political access during the two time intervals.

for only the countries of North Africa and the Middle East and are in fact negatively correlated for the Sub-Sahara African countries. When examining access in Time Period I with development in the two time periods the relationship seems positive for the Southeast Asian countries in only Time Period II.

Several conclusions seem appropriate from the forgoing analysis: (1) Political access as an indicator of development

seems to be subject to a wide degree of variation even over short periods of time. This may be explained by the attempt of native leadership groups to adjust political institutions to the needs of the native culture and thus adjust the political institutions developed by the colonial powers and removing the level of conflict (or demand) in the system. (2) There seems sufficient evidence to question the hypothesized relationship between political access (as a dimension of democracy) and social and economic factors (as dimensions of development). Some other variables may be involved which have some influence upon this relationship, e.g., geographic region, years since independence, former colonial power. The relationship itself can be drawn into question on the basis of the forgoing analysis.

As we will be returning to an examination of the relationship between the development and political access indices when we examine political violence, we may now examine the developmental indicators of this chapter and how they arrange themselves when factor analyzed.

## Dimensions of Development

In the initial sections of this chapter variables were grouped logically for the purpose of discussing the underlying dimensions, i.e., composites of development such as education, industrialization, communication, etc. After utilizing this technique to explain the phenomena of development in the former French colonies, we proceeded to relate variables along a single

explanatory dimension, i.e., index of development, for the purpose of explaining overall development. In this portion of the chapter we will present the results of a multivariate statistical technique, factor analysis, and employ the dimensions which have emerged to further explicate the similarity in the social and economic variables used in this study.

Factor analysis has several functions or purposes for the social and behavioral scientist which should be explored briefly at the outset. Professor Kirkpatrick has distinguished four primary functions which factor analysis is designed to serve:

> The technique enables the parsimionious reduction of masses of data into manageable, and hopefully, theoretically meaningful form...
>
> It performs the essential function of taxonomy or classification...
>
> If a large number of variables have been reduced and classified into a few basic factors, each factor can represent a scale based upon common interrelationships of variables in that particular factor ...Therefore, factor analysis performs a data transformation function by translating the data into forms suitable for other analysis techniques.
>
> Finally, factor analysis demands attention to theory (construction). The factors themselves are constructs which underly relationships between variables and although they are concretely based on shared statistical variance, the identification of the substantive meaning of this sharing involves the theoretical process of explaining factors...[40]

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[40]For an extensive and clear discussion of the application of factor analysis one should consult Samuel Kirkpatrick's Chapter 4, "Data Analysis in the Scaling Tradition", in Quantitative Analysis of Political Data (Charles E. Merrill) forthcoming. For a brief history of factor analysis consult Harry H. Harmon, Modern Factor Analysis (Chicago: University of California Press, 1960) pp. 3-11.

It is clear that factor analysis holds great promise as an explanatory technique for political and social phenomena. In a seminal publication on the use of this tool for identifying basic dimensions and organizing concepts in the social sciences, L. L. Thurstone states:

> A factor problem starts with the hope or conviction that a certain domain is not so chaotic as it looks...If no promising hypothesis is available, one can represent the measurements of numerical indices and proceed with a factorial experiment. The analysis might reveal an underlying order which would be of great assistance in formulating the scientific concepts covering the particular domain...
>
> Factor analysis is useful, especially in those domains where basic and fruitful concepts are essentially lacking and where crucial experiments have been difficult to conceive.[41]

Professor Thurstone is pointing out the utility of factor analysis in generating hypotheses and theory construction.

The early applications of factor analysis as a research tool for the social and behavioral scientist were undertaken initially by the psychologists and later adapted to research in economics and geography.[42] Rudolph J. Rummel's 1963 study, "Dimensions of Conflict Behavior Within and Between Nations,"

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[41] L. L. Thurstone, Multiple Factor Analysis: A Development and Expansion of the Vectors of the Mind (Chicago: University of Chicago Press, 1947) pp. 55-56.

[42] See particularly Raymond B. Cattel, "The Dimensions of Culture Pattern by Factorization of National Characters," the Journal of Abnormal and Social Psychology, Vol. 44 (October, 1949) pp. 443-469, and Brian J. L. Berry, "Basic Patterns of Economic Development," Atlas of Economic Development, ed. Norton Ginsburg (Chicago: University of Chicago Press, 1961), pp. 110-119 and "An Inductive Approach to the Regionalization of Economic Development," Essays on Geography and Economic Development, Norton Ginsburg, ed., (Chicago: University of Chicago Press, 1960), pp. 78-107.

was the avant-garde effort at cross-national application of the technique in political science.[43] More recently, Banks and Gregg have published articles where factor analysis was utilized to analyze the largely ordinal data of A Cross-Polity Survey by the grouping of variables and nations into clusters.[44] This was a major breakthrough because of the large number of countries included in this analysis.

In the spirit of this growing use of factor analysis as a tool of analysis for the political scientist, it was decided that a factor analysis of the developmental data of this study in the two time intervals would possibly lead to productive findings about underlying dimensions of development over time. The increasing availability of data will, no doubt, witness an increase in the possibility for such analysis to continue in the future. Even though a growing number of political scientists are employing factor analysis in their research,

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[43]Rudolph J. Rummel, in General Systems Yearbook, Vol. 8 (1963), pp. 1-50. For colateral efforts Hayward R. Alker, Jr., "Dimensions of Conflict in the General Assembly," American Political Science Review, Vol. 58 (September, 1964), pp. 642-657; Raymond Tanter, "Dimensions of Conflict Behavior Within and Between Nations, 1958-1960," Journal of Conflict Resolution, (March, 1966); Jonathan Wilkenfeld, "Domestic and Foreign Conflict Behavior of Nations," Journal of Peace Research, No. 1 (1968) pp. 57-69; Jonathan Wilkenfeld, "Some Further Findings Regarding the Domestic and Foreign Conflict Behavior of Nations," Journal of Peace Research, No. 2 (1969) pp. 147-156.

[44]Arthur S. Banks and Phillip M. Gregg, "Grouping Political Systems: A Q-Factor Analysis of A Cross-Polity Survey," The American Behavioral Scientist, Vol. 9 (July, 1965) and the previously mentioned research in Arthur S. Banks and Phillip M. Gregg, "Dimension of Political Systems: Factor Analysis of A Cross-Polity Survey," American Political Science Review, Vol. 59 No. 3 (September, 1965) pp. 602-614.

none has applied the tecnhique to address the questions: "What are the basic dimensions of national development for countries at the lower end of the developmental spectrum and how do these dimensions change over time?" or "What concepts best describe these dimensions and the changes which occur over time?" The data assembled for this study permit an initial effort to answer these questions.

Factor analysis will serve three primary purposes. First, it will permit us to reduce the number of developmental variables with which we are dealing. Also, the factors which emerge will be used as descriptive categories to check the earlier dimensions discussed in this chapter. Thirdly, the factor analysis will enable a comparison to previously hypothesized relationships.

For this study, all the previously presented variables in Table 4-1 through Table 4-34 excluding the composite indices were factor analyzed separately for each time interval. Thus, fourteen variables were factor analyzed for each time period. The variables were all interval in character and were ascertained from a variety of sources.[45] Data were not ascertainable for fifteen cases over all variables in Time Period I and in only nine cases in Time Period II.

Technically speaking, factor analysis is "...that branch of multivariate analysis which deals with the internal structure

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[45]For a reference to the source of data for each variable one should consult the source notation following each tabular presentation.

of matrices of covariances and correlation."[46] More simply, it is a technique which can be employed "...to take a large number of operational indices and reduce these to a smaller number of conceptual variables."[47] The cluster of variables on the basis of intercorrelations presumes to reflect a single dimension which is 'causing' the association within the set of variables.[48] In the context of this study, the four factors which emerged for each time period summarize the major components of variation among the fourteen variables.

The method of factor analysis employed was a R-factor analysis where clusters of characteristics, i.e., variables, attributes of countries, emerged rather than a Q-factor analysis where clusters of cases, i.e., nations, occurs. The variables were correlated using the product-moment coefficient statistic. The product-moment correlation matrix was factor analyzed using the principal-component technique because the first factor accounts for the maximum amount of variance within the data, while each succeeding factor extracts the maximum of the remaining unexplained variance.[49] Four factors were rotated

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[46]D. N. Lawley and A. E. Maxwell, Factor Analysis As a Statistical Method (London, Butterworths and Co., 1963) p. 1.

[47]Hubert M. Blalock, Social Statsitics, (New York: McGraw-Hill Company, 1960) p. 383.

[48]Banks and Gregg, op. cit., p. 604.

[49]This technique is discussed by Harmon, op. cit., in Chapter 9, "Principle-Factor Solution."

to an orthogonal and to an oblique solution using Kaiser's varimax and Carrol's oblimin criteria respectively.[50] The varimax, i.e., orthogonal, criteria was selected for presentation. However, the oblimim rotation led to substantially the same results.

The initial statistical task in factor analysis is the construction of a correlation matrix. In Tables 4-45 and 4-46 we have presented the full correlation matrix for all pairs of variables for each time period. This correlation matrix is employed to extract common factors and these factors may be suggested by clusters of similar correlation coefficients. These coefficients are often capable of giving us clues to the factors possibly extracted by the principal components analysis.[51]

The correlation matrix is then subjected to factor analysis and we develop the most important output of this technique, the factor matrix. In Tables 4-47 and 4-48 we present the full factor matrix for Time Periods I and II. We are now in a position to identify the factors which have emerged from our factor analysis.

The four factors in Time Period I account for 93 per cent of the variance (total variance) and for the second time period

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[50]The factor analysis performed in this study were performed using the OSIRIS II Computer Program. For a complete discussion of the procedures and criteria consult Samuel Kirkpatrick, op. cit., Chapter 4, "Data Analysis and the Scaling Tradition."

[51]Ibid., Chapter 4.

TABLE 4-45: CORRELATION COEFFICIENTS BETWEEN PAIRS OF FOURTEEN DEVELOPMENTAL VARIABLES IN TIME I[a]

| Variables Name | Var. Num. | Variables Numbers 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pop. cities 20,000+ | 1 | 1.00 | | | | | | | | | | | | | |
| Telephones/ 1,000 pop. | 2 | 0.54 | 1.00 | | | | | | | | | | | | |
| Telegrams/ 1,000 pop. | 3 | -0.09 | 0.44 | 1.00 | | | | | | | | | | | |
| Newspapers/ 1,000 pop. | 4 | 0.46 | 0.71 | 0.57 | 1.00 | | | | | | | | | | |
| Radios/ 1,000 pop. | 5 | 0.53 | 0.79 | 0.76 | 0.93 | 1.00 | | | | | | | | | |
| Mil.Person/ 1,000 pop. | 6 | 0.52 | 0.39 | 0.40 | 0.73 | 0.29 | 1.00 | | | | | | | | |
| Students/ 1,000 pop. | 7 | 0.83 | 0.65 | -0.11 | 0.22 | 0.35 | 0.32 | 1.00 | | | | | | | |
| Stu. Post-Pri/1000. | 8 | 0.84 | 0.62 | -0.00 | 0.38 | 0.31 | 0.67 | 0.88 | 1.00 | | | | | | |
| Per Capita GNP | 9 | 0.58 | 0.77 | 0.35 | 0.86 | 0.97 | 0.19 | 0.49 | 0.37 | 1.00 | | | | | |
| Per Capita Real Inc. | 10 | 0.43 | 0.98 | 0.50 | 0.93 | 0.98 | 0.52 | 0.49 | 0.48 | 0.95 | 1.00 | | | | |
| Energy per Capita | 11 | 0.53 | 0.92 | 0.68 | 0.79 | 0.91 | 0.38 | 0.58 | 0.52 | 0.90 | 0.90 | 1.00 | | | |
| Imports + Exp/1000. | 12 | 0.64 | 0.67 | 0.05 | 0.54 | 0.81 | 0.01 | 0.64 | 0.47 | 0.91 | 0.88 | 0.77 | 1.00 | | |
| Scope of Transptn. | 13 | -0.57 | -0.24 | -0.11 | -0.06 | -0.27 | -0.13 | -0.46 | -0.34 | -0.24 | 0.11 | -0.25 | -0.26 | 1.00 | |
| Inhabits/ Physician | 14 | -0.49 | -0.66 | -0.37 | -0.47 | -0.65 | -0.27 | -0.54 | -0.53 | -0.71 | -0.59 | -0.76 | -0.69 | -0.03 | 1.00 |

[a]The correlation coefficients of 0.70 (+ or -) were underscored in the table.

TABLE 4-46: CORRELATION COEFFICIENTS BETWEEN PAIRS OF FOURTEEN DEVELOPMENTAL VARIABLES IN TIME II[a]

| Variables Name | Var. Num. | Variables Numbers 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % Pop. in Cities | 1 | 1.00 | | | | | | | | | | | | | |
| Telephones/ 1,000 pop. | 2 | 0.86 | 1.00 | | | | | | | | | | | | |
| Telegrams/ 1,000 pop. | 3 | 0.11 | -0.12 | 1.00 | | | | | | | | | | | |
| Newspapers/ 1,000 pop. | 4 | 0.35 | 0.45 | -0.05 | 1.00 | | | | | | | | | | |
| Radios/ 1,000 pop. | 5 | 0.47 | 0.42 | 0.01 | 0.89 | 1.00 | | | | | | | | | |
| Mil.Person/ 1,000 pop. | 6 | 0.20 | 0.12 | -0.15 | 0.79 | 0.91 | 1.00 | | | | | | | | |
| Students/ 1,000 pop. | 7 | 0.74 | 0.61 | 0.41 | 0.28 | 0.53 | 0.26 | 1.00 | | | | | | | |
| Stu. Post-Pri/1,000. | 8 | 0.76 | 0.73 | -0.16 | 0.43 | 0.67 | 0.48 | 0.89 | 1.00 | | | | | | |
| Per Capita GNP | 9 | 0.50 | 0.74 | 0.00 | 0.59 | 0.41 | 0.09 | 0.59 | 0.62 | 1.00 | | | | | |
| Per Capita Nat'l Inc. | 10 | 0.35 | -0.61 | -0.01 | 0.54 | 0.35 | 0.06 | 0.52 | 0.55 | 0.97 | 1.00 | | | | |
| Energy per Capita | 11 | 0.65 | 0.89 | -0.09 | 0.68 | 0.51 | 0.17 | 0.49 | 0.60 | 0.87 | 0.80 | 1.00 | | | |
| Imports + Exp/1000. | 12 | 0.42 | 0.64 | -0.05 | 0.16 | 0.23 | -0.09 | 0.58 | 0.57 | 0.95 | 0.97 | 0.75 | 1.00 | | |
| Scope of Transptn. | 13 | 0.58 | 0.78 | -0.06 | 0.35 | 0.19 | -0.08 | 0.63 | 0.64 | 0.92 | 0.86 | 0.78 | 0.86 | 1.00 | |
| Inhabits/ Physician | 14 | -0.62 | -0.61 | 0.27 | -0.41 | -0.47 | -0.31 | -0.54 | -0.69 | -0.62 | -0.57 | -0.65 | -0.53 | -0.64 | 1.00 |

[a]The correlation coefficients of 0.70 (+ or -) were underscored in the table.

TABLE 4-47: FACTOR MATRIX FOR TIME I

| Variable Identification | Var. Num. | Factor Loading Scores[a] 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| Pop. Cities 20,000+ | 1 | 0.34050 | -0.81751 | 0.11062 | -0.34183 |
| Telephones/1000 pop. | 2 | 0.78296 | -0.37416 | 0.26610 | -0.05921 |
| Telegrams/1,000 pop. | 3 | 0.49199 | -0.40276 | 0.65371 | -0.21625 |
| Newspaper/1,000 pop. | 4 | 0.73493 | -0. 9826 | 0.61103 | 0.00807 |
| Radios/1,000 pop. | 5 | 0.95538 | -0.01254 | 0.29203 | -0.24174 |
| Mil.Personnel/1,000 | 6 | 0.07325 | -0.45188 | 0.89396 | 0.05045 |
| Students/1,000 pop. | 7 | 0.34869 | -0.87257 | -0.06557 | -0.19401 |
| Stud.Post-Pri/1,000 | 8 | 0.21758 | -0.91133 | 0.29339 | -0.05349 |
| Per Capita GNP | 9 | 0.95754 | -0.19431 | 0.03722 | -0.13133 |
| Per Cap.Real Income | 10 | 0.92891 | -0.21771 | 0.32758 | 0.17765 |
| Energy Consump/Cap. | 11 | 0.88271 | -0.25172 | 0.25724 | -0.13803 |
| Imports + Exp./1,000 | 12 | 0.86490 | -0.38931 | -0.26677 | -0.09387 |
| Scope of Transportatn. | 13 | -0.03776 | 0.30341 | -0.01823 | 0.95510 |
| Inhabitants/Physician | 14 | -0.70814 | 0.36881 | -0.04994 | -0.15551 |

[a]All factor scores above 0.60 (+ or -) were underscored. The significance of a factor loading score is the same whether it is positive or negative insofar as its contribution to the explained variance is concerned.

TABLE 4-48: FACTOR MATRIX FOR TIME II

| Variable Identification | Var. Num. | Factor Loading Scores[a] 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| % Pop. in Cities | 1 | 0.23928 | -0.14181 | 0.07634 | -0.89252 |
| Telephones/1000 pop. | 2 | 0.56825 | -0.12376 | -0.13123 | -0.69346 |
| Telegrams/1,000 pop. | 3 | -0.03009 | 0.04554 | 0.98372 | -0.01202 |
| Newspapers/1000 pop. | 4 | 0.38898 | -0.90264 | -0.02361 | -0.06458 |
| Radios/1,000 pop. | 5 | 0.14249 | -0.91339 | 0.06248 | -0.35353 |
| Mil.Personnel/1,000 | 6 | -0.14567 | -0.95172 | -0.09026 | -0.16995 |
| Students/1,000 pop. | 7 | 0.33620 | -0.18612 | 0.44933 | -0.77368 |
| Stud.Post-Pri/1,000 | 8 | 0.33041 | -0.34942 | -0.06934 | -0.81567 |
| Per Capita GNP | 9 | 0.94235 | -0.19946 | 0.03637 | -0.28158 |
| Per Cap. Nat'l Inc. | 10 | 0.96553 | -0.17648 | 0.03964 | -0.14415 |
| Energy Consump/Cap. | 11 | 0.78407 | -0.29628 | -0.10600 | -0.38925 |
| Imports + Exp./1,000 | 12 | 0.90841 | 0.07527 | 0.01720 | -0.29614 |
| Scope of Transportatn | 13 | 0.84335 | 0.05284 | -0.03302 | -0.45490 |
| Inhabitants/Physician | 14 | -0.43182 | 0.24263 | 0.31250 | 0.61144 |

[a]All factor scores above 0.60 (+ or -) were underscored. The significance of a factor loading score is the same whether it is positive or negative insofar as its contribution to the explained variance is concerned.

the four factors account for 92 per cent of the total variance. Of the fourteen variables none failed to load higher than ±.60 on at least one factor, while only one loaded higher than ±.60 on more than one factor. Thus, the solution employed yielded mutually independent factors. The performance measured by the data do not occur randomly from one country to the next. That is, they occur in highly associated patterns and basic dimensions do underlie the complex behavior of development in these nations.

The initial task was identifying the patterns of development for each time period and classifying each cluster of variables. Each factor is thus presented for Time Period I with an interpretation of its meaning. A similiar presentation is made for factors emerging in the second time interval. Table 4-44 displays the highly loaded variables in Time Period I on each of the four factors with a computation of the percentage of total variance explained by each factor. Table 4-45 displays the highly loaded variables in Time Period II on each of the four factors with a computation of the percentage of total variance explained by each factor.

Factor I/Time I: Wealth/Mass Communication. It is clear that Factor I accounts for a large portion, 46 per cent, of the total variance. In examining these variables, the following observations seem appropriate: (1) Four of the variables are exclusively variables measuring industrialization or wealth as noted in the earlier mentioned Lipset study; (2) Transportation,

TABLE 4-49: RANK ORDERING OF VARIABLES LOADING HEAVILY BY FOUR FACTORS OF DEVELOPMENT, TIME I

| Factor Identification | Factor Number[a] | Var. Loading Score | Variable Identification |
|---|---|---|---|
| Wealth/Mass Communication | I (46%) | +.95754 | Per Capita GNP |
| | | +.95538 | Radios/1000 pop. |
| | | +.92891 | Per Cap.Real Inc. |
| | | +.88271 | Energy Con/Capita |
| | | +.86490 | Imports & Exp/Cap. |
| | | +.78296 | Telephone/1000 pop |
| | | +.73493 | Newspaper/1000 pop |
| | | -.70814 | Inhabitants/Phys. |
| Education/Urbanization | II (24%) | -.81751 | Per. Pop. in Cit. |
| | | -.87257 | Students/1000 pop. |
| | | -.91133 | Stu.Post-Pri/1000. |
| Militarization/ Elite Communication | III (15%) | +.89396 | Mil.Personnel/1000 |
| | | +.65371 | Telegrams/1000 pop |
| | | +.61103 | Newspaper/1000 pop |
| Transportation | IV ( 8%) | +.95510 | Scope Transptn. |

[a]The percentage in parentheses are the per cent total variance explained by each factor. The total variance explained by all four factors is a high 93%.

TABLE 4-50: RANK ORDERING OF VARIABLES LOADING HEAVILY BY FOUR FACTORS OF DEVELOPMENT, TIME II

| Factor Identification | Factor Number[a] | Var. Loading Score | Variable Identification |
|---|---|---|---|
| Wealth/Trade | I (35%) | +.96553 | Per Cap. Nat'l Inc |
| | | +.94235 | Per Capita GNP |
| | | +.90841 | Imports & Exp/1000 |
| | | +.84335 | Scope Transportatn |
| | | +.78407 | Energy Consump/Cap |
| Militarization/Mass Communication | II (21%) | -.95172 | Mil.Personnel/1000 |
| | | -.91339 | Radios/1000 pop. |
| | | -.90264 | Newspaper/1000 pop |
| Telegraph Communication | III (10%) | +.98372 | Telegrams/1000 pop |
| Social Mobilization | IV (26%) | +.61144 | Inhabitants/Phys. |
| | | -.69346 | Telephone/1000 pop |
| | | -.77368 | Students/1000 pop. |
| | | -.81567 | Post-Pri. Stu/1000 |
| | | -.89252 | % Popula. in Cit. |

[a]The percentage in parentheses are the per cent of total variance explained by each factor. The total variance explained by all four factors is a high 92%.

which was considered a measure of economic development previously in this chapter, does not load high on this factor; (3) All the mass media variables loaded high on this factor; and (4) the high negative loading of inhabitants per physician may indicate a correspondingly high level of social progress in relationship to economic advancement of newly independent states.

Factor I suggests an underlying economic factor present in developing nations with a concurrent presence of mass media development to mobilize the population as a whole. In addition, the factor suggests need for exploration of the relationship between communication and economic development.

Factor II/Time I: Education and Urbanization. The education and urbanization factor accounts for 24 per cent of the total variance. This factor seems to suggest a seemingly strong relationship between urbanization and level of education. It would seem that each related over time as this factor continued into the second time period with the addition of telephones and inhabitants per physician.

Factor III/Time I: Militarization and Elite Communication. This factor accounts for 15 per cent of the total variance. It was felt that telegraph messages and newspaper circulation (the latter loaded high on Factor I) were more representative of the communication which may be in use primarily by elites. An interesting transformation occurs in the media associated with level of militarization from Time Period I to Time Period II. The re-

lationship between media type and level of militarization over time may be an area which should have added consideration.

Factor IV/Time I: Transportation. There is only one variable, Scope of Modern Transportation Network, loading heavily by Factor IV which accounts for 8 per cent of the total variance in Time Period I. This suggests that transportation seems to exist somewhat independently of general economic development immediately following independence. The relative low strength of the factor indicates that its taxonomic value is limited.

We can now turn our attention to the factors which have emerged from factor analyzing the same variables later in time. Hence, we may be able to suggest enduring patterns and less highly structured patterns of developmental phenomena.

Factor I/Time II: Wealth/Trade. This factor accounts for 35% of the total variance. The four economic variables in Time Period I have again loaded high on the single most important factor in Time Period II with the addition of the scope of a transportation network. It seems that a rather highly structured developmental pattern related to industrialization and wealth begins to develop as we move from the initial period following independence to a somewhat later date. This supports the Lipset research and calls for more such investigation into the relationship between industrialization and political phenomena of development. The failure of the mass communication and inhabitants per physician variables to load high on this variable suggests the development of a more differentiated pat-

tern in the economic realm within these polities.

Factor II/Time II: Militarization and Mass Communication. This factor suggests that there seems to be a clear relationship between the level of militarization and communication which has some variability in the type of media associated with this factor over time. The factor accounts for 21 per cent of the total variance and suggests that the high strength of this factor makes it of taxonomic value. The possibility of an elite military corps giving way to a mass-based conscription army may be useful for the comparative specialist to explore.[52]

Factor III/Time II: Telegraph Communication. This factor may suggest the unrelatedness of telegraph messages to other factors of development and the isolated character of this variable in an age of mass communication. As the population increasingly becomes literate the connection between this variable and other communications variables and development in general appears to evaporate.

Factor IV/Time II: Social Mobilization. A variety of developmental indicators load high on this factor. A possible common thread for these variables is the increased awareness of a population which develops along with an increase in national development. The closeness between education and urbanization observed in Factor II/Time I continues in the second time interval. The high positive loading of inhabitants per physician does suggest that social mobilization is accompanied by a posi-

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[52]Banks and Gregg, op. cit., p. 612

tive increase in availability of social services.

In conclusion, the relevance of the findings for cross-national study seems to be that developmental phenomena are not yet highly structured in the new nations. This supports a similiar finding of Banks and Gregg that political phenomena in the developing areas are not highly structured.[53] There appear to be several patterns which persist over time for the countries: (1) Industrialization; (2) Militarization/Communication; and (3) Urbanization/Education. These patterns suggest at least three basic developmental dimensions worthy of continued research. Establishing the above patterns will permit research which may further clarify dimensions of national development and relationships of variables. The typology which has emerged is of value as a basis for generalizations about the relationship of various dimensions of development. At what point in time does education emerge as a separate factor from urbanization or does the close connection persist regardless of the developmental level? Lerner suggests 'take off' points in development and it appears that mass communication and economic development are closely associated early in development and may shift as developmental level changes. The ability of political leaders to understand the relationships

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[53]We observe in Tables 4-13 and 4-14 that the overwhelming majority of polities have experienced substantially increased military forces from Time Period I to Time Period II. Major increases have occurred in South Vietnam, Syria, Cambodia, Morocco and Gabon. Upper Volta, Niger, Mali and Mauritania are examples of countries having smaller increases.

could enable them to lay the groundwork for relationships which are likely to persist and emerge over time.

Finally, this analysis has suggested that certain previously examined patterns of development can be inductively derived. For example, Lipset's examination of an industrialization factor is accurate and may be compared to the type of political system. Lerner's 'take off' points discussed in Chapter III can be arrived at inductively through future time lag studies. The relationship of political violence to development over time may add a further dimension to the analysis and we therefore turn our attention to the concepts and measures of political violence.

# CHAPTER V

## FACTORS SIGNIFICANT TO THE CONCEPT OF POLITICAL VIOLENCE

To explore a concept such as political violence it is essential to develop a clear and concise definition of the phenomenon in order to differentiate its boundaries from other phenomenon occurring in the political and social environment. Nieburg presents a broad definition of political violence which attempts to relate this phenomenon to the political and social systems in which it exists. He states that political violence includes:

> ...acts of disruption, destruction, injury whose purpose, choice of targets or victimes, surrounding circumstances, implementation, and/or effects have political significance, that is, tend to modify the behavior of others in a bargaining situation that has consequences for the social system.[1]

This definition is too broad to allow for operationalized categories, i.e., this would include nearly all criminal acts, and by exploring impact and consequences demands normative or at best empirically difficult judgments as to the effect of each act. This definition would require the inclusion of govern-

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[1]H. L. Nieburg, Political Violence: The Behavioral Process, (New York: St. Martin's Press, 1969) p. 13.

mental acts, i.e., police riots, incarceration, political and non-political executions. Though these acts are important manifestations of political behavior, they do not serve the purpose of this study. The benefit of such a definition is that it allows the researcher to make a clear distinction between key factors and that by using such general categories applicable to all political behavior, it enables comparative analysis. Professor Gurr defines civil strife as "...all collective, non-governmental attacks on persons or property that occur within the boundaries of an autonomous or colonial political unit."[2] This limits the definition of political violence to subjects and citizens who are not employees or representatives of the political regime, except that Gurr would include acts of employees or representatives which are contrary to role norms, i.e., mutinies, military coups d'etat, etc. The definition of violence in use in this study is that of Ted R. Gurr as his data will be extensively used in Chapter VI for Time Period I and updated for Time Period II using his operational definitions of violence.[3]

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[2]Ted R. Gurr, "Procedures Used in Collecting and Summarizing Civil Strife Data," in H. D. Graham and T. R. Gurr, eds., Violence in America: Historical and Comparative Perspectives, (Washington, D.C.: National Commission on the Causes and Prevention of Violence, 1969) p. 487.

[3]For a full explanation of Gurr's operational criteria for coding civil strife consult Ted Gurr and Charles Ruttenberg, Cross-National Studies of Civil Violence (Washington, D.C.: Center for Research in Social Systems, The American University Press, 1969), Appendix A. Several alternative definitions of political violence could have been examined. For example, Kenneth F. Johnson, "Causal Factors in Latin American

It is important at the outset to clarify how political violence will be viewed as a phenomenon in relation to the political process of a polity. For many years social scientists have neglected the study of political violence as an integral part of the political process except for industrial strikes. Violence of any form was viewed as aberrant, atypical or obscene behavior. As the world has become smaller and occurrences of political violence constantly luminate the living room of homes throughout the world, the social scientists have begun to inspect violence for both its functional and dysfunctional tendencies. Studies of forms of political violence scarcely touched upon its relationship to the ongoing processes of government.[4] As Lucian Pye has noted, "The non-Western political process is characterized by sharp differences in the political orientation of the generations,..." primarily because of a "...lack of continuity in the circumstances under which people are recruited to politics."[5] It seems to be clear

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Political Instability," Western Political Quarterly, Vol. 17, No. 3 (September, 1964) p. 435, defines political instability "...as a state of conflict between governments and (competing) power groups which is characterized by overt acts of violence, by support for extreme political radicalism, or by apathy in the face of movements which are committed to extreme, radical, or violent dislocations of the status quo." Such definitions have some features which do not fit into our research design, i.e., eliminates orderly strikes, protests and demonstrations.

[4] Crane Brinton, The Anatomy of Revolution (New York: Vintage, 1958) is a prime example of treating political violence as a distinct pehnomenon. Although the author does present a valuable account as to the causes of revolution, he is only partly successful in placing violence in a realistic perspective within a political and social environment. One of the outstanding efforts to examine political violence as an integral phase or process of political change is Samuel P. Hunting-

from recent research that Pye's early analysis has been empirically proven to be true. Zolberg has recently found that the coup has been institutionalized as an important means of political recruitment and governmental change in Africa. He attributes this to the obvious fact of the politicization of the armed forces, their degree of organization in political systems which have no center of power, and the phenomena of contagion. In describing political violence and force as an instrument of major political change he states:

> The coup can be viewed as an institutionalized pattern of African polities on statistical grounds since in recent years it has become the model form of governmental and regime change... (and) Although the relationship between political conflict and political development has not been explicitly examined in this essay, this does not imply that I view the functions of conflict in a society as wholly negative.[6]

Hence, the role and significance of political violence is integrally related to the political and social systems and not considered merely an aberration to be viewed separately.

There can be little doubt in the mind of the contemporary observer that the occurrence of individual and group protest and violence is a ubiquitous form of behavior in the mod-

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ton's work, Political Order in Changing Societies (New Haven: Yale University Press, 1968), especially pages 39-92.

[5]Lucian Pye, "The Non-Western Political Process," in H. Eckstein and D. Apter, eds., Comparative Politics (New York: The Free Press, 1963) p. 660.

[6]Aristide R. Zolberg, "The Structure of Political Conflict in the New States of Tropical Africa," American Political Science Review, Vol. 62, No. 1 (1968), pp. 77 and 87.

ern nation-state. With rare exception, no modern polity has been free of political violence for as much as a single decade. The Feierabends and Nesvold have found that between 1948 and 1962, collective antigovernment behavior occurred in all but 'one' of 84 nations examined.[7] Gurr found in a study of 114 countries for the time period 1961-1965 that civil strife occured in 104 of the polities.[8]

The occurrence of domestic political violence is, of course, not unique to the modern nation-state but is episodic and in some historical periods, has been chronic in most polities over time. A logitudinal study by Pitirim Sorokin analyzed the histories of eleven European states and empires over a 25-century span and found that they averaged only four peaceful years for each year in which major outbreaks of civil violence occurred.[9] In the historical time period between 1900 and 1965, Calvert found that a total of 367 revolutions occurred (an average of 5.56 a year for the 65-year time period).[10]

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[7]Consult Ivo K. and Rosalind L. Feierabend, "Agressive Behaviors Within Polities, 1948-1962: A Cross-National Study," Journal of Conflict Resolution Vol. 10 (September, 1966) pp. 249-271; and Betty A. Nesvold, "A Scalogram Analysis of Political Violence," Comparative Political Studies Vol. 2 (July, 1969).

[8]Ted R. Gurr, "Procedures Used in Collecting and Summarizing Civil Strife Data," op. cit., pp. 489-490.

[9]Pitirim Sorokin, Social and Cultural Dynamics, Vol. III: Fluctuations of Social Relationships, War, and Revolution (New York: American, 1937) pp. 383-506.

[10]Peter A. R. Calvert, "Revolution: The Politics of Violence," Political Studies, Vol. 15 No. 1 (1967) p. 1.

Flanigan and Fogelman have found that between 1800 and 1960 domestic political violence was widespread in sixty-five countries studied.[11] The prevalence of domestic political violence is unmistakable and requires the development of clear distinctions of its role in the construction of theories of social change and national development.

In examining political instability in the new states of Asia, Becker has concluded that there are no less than twelve general causes of instability for states in the region: (1) Poverty; (2) Antipathy to government; (3) Continuation of oppositionism following independence; (4) Tradition of autocracy; (5) Limited experience with democracy; (6) Habits of violence; (7) Shortages of civil servants; (8) Small middle class; (9) Lack of effective leadership; (10) The lack of parties and existence of only mass movements; (11) Social heterogeneity; and (12) Lack of tolerance for an opposition to the government.[12] Many of these causes of civil strife in Asia are applicable to other areas such as Africa and the Middle East. Although these causes do not suggest some underlying theory for civil violence they do suggest the multiple series of factors which are likely to create an environment where domestic violence will take place.

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[11]William H. Flanigan and Edwin Fogelman, "Patterns of Political Violence in Comparative Historical Perspective," Comparative Politics, Vol. 3 No. 1 (October, 1970) pp. 1-21.

[12]Michael Becker, "Political Instability in the New States of Asia," in Harry Eckstein and David E. Apter, eds., Comparative Politics, (New York: The Free Press, 1963) pp. 617-635.

## Theory and Prior Analysis

Current research in the realm of domestic violence has centered upon the 'causes' of civil strife and the 'consequences' resulting from the occurrence of political violence. There are some general areas of agreement among scholars and some apparent contradictions in other areas which will be discussed presently. This study will allow for the testing of some of the areas of agreement and contradiction among other researchers. Our survey of violence theory and analysis will concentrate upon the more recent developments with some mention of classical and historical reference to this phenomenon.

The causes of domestic political violence were examined by ancient theorists such as Plato and Aristotle. Plato's degenerate states were ruled by various forms of appetite: by force, wealth, numbers and charisma while Aristotle's perverted states were law-neglecting systems. Both were manifestations of what Machiavelli called the corrupt state dominated by "...all sorts of license and violence, great inequalities of wealth and power, the destruction of peace and justice, the growth of disorderly ambition, disunion, lawlessness, dishonesty, and contempt for religion."[13] Each author has developed a series of causes for the existence of civil strife: Plato identifies the loss of 'virtue' in rulers; Aristotle

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[13]Sabine, The Development of Political Theory, (New York: Holt Rinehart, & Winston, Inc., 1961) p. 343.

identified the lawless states; and Machiavelli identified the inequalities of wealth and power. The basic causes of civil strife were examined by the classical theorist and identified. Recent scholarship has reexamined these early descriptions made by the classical theorist in light of empirical evidence.

Most of the contemporary researchers of political violence base their analysis largely upon the theoretical foundation of the 'gap' between social expectations and social achievement, that is, relative deprivation theory. Some researchers operationalize this differently. Three noted area specialists, in discussing the 'problem' of political violence, found eight separate factors to be possible causes of political violence:

1. Boredom-restlessness-the romanticism of guerrilla life...

2. Alienation and dissatisfaction with his personal role and a sense of being blocked from improving his situation...

3. Reconciliation of a sense of personal inadequacy by projecting the blame on an external object such as the imperialists or capitalists (or corrupt leaders)...

4. Loss of existential meaningfulness, the quest for it in political activity, and the acceptance and commitment to an all-explanatory world view...

5. Quest for the heroic act, immortality, or being in tune with the "inevitable force of events"...

6. Revolution as a way of life...

7. Simple indignation, frustration or fury at injustice, stupidity and tyranny...

8. Terror, the use of force to get individuals to aid movements of violence.[14]

These eight causes are far reaching and can be explained by the more general theory of relative deprivation only by skewing the statements in such a fashion that they have lost their intended meaning. Hence, only in the most general sense are these causes related to the relative deprivation or 'gap' theory of violence. Each takes into consideration the personal environment and perception of the individual. The personality factors and personal orientation of the individual are the causes of frustration, protest, and political violence and the authors quoting Lasswell contend that violence is caused by a "...projection of personal conflict onto a public object."[15] The sixth cause discussed, revolution as a way of life, can only remotely be related to the wants/gets theory of social action. If revolution is the 'normal' pattern in a society to produce social change, it is hardly possible that

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[14]Charles W. Anderson, Fred R. Von der Mehden, Crawford Young, Issues of Political Development (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967) pp. 93-97. Another study by Kenneth F. Johnson, op. cit., pp. 435-441, has defined 3 causal factors of political instabilityin Latin America: (1) Entrepreneurial deficiencies; (2) Role substitutability among politically relevant performance entities; and (3) Accelerated urbanization and overpopulation. Although this is not a more general theory of civil strife as is the relative deprivation theory, it does stress operationalized catagories of the institutionalization process and participation (social mobilization) factors of Samuel P. Huntington as examined in Political Order in Changing Societies (New Haven: Yale University Press, 1967), Chapter I.

[15]Ibid., p. 92.

this can be a sine qua non with the gap between social expectation and achievement.

Before turning to a full examination of the relative deprivation theory and its contemporary exponents, we shall examine Nieburg's review of the theories of political violence. Neiburg examines five categories of common theories of political violence. The first three (riffraf or outside agitators theory, frontier or gun theory, and the McLuhan thesis) can be dismissed as not generally applicable as they have particular reference to the situation in the United States. The other two categories of theory he reviews warrant brief consideration because of their potential for comparative analysis: (1) The return of the killer instinct or biological theory; and (2) the deprivation, access, and frustration theories.[16] The former set of theories, with their historical origins in Social Darwinism and the Hobbesian view of man, holds that man has a genetic instinct to violence. Desmond Morris asserts that the ethnological evidence is against acceptance of the notion that there is a goal of aggression, not destruction, and basically we do not seem to differ from other species in this respect."[17] Thus, man's disposition to aggresiveness should not be confused with a propensity to

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[16]Nieburg, op. cit., Chapter 2.

[17]For a presentation of the advocates of these theories consult Robert Ardrey, The Territorial Imperative (New York: Antheneum Publishers, 1966). Desmond Morris is critical of Ardrey's thesis in The Naked Ape: A Zoologist's Study of the Human Animal (New York: McGraw-Hill Book Co., 1968).

violence.

The latter set of theories are dismissed by Nieburg as possibly providing drive and momentum for political behavior but he contends that they will not determine which behavior will occur. Therefore, great deprivation is possible without violence occurring and violence may occur without significant deprivation. He points out that Coser has found that frustration does not of itself lead to questioning of vested interest.[18] This leads to the question of just what is the relative deprivation theory and is it possible to use such a theory to determine the causes of social conflict?

Social and behavioral scientists recently have looked at the underlying reasons for social protest and violence and many have come to the conclusion that the relative deprivation theory best explains why social strain and discontent are indispensable preconditions to violence.[19] Social strain, it is assumed, is caused by individual and group frustration

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[18]Nieburg, op. cit., pp. 40-41 and Lewis A. Coser, Continuities in the Study of Social Conflict (New York: The Free Press, 1967) 31.

[19]See particularly Ted R. Gurr, Why Men Rebel (Princeton: Princeton University Press, 1969); Ted R. Gurr, "Psychological Factors in Civil Violence," World Politics, Vol. 20 (January, 1968) pp. 245-278; James C. Cavies, "Toward a Theory of Revolution," American Sociological Review, Vol. 27 (January, 1962) pp. 5-19; Ivo K. Reierabend, Rosalind L. Feierabend and Betty A. Nesvold, "Social Change and Political Violence: Cross-National Patterns," in Ted R. Gurr and Hugh Graham, eds., Violence in America: Historical and Comparative Perspective, op. cit., Chapter 18. This is but a small sampling of a growing body of analysis which relies on the assumption that the psychological causes of civil violence can best be explained by the relative deprivation theory.

induced by a widening gap between what the individual's social expectations (wants) and his social achievement (gets) are. One author goes so far as to say that "...relative deprivation is the root cause of rebellion...(and) the basic relationship is as fundamental to understanding civil strife as the law of gravity is to atmospheric physics: relative deprivation...is a necessary precondition of civil strife of any kind."[20] This author goes on to qualify this statement by saying that, "In brief, the basic psychological factors in the genesis of civil strife are the intensity and extent of deprivation-induced discontent in a group, and people's attitutes about the justifiability and utility of collective protest and of collective violence in response to discontent."[21] The root cause of civil strife is discontent induced by relative deprivation and the more immediate cause is the individual's willingness to partake in protest and violence to relieve his frustration.

Several general patterns of social conditions which cause such deprivation-induced violence may be suggested as examples of how this theory is applied.[22] As an example of the manner in which this theory can be applied in analyzing social conditions we may look at social conditions surrounding independence in recent years. The possibility of independence brought on the feeling that a great panacea was at hand to solve social problems. As these high expectations are shattered, pessimism

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[20]Ted R. Gurr, "A Comparative Study of Civil Strife," in Gurr and Graham, op. cit., p. 462.

[21]Ibid., p.463.

[22]For extensive examples of deprivation patterns see literature cited in Footnote 19.

the feeling that a great panacea was at hand to solve social problems. As these high expectations are shattered, pessimism and frustration are likely to occur. The frustration which has led to the increased scope of civil strife in Africa following independence is the result of exaggerated expectations and little change in the capability to achieve these expectations coinciding with continued low-level social achievement. Speaking about the trauma of independence in West Africa, LeVine points out that independence is regarded as the answer to all social problems confronting the country.[23]

In brief, the theory of relative deprivation maintains that as the psychological gap between social expectations and social achievement increases there is a concomitant increase in frustration which is likely to result in political violence. The existence of some mediating factors such as the individual disposition to consider violence as a legitimate device for registering frustration and perceived cost of registering such frustration, i.e., existence of a strong show of police force, in a violent manner are admitted by some advocates of this theory as has been noted.[24]

Among the difficulties involved in using the relative deprivation theory in longitudinal analysis is that we are talk-

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[23]Victor LeVine, "The Trauma of Independence in French Speaking Africa," paper presented to the Midwest Conference of Political Scientists, 1967.

[24]Ted R. Gurr, "A Comparative Study of Civil Strife," in Gurr and Graham, op. cit., p. 462.

ing about psychological motivations which are difficult for the social scientist to transform into meaningful data units. It is necessary to construct indirect measures of deprivation such as educational levels and changes relative to economic levels and changes. Such procedures are necessary to establish the relative importance of these psychological factors as causes of political violence. With the limitations thus imposed we can make such comparisons with the data at hand and verify the use of this theory to explicate the causes of social and political unrest.

## Consequences

The second area of current research to be explored in this study will be an attempt to discern the relationship between the consequences of political violence for social change and development. Our interest here is to add to the delineation of the relationship between national development and political violence by concentrating our attention upon a grouping of polities which are located at the lower end of the development spectrum. Concentration on these countries will permit an opportunity to construct evidence and theory which is more applicable to these polities than the world scope technique. Lumping all polities together has forced some degree of overgeneralization and thus deprived the researcher of the opportunity for focus. Rather than global or case study analysis, this study will permit a predetermined limitation of scope with enough concentration to distinguish

meaningful relationships.

The relationship between development and political violence is complex. A number of studies have linked conflict behavior to stages of development, modernity and the process of modernization. A generally held notion is that the more developed a society the more stable it will be and it will suffer less domestic violence than the less developed societies. One study of eight indicators of the level of development for the period 1948 through 1955 and the degree of political stability for the period 1955 through 1961 produced no correlation below .79 (N=84).[25] That is, political stability in Time Period II is highly correlated with a high level of development in Time Period I. In earlier research, the same authors found a correlation of .63 (N=62) between political stability and a composite index of development defined by eight social and economic indicators of development.[26] In the latter research, the authors came to a conclusion that modern and traditional societies tend toward stability, while transition leads to political instability and violence.[27] Thus, violence and political instability are related to development in a curvilinear pattern where the countries at the

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[25]Feierabend, Feierabend, and Nesvold, "Social Change and Political Violence...", op. cit., p. 517.

[26]Feierabend, Feierabend, and Nesvold, "Aggressive Behaviors Within Polities...", op. cit., pp. 258-262.

[27]Feierabend, Feierabend, and Nesvold, "Social Change and Political Violence...", op. cit., pp. 525-531.

highest and lowest stages of development experience relatively less political instability than countries in a transitional stage of development. These conclusions tend to support an "exposure to modernity" thesis to account for the occurrence of political unrest. The relationship between literacy and mass communication development on the one hand with political stability on the other is particularly high, i.e., .90 for literacy and .88 for radios, newspapers and telephones.[28]

The relationship between economic well-being and political stability is reported in one set of findings for 134 polities during an eight year period between 1958 and 1965. The authors report that violent conflicts were more than four times as prevalent in the very poor polities, i.e., under $100 per capita GNP, as they were in the rich polities, i.e., above $750 per capita GNP.[29] A separate study of some seventy nations for the years 1955 through 1960 found a correlation of -.56 between per capita GNP and the number of revolutions.[30]

Not only does social and economic modernization produce

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[28]Feierabend, Feierabend and Nesvold, Ibid., p. 517.

[29]U. S. Department of Defense and Escott Reid, The Future of the World Bank (Washington, D.C.: International Bank for Reconstruction and Development, 1965), pp. 64-70. In this research the author reports that 87 per cent of the very poor nations suffered significant outbreaks of violence as compared to only 37 per cent of the rich nations.

[30]Raymond Tanter and Manus Midlarsky, "A Theory of Revolution," Journal of Conflict Resolution, Vol. II (September, 1967), pp. 271-272, and Raymond Tanter, "Dimensions of Conflict Behavior Within Nations, 1955-1960: Turmoil and Internal War," Papers, Peace Research Society, Vol. 3 (1965) p. 175.

political unrest and violence, but the degree of instability is positively related to the 'rate' of modernization. This tends to support the early findings of the curvilinear relationship between political instability and development. The difficulty in verifying such a conclusion is that few countries now qualify as traditional in the sense that they are unaware of modernity. Samuel P. Huntington, quoting a wide variety of research concludes that, "The higher the rate of change toward modernity, the greater the political instability, measured statistically or dynamically."[31] The tempo of modernization has increased rapidly in the modernizing states of the twentieth century.[32] Modernization is occurring simultaneaously in most of the developing societies rather than sequentially and is placing a great burden upon the political and social systems of these societies.

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[31]Huntington, op. cit., p. 46. This same conclusion is supported by Feierabend, Feierabend, op. cit., pp. 263-267; Feierabend, Feierabend and Nesvold, "Aggressive Behavior...", op. cit., pp. 505-513; Seymour Martin Lipset, Political Man, (Garden City, New Jersey: Doubleday, 1960) p. 68; and William Kornhauser, The Politics of Mass Society (Glencoe, Illinois: Free Press, 1959) pp. 143-144. Lipset and Kornhouser note the development of mass movements during periods of rapid change in modern society.

[32]Huntington, Ibid., pp. 45-47, points out the findings of Karl Deutsch that during the nineteenth century the "... principal indicators of social mobilization in modernizing countries changed at about the rate of 0.1 per cent per year, while in twentieth-century modernizing countries they change at about the rate of 1 per cent per year." That is a tenfold increase in the rate of modernization in the twentieth century compared to the nineteenth century. Also, Cyril Black in The Dynamics of Modernization (New York: Harper and Row, 1966), pp. 90-94, reports that while England required 183 years for consolidation of modernizing leadership, the newly emerging nations of the twentieth century averaged only 29 years.

In recent years, conflicting evidence suggests that the relationships between development and political instability are not as definite as has been indicated above. One study by Flanigan and Fogelman of sixty-five countries from 1800 to 1960 shows a consistent inverse relationship between political instability and rates of development. The authors identify this relationship and conclude that, "...the incidence of political violence decreases as the rate of development increases."[33] This casts doubt on the findings that rapid development seems to undermine political stability and suggests that rapid development is accompanied by political stability. This is further substantiated by the conclusion that "...the incidence of domestic violence during the twentieth century is not unlike the incidence of violence in countries which are not highly developed but were themselves in the process of developing in the nineteenth century."[34] Although the rate of modernization has increased in this century, there has been no corresponding increase in the rate of political instability. Huntington concludes, after reviewing the current studies, that the relationship between rapid economic growth and political instability is at best a complicated one and that:

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[33]Flanigan and Fogelman, op. cit., p. 14.

[34]Ibid., p. 13. The authors have categorized all sixty-five countries into four patterns of development: I, Continuous Low Level of Development; II, Recent Beginnings of Development; III, 20th Century Development; IV, Early High Development.

> ...among countries which have reached a relatively high level of economic development, a high rate of economic growth is compatible with political stability. The negative correlations between economic growth and instability (reported previously in his analysis) are, in large part, the result of combining both highly developed and underdeveloped countries into the same analysis. Economically developed countries are more stable and have higher rates of growth than economically less developed countries... In countries which are not wealthy, the rate of economic growth is not related significantly to political instability one way or another: for 34 countries with per capita GNP below $500 the correlation between rate of economic growth and deaths from domestic group violence was -.07. Thus, the relation between the rate of economic growth and political instability varies with the level of economic development. At low levels, a positive relation exists, at medium levels no significant relation, and at high levels a negative relationship.[35]

It is apparent that there is a lack of consensus by those studying the relationship of the rate of development and political instability as to influence upon political stability of changes in the rate of growth.

In addition to the apparent contradiction among the findings of researchers regarding the relation between political instability and level of development seems in question. The curvilinear pattern of association between political instability and stage of development has been disputed in the findings of Fogelman and Flanigan. After examining the occurrences of violence in countries categorized under four patterns of development in the twentieth century, these authors conclude that there "...is near perfect order between patterns of dev-

[35]Huntington, op. cit., p. 53.

elopment and domestic violence..." and they go on to add that, "...the most violent countries tend to be those at the lowest levels of development, with a decreasing incidence of domestic political violence as countries are more developed."[26] Although these authors have generalized their results, they were including neither the most recently developing nations of the post-independence period of the 1960's nor the more traditional societies.

The above mentioned contradictions in research findings have had the effect of casting doubt upon the association of development and domestic political stability. The patterns of association between these two political phenomenon are far too important to relegate to a limbo and thus have provided some of the initial stimulus to delve further into these linkages for the status of the newly independent states. The analysis presented in Chapters VI and VII is designed to add to a clarification of these linkages.

We can now turn to an examination of the linkages between domestic political violence and type of political system. The primary thesis of a noted author on the subject is that political instability is in large part a product of "...rapid social change and the rapid mobilization of new groups into politics coupled with the slow development of political institutions."[37] He goes on to develop a calculus for political

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[36]Flanigan and Fogelman, op. cit., p. 12.

[37]Huntington, op. cit., p. 4.

instability which uses in the equation the ratio of the level of participation and institutionalization. The higher the proportion of the population participating politically the greater must be the level of political institutionalization. Institutional development is calculated on the basis of the existence of "...strong and distinct institutions to perform both the 'input', i.e., political parties, and 'output', i.e., administration, functions of politics."[38] The problem of over-institutionalization creating political violence as well as underinstitutionalization is illustrated in the case of France during the Fourth Republic. His thesis is interesting and must be examined for qualitative as well as quantitative institutionalization. He develops four continua to measure movement toward institutionalization: (1) Adaptability-rigidity; (2) Complexity-simplicity; (3) Autonomy-subordination, and (4) Coherence-disunity.[39] Both the continua of complexity-simplicity and autonomy-subordination are related to Almond's criteria of differentiation.[40] As this study deals with institutionalization only indirectly we will not be testing the Huntington thesis in its totality, only refering to it when the data are applicable.

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[38] Ibid., p. 48-86.

[39] Ibid., p. 393.

[40] For a good comparison of Almond, Pye, and Huntington see Raymond F. Hopkin's article, "Aggregate Data and the Study of Political Development," The Journal of Politics, Vol. 31 (February, 1969) pp. 71-94.

Ted Robert Gurr, Ivo K. Feierabend, Rosalind L. Feierabend, Betty Nesvold, William H. Flanigan and Edwin Fogelman are among a growing number of scholars who have empirically tested the relationship between political stability and political factors such as degree of democracy, level of coerciveness, level of competitiveness. We can now turn to an inventory of the empirical findings of their research efforts.

Ted Gurr has observed that polyarchic political systems have the lowest magnitude of civil strife and deaths per million population because of civil strife than any other type of political system, followed closely by centrist political systems. Personalist and elitist political systems experience both higher levels of magnitude of civil strife and higher human cost. These relationships are illustrated in Table 5-1. It is noteworthy that turmoil is nearly as great in the polyarchic political systems as it is among all other groupings of nations. It suggests a certain legitimacy to this type of protest in democratic countries. The data in this table is commented upon by Gurr with the following evaluation:

> ...Democratic and centrist countries are likely to have both the coercise capacity to restrain strife with minimal loss of life and the institutional structures that can provide alternatives to and solutions for violence. The least-developed countries that have relied on elitist or personalistic leadership, however, confront two interrelated and almost insoluable porblems. Their economies produce too little to satisfy the economic aspirations of many of their citizens. Their leaders, for lack of will, ability, or resources, are often unable to establish strong and pervasive means of coercise and institutional control.[41]

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[41]Gurr and Graham, op. cit., p. 462.

TABLE 5-1: AVERAGE MAGNITUDES OF CIVIL STRIFE AND HUMAN COSTS OF CIVIL STRIFE, 1961-1965 BY TYPE OF POLITICAL SYSTEM

| Type of Political System[a] | Magnitude of Turmoil[b] | Magnitude of Strife | Magnitude of Conspiracy[b] | Magnitude of Internal War[b] | Deaths per Million Population[c] |
|---|---|---|---|---|---|
| Polyarchic (38) | 4.9 | 6.5 | 1.8 | 1.0 | 12 |
| Centrist (28) | 4.2 | 7.2 | 2.9 | 2.1 | 19 |
| Elitist (32) | 5.4 | 12.4 | 3.5 | 6.8 | 1,604 |
| Personalist (16) | 6.5 | 11.4 | 4.9 | 3.9 | 223 |

[a]The grouping of political systems is based on the results of a Q-Factor analysis of 68 specifically political variables for 115 nations, by Arthur S. Banks and Phillip M. Gregg, "Grouping Political Systems: Q-Factor Analysis of A Cross-Polity Survey," American Behavioral Scientist, Vol. 9 (November, 1965) pp. 3-6. The meaning of the authors' labels are: Polyarchic, nations that approximate Western democratic structure and process; Centrist, Communist and other non-Latin American authoritarian regions; Elitist, recently independent, predominantly African states with relatively small, modernizing elites; Personalist, predominantly Latin regimes characterized by unstable personalistic political leadership.

[b]Three general kinds of civil strife were distinguished in the Gurr study, in addition to more specific kinds. This typology is based upon an empirical typology of civil strife events identified by Rumell, Tanter and others in a series of factor analysis. "Turmoil" index by relatively spontaneous, unroganized strife with substantial popular participation, including political demonstrations, riots, and strikes is found to be a distinct dimension in all the analyses. Two other factors, termed by Rummel 'revolution' and 'subversion' are in some cases separate and in others combined. Principal components of the "revolution" dimension are coups, palace revolts, plots and purges. The components are termed "conspiracy" by Gurr and are distinguished as highly organized strife with limited participation, i.e., political assassinations, small-scale terrorism, small-scale guerrilla wars, coups d'état,

mutinies, and antigovernment plots. Civil wars, guerrilla wars, "private" wars among ethnic, political and religious groups are termed "internal war" by Gurr. See Rudolph J. Rummel, "A Field Theory of Social Action with Application to Conflict within Nations," Yearbook of the Society for General Systems, Vol. 10 (1965) pp. 189-165; Raymond Tanter, "Dimensions of Conflict Behavior Within Nations, 1955-1960; Turmoil and Internal War," Peace Research Society Papers IV (1965) pp. 159-183; and John Wilkenfeld, "Conflict Linkages in the Domestic and Foreign Spheres," in Samuel A. Kirkpatrick, ed., Quantitative Analysis of Political Data, in print.

[c]Total reported deaths for the countries in each group divided by the total population of the countries in that group.

SOURCE: Adapted from Tables 17-4 and 17-10 in Ted R. Gurr, "A Comparative Study of Civil Strife," in Ted Robert Gurr and Hugh Davis Graham, eds., Violence in America: Historical and Comparative Perspective, Vol. 2 (Washington, D.C.: National Commission on the Causes and Prevention of Violence, 1969) pp. 450 and 461.

Gurr thus suggests that lack of political institutional development and the low level of economic output of personalist and elitist systems are environmental factors affecting level and intensity of civil strife. The existence of economically more developed systems in centrist and polyarchic political systems may account for the low level of civil strife as much as the type of political system itself. The second problem discussed, lack of strong and pervasive means of coercion, suggests the notion embodied in conventional wisdom that there is a distinct correlation between the existence of actual or threatened coercion in minimizing the occurrence and extent of strife.

Using nine classifications of political systems on a spectrum ranging from traditional oligarchy to developed and/or European democracy, Feierabend, Feierabend and Nesvold have

found that conservative and traditional oligarchies are relatively stable while there are significant increases in political violence in transitional societies, i.e., modernizing oligarchies, tutelarly democracies, etc. A return to relative political stability occurs in the most politically developed nations.[42] Thus, the authors emphasize the curvilinear relationship of violence to level of democracy and compare this to the social and economic sectors of society. The concomitant development of social, economic and political factors is inferred by these authors from their research.

These authors go on to relate the coerciveness of regime to political instability. A six point index of coerciveness-permissiveness is related to type of political system, degree of modernity, and level of political violence. Their findings strongly support the conclusion that, "...governments at mid-levels of coerciveness and political development experience the most political turmoil...(and) tend to be at midpoint of economic modernization."[43] Thus a consistent pattern of interrelationship of these three factors is supported by both sets of findings.

The same conclusion as to the association between domes-

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[42]Feierabend, Feierabend and Nesvold in Gurr and Graham, Ibid., p. 519.

[43]Ibid., pp. 521-522. See also Douglas Brwy, "Political Instability in Latin America: The Cross-Cultural Test of a Causal Model," Latin American Research Review Vol. 3 (Spring, 1968) pp. 17-66. Brwy observes that political violence tends to be greatest in countries that have medium-sized military and security forces, lowest in those with either small or very large forces.

tic violence and degree of democracy is found by Flanigan and Fogelman. These authors delve further and examine the relationship over a longer period of time, i.e., 1900-1950 for democratic countries and 1800 to 1950 for non-democratic countries, using an eight point index of democracy. A summary of their observations would include the following:

(1) The incidence of domestic violence remains quite low in democratic regimes throughout most of the period.

(2) There is a general decline in the frequency of severe domestic violence in non-democratic regimes, and perhaps a trend toward increased violence in democratic countries.

(3) No matter which pattern of development (there are four patterns reported in Footnote 34) they are in, democratic countries tend to experience significantly less domestic violence than non-democratic countries in the same pattern.

(4) Democracy is associated with an early high pattern of economic development and low levels of domestic violence.

(5) At higher levels of development, domestic violence appears extremely detrimental to the introduction of democracy, whereas at lower levels of development almost all successful attempts to introduce democracy are preceded by domestic violence.[44]

The first and third findings suggest an agreement with the above mentioned studies. The second suggests that this pattern is subject to long-term change. The fourth suggests the

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[44]Flanigan and Fogelman, op. cit., pp. 14-20. The index is based upon four basic factors: Selection of Chief Executive; Political Competition; Extent of Sufferage; and Degree of Political Suppression.

conditions associated with sustaining democracy. The final finding suggests that the influence of violence in initiating democracy varies with the level of development.

Before turning to our analysis of the linkage between domestic political violence and factors of development, a brief survey of recent domestic violence-related research will be undertaken. The diversity of attempts to quantify domestic political violence will be reviewed and the initial efforts being made to relate domestic violence to minority group strength will also be reviewed. Harry Eckstein has counted and classified civil strife events for 113 countries for the time period 1946 to 1959, however, he has made no attempt to use the raw data in further analysis.[45] The Feierabends have constructed a seven-point scale of political instability based on number of events and on level of severity of the most 'unstable' event for each polity.[46] Russett, in evaluating these studies, has selected the "...number killed in domestic group violence as the most satisfactory index of

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[45]Harry Eckstein, "Internal War: The Problem of Anticipation," a report submitted to the Research Group in Psychology and the Social Sciences, (Washington, D.C: Smithsonian Institude, January 15, 1962). He classifies all events by eleven measures of domestic conflict, i.e., measures of administrative action.

[46]Ivo K. and Rosalind L. Feierabend, "Aggressive Behavior," op. cit., pp. 249-271. They have also factor analyzed domestic conflict measures. Rummel, Tanter and Wilkenfeld, as noted in the explanations dealing with Table 5-1, have performed similar factor analyses. Gurr's quantification of political violence will receive an extensive treatment in the following chapter as his scale will be utilized in both time intervals of this study.

political instability."[47] This sampling of attempts to quantify political violence indicates the recent efforts at empirical examination of the causes and consequences of political violence. As more reliable data become available with an improvment in standardization there will be greater opportunities of further defining key relationships.

An example of an exploratory attempt to use this inventory of political violence material is included in a recent study of minority group violence. In an attempt to answer some of the perplexing questions regarding the linkages between domestic violence and religious, ethnic, tribal, etc., conflicts, the Feierabends and others reported several interesting observations:

1. The complex of variables denoting level of development shows little relationship to the occurrence of minority-related conflict within society.

2. The distribution of minority-related conflict is bi-modal.

3. Minority-group conflict is at low levels in coercive polities and increases as one moves to mid-level coerciveness and the more permissive polities.[48]

The first finding suggests that the lack of technological and

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[47]Russett, et al., World Handbook, op. cit., pp. 97-100. The forthcoming revised edition of the World Handbook lists thirteen direct indicators of civil violence, i.e., riots, assinations, etc., and nine violence-related indicators, i.e., number of persons employed in internal security forces, etc.

[48]Rosalind and Ivo Feierabend, Betty Nesvold, Violet Burkhardt and Rose Kelly, "Inter-Group Conflict: A Cross-National Analysis," Paper delivered at American Political Science Association Meeting in September, 1969.

economic development has no relationship to the level of domestic violence. This is in contrast to the inverse relationship between development and general political unrest found in the research sighted previously. The second notes the curious fact that nearly half of the polities showed a zero level of minority group conflict. All polities examined possessed minority groups of sufficient strength to constitute a potential source of conflict. The third finding indicates a linear relationship between group-conflict and degree of political permissiveness. This is in contrast to the curvilinear pattern observed by these same authors in research sighted previously for permissiveness-coerciveness and the existence of domestic violence. This exploratory study is suggestive of the type of research which is now becoming possible with the data which is available. We can now turn to our analysis of the relationship of political violence to development on the basis of data assembled for this research design.

# CHAPTER VI

## MEASUREMENT AND ANALYSIS OF POLITICAL VIOLENCE

The complexity of the theoretical propositions elaborated upon in Chapter V makes them difficult to test precisely through the use of cross-polity aggregate data. We may, however, assess empirically the relationship between violence in two separate time periods and suggest patterns which help explain the level and type of violence occurring in our selected countries. In the subsequent chapter we will assess empirically the linkages between political violence and national development.

In undertaking such an analysis, our first task is the measurement of political instability in the countries under investigation for the two time periods. Time I covered 1961, 1962 and 1963 while Time II encompassed 1966, 1967 and 1968, for which indices of national development were constructed. The data assembled and summarized by scholars measuring political violence were found to be unsatisfactory for a variety of reasons.[1] In general, previous researchers did not include

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[1]See Gurr and Ruttenberg data reported in Cross-National Studies of Civil Violence, op. cit., especially Appendix A which illustrates the problem of lack of data for both time intervals and no data for Gabon, Congo (Brazzaville) or Mauri-

countries at the low end of the development continuum or the data assembled did not cover the time periods of this study. Thus, political violence events were coded for each polity in our sample and summarized in the indices reported in this chapter. Every reported event relevant to political instability which occurred in these countries during the two time intervals was recorded to form a cross-polity data bank for the construction of the indices of political instability.[2]

Events were scaled in terms of an intensity-weighting that assigns values on a four-point scale. This scale was first suggested by Betty Nesvold after successfully applying the Guttman scaling technique to political violence events.[3] The events are scored as follows: Turmoil events, such as

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tania. The lack of scope, i.e., number of countries, is apparent in Feierabend and Feierabend, "Aggressive Behaviors," op. cit., pp. 249-271 and Flanigan and Fogelman, "Patterns of Political Violence...", op. cit., pp. 1-20. These authors report data for 84 and 65 nations respectively.

[2]Consult Appendix E for a more detailed discussion of data collection.

[3]Betty A. Nesvold, "A Scalogram Analysis of Political Violence: A Cross-National Study," op. cit., the four dimensions into which events were grouped had been arrived at by use of factor analysis. The Guttman scaling analysis was conducted which ordered the factors on the basis of increasing amounts of violence. The advantage of using scaling as a basis for analyzing data is the methodological assumption that data will not scale unless they contain unidimensionality. The underlying attribute in this scale is assessing the intensity of violence events. For a methodological treatment of Guttman's scaling, one is directed to Oliver E. Benson, Political Science Laboratory, (Columbus, Ohip: Charles E. Merrill Publishing Company, 1969) pp. 240-242. By unidimensionality we mean that if one can ascertain the existence of events in class three, i.e., guerrilla warfare events, he can be certain of the existence of class one and two events and the absence of class four events.

riots, demonstrations, boycotts against government, politically motivated arrests, government action against specific groups and sabotage, scored 1 point; revolt events, such as martial law, coups d'etat and revolt received 2 points; guerrilla warfare events, such as guerrilla war and politically motivated assassinations, equaled 3 points; and civil war events, such as politically motivated executions and civil war, equaled 4 points. The consistency of the scale is apparent in the coefficient of reproducibility of .97.[4] That is, errors in the scaling of events occurred in only 3 of 100 events. On the basis of this study, we have assigned weighted values to events in each class as noted.

In Tables 6-1 and 6-2 we have created an index of political violence for time intervals one and two respectively. In this scale, the total number of events for each three-year time period were assigned weights and summed to obtain the nation scores for our sampling of countries.[5]

An alternative method of profiling these countries is to assign a value to each country for each year based upon the most extreme event occurring in that year and summing the scores for the three years of that time interval. Such an index is presented in Tables 6-3 and 6-4. These tables illustrate the problem of large numbers of ties when short time

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[4] Ibid., pp. 3-8.

[5] For an examination of the yearly scores in each time period and the total or scale scores consult Appendix E, Tables E-2 and E-3.

time periods are utilized.

Although both methods of scaling these polities indicate a high level of agreement, there is some shifting in position of specific countries in response to different emphases in the scaling criteria. In subsequent analyses both profiling methods will be used to make comparisons. In summary, Tables 6-1 and 6-2 stress the total magnitude of civil strife for all events reported while Tables 6-3 and 6-4 stress the intensity of events for each year of each time interval. In addition, both scales produce a near normal distribution among the countries sampled.[6]

## Analysis of Political Violence over Time

We may now turn to an examination of what the summary indices can tell us about violence in our sample of countries. We will reserve any analysis of the linkages of violence and change for a more extensive treatment in Chapter VII. Our emphasis in the remainder of this chapter will focus on the characteristic features of violence and how countries seem to vary over time.

A contagion effect of types of violence noted previously is substantiated by several patterns which become discernable

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[6]In Tables E-2 and E-3 the "Average II" tempered the results by periods of relative quiescence and thus stresses intensity of violence more than any of the other scale scores employed. The distribution, however, remains near normal with the median country score of 3.00 and the mean score for all countries being 3.71. Thus, the distributions are not highly skewed regardless of the scaling technique employed.

TABLE 6-1: POLITICAL VIOLENCE SCALE, TIME I

| Rank | Country | Score[a] |
|---|---|---|
| 1 | South Vietnam | 35 |
| 2 | Laos | 29 |
| 3 | Algeria | 23 |
| 4 | Syria | 20 |
| 5 | Cameroon | 12 |
| 6 | Togo | 11 |
| 7 | Mauritania | 9 |
| 8 | Mali | 8 |
| 10 | Chad | 6 |
| 10 | Dahomey | 6 |
| 10 | Senegal | 6 |
| 13 | Congo (Brazzaville) | 5 |
| 13 | Ivory Coast | 5 |
| 13 | Lebanon | 5 |
| 15 | Morocco | 4 |
| 16 | Guinea | 3 |
| 17.5 | Cambodia | 2 |
| 17.5 | Tunisia | 2 |
| 19.5 | Central African Rep. | 1 |
| 19.5 | Gabon | 1 |
| 22 | Malagasy Republic | 0 |
| 22 | Niger | 0 |
| 22 | Upper Volta | 0 |

[a]Total number of events added by their weighted value.

TABLE 6-2: POLITICAL VIOLENCE SCALE, TIME II

| Rank | Country | Score[a] |
|---|---|---|
| 1 | South Vietnam | 29 |
| 2 | Laos | 33 |
| 3 | Chad | 14 |
| 4 | Algeria | 12 |
| 5 | Cambodia | 10 |
| 6.5 | Syria | 9 |
| 6.5 | Congo (Brazzaville) | 9 |
| 8 | Central African Rep. | 8 |
| 9.5 | Dahomey | 7 |
| 9.5 | Togo | 7 |
| 11.5 | Lebanon | 6 |
| 11.5 | Cameroon | 6 |
| 13.5 | Senegal | 5 |
| 13.5 | Upper Volta | 5 |
| 15 | Mauritania | 4 |
| 17 | Ivory Coast | 3 |
| 17 | Mali | 3 |
| 17 | Tunisia | 3 |
| 19.5 | Guinea | 2 |
| 19.5 | Morocco | 2 |
| 22 | Gabon | 0 |
| 22 | Malagasy Republic | 0 |
| 22 | Niger | 0 |

[a]Total number of events summed by their weighted value for all events in time period.

TABLE 6-3: INSTABILITY SCALE, TIME I

| Rank | Country | Score[a] 1961 | Score[a] 1962 | Score[a] 1963 | Sum Scores 1961-1963 |
|---|---|---|---|---|---|
| 1.5 | South Vietnam | 4 | 4 | 4 | 12 |
| 1.5 | Laos | 4 | 4 | 4 | 12 |
| 3 | Algeria | 4 | 4 | 3 | 11 |
| 5 | Cameroon | 4 | 1 | 2 | 7 |
| 5 | Syria | 2 | 2 | 3 | 7 |
| 5 | Togo | 2 | 2 | 3 | 7 |
| 7 | Mali | 0 | 4 | 2 | 6 |
| 8 | Chad | 2 | 2 | 1 | 5 |
| 9 | Dahomey | 2 | 0 | 2 | 4 |
| 11.5 | Lebanon | 1 | 2 | 0 | 3 |
| 11.5 | Mauritania | 0 | 3 | 0 | 3 |
| 11.5 | Morocco | 0 | 3 | 0 | 3 |
| 11.5 | Senegal | 1 | 1 | 1 | 3 |
| 15.5 | Cambodia | 0 | 2 | 0 | 2 |
| 15.5 | Congo (Brazz.) | 0 | 1 | 1 | 2 |
| 15.5 | Ivory Coast | 0 | 0 | 2 | 2 |
| 15.5 | Tunisia | 0 | 2 | 0 | 2 |
| 19 | Cen. Afr. Rep. | 1 | 0 | 0 | 1 |
| 19 | Gabon | 0 | 1 | 0 | 1 |
| 19 | Guinea | 1 | 0 | 0 | 1 |
| 22 | Malagasy Republic | 0 | 0 | 0 | 0 |
| 22 | Niger | 0 | 0 | 0 | 0 |
| 22 | Upper Volta | 0 | 0 | 0 | 0 |

Possible range: 0-12 Actual range: 0-12 Mean: 4.09

[a]Score is based upon a weighted value for most violent event in that year. Possible values are 0 to 4 for one year. Based upon Nesvold-Guttman scaling of political violence events--unidimensionality.

TABLE 6-4: INSTABILITY SCALE, TIME II

| Rank | Country | Score[a] 1966 | Score[a] 1967 | Score[a] 1968 | 1966-1968 |
|---|---|---|---|---|---|
| 1.5 | Laos | 4 | 4 | 4 | 12 |
| 1.5 | South Vietnam | 4 | 4 | 4 | 12 |
| 3 | Cambodia | 2 | 3 | 4 | 9 |
| 4.5 | Cameroon | 0 | 4 | 2 | 6 |
| 4.5 | Senegal | 2 | 2 | 2 | 6 |
| 7 | Algeria | 1 | 2 | 2 | 5 |
| 7 | Chad | 0 | 1 | 4 | 5 |
| 7 | Syria | 4 | 1 | 0 | 5 |
| 10.5 | Cen. Afr. Rep. | 2 | 2 | 0 | 4 |
| 10.5 | Congo (Brazz.) | 2 | 0 | 2 | 4 |
| 10.5 | Lebanon | 2 | 1 | 1 | 4 |
| 10.5 | Togo | 2 | 2 | 0 | 4 |
| 14 | Dahomey | 0 | 2 | 1 | 3 |
| 14 | Mauritania | 1 | 1 | 1 | 3 |
| 14 | Tunisia | 1 | 1 | 1 | 3 |
| 17.5 | Guinea | 0 | 1 | 1 | 2 |
| 17.5 | Mali | 0 | 0 | 2 | 2 |
| 17.5 | Morocco | 1 | 1 | 0 | 2 |
| 17.5 | Upper Volta | 2 | 0 | 0 | 2 |
| 20 | Ivory Coast | 0 | 0 | 1 | 1 |
| 22 | Gabon | 0 | 0 | 0 | 0 |
| 22 | Malagasy Republic | 0 | 0 | 0 | 0 |
| 22 | Niger | 0 | 0 | 0 | 0 |

Possible Range: 0-12 Actual range: 0-12 Mean: 4.09

[a]Score is based upon a weighted value for most violent event in that year. Possible values are 0 to 4 for one year. Based upon Nesvold-Guttman scaling of political violence events--unidimensionality.

upon investigation of the data bank.[7] First, there is the spillover effect of the guerrilla wars in Laos and Vietnam into Cambodia in the second time interval accompanied by increased occurrences of terrorism. Secondly, student demonstrations coinciding with those in Paris in 1968, occurred in South Vietnam, Tunisia, Senegal, Mauritania, Mali, Lebanon and the Ivory Coast. There were more student demonstrations occurring in 1968 than the total number of student protests recorded for the remaining five years for which data were obtained. Finally, there were nine successful coups d'etat in the Sub-Sahara African countries of our sample in Time Period II and only one reported (Dahomey, 1963) in Time Period I. This supports Zolberg's thesis that the coup has become the institutionalized method for governmental change in many African states.[8] Interestingly, ten plots were uncovered in the same countries in Time Period I and only two were reported in Time Period II. This may indicate that plots tend to materialize into successful coups as the coup becomes increasingly recognized as a device for regime change.

An additional point should be made regarding the events preceeding a military coup in those African states reporting them for Time Period II. The Dahomey coup of December, 1967 will serve as an illustration. In February, Fon tribesmen in

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[7]Zolberg, op. cit., pp. 70-87.

[8]Ibid., p. 79.

the South and Widji-Widji tribesmen of the North had conflicts in which sixty persons were killed. The regime responded by making some arrests in May. In September the labor unions organized a political strike against the government and received assurances of increases in salaries. From December 12 through 17th the unions called a general strike which was followed on December 17th with a coup led by a group of dissident army officers. The regime in power seemed unable to bring enough force to bear to alleviate the opposition or to deliver on its commitments. The Senegalese regime undergoing similar stress in May of 1968 was able to reorganize the government and quell the disturbances. Coups are not inevitable in tropical Africa but are on the rise. Certain conditions lead to a coup in one polity and a shifting of department heads in another.

There is some evidence which argues against the application of any 'spillover' or 'contagion' theory. The Congo (Brazzaville) and the Central African Republic border on the former Belgian Congo and during the time of the intense Congolese civil war, exhibited low levels of domestic violence. In addition, Lebanon did not experience a coup in the six years for which data were reported, while her neighbor, Syria, underwent five changes of regime following successful coups.

The degree of ethnic, tribal, religious or regional violence was difficult to ascertain. The Dahomey experience in 1967 is one example of such violence. This type of violence

seems to exist in South Vietnam, Laos and Cambodia in varying degrees. Racial violence between Muslims and Negroes was reported in Mauritania for the 1966-1967 period. Mali reported government forces engaging in a struggle with nomadic tribesmen near its border area in 1963. The Cameroons have experienced sporadic outbreaks of violence by the Bakosie and Bamileke tribesmen (The former from the old French Cameroons and the latter from the old British Cameroons). These events suggest an underlying factor related to domestic political violence. In order to test a possible linkage empirically, a scale of ethnicity was constructed and is presented in Table 6-5.[9]

The possible scale scores range from 1 to 3 points with the actual range from 1 to 2.67 for the countries sampled. The distribution is unimodal and near normal with the median country receiving a score of 2.00 and the mean score for all countries being 1.90. Since there were a large number of ties for countries on this scale, it was decided that the best tests of association would be the Chi-square and the Yule's Q tests rather than a Spearman's rank order correlation. The variables were dichotomized on the basis of the median scores for each scale. A country was considered unstable if its score was 3.00 or greater (Table 6-3) in Time Period I or 4.00 or greater (Table 6-4) in Time Period II. Countries were scored high on the ethnicity scale if they had

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[9]See Appendix E for procedure employed to construct this table.

TABLE 6-5: ETHNICITY SCALE

| Rank | Country | Score[a] |
|---|---|---|
| 1 | Niger | 2.67 |
| 2 | Mali | 2.33 |
| 3.5 | Chad | 2.25 |
| 3.5 | Laos | 2.25 |
| 9 | Cameroon | 2.00 |
| 9 | Congo (Brazzaville) | 2.00 |
| 9 | Dahomey | 2.00 |
| 9 | Gabon | 2.00 |
| 9 | Guinea | 2.00 |
| 9 | Malagasy Republic | 2.00 |
| 9 | Mauritania | 2.00 |
| 9 | Morocco | 2.00 |
| 9 | Togo | 2.00 |
| 15.5 | Algeria | 1.75 |
| 15.5 | Ivory Coast | 1.75 |
| 15.5 | Senegal | 1.75 |
| 15.5 | Upper Volta | 1.75 |
| 18 | Central African Rep. | 1.67 |
| 20 | Cambodia | 1.50 |
| 20 | Lebanon | 1.50 |
| 20 | Syria | 1.50 |
| 22 | Vietnam Republic | 1.33 |
| 23 | Tunisia | 1.00 |

Psb. Rge: 1-3.00/ Actual Rge: 1-2.67/ Mean:1.90/Median: 2.00

[a]Index score was obtained by summing scale values for four indicators of ethnicity: (1) Religious homogeneity; (2) Racial homogeneity; (3) Linguistic homogeneity; and (4) Sectionalism. The higher the scale score the greater the level of ethnic group strength.

SOURCE: Adapted from data reported in Arthur S. Banks and Robert Textor, A Cross-Polity Survey, (Cambridge, Massachusetts: The M.I.T. Press, 1963).

a score of 2.00 or above. Table 6-6 strongly suggests there is no significant relationship between 'ethnicity' and political 'instability' in either time period. A Spearman's coefficient of +.04 between the ethnicity as measured in Table 6-5 and instability for Time Period I in Table 6-3 supports this conclusion.[10]

TABLE 6-6: RELATIONSHIP BETWEEN ETHNICITY SCALE AND POLITICAL INSTABILITY SCALE, TIME I AND TIME II

A. Ethnicity

| Stability Time I | Ethnicity[b] High | Low | Total |
|---|---|---|---|
| Unstable[a] | 8 | 5 | 13 |
| Stable | 5 | 5 | 10 |
| Total | 13 | 10 | 23 |

Chi square = .16, $p > .20$

B. Ethnicity

| Stability Time II | Ethnicity[b] High | Low | Total |
|---|---|---|---|
| Unstable[a] | 5 | 7 | 12 |
| Stable | 8 | 3 | 11 |
| Total | 13 | 10 | 23 |

Chi square = 2.30, $p > .10$

[a]The median score of stability was closest to 3.00 in Time I and to 4.00 in Time II. Unstable in Time I was a score of 3.00 or more in Table 6-3. Unstable in Time II was a score of 4.00 or more in Table 6-4.

[b]The median score of ethnicity was 2.00. All countries receiving a score of 2.00 or more in Table 6-5 are scored "high" and all countries scoring below 2.00 are scored as "low".

[10]The Spearman's rho for Tables 6-5 and 6-4 was a low -.74 indicating little significant association between overall violence and ethnicity.

Returning to the data, we observe that of the fourteen ethnically related political violence events reported in nine polities, six of these polities score 2.00 or above on the ethnicity scale. Seven of the countries having a score of 2.00 or above on the ethnicity scale reported 'zero' ethnically related violence events over the six years for which data were gathered. Thus, a bimodal distribution exists in those countries which have significantly high ethnicity scores when they are examined for the existence of ethnically reported violence. A tabular presentation of this distribution is presented in Table 6-7.

TABLE 6-7: RELATIONSHIP BETWEEN ETHNICITY SCALE AND REPORTED ETHNIC VIOLENCE IN BOTH TIME PERIODS

| Ethnic Violence | Ethnicity High[a] | Low | Total |
|---|---|---|---|
| Some | 6 | 3 | 9 |
| None | 7 | 7 | 14 |
| Total | 13 | 10 | 23 |

Chi-square (Yates) = .127, p between .75 and .70

[a]"High" ethnicity are those countries receiving an ethnicity scale score of 2.00 or above in Tably 6-5. "Low" ethnicity are those countries receiving a scale score in Table 6-5 below 2.00.

Secondly, four of the nine countries reporting ethnically related violence are at the upper ranges of development, i.e., Lebanon, Ivory Coast, Tunisia and the Congo (Brazzaville) while three definitely fall in the lower range of development, i.e., Chad Mali and Mauritania. This supports a conclusion that there is no association between level of development and ethnic group violence.[11]

The confessional character of Lebanese politics has contributed to a fragmentation of Lebanese political culture which has not exhibited itself in a high level of ethnic related violence. A commitment to a fair distribution of parliamentary seats and government offices upon the basis of religious sects in proportion to their numbers in the population has prevented open hostilities in this religiously diverse nation. Only on June 10, 1969 during the six years covered in this study did Lebanon undergo religious-related violence. Under the arrangement, the president of the republic must always be a Maronite, the prime minister a Sunni Muslim, and the president of the chamber, a Shi'i Muslim. In parliament the number of deputies has always been a multiple of eleven: A ratio of six Christians and five Muslims (including the Druze in the Muslim designation). The representation since 1960 in the parliament has been as follows: 30 Maronites, 11

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[11]Both findings are in agreement with those of Feierabend, Feierabend, Nesvold, Burkhardt and Kelly in "Inter-Group Conflict: A Cross-National Analysis," op. cit.

greek Orthodox, 6 Greek Catholics, 4 Armenian Orthodox, 1 Armenian Catholic, 1 Protestant, 1 Minorities, 20 Sunni, 19 Shi'ites and 6 Druze.[12] The success of this unique system in avoiding ethnical violence may be a clear sign of Lebanon's development of institutions to give voice to its largely heterogeneous religious population.

When we examine the level of political access and those countries experiencing ethnically related violence, no relationship exists. Lebanon and Cameroon are ranked first and second for level of political access in Time Period I and both reported the existence of ethnically related violence events while Mali and the Ivory Coast ranked 21.5 on the political access index in Time Period I and also reported the existence of ethnically related political violence.

The amount of contact between groups in society is related to the level of population density. It can be argued that the more frequent contacts are among individuals the greater the possibility of violence being present in such exchanges. In Table A-3 (See Appendix A) we have available a distribution of our countries based upon the level of population density. However, when population density is combined with our infor-

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[12]See J. C. Hurewitz, The Middle East Politics: The Military Dimension (New York: Praeger Publishers, 1969) especially Chapter 21 entitled "Confessional Democracy: Lebanon," pp. 379-397. Hurewitz points out that it has been over forty years since a government has fallen in Lebanon. See also J. C. Hurewitz, "Lebanese Democracy in its International Setting," The Middle East Journal, Vol. 17 (Autumn, 1963) pp. 487-506; and Torez Y. Ismael, Governments and Politics of the Contemporary Middle East (Homewood, Illinois: The Dorsey Press, 1970) especially Chapter 11, pp. 231-250.

mation on the level of violence (Table 6-4) for Time Period II we obtain a Yule's Q of .0 with no statistically significant association between these two variables. This lack of relationship is displayed in Table 6-8.[13]

TABLE 6-8: RELATIONSHIP BETWEEN POLITICAL INSTABILITY AND POPULATION DENSITY, TIME II

Political Instability

| | High ( 4.00) | Low ( 4.00) | Total |
|---|---|---|---|
| High Pop. Density[a] | 6 | 5 | 11 |
| Low Pop. Density | 6 | 5 | 11 |
| Total | 12 | 10 | 22 |

Yule's Q = 0

[a]High population density is defined as all polities with 15 or more inhabitants per kilometer in 1967.

We may now turn to an examination of what our summary indices can tell us about violence in our sample of countries over time. Two countries in each time interval, Malagasy Republic and Niger, experienced no domestic instability. Malagasy is an island country with extensive contact with coun-

[13]There is no statistically significant relationship between "Percentage Rate of Population Increase 1958-1966" reported in Appendix A and "Political Instability."

tries using the African trade route to Asia while Niger is a landlocked nation with little foreign contact. Gabon, one of the more developed of the African group of countries in our sample and Upper Volta, one of the least developed of the countries in our study, were free of political violence in both time intervals.[14]

The countries experiencing the highest level of political violence in both time periods were Laos and South Vietnam. Both countries have been engaged in continuous civil war during most of the decade of the sixties. Cambodia is the only other polity of Southeast Asia included in our sample and the level of violence increased markedly from a scale score of 2 to 10 from Time Period I to Time Period II (Tables 6-1 and 6-2, respectively).

In the North African group of countries, Algeria dropped from a score of 23 in Time Period I to 12 in Time Period II yet remained one of the most violent of countries. Tunisia and Morocco were below the mean levels of violence in both time periods.

The Sub-Sahara African countries arrayed themselves widely and seemed not to group themselves. As mentioned above, two countries of this group reported no violence in either time period. Eight of the polities of Sub-Sahara Africa sampled indicated a decrease in political violence

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[14]For a more extensive treatment of instability and development consult Chapter VII.

(Tables 6-1 and 6-2) while five of the polities experienced an increase in the amount of political violence reported.

The notion that there is a relationship of violence in polities over time and that certain polities experienced chronic violence while others experienced relatively infrequent and sporadic occurrences of political violence is graphically illustrated in Table 6-9. Although the Chi-square value of 3.49 is slightly less than a significant level of .05 (3.841), it is high enough to support the tentative conclusion that there tends to be a statistically significant association between political violence in our first time period and political violence in our second time period.

TABLE 6-9: RELATIONSHIP BETWEEN POLITICAL VIOLENCE IN TIME I AND TIME II

| | Political Violence, Time I[a] | | |
|---|---|---|---|
| | High | Low | Total |
| Political Violence, Time II[b] | | | |
| High | 9 | 3 | 12 |
| Low | 4 | 7 | 11 |
| Total | 13 | 10 | 23 |

Chi square = 3.49, $.10 > p > .05$

[a]"High" political violence in Time Period I are all polities which have scale scores of 3.00 or above while "Low" political violence in Time Period I are all polities with scores below 4.00.

[b]'High' political violence in Time Period II are all polities which have scale scores of 4.00 or above while 'Low' political violence in Time Period II are all polities with scores below 4.00.

Three states, the Central African Republic, Cambodia and the Congo (Brazzaville) scored 'low' on political violence in Time Period I and 'high' on political violence in Time Period II. Only the Congo (Brazzaville) scored above the median on the ethnicity scale. The four polities of Mali, Dahomey, Morocco and Mauritania all scored above the median on the ethnicity scale and were 'high' in political violence in Time I and 'low' in political violence in Time II.

Nine countries, South Vietnam, Laos, Algeria, Cameroon, Syria, Togo, Chad, Lebanon and Senegal, received 'high' index scores for both time periods. The countries represent every region covered by this sample of countries and have no seemingly common characteristics. The Ivory Coast, Tunisia, Gabon, Guinea, Malagasy Republic, Niger and Upper Volta received 'low' index scores for each time period and do not have geographies or ethnic characteristics which are common. The three most violent countries in Time Period I do share a common background of an intense struggle for independence while the three least violent polities in Time Period I were 'prepared for' and 'granted' independence by France. We will now turn to an examination of the linkage between political violence and development over time to ascertain if meaningful patterns emerge.

# CHAPTER VII

## COMPARISON OF POLITICAL VIOLENCE AND DEVELOPMENT

In the previous chapter we presented our indices of political violence for two separate time periods and explored the relationships between political violence over time. In this chapter we examine the linkages between political stability and development. We shall conclude this chapter with a summary of our research findings.

Table 7-1 presents empirical tables which test the linkages between political violence and national development. From these tables we can determine that these countries are below any kind of critical threshold level where political instability ceases to occur. Among the more developed countries of our sample there is nearly the same amount of political instability as there is political stability present. This bimodal pattern also exists for the less developed polities of our sample. It would seem that none of the countries of our study have reached a developmental level where political instability declines because of the level of development. The authors of one set of findings establish threshold levels of development at which there is a high level of probability

TABLE 7-1: RELATIONSHIP BETWEEN NATIONAL DEVELOPMENT SCALES AND POLITICAL VIOLENCE SCALES TIME I AND TIME II

A. Development, Time I

| Stability Time I | High[a] | Low | Total |
|---|---|---|---|
| Unstable[b] | 6 | 7 | 13 |
| Stable | 6 | 4 | 10 |
| Total | 12 | 10 | 23 |

Chi square = .42, $p > .50$

B. Development, Time I

| Stability Time I | High[a] | Low | Total |
|---|---|---|---|
| Unstable[b] | 7 | 5 | 12 |
| Stable | 5 | 6 | 11 |
| Total | 12 | 11 | 23 |

Chi square = .38, $p > .50$

C. Development, Time II

| Stability Time II | High[a] | Low | Total |
|---|---|---|---|
| Unstable[b] | 6 | 7 | 13 |
| Stable | 6 | 4 | 10 |
| Total | 12 | 11 | 23 |

Chi square = .42, $p > .50$

D. Development, Time II

| Stability Time II | High[a] | Low | Total |
|---|---|---|---|
| Unstable[b] | 7 | 5 | 12 |
| Stable | 5 | 6 | 11 |
| Total | 12 | 11 | 23 |

Chi square = .38, $p > .50$

[a]'High' in development for both time periods are those countries having a scale score of 12.25 or less while 'low' in development for both time periods are those countries having a scale score of 12.25 or greater.

[b]'Unstable' are those polities scoring 3.00 or more in Time Period I (Table 6-3) or 4.00 or more in Time Period II (Table 6-4) while 'Stable' are those polities receiving a scale score below 3.00 in Time Period I (Table 6-3) or 4.00 in Time Period II (Table 6-4).

that the country will achieve relative political stability. They conclude that, "...to the extent that gratifications are less than these threshold values, the greater the likelihood of political instability."[1] None of our sampled countries score above these threshold values for more than one indicator. Clearly, our research concentrates upon a group of 'underdeveloped' countries where little empirical research has been performed linking political violence and national development.

That the countries in this sample do not fit the threshold pattern found by the Feierabends and Nesvold can be illustrated by examination of countries ranking high and low on the developmental scales. Lebanon is the most developed polity in this sample and has experienced a level of domestic instability near the median of our scale. Conversely, Gabon is the most developed polity among the selected African countries and has experienced a low level of political instability in both time intervals. At the lower end of the developmental scales we observe the contrasting violence levels of Chad and Upper Volta. Chad has witnessed high levels of

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[1]Feierabend, Feierabend and Nesvold, "Social Change and Political Violence:...", op. cit., pp. 516-518. The threshold levels established by their findings are 90% or more literate; with 65 or more radios and 120 or more newspapers per 1,000 population, with 2% or more of the population having telephones; with 2,525 or more calories per day per person; with no more than 1,900 persons per physician; with a GNP of $300 or more per person per year; and with 45% or more of the population living in urban centers.

political violence for both time periods. We may conclude that for the underdeveloped countries in our sample there appears to be no significant correlation between the level of national development and the occurrence of political violence. That is,factors other than national development appear to be influencing the level of instability in the developing nations.

Using the results of the factor analysis reported in Chapter IV and the array of countries along selected variables we may ascertain what patterns of wealth and education are related to increases or decreases in the occurrence of political violence over time. From such patterns we may determine the accuracy of the relative deprivation theory in explaining increases or decreases in the occurrences of political violence. From the relative deprivation theory we may hypothesize that discontent would be increasing in countries in which educational levels are expanding more rapidly than the economy. Correspondingly, if the economy of a polity is expanding more rapidly than the factors causing rising expectations we should witness a relative decline in the occurrences of domestic violence. The degree to which these patterns emerge in our sample of countries will determine whether we should accept or modify the relative deprivation theory for the underdeveloped nations.

In order to test these hypotheses, we have combined in Table 7-2 measures indicating changes in wealth, education/urbanization and political violence from Time Period I to

TABLE 7-2: CHANGES IN WEALTH, EDUCATION/URBANIZATION, AND POLITICAL VIOLENCE FROM TIME I TO TIME II

| Country | Wealth[a] $T_1$ | $T_2$ | d | Education/Urban[b] $T_1$ | $T_2$ | d | Pol. Vio.[c] $T_1$ | $T_2$ | d |
|---|---|---|---|---|---|---|---|---|---|
| Lebanon | 2.00 | 2.00 | .00 | 2.00 | 1.33 | + .67 | 5 | 6 | + 1 |
| Algeria | 2.25 | 3.75 | -1.50 | 7.67 | 7.67 | .00 | 23 | 12 | -11 |
| Gabon | 3.50 | 3.50 | .00 | 7.00 | 6.67 | + .33 | 1 | 0 | - 1 |
| Tunisia | 5.25 | 6.50 | -1.25 | 3.67 | 3.67 | .00 | 2 | 3 | + 1 |
| Syria | 5.25 | 6.50 | -1.25 | 2.00 | 3.00 | -1.00 | 20 | 9 | -11 |
| Senegal | 5.75 | 8.00 | -2.25 | 12.33 | 11.33 | +1.00 | 6 | 5 | - 1 |
| Congo | 6.33 | 6.50 | - .17 | 4.33 | 3.33 | +1.00 | 5 | 9 | + 4 |
| Morocco | 6.50 | 7.75 | -1.25 | 7.67 | 7.67 | .00 | 4 | 2 | - 2 |
| Ivory Coast | 7.50 | 5.25 | +2.25 | 12.67 | 12.33 | + .33 | 5 | 3 | - 2 |
| Cameroon | 12.00 | 11.75 | + .25 | 11.00 | 11.67 | - .67 | 12 | 6 | - 6 |
| S. Vietnam | 12.75 | 10.88 | +1.87 | 6.67 | 6.67 | .00 | 35 | 29 | - 6 |
| Cen.Afr. R. | 13.25 | 14.88 | -1.63 | 13.67 | 12.67 | +1.00 | 1 | 8 | + 7 |
| Malagasy R. | 14.25 | 14.88 | - .63 | 10.67 | 12.00 | -1.33 | 0 | 0 | 0 |
| Guinea | 14.75 | 14.88 | - .13 | 17.67 | 17.33 | + .33 | 3 | 2 | - 1 |
| Cambodia | 14.88 | 13.75 | +1.13 | 7.00 | 9.00 | -2.00 | 2 | 10 | + 8 |
| Togo | 14.88 | 13.63 | +1.25 | 13.67 | 14.33 | - .67 | 11 | 7 | - 4 |
| Laos | 16.00 | 19.38 | -3.38 | 17.00 | 16.00 | +1.00 | 29 | 33 | + 4 |
| Dahomey | 16.13 | 19.38 | -3.25 | 16.00 | 14.67 | +1.33 | 6 | 7 | + 1 |
| Mauritania | 17.66 | 11.75 | +5.91 | 21.33 | 21.67 | - .33 | 9 | 4 | - 5 |
| Mali | 17.88 | 20.13 | -2.25 | 18.67 | 20.67 | -2.00 | 8 | 3 | - 5 |
| Niger | 19.25 | 20.13 | - .88 | 22.00 | 22.33 | - .33 | 0 | 0 | 0 |
| Chad | 20.00 | 20.63 | - .63 | 19.00 | 18.83 | + .17 | 6 | 14 | + 8 |
| Upper Volta | 22.50 | 23.00 | - .50 | 21.67 | 21.00 | + .67 | 0 | 5 | + 5 |

[a]Wealth scores for Time I and Time II are derived from the average ranking of each country on each of four variables which loaded high on the 'Wealth' factor in each time interval. The four variables are: GNP/capita; Real income/capita; Energy Consump/capita; and, Imports + Exports/capita. The 'd' is the difference between average rank in Time I and Time II.

[b]Education/Urbanization scores for Time I and Time II are derived from the average ranking of each country on each of four variables which load high on the same factor in both time periods. The three variables are: Percent of population in Cities; Students enrolled in school/1000 population; and, Students enrolled in Post-primary school/1000 population. The 'd' is the difference between average rank in Time I and Time II.

[c]Political Violence scores are those presented in Tables 6-1 and 6-2. The 'd' is the difference in scores between Time Period I and Time Period II.

Time Period II. The results of the factor analyses for Time Periods I and II reported in Tables 4-44 and 4-45 suggest that two dimensions have common variables loading high on them in each time interval. The 'Wealth' dimension in Time Period I and Time Period II has four variables which consistently loaded high on this factor, i.e., GNP per capita, real income per capita, energy consumption per capita and imports and exports per capita. The ranking of our sampled countries on these four variables was averaged for Time Periods I and II and the difference determined.

Likewise, the 'Education/Urbanization' factor in Time Period I and the 'Social Mobilization' factor in Time Period II had three common variables loading high on them, i.e., percentage of population in cities, students enrolled in schools per 1,000 population and students enrolled in post-primary schools per 1,000 population. The ranking of our sampled countries on these variables was averaged for Time Period I and Time Period II and the difference determined.

From these two sets of common variables we are able to measure empirically the changes in expectation level and the potential for its satisfaction. The limitation on this test of the relative deprivation theory is that we are attempting to assign empirical indicators for factors which are essen-

tially psychological. The large number of scholars employing such indicators as we are using gives us some degree of confidence that psychological factors may have rough empirical referents, i.e., aggregate. With the above limitation noted we may turn to an examination of patterns which emerge and how they are related to the relative deprivation theory.

Increases and decreases in the level of political violence were ascertained by subtracting the scores for political violence events reported for Time Period II (Table 6-2) from the scores for political violence events reported for Time Period I (Table 6-1). The question of what patterns of political violence emerge when we consider capacity and expectation factors is obtained from an analysis of Table 7-2.

The most prominent pattern supporting increases in political violence is one where there is a decrease in the economic (capacity) factor accompanied by an increase in the education/urbanization (expectation) factor. This pattern was present for eight of the nine countries reporting increases in political violence in Time Period II over Time Period I. This finding is in contradiction to that of Gurr's when he concludes that "...the expansion of educational opportunities is less likely to raise expectations to an unsatisfiably high level than it is to provide ambitious men with an increased sense of capacity to attain their expectations,"[2] while it

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[2]Gurr, "A Comparative Study...", op. cit. p. 465. He does conclude that this is more prominent in the developed and developing societies than in the least developed which would support our finding.

supports the conclusions of the Feierabends and Nesvold that, "A society in which the trend is toward increasing numbers of educated persons within the population, without an increase in their levels of income, is a society in which rates of change are widening the gap between aspirations/expectations and their satisfaction. This would appear to be particularly explosive for the transitional society."[3]

The one exception to this pattern is Cambodia which witnessed economic growth from Time Period I to Time Period II with a decline in the education/urbanization factor. This may be explained by the observation that Cambodia had an early high ranking on the education/urbanization factor, i.e., an average rank of 7.00 for Time Period I, while having a relatively low ranking on the wealth factor, i.e., average rank of 14.88 for Time Period I. The deprivation-induced discontent which surfaced in Time Period II could be explained by the existence of this gap even though the changes which occurred would tend to lessen this gap.

A single pattern appears to explain the lack of political violence for two of the polities examined. Both the Malagasy Republic and Niger experienced a decline in wealth and urbanization/education factors and were both reported to have no violence events reported in either interval.

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[3]Feierabend, Feierabend and Nesvold, "Social Change and Political Violence," in Graham and Gurr, op. cit., pp. 524-525. The problem with this study is that it does not include many of the least developed countries.

Such a pattern as the above reported case for Niger and the Malagasy Republic was also reported for four polities experiencing a decline in the level of violence from the first to the second time period. Two of these countries, i.e., Morocco and Algeria, were reported as fitting this pattern although they experienced no decline in the educational/urbanization factor but remained at the same level. In all of these countries economic levels were closely akin to their educational levels. Syria produced the largest gap with a difference of only 3.50 in rank in Time Period II between the two factors. These observations support the general notions of the relative deprivation theory by the lack of an increase in the gap with a steady decline in expectations as well as potential to satisfy these expectations. Thus, no 'gap' emerged in the second time period which was significantly larger than the gap existing in the first time interval.

Three other stability producing patterns are reported. The first two patterns support the proposition embodied in the relative deprivation theory while the third on the surface would argue against this theory as an explanation for declining violence. The first pattern of a decline in violence exists when the wealth factor is increasing and the educational/urbanization factor is decreasing or staying the same. Four polities, Cameroon, Togo, Mauritania and South Vietnam fit this pattern. In all cases the gap between awareness and capacity is decreasing.

A second pattern where there is a decrease in political violence occurring is when wealth and education/urbanization are both increasing or remaining relatively constant. Both countries fitting this pattern, Gabon and the Ivory Coast, are among the more wealthy African polities and in both their relative level of wealth significantly surpasses their level of educational/urbanization levels (expectation). This suggests that if economic opportunities are immediately available to the newly educated and aware segments of the population the level of discontent is likely to decline rather than increase with new awareness. In Gurr's analysis reported above, the educational factor may serve as a capacity factor.

The last pattern to emerge is one where wealth decreases and is accompanied by the increased education/urbanization and decreasing political violence. This pattern occurs in Senegal and Guinea. Both countries have higher ranks on wealth than on education/urbanization and thus are closing the gap in a manner not likely to create immediate problems of discontent. If on the other hand, this pattern should continue we might logically predict an increase in the possibility of an increase in the occurrences of political strife.

In summary, our research concludes that the following patterns are likely to exist in the least developed polities:

1. Pattern A: A decline in wealth with a corresponding increase in education/urbanization levels will be accompanied by increasing political violence.

2. Pattern B: A decline in wealth with a corresponding decline in education/urbanization levels will be accompanied by a decline in political violence or the nonexistence of political violence.

3. Pattern C: An increase in wealth with a corresponding increase in education/urbanization levels will be accompanied by a decline in political violence.

4. Pattern D: An increase in wealth with a corresponding decrease in education/urbanization levels will be accompanied by a decline in political violence.

A fifth pattern is a corollary to the first and is one in which an increase in education/urbanization and a decrease in wealth is accompanied by a decrease in violence if the relative level of wealth exceeds that of education/urbanization.

We must be cautious not to overgeneralize our conclusions as our sample of 23 countries is perhaps only a third of the least developed polities of the world. The findings are significant in that patterns found to exist in the more developed polities are present in the least developed countries. Secondly, the least developed polities are developing structural patterns in both development and political violence and some of these patterns are discernable upon close examination.

The relationship between development and political violence is a complex one. When examining changes in development and violence levels over time an interesting finding emerges.

Table 7-3 establishes a positive association between increases in overall development and overall violence from Time Period I to Time Period II. The Yules Q value of +.68 suggests that as the relative level of development increases so also does the relative level of violence. The correlation is not strong enough to make firm conclusions yet it is suggestive of the complexity of the proposition which relates violence to development. It does tentatively support a conclusion that overall increase in the level of development is likely to lead to political violence and that decreases in the overall level of development for the least developed polities is likely to be accompanied by decreases in violence.

TABLE 7-3: RELATIONSHIP BETWEEN INCREASES IN DEVELOPMENT AND INCREASES IN VIOLENCE OVER TIME[a]

| | Political Violence | |
|---|---|---|
| Development | Increase | Decrease |
| Increase | 8 | 4 |
| Decrease | 3 | 8 |
| Total | 11 | 12 |

Chi square (Yates) = 2.165,
$.20 > p > .10$

[a]The developmental scores in Tables 4-36 and 4-38 were used to determine increases and decreases in development while violence scores in Tables 6-1 and 6-2 were used to determine increases or decreases in violence. The two polities exhibiting no change in violence level and scoring 0 were coded as decreases for this table.

## Political Violence and Political Variables

As noted in Chapter V several authors have explored the linkages between political violence and political variables and factors such as type of political system, level of coerciveness of regime, maintenance of democratic institutions, etc.[4] We shall initially explore the linkages between the 'index of political access' presented in Chapter IV with the 'instability scales' presented in Chapter VI. We shall then proceed to examine what political characteristics are most commonly present where there is relative political stability and political instability.

The level of political access in a polity, it might be assumed, will have some influence upon the political stability of a polity. Table 7-4 suggests that no such association exists consistently for our sample of countries. In only Part A of our table is even a weak association indicated between political access and political stability. In Time Period I the level of political access is inversely related to the level of political stability. That is, those countries having a 'high' score for political access also have a 'high' score for political instability. No other significant association exists between violence and access in the remainder of the table.

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[4] For a full review of these findings one is directed to the subsection of Chapter V entitled, Consequences. None of these studies attempted to associate political access with political violence.

TABLE 7-4: RELATIONSHIP BETWEEN POLITICAL ACCESS AND POLITICAL VIOLENCE SCALES, TIME I AND TIME II

| A. Access, Time I | | | |
|---|---|---|---|
| Stability Time I | Access High[a] | Low | Total |
| Unstable[b] | 9 | 4 | 13 |
| Stable | 3 | 7 | 10 |
| Total | 12 | 11 | 23 |

Chi square = 3.51, $p < .10$

| B. Access, Time I | | | |
|---|---|---|---|
| Stability Time II | Access High[a] | Low | Total |
| Unstable[b] | 7 | 5 | 12 |
| Stable | 5 | 6 | 11 |
| Total | 12 | 11 | 23 |

Chi square = .38, $p > .50$

| C. Access, Time II | | | |
|---|---|---|---|
| Stability Time I | Access High[a] | Low | Total |
| Unstable[b] | 6 | 8 | 14 |
| Stable | 4 | 5 | 9 |
| Total | 10 | 13 | 23 |

Chi square = .005, $p > .50$

| D. Access, Time II | | | |
|---|---|---|---|
| Stability Time II | High[a] | Low | Total |
| Unstable[b] | 5 | 7 | 12 |
| Stable | 5 | 6 | 11 |
| Total | 10 | 13 | 23 |

Chi square = .042, $p > .50$

[a]Political access is coded 'high' if the index score in Time Periods I and II is above 50.00 and 'low' in both time periods if the index score is 50.00 or below.

[b]A polity is considered 'unstable' if its index score in Time Period I (Table 6-3) is 3.00 or more or in Time Period II (Table 6-4) is 4.00 or more while the polity is considered 'stable' if its index score in Time Period I (Table 6-3) is less than 3.00 or in Time Period II (Table 6-4) is less than 4.00

Several possible explanations exist for the relationship displayed in Table 7-4. Using Huntington's thesis that the level of 'input' (political parties) and 'output' (administrative effectiveness) institutional development, we may propose an explanation.[5] The level of input institutional development in Time Period I exceeded the level of output institutional development (we have no way of verifying this explanation on the basis of our data) and thus domestic unrest was greater in polities with high input development. The cause for this high input development in Time Period I may be associated with the institutions created at the time of independence. Six of the nine polities reporting high levels of political instability in Time Period I received independence in 1960. Only three of the polities receiving independence in 1960 were reporting high levels of access in Time Period II accompanied by high levels of political instability. Although this explanation is possible, there is clearly not enough information available to verify or reject this conclusion. In summary, there is little relationship between political access and political violence for our sample of countries.

We will now examine political characteristics of polities having relatively high and low levels of political violence. The most comprehensive sources of data on political variables are presented in A Cross-Polity Survey and Blondel's An Intro-

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[5]Huntington, Political Order in Changing Societies, op. cit., pp. 80-92.

duction to Comparative Government.[6] In an attempt to identify common political characteristics for the countries with high and low levels of political unrest in Time Period II, we examined 25 coded variables reported by Blondel and found 11 to have some value for profiling political characteristics of polities scoring high or low in political violence. The 11 coded variables are reported in Table 7-5 with the code value reported in an extensive footnote to the table.

Many of the Blondel variables describe political characteristics of polities since independence, e.g., never under military rule since independence. The cut-off date for collecting and coding this data was 1 January 1969 which is the closing date for our second time interval. We have employed this descriptive data to describe what political characteristics are present when polities are experiencing high or low levels of political violence. A summary of the results of an examination of these political characteristics follows.

Of the six most violent states in Time Period II, five had received independence other than in 1960 (Columns 8 and 9.) Only four of the remaining seventeen countries did not countries did not receive independence in 1960. None of the states receiving independence in 1960 had to undergo intense struggles to receive independence. Only Guinea, of the four

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[6]Banks and Textor, op. cit. and Blondel, op. cit. The Appendix in the Blondel book is a rich source of data for a large number of nations.

TABLE 7-5: RELATIONSHIP BETWEEN CHARACTERISTICS OF POLITICAL SYSTEMS AND POLITICAL VIOLENCE IN TIME II[a]

| Country | P.V. $T_2$ | 8-9 | 11 | 12 | 13 | 14 | 31 | 35 | 48 | 49 | 50-51 | 54 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South Vietnam | 29 | 55 | 5 | 4 | 2 | 5 | 1 | 2 | 8 | 3 | 05 | 4 |
| Laos | 33 | 55 | 2 | 1 | 0 | 2 | 6 | 2 | 9 | 2 | 02 | 1 |
| Chad | 14 | 60 | 4 | 1 | 0 | 1 | 3 | 1 | 3 | 1 | 00 | 1 |
| Algeria | 12 | 62 | 6 | 3 | 1 | 5 | 1 | 1 | 4 | 2 | 01 | 1 |
| Cambodia | 10 | 55 | 2 | 2 | 1 | 5 | 6 | 2 | 5 | 1 | 00 | 4 |
| Syria | 9 | 00 | 4 | 4 | 3 | 5 | 3 | 2 | 6 | 2 | 06 | 4 |
| Congo (Brazz.) | 9 | 60 | 5 | 4 | 2 | 5 | 5 | 2 | 1 | 3 | 01 | 1 |
| Central Afr. Rep. | 8 | 60 | 5 | 4 | 1 | 5 | 5 | 2 | 1 | 3 | 02 | 1 |
| Dahomey | 7 | 60 | 5 | 4 | 3 | 5 | 5 | 2 | 2 | 3 | 03 | 1 |
| Togo | 7 | 60 | 5 | 4 | 1 | 5 | 5 | 2 | 1 | 3 | 01 | 1 |
| Lebanon | 6 | 00 | 1 | 1 | 0 | 2 | 3 | 2 | 5 | 1 | 00 | 1 |
| Cameroon | 6 | 60 | 4 | 1 | 0 | 1 | 1 | 1 | 5 | 1 | 00 | 1 |
| Senegal | 5 | 60 | 4 | 1 | 0 | 2 | 1 | 1 | 2 | 1 | 00 | 1 |
| Upper Volta | 5 | 60 | 5 | 4 | 1 | 5 | 5 | 2 | 1 | 3 | 02 | 1 |
| Mauritania | 4 | 60 | 4 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 00 | 1 |
| Ivory Coast | 3 | 60 | 4 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 00 | 1 |
| Mali | 3 | 60 | 4 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 00 | 1 |
| Tunisia | 3 | 60 | 4 | 1 | 0 | 1 | 1 | 1 | 4 | 1 | 00 | 1 |
| Guinea | 2 | 58 | 4 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 00 | 4 |
| Morocco | 2 | 56 | 2 | 1 | 0 | 4 | 6 | 1 | 3 | 1 | 00 | 1 |
| Gabon | 0 | 60 | 4 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 00 | 1 |
| Malagasy Republic | 0 | 60 | 1 | 1 | 0 | 1 | 1 | 2 | 1 | 1 | 00 | 4 |
| Niger | 0 | 60 | 4 | 1 | 0 | 1 | 1 | 1 | 3 | 1 | 00 | 4 |

[a]The code value for P.V. was obtained from Table 6-2. The column heading numbers are the column numbers found in Blondel and the coded values are as follows:

8-9. Date of Independence: Figures give decade and exact year of independence since 1945; Countries created before 1945 are coded 00.

11. Present techniques by which the regime maintains itself:
- 1 Constitutional-legitimate.
- 2 Hereditary monarchical.
- 3 Party combined with traditional social structure.
- 4 Party of a bureaucratic and 'apparat' type.
- 5 Army.
- 6 Partly supported by army.

12. Stability of regime.
    1 Regime with same norms and same techniques of support since 1949 or since independence whichever is the later.
    2 Regime with different norms, but same techniques of support.
    3 Regime with different techniques of support but same norms.
    4 Regime with different norms and different techniques of support.

13. Regime changes: Number of changes of regime: (As defined in column 12) since 1949 or since the date of independence, whichever is the later.
    0 No change.
    1 One change.
    2 Two changes.
    3 Three or more changes.

14. Present Regime compared with original regime: Original defined in columns 12 and 13, by reference to 1949 or to the date of independence whichever is the later.
    1 Same regime throughout the period, and no major disturbances.
    2 Major disturbances, but the regime remained.
    3 Interruptions, but return after two years or less to the original regime.
    4 Interruptions, but return after more than two years to the original regime.
    5 Different regime from the original.

31. Method of selection of Head of State:
    1 Popular suffrage.
    2 Limited electoral college.
    3 Legislative.
    4 Executive.
    5 Self-selected.
    6 Hereditary.

35. Authority to whom government is responsible.
    1 Government chosen and dismissed by Head of State or head of government on an individual basis; ministers hierarchically below the head of government.
    2 Collective responsibility of government; both choice and dismissal has a collective character.
    9 Not ascertainable.

48. Size of the military: The military is given as a percentage of the working population. (Source: Statesman's Yearbook, 1967-68).
   0 No military.
   1 0 to 1 percent of working population.
   2 2 percent of working population.
   3 3 percent of working population.
   4 4 percent of working population
   5 5 to 7 percent of working population.
   6 8 to 9 percent of working population.
   7 10 to 15 percent of working population.
   8 Over 15 percent of working population.
   9 Not ascertainable.

49. Military rule:
   1 Never under military rule since 1949 or since independence, whichever is the later.
   2 Has been under military rule since 1949 or since independence, whichever is the later.
   3 Under military rule on 1 January 1969.

50-51. Duration of military rule: Number of years of military rule since 1949 or since independence, whichever is the later.

54. Administrative justice:
   1 Administrative courts exist, either as separate courts (in the full sense) or as a chamber of the Supreme Court of the land.
   2 No administrative courts, but an ombudsman.
   3 Both administrative court and an ombudsman exist.
   4 Neither administrative courts nor an ombudsman exist.

countries receiving independence other than 1960 and having relatively low levels of political violence, experienced any intense political unrest at the time of independence.

Eight of the ten most violent countries in Time Period II are states which are in whole or in part ruled by military personnel or a hereditary monarch (Column 11). Only two of the thirteen low instability polities were ruled by military personnel or a hereditary monarch. The most dominant techni-

que by which the present regime maintains itself in the most unstable polities is military rule while the most dominant technique in the thirteen least violent states is a party of a bureaucratic and 'apparat' type.

Eight of the ten most violent countries in Time Period II are countries which do not have the same norms, i.e., authoritarian-conservative, liberal-democratic, radical-authoritarian, etc. (Column 12) and the same techniques of support since 1949 or independence whichever is the later. All except one of the remianing thirteen low ranking violent polities have the same norms and techniques of support as existed at the time of independence. It seems obvious that the level of regime stability in terms of norms and techniques of support would be positively related to the level of political violence and this is so for all except three deviant cases.

Another measure of regime stability would be the number of times since independence or 1949, whichever is the later, that there has been a change in regime norms and techniques of support (Column 13). Eight of the ten most politically violent nations experienced at least one change in regime. Only one of the remaining thirteen experienced at least one change in regime.

A third measure of regime stability would be a comparison of present regime norms and support with those of the original regime (Column 14). Eight of the ten most violent

polities had a regime different from its original while only one of the remaining thirteen had a regime different from its original. Even with major interruptions the least violent regimes return to the type of original regime at independence or 1949, whichever is the later. The most dominant pattern for the least violent countries is the maintenance of the same regime through the period. Blondel's three measures of stability support the reliability of our scale of political stability.

The next two descriptive measures employed concentrate upon the selection and authority of political leaders of the countries. The selection of head of state in the most violent nations (Column 31) is by popular suffrage in only two out of ten while this method is employed by ten of the thirteen least violent countries. In nine of the eleven most violent nations the government is chosen and dismissed by the head of state or head of government on an individual basis. Thus, a pattern exists in the least violent states where popular suffrage is employed in selection of head of state yet the regime is under the control of a single individual rather than on the basis of collective leadership.

The next three variables describe the size and political activity of the military forces. Column 48 supports the conclusion that the most violent polities have the largest military establishments. On the other hand, there exist large military establishments among the less violent polities

although they generally have smaller armed forces. Only two of the ten most violent states have never been under military rule (Columns 49 and 50-51) since independence or 1949, whichever is the later, while only one of the thirteen least violent states has been under military rule.

The final descriptive measure, administrative justice (Column 54), was included in Table 7-5 because of its unique characteristic of including some of the 'least' and 'most' violent states with the same code values while countries in the middle ranges of violence were coded a separate value. Three of the first quartile countries and three of the fourth quartile countries were coded as having neither administrative courts nor an ombudsman while the remainder of the countries were recorded as having administrative courts.

From the above analysis of Table 7-5 we may construct a pattern of stability and instability and describe the political characteristics which are most prominant for our sample of countries and which may exist as patterns in some of the other least developed polities of the world.

> Pattern A: Countries reporting high levels of political violence are likely to have engaged in a struggle for their independence and received that independence other than at the time of general decolonization in 1960. They are likely to depend upon the army supporting the regime for its maintenance or to have the army in control of the regime. They are likely to have experienced at least one regime change since independence where the techniques of support or regime norms changed from the previous regime. The head of state will not likely be selected by popular suffrage and

regime will be under collective responsibility rather than under the control of one individual.

Pattern B: Countries reporting low levels of political violence are likely to have been granted independence with little or no struggle with the colonial power. They are likely to depend upon a party bureaucracy for the techniques for maintaining regime support. They are unlikely to have experienced regime changes since independence and the army has probably not taken an active role in governing. The head of state will very likely have been chosen by popular suffrage and the government will be under the control of one individual in the regime.

In addition to these observed patterns, there seems to be a cut-off point between the 'least' and 'most' violent polities where political characteristics are likely to vary. The cut-off point in Table 7-5 falls in most cases between Togo and Lebanon.

A final comment regarding Table 7-5 is that there is some consistency in the deviant cases. Laos and Chad are the two most often deviant cases for political characteristics of the most violent states and Upper Volta seems not to fit the characteristics of the least violent states. The fact that our political violence scale does not include all the years from independence may explain these inconsistencies.

An attempt was also made to determine if common political characteristics existed for countries increasing or decreasing in political violence from Time Period I to Time Period II. No grouping of such characteristics existed for such countries.

## Conclusions

We will now turn to a summary of some of the findings encompassed in this research project. Rather than cataloguing all of the conclusions made throughout this study we will concentrate on what we believe to be our major findings.

The countries which have emerged from colonial status under the French are among the least developed countries of the world. Only Lebanon is consistently high on indicators of development and could be considered an "industrial revolution society." Syria, Gabon, Algeria, Congo (Brazzaville), Tunisia and Morocco are "transitional societies." The Ivory Coast, Senegal, South Vietnam and Cambodia are "traditional civilizations" while the remaining eleven are "traditional primitive societies." Although all the countries seem to be developing, only a few have achieved markedly higher levels of development from Time Period I to Time Period II. The principal exception is Gabon.

In contrast to national development indicators, the countries sampled varied considerably from Time Period I to Time Period II on a political access scale. Political access, it would appear, is less structural than the national development measures. In short, political variables such as access are likely to be subject to greater fluctuation in transitional and traditional states than the more static developmental indicators. We also found little correlation between development and political access (as a measure of democracy) and con-

clude for our sampling of underdeveloped countries that development is not related to political access (and perhaps not to democracy). We found that political access is positively correlated with development among the countries of the Middle East and North Africa and negatively for the polities of Sub-Sahara Africa.

The lack of structuring of variables for the least developed countries has been noted by researchers. Our study, through the use of factor analysis techniques, has established structured developmental patterns which are emerging in these states. The emergence of differentiated wealth and education/urbanization patterns is unmistakable. The use of factor analysis also made possible the ascertaining of a possible shift of military forces from 'elite' to 'mass' armies based upon the shifting of variables loading high on the factor of militarization/communication for each time period. This serves to illustrate the use of factor analysis in differentiating emerging patterns over time in developing nations. This factor analysis conclusion regarding the change in type of military force in these countries was supported by referral to the change in size of military forces over time.

Examination of political instability over time has led us to the conclusion that a 'contagion' or 'spillover' factor may be important in explaining political instability. There is a weak association of political violence in Time Period I with political violence in the second time interval. The num-

ber of cases is, of course, not sufficient to make generalization complete, yet for the limited number of cases we may conclude that political violence is likely to occur more in polities having previously high levels of political unrest than in those suffering low levels of political unrest.

Somewhat surprisingly, the level of ethnic group strength is not related significantly with the level of political instability. As many of our polities contain strong ethnic minorities, this finding was felt to be significant for their future development.

The analysis and findings reported earlier in this chapter suggest strongly that: (1) Developmental level is not significantly related to political violence level for the least developed nations; (2) Increases in developmental level over time are likely to be accompanied by increases in political violence over time; (3) The theory of relative deprivation when operationalized by utilizing wealth and education/urbanization factors previously discussed goes a long way toward making it possible to profile patterns where violence is likely to be increasing or decreasing over time as these factors change; and (4) Using a wide range of data on political variables we have been able to profile political characteristics of stable and unstable political systems.

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## APPENDIX A

TABLE A-1: PERCENTAGE OF POPULATION IN CITIES OVER 20,000

| Rank | Country | Percentage of Population in Cities Over 20,000 | Year |
|---|---|---|---|
| 1 | Syria | 41.9[a] | 1960 |
| 2 | Morocco | 29.3[a] | 1960 |
| 3 | Algeria | 25.0[a] | 1960 |
| 4 | Lebanon | 23.0 | 1952 |
| 5 | Tunisia | 19.9 | 1955 |
| 6 | Gabon | 16.7[a] | 1960 |
| 7 | Cambodia | 16.0 | 1955 |
| 8 | Congo (Brazzaville) | 15.4 | 1950 |
| 9 | Senegal | 10.0 | 1956 |
| 10 | Togo | 9.6[a] | 1960 |
| 11 | North Vietnam | 9.5[a] | 1960 |
| 12 | Madagascar | 8.0 | 1959 |
| 13 | Ivory Coast | 6.8 | 1956 |
| 14 | Dahomey | 5.5 | 1955 |
| 15 | Guinea | 5.1 | 1955 |
| 16 | Cameroon | 4.1 | 1950 |
| 17 | Laos | 4.0 | 1955 |
| 18 | Central African Rep. | 3.9 | 1950 |
| 19 | Upper Volta | 2.3 | 1956 |
| 20 | Mali | 1.8 | 1956 |
| 21 | Chad | 1.0 | 1950 |
| World Mean | | 22.7[b] | |

[a]The figures for these six countries are taken from Britannica Book of the Year: 1966, pages 174-175 (This is the population defined as urban by individual political units).

[b]The world mean is taken from the same source as the data.

SOURCE: Adapted from Bruce M. Russett, et al., World Handbook of Political and Social Indicators (New Haven, Connecticut: Yale University Press, 1964).

TABLE A-2: NUMBER OF URBAN CENTERS

| Rank[a] | Country | # of Urban Centers |
|---|---|---|
| 1 | Morocco | 6 |
| 2 | Algeria | 4 |
| 3 | Chad | 4 |
| 4 | Niger | 4 |
| 5 | Senegal | 4 |
| 6 | Syria | 4 |
| 7 | Tunisia | 4 |
| 8 | Cameroon | 3 |
| 9 | Madagascar | 3 |
| 10 | Mali | 3 |
| 11 | South Vietnam | 3 |
| 12 | Congo (Brazzaville) | 2 |
| 13 | North Vietnam | 2 |
| 14 | Upper Volta | 2 |
| 15 | Lebanon | 2 |
| 16 | Laos | 2 |
| 17 | Ivory Coast | 2 |
| 18 | Guinea | 2 |
| 19 | Gabon | 2 |
| 20 | Dahomey | 2 |
| 21 | Cambodia | 1 |
| 22 | Central African Republic | 1 |
| 23 | Mauritania | 1 |
| 24 | Togo | 1 |

[a]The true rank of these countries was not computed. If the true rank had been computed, the rank for countries 2 through 7 would all be 4.5. This table is included for discriptive reference rather than to explain statistical relationships.

SOURCE: Adapted from the Political Handbook and Atlas of the World, 1970 (New York: Harper & Row for the Council on Foreign Relations, 1971).

TABLE A-3: INHABITANTS PER KILOMETER, 1967

| Rank | Country | Population Density (Inhabitants per KM, 1967) |
|---|---|---|
| 1 | North Vietnam | 127 |
| 2 | South Vietnam | 99 |
| 3 | Cambodia | 35 |
| 4 | Laos | 33 |
| 5 | Morocco | 32 |
| 6.5 | Syria | 31 |
| 6.5 | Togo | 31 |
| 8 | Tunisia | 28 |
| 9 | Dahomey | 22 |
| 10 | Senegal | 19 |
| 11 | Upper Volta | 18 |
| 12 | Guinea | 15 |
| 14 | Cameroon | 12 |
| 14 | Ivory Coast | 12 |
| 14 | Lebanon | 12 |
| 16 | Madagascar | 11 |
| 17 | Algeria | 5 |
| 18 | Mali | 4 |
| 20 | Chad | 3 |
| 20 | Congo (Brazzaville) | 3 |
| 20 | Niger | 3 |
| 22.5 | Central African Republic | 2 |
| 22.5 | Gabon | 2 |
| 24 | Mauritania | 1 |

SOURCE: This table is adapted from UNESCO Statistical Yearbook: 1968 (Louvain, Belgium: Imprimerie Ceuterick, 1969).

TABLE A-4: DECENNIAL INCREASE IN MIGRANTS TO CITIES

| Rank | Country | Percent Increase over Ten Years |
|---|---|---|
| 1 | Lebanon | 168 |
| 2 | Laos | 56 |
| 3 | Guinea | 50 |
| 4 | Senegal | 48 |
| 5 | Tunisia | 38 |
| 6.5 | Cambodia | 34 |
| 6.5 | Dahomey | 34 |
| 8.5 | North Vietnam | 26 |
| 8.5 | Cameroon | 26 |
| 10 | Algeria | 23 |
| 11 | Mali | 22 |
| 12.5 | Ivory Coast | 20 |
| 12.5 | Togo | 20 |
| 14 | Chad | 19 |
| 15 | Morocco | 16 |
| 16 | Central African Republic | 0.10 |
| 17 | Niger | 0.07 |
| 18 | Upper Volta | 0.05 |
| 19 | Syria | 0.04 |
| 20 | Malagasy Republic | 0.02 |
| 21 | South Vietnam | -11.00 |

SOURCE: Adapted from Ted Gurr and Charles Ruttenberg (Genesis of Political Violence Project) data on tape and available through the Inter-University Consortium for Political Research at the University of Michigan.

TABLE A-5: NUMBER OF NEWSPAPERS WITH CIRCULATION REPORTED

| Rank | Country | Number of Newspapers | Circulation (in 1,000) |
|---|---|---|---|
| 1 | Lebanon | 13 | 153.5 R[a] |
| 2 | Morocco | 11 | 146.7 R |
| 3.5 | Madagascar | 10 | 69.9 R |
| 3.5 | South Vietnam | 10 | 238.0 R |
| 5 | North Vietnam | 8 | 297.0 R |
| 6 | Dahomey | 6 | 4 + E |
| 7.5 | Syria | 5 | 70.0 R |
| 7.5 | Tunisia | 5 | 110.0 R |
| 10.5 | Algeria | 4 | 140.0 R |
| 10.5 | Mali | 4 | NA |
| 10.5 | Senegal | 4 | 40.0 R |
| 10.5 | Upper Volta | 4 | 2 + E |
| 15 | Cambodia | 3 | NA |
| 15 | Chad | 3 | NA |
| 15 | Congo (Braz.) | 3 | 10 + E |
| 15 | Laos | 3 | 5.5 R |
| 15 | Niger | 3 | 2.6 R |
| 20 | Central Afr. Rep. | 2 | NA |
| 20 | Gabon | 2 | 5 + E |
| 20 | Guinea | 2 | 8 + E |
| 20 | Ivory Coast | 2 | 44.0 R |
| 20 | Mauritania | 2 | NA |
| 23.5 | Cameroon | 1 | 10.0 R |
| 23.5 | Togo | 1 | 6.0 R |

[a]R is utilized to indicate reported circulation, E is utilized to indicate estimated circulation where exact circulation figures were not available, NA is utilized to indicate that circulation figures were not ascertained.

SOURCE: Adapted from the Political Handbook and Atlas of the World: 1970 (New York: Harper & Row for the Council on Foreign Relations, 1971).

TABLE A-6: CINEMA ATTENDANCE PER CAPITA

| Rank | Country | Cinema Attendance per Capita, Time I |
|---|---|---|
| 1 | Lebanon | 13.8 |
| 2 | Algeria | 4.5 |
| 3.5 | Syria | 2.1 |
| 3.5 | Cambodia | 2.1 |
| 5 | Tunisia | 1.6 |
| 7.5 | Morocco | 1.5 |
| 7.5 | South Vietnam | 1.5 |
| 8 | Mali | .8 |
| 9 | Madagascar | .5 |
| 10.5 | Central African Republic | .3 |
| 10.5 | Dahomey | .3 |
| 12.5 | Togo | .2 |
| 12.5 | Laos | .2 |
| 14 | Chad | .1 |
| World Mean | | 6.27 |

SOURCE: Adapted from Bruce M. Russett, et al., World Handbook of Political and Social Indicators (New Haven, Connecticut: Yale University Press, 1964).

TABLE A-7: LOYALIST MILITARY PERSONNEL PER TEN THOUSAND ADULTS

| Rank | Country | Military Personnel per 10,000 Adults |
|---|---|---|
| 1 | Laos | 624 |
| 2 | South Vietnam | 605 |
| 3 | North Vietnam | 222 |
| 4 | Syria | 176 |
| 5 | Cambodia | 149 |
| 6 | Lebanon | 112 |
| 7 | Tunisia | 83 |
| 8 | Algeria | 75 |
| 9 | Ivory Coast | 55 |
| 10 | Senegal | 43 |
| 11 | Morocco | 36 |
| 12 | Madagascar | 31 |
| 13 | Guinea | 27 |
| 14 | Mali | 16 |
| 15 | Niger | 13 |
| 16 | Chad | 9 |
| 17 | Cameroon | 8 |
| 18 | Dahomey | 7 |
| 19 | Central Afr. Rep. | 6 |
| 20 | Upper Volta | 4 |
| 21 | Togo | 3 |

SOURCE: Adapted from Ted Gurr and Charles Ruttenbert (Genesis of Political Violence Project) data on tape and available through the Inter-University Consortium for Political Research at the University of Michigan.

TABLE A-8: INTERNAL SECURITY FORCES PER TEN THOUSAND ADULTS

| Rank | Country | Internal Security Forces per 10,000 Adults |
|---|---|---|
| 1 | South Vietnam | 404 |
| 2 | Morocco | 355 |
| 3 | Lebanon | 338 |
| 4 | North Vietnam | 304 |
| 5 | Syria | 236 |
| 6 | Senegal | 232 |
| 7 | Tunisia | 192 |
| 8 | Central Afr. Rep. | 189 |
| 9 | Cameroon | 188 |
| 10 | Guinea | 185 |
| 11 | Madagascar | 173 |
| 12 | Algeria | 156 |
| 13 | Chad | 128 |
| 14 | Dahomey | 126 |
| 15 | Ivory Coast | 123 |
| 16 | Niger | 89 |
| 17 | Upper Volta | 52 |
| 18 | Mali | 46 |
| 19 | Togo | 33 |

SOURCE: Adapted from Ted Gurr and Charles Ruttenberg (Genesis of Political Violence Project) data on tape and available through the Inter-University Consortium for Political Research at the University of Michigan.

TABLE A-9: LABOR UNION MEMBERSHIP AS PERCENTAGE OF NONAGRICULTURAL EMPLOYMENT

| Rank | Country | Percentage |
|---|---|---|
| 1 | Ivory Coast | 190 |
| 2 | Niger | 139 |
| 3 | Guinea | 130 |
| 4 | Senegal | 104 |
| 5 | Madagascar | 92 |
| 6 | Mali | 87 |
| 7 | Morocco | 46 |
| 8 | Algeria | 36 |
| 9 | Tunisia | 35 |
| 10 | Cameroon | 34 |
| 11 | Upper Volta | 26 |
| 12.5 | North Vietnam | 25 |
| 12.5 | South Vietnam | 25 |
| 14.5 | Chad | 10 |
| 14.5 | Central African Republic | 10 |
| 16 | Lebanon | 9 |
| 17 | Syria | 8 |
| 18 | Togo | 7 |
| 19 | Cambodia | 1 |

SOURCE: Adapted from Ted Gurr and Charles Ruttenberg (Genesis of Political Violence) data on tape and available through the Inter-University Consortium for Political Research at the University of Michigan.

TABLE A-10: TOTAL NUMBER OF ACTIVE POLITICAL PARTIES

| Rank | Country | Number of Political Parties[a] |
|---|---|---|
| 1 | Lebanon | 17 |
| 2 | South Vietnam | 13 |
| 3 | Algeria | 9 |
| 4 | Morocco | 7 |
| 6 | Chad | 5 |
| 6 | Syria | 5 |
| 6 | Upper Volta | 5 |
| 9.5 | Cambodia | 4 |
| 9.5 | Laos | 4 |
| 9.5 | Madagascar | 4 |
| 9.5 | Togo | 4 |
| 13 | Gabon | 3 |
| 13 | Senegal | 3 |
| 13 | North Vietnam | 3 |
| 17 | Cameroon | 2 |
| 17 | Congo | 2 |
| 17 | Guinea | 2 |
| 17 | Niger | 2 |
| 17 | Tunisia | 2 |
| 21.5 | Central African Rep. | 1 |
| 21.5 | Dahomey | 1 |
| 21.5 | Ivory Coast | 1 |
| 21.5 | Mauritania | 1 |
| 24 | Mali | 0 |

[a]This figure includes parties in existence whether they are legal or illegal.

SOURCE: Adapted from the Political Handbook and Atlas of the World, 1970 (New York: Harper & Row for the Council on Foreign Relations, 1971).

TABLE A-11: CENTRAL GOVERNMENT EXPENDITURES AS PERCENTAGE GROSS DOMESTIC PRODUCT, 1962

| Rank | Country | Government Expenditures as Percentage of GDP, 1962 |
|---|---|---|
| 1 | North Vietnam | 64.0 |
| 2 | Ivory Coast | 28.9 |
| 3 | Cambodia | 26.2 |
| 4 | Morocco | 24.8 |
| 5 | Senegal | 24.7 |
| 6 | South Vietnam | 23.5 |
| 7 | Algeria | 22.8 |
| 8 | Guinea | 19.4 |
| 9 | Syria | 19.0 |
| 10 | Madagascar | 17.6 |
| 11 | Tunisia | 17.2 |
| 12 | Central Afr. Rep. | 16.7 |
| 13 | Cameroon | 16.6 |
| 14 | Dahomey | 15.6 |
| 15 | Mali | 14.6 |
| 16 | Upper Volta | 14.3 |
| 17 | Niger | 12.0 |
| 18 | Togo | 10.6 |
| 19 | Laos | 10.4 |
| 20 | Chad | 10.0 |
| 21 | Lebanon | 9.9 |

SOURCE: Adapted from Ted Gurr and Charles Ruttenberg (Genesis of Political Violence Project) data on tape and available through the Inter-University Consortium for Political Research at the University of Michigan.

TABLE A-12: CENTRAL GOVERNMENT PER CAPITA EXPENDITURES, 1961

| Rank | Country | Govt. per Capita Exp., 1961 in U. S. Dollars |
|---|---|---|
| 1 | Algeria | 80 |
| 2 | Senegal | 41 |
| 3 | Tunisia | 39 |
| 4.5 | Lebanon | 37 |
| 4.5 | North Vietnam | 37 |
| 6 | Syria | 35 |
| 7 | Morocco | 34 |
| 8.5 | Cambodia | 33 |
| 8.5 | Ivory Coast | 33 |
| 10 | South Vietnam | 30 |
| 11 | Laos | 25 |
| 12 | Cameroon | 23 |
| 13 | Central Afr. Rep. | 16 |
| 14 | Madagascar | 14 |
| 15 | Dahomey | 13 |
| 16.5 | Togo | 12 |
| 16.5 | Mali | 12 |
| 18 | Guinea | 11 |
| 19 | Niger | 10 |
| 20 | Chad | 8 |
| 21 | Upper Volta | 7 |

SOURCE: Adapted from Ted Gurr and Charles Ruttenberg (Genesis of Political Violence Project) data on tape and available through the Inter-University Consortium for Political Research at the University of Michigan.

TABLE A-13: PROPORTION OF SCHOOL-AGE MALES IN SCHOOL, 1960

| Rank | Country | Proportion of School-Age Males in School, 1960 |
|---|---|---|
| 1 | Lebanon | 75 |
| 2 | Syria | 64 |
| 3 | Tunisia | 60 |
| 4 | Cameroon | 59 |
| 5 | South Vietnam | 57 |
| 6 | Cambodia | 56 |
| 7 | Ivory Coast | 41 |
| 8 | North Vietnam | 40 |
| 9 | Morocco | 39 |
| 10 | Togo | 36 |
| 11 | Madagascar | 34 |
| 12.5 | Central African Rep. | 31 |
| 12.5 | Algeria | 31 |
| 14 | Laos | 23 |
| 15.5 | Dahomey | 22 |
| 15.5 | Senegal | 22 |
| 17 | Chad | 21 |
| 18 | Guinea | 19 |
| 19 | Mali | 9 |
| 20 | Upper Volta | 7 |
| 21 | Niger | 6 |

SOURCE: Adapted from Ted Gurr and Charles Ruttenberg (Genesis of Political Violence Project) data on tape and available through the Inter-University Consortium for Political Research at the University of Michigan.

TABLE A-14: MILITARY CHARACTER OF POLITICAL REGIME

| Country | Technique of Regime Maintenance[a] | Military Rule[b] | Duration of Military Rule[c] |
|---|---|---|---|
| Cambodia | 2 | 1 | 00 |
| Laos | 2 | 2 | 02 |
| South Vietnam | 5 | 3 | 05 |
| Algeria | 6 | 2 | 01 |
| Lebanon | 1 | 1 | 00 |
| Morocco | 2 | 1 | 00 |
| Syria | 4 | 2 | 06 |
| Tunisia | 4 | 1 | 00 |
| Cameroon | 4 | 1 | 00 |
| Cen. Afr. Rep. | 5 | 3 | 02 |
| Chad | 4 | 1 | 00 |
| Congo (Brass.) | 5 | 3 | 01 |
| Dahomey | 5 | 3 | 03 |
| Gabon | 4 | 1 | 00 |
| Guinea | 4 | 1 | 00 |
| Ivory Coast | 4 | 1 | 00 |
| Madagascar | 1 | 1 | 00 |
| Mali | 4 | 1 | 00 |
| Mauritania | 4 | 1 | 00 |
| Niger | 4 | 1 | 00 |
| Senegal | 4 | 1 | 00 |
| Togo | 5 | 3 | 01 |
| Upper Volta | 5 | 3 | 02 |

[a]Present techniques by which the regime maintains itself are coded as follows: 1=Constitutional-Legitimate; 2=Hereditary Monarchy; 3=Party combined with a traditional social structure; 4=Party of a bureaucratic and 'apparat' type; 5=Army' 6=Party supported by army. For a full discussion of these techniques, see Chapter 14 of Jean Blondel's, An Introduction to Comparative Government cited as the source for this table.

[b]Military rule is coded as follows: 1=Never under military rule since independence or since 1949, whichever is the later; 2=Has been under military rule since 1949 or independence, whichever is the later, but was not on 1 January, 1969; 3=Under military rule on 1 January 1969.

[c]Duration of Military rule is given in number of years of military rule since 1949 or since independence, whichever is the later.

SOURCE: Adapted from coded data appearing in Jean Blondel, An Introduction to Comparative Government (New York: Praeger, 1969), pages 531-546.

TABLE B-1: COMPUTATION TABLE FOR INDEX OF DEVELOPMENT, TIME I

| Rank | Country | Table Number 4-1 | 4-3 | 4-5 | 4-7 | 4-9 | 4-13 | 4-15 | 4-17 | 4-21 | 4-23 | 4-25 | 4-27 | 4-29 | 4-33 | Sum | Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Lebanon | 2.0[a] | 1 | 1 | 1.0 | 2 | 5 | 2 | 2 | 3.0 | 2.0 | 1 | 2 | 1.0 | 1.0 | 26.0 | 1.86 |
| 2 | Syria | 1.0 | 2 | 9 | 5.0 | 3 | 4 | 4 | 1 | 7.0 | 6.0 | 2 | 6 | 10.5 | 2.0 | 62.5 | 4.46 |
| 3 | Tunisia | 4.0 | 5 | 6 | 6.0 | 1 | 8 | 3 | 4 | 6.0 | 3.0 | 4 | 8 | 2.0 | 7.0 | 67.0 | 4.79 |
| 4 | Algeria | 8.0 | 3 | NA | 3.5 | 5 | 7 | 7 | 8 | 2.0 | 1.0 | 3 | 3 | 15.0 | 4.0 | 69.5 | 5.35 |
| 5 | Gabon | 5.0 | 8 | 3 | NA | 6 | 20 | 5 | 11 | 1.0 | NA | 5 | 1 | NA | 3.0 | 68.0 | 5.67 |
| 6 | Morocco | 3.0 | 4 | 7 | 3.5 | 7 | 9 | 13 | 7 | 5.0 | 5.0 | 7 | 9 | 7.5 | 5.5 | 92.5 | 6.60 |
| 7 | Congo (Brazz.) | 7.0 | 6 | 4 | 14.5 | 10 | 10 | 1 | 5 | 9.0 | NA | 6 | 4 | NA | 8.0 | 84.5 | 7.04 |
| 8 | Senegal | 11.0 | 7 | 10 | 8.5 | 4 | 11 | 16 | 10 | 4.0 | 4.0 | 9 | 8 | 5.5 | 10.0 | 116.0 | 8.29 |
| 9 | Ivory Coast | 15.0 | 9 | 5 | 11.0 | 9 | 13 | 11 | 13 | 8.0 | 7.0 | 9 | 5 | 3.0 | 9.0 | 127.0 | 9.07 |
| 10 | South Vietnam | 11.0 | 15 | 17 | 2.0 | 12 | 3 | 6 | 3 | 11.0 | 11.5 | 12 | 17 | 10.5 | 14.0 | 145.0 | 10.36 |
| 11 | Madagascar | 13.5 | 10 | 15 | 7.0 | 8 | 19 | 10 | 9 | 13.0 | 13.0 | 17 | 14 | 7.5 | 5.5 | 161.0 | 11.50 |
| 12 | Cambodia | 6.0 | 19 | 12 | 8.5 | 14 | 6 | 9 | 6 | 16.0 | 14.5 | 16 | 13 | 15.0 | 16.0 | 171.0 | 12.21 |
| 13 | Togo | 18.0 | 12 | 8 | 10.0 | 16 | 16 | 12 | 12 | 17.0 | 11.5 | 15 | 16 | 4.0 | 18.0 | 185.5 | 13.25 |
| 14 | Cameroon | 11.0 | 18 | 18 | 12.5 | 17 | 18 | 8 | 14 | 10.0 | 17.0 | 11 | 10 | 15.0 | 15.0 | 194.5 | 13.89 |
| 15 | Central Afr.Rep. | 9.0 | 13 | 11 | 17.5 | 11 | 21 | 14 | 18 | 12.0 | 10.0 | 19 | 12 | 17.5 | 17.0 | 202.0 | 14.43 |
| 16 | Dahomey | 16.0 | 14 | 19 | 12.5 | 18 | 14 | 18 | 15 | 20.5 | 8.0 | 18 | 18 | 5.5 | 11.5 | 207.0 | 14.79 |
| 17 | Guinea | 18.0 | 11 | NA | 20.0 | NA | 12 | 17 | 19 | 14.0 | 20.0 | 10 | 15 | 12.5 | 11.5 | 180.0 | 15.00 |
| 18 | Laos | 20.0 | NA | 13 | 16.0 | 13 | 1 | 15 | 17 | 15.0 | 14.5 | 14 | 21 | 21.0 | 19.0 | 199.5 | 15.35 |
| 19 | Mauritania | 24.0 | NA | 2 | NA | NA | 17 | 21 | 20 | 18.0 | NA | 13 | 11 | NA | 13.0 | 139.0 | 15.44 |
| 20 | Mali | 21.0 | 16 | NA | 14.5 | 19 | 15 | 20 | 16 | 20.5 | 9.0 | 20 | 22 | 19.5 | 20.0 | 232.5 | 17.88 |
| 21 | Chad | 18.0 | 17 | 16 | 19.0 | 15 | 23 | 19 | 21 | 22.0 | 18.0 | 21 | 19 | 17.5 | 21.0 | 266.5 | 19.04 |
| 22.5 | Upper Volta | 22.0 | 21 | 14 | 21.0 | 21 | 24 | 22 | 22 | 23.0 | 21.0 | 23 | 23 | 9.0 | 22.0 | 288.0 | 20.57 |
| 22.5 | Niger | 23.0 | 20 | 20 | 17.5 | 20 | 22 | 23 | 23 | 19.0 | 16.0 | 22 | 20 | 19.5 | 23.0 | 288.0 | 20.57 |

[a]The 'NA' indicates that data were not available for this country on this variable.

TABLE B-2: COMPUTATION TABLE FOR INDEX OF DEVELOPMENT, TIME II

| Rank | Country | Table Number 4-2 | 4-4 | 4-6 | 4-8 | 4-10 | 4-14 | 4-16 | 4-18 | 4-22 | 4-24 | 4-26 | 2-48 | 4-30 | 4-32 | Sum | Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Lebanon | 1[a] | 1 | 1 | 1.0 | 2.0 | 5 | 2 | 1 | 1.0 | 2 | 1 | 2 | 1.0 | 1 | 22.0 | 1.57 |
| 2 | Gabon | 9 | 7 | NA | NA | 5.0 | 11 | 4 | 7 | 2.0 | 1 | 3 | 1 | 2.0 | 3 | 55.0 | 4.58 |
| 3 | Syria | 2 | 2 | 10 | 7.5 | 1.0 | 3 | 5 | 2 | 9.0 | 4 | 4 | 9 | 11.0 | 2 | 71.5 | 5.11 |
| 4 | Algeria | 6 | 4 | 7 | 4.0 | 4.0 | 6 | 8 | 9 | 3.0 | 5 | 2 | 5 | 6.0 | 4 | 73.0 | 5.21 |
| 5 | Tunisia | 5 | 3 | 12 | 3.0 | 6.0 | 8 | 3 | 3 | 5.0 | 8 | 6 | 6 | 3.0 | 5 | 76.0 | 5.43 |
| 6 | Congo (Brazz.) | 4 | 6 | NA | 14.0 | 9.0 | 9 | 1 | 5 | 7.0 | 9 | 7 | 3 | NA | 6 | 80.0 | 6.67 |
| 7 | Morocco | 3 | 5 | 11 | 5.0 | 10.0 | 7 | 14 | 6 | 7.0 | 6 | 8 | 10 | 5.0 | 7 | 104.0 | 7.43 |
| 8 | Senegal | 8 | 8 | 4 | 9.5 | 8.0 | 10 | 15 | 11 | 7.0 | 7 | 10 | 8 | 7.0 | 9 | 121.5 | 8.68 |
| 9 | Ivory Coast | 13 | 9 | 8 | 12.5 | 18.5 | 13 | 12 | 12 | 4.0 | 3 | 9 | 4 | 4.0 | 10 | 132.0 | 9.43 |
| 10 | South Vietnam | 7 | 15 | 9 | 2.0 | 7.0 | 1 | 9 | 4 | 13.5 | 10 | 5 | 15 | 17.0 | 19 | 133.5 | 9.54 |
| 11 | Cambodia | 12 | 18 | NA | 7.5 | 3.0 | 4 | 7 | 8 | 11.0 | 11 | 16 | 17 | 16.0 | 14 | 144.5 | 11.12 |
| 12 | Madagascar | 16 | 10 | 3 | 6.0 | 11.0 | 18 | 10 | 10 | 15.5 | 17 | 13 | 14 | 8.0 | 8 | 159.5 | 11.39 |
| 13 | Cameroon | 15 | 20 | 5 | 11.0 | 12.0 | 19 | 6 | 14 | 11.0 | 13 | 12 | 11 | 9.0 | 16 | 174.0 | 12.43 |
| 14 | Central Afr. Rep. | 10 | 11 | 2 | 14.0 | 14.0 | 21 | 11 | 17 | 13.5 | 16 | 18 | 12 | 10.0 | 18 | 187.5 | 13.39 |
| 15 | Togo | 17 | 14 | 17 | 9.5 | 17.0 | 14 | 13 | 13 | 15.5 | 12 | 14 | 13 | 15.0 | 13 | 197.0 | 14.07 |
| 16 | Guinea | 18 | 13 | NA | 19.0 | 15.0 | 12 | 19 | 15 | 17.5 | 16 | 11 | 16 | 14.0 | 11 | 195.5 | 15.04 |
| 17 | Laos | 14 | 19 | 15 | 12.5 | 13.0 | 2 | 16 | 18 | 17.5 | 22 | 17 | 21 | 18.0 | 15 | 220.0 | 15.71 |
| 18 | Dahomey | 11 | 12 | 14 | 19.0 | 20.0 | 17 | 17 | 16 | 19.5 | 21 | 19 | 18 | 13.0 | 12 | 228.0 | 16.32 |
| 19 | Mauritania | 21 | 22 | NA | NA | 18.5 | 15 | 23 | 21 | 11.0 | 14 | 15 | 7 | 12.0 | 17 | 196.5 | 16 38 |
| 20 | Chad | 20 | 16 | 6 | 17.5 | 22.0 | 23 | 18 | 19 | 21.5 | 20 | 21 | 20 | 19.0 | 22 | 265.0 | 18.93 |
| 21 | Mali | 19 | 17 | NA | 14.0 | 23.0 | 16 | 20 | 23 | 19.5 | 19 | 20 | 22 | 21.5 | 20 | 254.0 | 19.54 |
| 22 | Niger | 23 | 21 | 13 | 17.5 | 16.0 | 20 | 22 | 22 | 21.5 | 18 | 22 | 19 | 21.5 | 21 | 277.5 | 19.82 |
| 23 | Upper Volta | 22 | 23 | 16 | 19.0 | 21.0 | 22 | 21 | 20 | 23.0 | 23 | 23 | 23 | 20.0 | 23 | 299.0 | 21.36 |

[a]The 'NA' indicates that data were not available for this country on this variable.

## APPENDIX C

The index of political access was developed by making use of the seven variables from the Cross-Polity Survey with highest loading scores on the factor political access arrived at by Phillip M. Gregg and Arthur S. Banks in "Dimensions of Political Systems: Factor Analysis of A Cross-Polity Survey." Table C-1 displays the high load variables comprising the extreme portions of this factor.

TABLE C-1: FACTOR I, ACCESS

| Factor Loading | Variable |
|---|---|
| .94 | Electoral System |
| .93 | Constitutional Regime |
| .92 | Group Opposition |
| .87 | Status of Legislature |
| .86 | Horizontal Power Distribution |
| .85 | Representativeness of Regime |
| .80 | Press Freedom |

SOURCE: Adapted from Phillip M. Gregg and Arthur S. Banks, "Dimensions of Political Systems: Factor Analysis of A Cross-Polity Survey", American Political Science Review, Vol. 59 (September, 1965) page 608.

The data for the countries of this study were then ascertained for each of the seven variables reported in the above table. The data for Time Period I were taken from the raw characteristic code sheet in Appendix A of A Cross-Polity Sur-

vey for each country. The codebook interpretation for each variable is presented for clarity in the meaning of the codes reported in Tables C-2 and C-4. The number in parenthesis following each code description indicates the numerical weight for that code for that variable. The numerical weight was used to compute the index of political access for both time periods. The larger the numerical value the greater the level of political access the country experienced on the variable being measured. The number preceeding the variable description title is the number of the variable as it is reported in A Cross-Polity Survey.

29 Current Electoral System:
- A. Competitive (100)
- B. Partially Competitive (67)
- G. Non-competitive (33)

26 Constitutional Status of Present Regime:
- A. Constitutional (100)
- B. Authoritarian (67)
- G. Totalitarian (33)

30 Freedom of Group Opposition:
- A. Autonomous group free to enter politics and able to oppose government (100)
- B. Autonomous group free to organize in politics, but limited in capacity to oppose government (75)
- G. Autonomous groups tolerated informally and outside politics (50)
- H. No genuinely autonomous groups tolerated (25)

50 Current Status of Legislature
- A. Fully Effective (100)
- B. Partially Effective (75)
- C. Largely Ineffective (50)
- G. Wholly Ineffective (25)

48 Horizontal Power Distribution
- A. Significant (100)
- B. Limited (67)
- G. Negligible (33)

28 Representativeness of Regime
- A. Polyarchic (100)
- B. Limited polyarchic (75)
- G. Pseudo-polyarchic (50)
- H. Non-polyarchic (25)

13 Freedom of Press
- A. Complete (100)
- B. Intermittent (75)
- G. Internally absent (50)
- H. Internally and externally absent (25)

For a complete explanation of the criteria established to code countries on each variable the reader is referred to Chapter 3 of A Cross-Polity Survey, pages 54 through 118.

In Table C-2 the code values from A Cross-Polity Survey for the above variables are given for the selected countries. The number at the top of each code column refers to the variable codebook number reported above. The letter in parenthesis indicates a code value which was substituted for coding in Time Period I.

In Table C-3 a numerical expression of the level of openness political access channels is presented for each of the selected countries for Time Period I. The average level of access is presented and discussed in Chapter IV of this study.

In Table C-4 the code values are given for the selected countries in Time Period II. These values were ascertained by a process of searching three library sources and noting the

TABLE C-2: CODE SHEET FOR ACCESS VARIABLE, TIME I

| Country | Variable Codebook Numbers 29 | 26 | 30 | 50 | 48 | 28 | 13 |
|---|---|---|---|---|---|---|---|
| Algeria | G | B | 6(B) | G | G | G | G |
| Cambodia | G | B | G | H | G | G | G |
| Cameroon | 6 | 6 | B | B | B | 3 | A |
| Central Afr. Rep. | G | B | G | G | G | G | 5 |
| Chad | B | 5(A) | B | G | G | G | A |
| Congo (Brazz.) | B | 5 | B | G | G | G | 5 |
| Dahomey | G | 5 | G | G | G | G | 5 |
| Gabon | G | 5 | B | G | G | G | 5 |
| Guinea | G | B | G | H | G | G | G |
| Ivory Coast | G | 3 | G | G | G | G | 5 |
| Laos | 3 | B | 3 | H | G | G | B |
| Lebanon | 3 | A | A | B | B | 3 | B |
| Malagasy Republic | A | A | A | B | B | A | A |
| Mali | 6 | 5 | G | G | B | G | A |
| Mauritania | G | A | B | G | B | G | A |
| Morocco | G | A | B | B | B | G | B |
| Niger | 6 | 5 | G | G | G | A | A |
| Senegal | B | 6 | 6 | G | G | G | 5 |
| Syria | 6(B) | 6(A) | 6(B) | 6(G) | 6(B) | 6(G) | B |
| Togo | 6(A) | 6(B) | 6(A) | 6(B) | G | 6(B) | 6(A) |
| Tunisia | G | A | B | G | G | A | G |
| Upper Volta | B | 5 | G | G | G | G | 5 |
| Vietnam Republic | G | 3 | G | H | G | G | G |

SOURCE: Adapted from Raw Characteristic Code Sheet in Arthur S. Banks and Robert B. Textor, A Cross-Polity Survey (Cambridge, the M.I.T. Press, 1963) Appendix A.

TABLE C-3: NUMERICAL COMPUTATION FOR POLITICAL ACCESS, TIME I

| Country | Variable Codebook Number 29 | 26 | 30 | 50 | 48 | 28 | 13 | Average Degree of Openness of Political Access |
|---|---|---|---|---|---|---|---|---|
| Algeria | 33 | 67 | 75 | 50 | 33 | 50 | 50 | 51.14 |
| Cambodia | 33 | 67 | 50 | 25 | 33 | 50 | 50 | 44.00 |
| Cameroon | na | na | 75 | 75 | 67 | na | 100 | 79.25 |
| Cen. Afr. Rep. | 33 | 67 | 50 | 50 | 33 | 50 | na | 47.17 |
| Chad | 67 | 100 | 75 | 50 | 33 | 50 | 100 | 67.86 |
| Congo (Brazz) | 67 | na | 75 | 50 | 33 | 50 | na | 55.00 |
| Dahomey | 33 | na | 50 | 50 | 33 | 50 | na | 43.20 |
| Gabon | 33 | na | 75 | 50 | 33 | 50 | na | 48.20 |
| Guinea | 33 | 67 | 50 | 25 | 33 | 50 | 50 | 44.00 |
| Ivory Coast | 33 | na | 50 | 50 | 33 | 50 | na | 43.20 |
| Laos | na | 67 | na | 25 | 33 | 50 | 75 | 50.00 |
| Lebanon | na | 100 | 100 | 75 | 67 | na | 75 | 83.40 |
| Malagasy Rep. | 100 | 100 | 100 | 75 | 67 | 100 | 100 | 77.43 |
| Mali | na | na | 50 | 50 | 67 | 50 | 100 | 63.40 |
| Mauritania | 33 | 100 | 75 | 50 | 67 | 50 | 100 | 67.86 |
| Morocco | 33 | 100 | 75 | 75 | 67 | 50 | 75 | 67.86 |
| Niger | na | na | 50 | 50 | 33 | 100 | 100 | 66.60 |
| Senegal | 67 | na | na | 50 | 33 | 50 | na | 50.00 |
| Syria | 67 | 100 | 75 | 50 | 67 | 50 | 75 | 69.14 |
| Togo | 100 | 67 | 100 | 75 | 33 | 75 | 100 | 78.57 |
| Tunisia | 33 | 100 | 75 | 50 | 33 | 100 | 50 | 48.71 |
| Upper Volta | 67 | na | 50 | 50 | 33 | 50 | na | 50.00 |
| Vietnam Rep. | 33 | na | 50 | 25 | 33 | 50 | 50 | 41.66 |

TABLE C-4: CODE SHEET FOR ACCESS VARIABLE, TIME II

| Country | Variable Codebook Numbers 29 | 26 | 30 | 50 | 48 | 28 | 13 |
|---|---|---|---|---|---|---|---|
| Algeria | G | G | G | H | G | G | H |
| Cambodia | B | B | G | H | G | G | G |
| Cameroon | B | A | B | B | B | B | A |
| Central African Rep. | na | G | H | H | G | H | G |
| Chad | G | A | B | G | B | G | B |
| Congo (Brazzaville) | na | G | H | H | G | G | H |
| Dahmey | G | G | H | H | G | G | G |
| Gabon | G | B | B | B | B | G | G |
| Guinea | G | B | G | H | G | G | H |
| Ivory Coast | G | B | B | G | B | G | na |
| Laos | B | B | na | H | G | G | G |
| Lebanon | A | A | A | B | B | na | A |
| Malagasy Republic | A | A | A | B | B | A | A |
| Mali | G | G | G | H | G | H | G |
| Mauritania | G | B | G | G | G | na | B |
| Morocco | G | G | G | H | B | G | G |
| Niger | G | B | G | G | B | na | G |
| Senegal | B | B | B | G | B | G | B |
| Syria | G | G | G | H | G | H | H |
| Togo | G | G | G | H | G | H | B |
| Tunisia | G | B | B | G | B | B | B |
| Upper Volta | G | G | G | H | G | H | G |
| Vietnam Republic | B | B | G | G | G | G | G |

SOURCE: Britannica Book of the Year: 1969, The Political Handbook and Atlas of the World: 1970, and the coded data in Jean Blondel's An Introduction to Comparative Government served as the basis for this table.

changes from Time Period I to Time Period II.

In Table C-5 a numerical expression of the level of openness of political access channels is presented for each of the chosen countries for Time Period II. Table C-5 assigns high values for openness of access channels and low values where access channels are restricted or closed.

TABLE C-5: NUMERICAL COMPUTATION FOR POLITICAL ACCESS,TIME II

| Country | Variable 29 | 26 | Codebook 30 | 50 | 48 | Number 28 | 13 | Average Degree of Openness of Political Access |
|---|---|---|---|---|---|---|---|---|
| Algeria | 33 | 33 | 50 | 25 | 33 | 50 | 25 | 40.29 |
| Cambodia | 67 | 67 | 50 | 25 | 33 | 50 | 50 | 48.85 |
| Cameroon | 67 | 100 | 75 | 75 | 67 | 75 | 100 | 79.71 |
| Central Afr. Rep. | na | 33 | 25 | 25 | 33 | 25 | 50 | 48.50 |
| Chad | 33 | 100 | 75 | 50 | 67 | 50 | 75 | 64.29 |
| Congo (Brazz.) | na | 33 | 25 | 25 | 33 | 50 | 25 | 31.83 |
| Dahomey | 33 | 33 | 25 | 25 | 33 | 50 | 50 | 35.43 |
| Gabon | 33 | 67 | 75 | 75 | 67 | 50 | 50 | 59.57 |
| Guinea | 33 | 67 | 50 | 25 | 33 | 50 | 25 | 40.43 |
| Ivory Coast | 33 | 67 | 25 | 50 | 67 | 50 | na | 48.66 |
| Laos | 67 | 67 | na | 25 | 33 | 50 | 50 | 48.66 |
| Lebanon | 100 | 100 | 100 | 75 | 67 | na | 100 | 90.33 |
| Malagasy Rep. | 100 | 100 | 100 | 75 | 67 | 100 | 100 | 91.71 |
| Mali | 33 | 33 | 50 | 25 | 33 | 25 | 50 | 35.71 |
| Mauritania | 33 | 67 | 50 | 50 | 33 | na | 75 | 51.33 |
| Morocco | 33 | 33 | 50 | 25 | 67 | 50 | 50 | 44.00 |
| Niger | 33 | 67 | 50 | 50 | 67 | na | 50 | 52.83 |
| Senegal | 67 | 67 | 75 | 50 | 67 | 50 | 75 | 64.42 |
| Syria | 33 | 33 | 50 | 25 | 33 | 25 | 25 | 32.14 |
| Togo | 33 | 33 | 50 | 25 | 33 | 25 | 75 | 39.28 |
| Tunisia | 33 | 67 | 75 | 50 | 67 | 75 | 75 | 63.14 |
| Upper Volta | 33 | 33 | 50 | 25 | 33 | 25 | 50 | 35.71 |
| Vietnam Rep. | 67 | 67 | 50 | 50 | 33 | 50 | 50 | 52.42 |

## APPENDIX D

TABLE D-1: INTERDEPENDENCE OF FOUR PARTICIPATION SECTORS

| Dependent Variable | Multiple Correlation |
|---|---|
| Urbanization | .61 |
| Literacy | .91 |
| Media Participation | .84 |
| Political Participation | .82 |

SOURCE: Daniel Lerner, The Passing of Traditional Society (Glencoe: The Free Press, 1958) page 63.

TABLE D-2: LITERACY BY SEX AND PLACE

| Size Place | Male | Female | Total |
|---|---|---|---|
| Cities over 30,000 | 72% | 48% | 62% |
| Cities 10,000-30,000 | 63% | 37% | 49% |
| Rest of Turkey | 36% | 11% | 23% |

SOURCE: Daniel Lerner, The Passing of Traditional Society (Glencoe: The Free Press, 1958) page 124.

Reference is made to these two tables on page 21 of the paper.

## APPENDIX E

### Collection and Summarization of Data

The definition of political violence discussed in Chapter V as "...all collective, nongovernmental attacks on persons or property that occur within the boundaries of an autonomous political unit.", was modified to include those governmental attacks which are normally beyond a constitutional role of government and which fit our scale categories, i.e., politically motivated arrests, executions, martial law, etc. Operationally, the definition included all events which were reported and affected the stability of the political regime. Further, when it was possible to ascertain a series of events which involved the same group and issue, these events would be classified as a single event.

A large number of sources were scanned to obtain as complete as possible a record of political violence events for the 23 countries studied. A systematic search was made of the New York Times; Newsyear (the annual volumes of Facts on File); and the Encyclopedia Brittannica Yearbooks. Other sources were consulted when it was felt necessary to supplement the aforementioned sources, i. e., The Political Handbook and Atlas of the World and the African Digest. Even with such a syste-

matic investigation of sources there are, no doubt, certain large as well as small scale events which may have gone unreported. It would seem that such oversight would not alter the basic analysis undertaken in this study.

## Reliability of the Data

As a check upon the reliability of the data we compared and correlated our index of political violence in Time Period I with that of Gurr's reported in Violence in America, pages 489 through 491. The correlation coefficient, i.e., Spearman's rho, of +.74 (n=20) is obtained when correlating Gurr's "Magnitude of Civil Strife Scale" with our scale of magnitude of civil strife which is presented in Table 6-1. Gurr's nation violence scores for the countries of this study are presented in Table E-1. His scores are for the years 1961-1965 while ours are for the years 1961-1963. His scoring of these events is weighted for pervasiveness, intensity, and duration of political violence. His data sources are the New York Times, Newsyear and African Digest. A correlation of +.74 would strongly suggest that our data provides a representative picture of the comparative levels of political violence in the nations in the sample. In our index, Tunisia and Guinea rank somewhat higher than on the Gurr index while Togo and the Ivory Coast rank somewhat lower than on the Gurr index. This could partially be explained on the basis of the incompatability of the years in which violence is being compared.

TABLE E-1: TOTAL MAGNITUDE OF CIVIL STRIFE IN THE POLITIES WHICH WERE FORMER FRENCH COLONIES, TIME PERIOD Ia

| Rank | Country[b] | Score |
|---|---|---|
| 1.5 | South Vietnam | 32.8 |
| 1.5 | Laos | 32.8 |
| 3 | Algeria | 19.5 |
| 4 | Syria | 17.8 |
| 5 | Cameroon | 13.1 |
| 6 | Tunisia | 11.8 |
| 7 | Guinea | 9.5 |
| 8 | Mali | 8.3 |
| 9 | Dahomey | 7.7 |
| 10 | Chad | 7.2 |
| 11 | Morocco | 6.7 |
| 12.5 | Lebanon | 5.8 |
| 12.5 | Niger | 5.8 |
| 14 | Senegal | 5.1 |
| 15 | Togo | 4.1 |
| 16 | Cambodia | 3.8 |
| 17 | Ivory Coast | 1.8 |
| 18 | Central African Rep. | 1.3 |
| 19.5 | Malagasy Republic | .0 |
| 19.5 | Upper Volta | .0 |

[a]Data from this table extends the time interval to 1965 as adequate data were not ascertainable from Gurr's other data sources.

[b]Gabon, Congo (Brazzaville) and Mauritania were not included in Gurr's study.

The Feierabends and Nesvold in "Social Change and Political Violence: Cross-National Patterns," in Violence in America (1969), Appendix A, have correlated their instabiilty scores with Gurr's violence scores and found a correlation of r=0.7 They also make two other comparisons of interest and find: (1) The relative frequency of reported assassinations remains largely the same among nations, although absolute frequency varies with the source (r = 0.8 for assassinations reported in the Deadline Data on World Affairs and the New York Times; and (2) They find little or no evidence of relationship between population size and political violence (r = 0.12 for n = 84). Both findings mentioned suggest that random and systematic error should not be so great that it will alter overall analysis of violence where adequate sources have been investigated.

## Scaling Procedures: Political Violence

Tables E-2 and E-3 display the computation of political violence indices for Time Period I and Time Period II. Average I does not affect the ordering of countries while Average II stresses the intensity of violence in countries when it does occur and a new ranking of countries emerge when this profiling procedure is employed. The intensity of violence appears to increase markedly when comparing Average I to Average II for countries at the lower levels of development, i.e., Upper Volta in Time II jumps from a rank of 17.5 to a rank of 4 while for Lebanon, Syria and Algeria there is a drop in rank

TABLE E-2: COMPUTATION OF POLITICAL VIOLENCE SCALE, TIME I

| Country | 1961 | 1962 | 1963 | Total | Average I[a] | Average II[b] |
|---|---|---|---|---|---|---|
| Algeria | 9 | 8 | 6 | 23 | 7.67 | 7.67 |
| Cambodia | 0 | 2 | 0 | 2 | .67 | 2.00 |
| Cameroon | 6 | 3 | 3 | 12 | 4.00 | 4.00 |
| Central Afr. Rep. | 0 | 1 | 0 | 1 | .33 | 1.00 |
| Chad | 2 | 2 | 2 | 6 | 2.00 | 2.00 |
| Congo (Brazzaville) | 0 | 1 | 4 | 5 | 1.67 | 2.50 |
| Dahomey | 2 | 0 | 4 | 6 | 2.00 | 3.00 |
| Gabon | 0 | 1 | 0 | 1 | .33 | 1.00 |
| Guinea | 3 | 0 | 0 | 3 | 1.00 | 3.00 |
| Ivory Coast | 1 | 0 | 4 | 5 | 1.67 | 2.50 |
| Laos | 10 | 11 | 8 | 29 | 9.67 | 9.67 |
| Lebanon | 3 | 2 | 0 | 5 | 1.67 | 2.50 |
| Malagasy Republic | 0 | 0 | 0 | 0 | 0.00 | 0.00 |
| Mali | 0 | 6 | 2 | 8 | 2.67 | 4.00 |
| Mauritania | 0 | 9 | 0 | 9 | 3.00 | 4.50 |
| Morocco | 1 | 0 | 3 | 4 | 1.33 | 2.00 |
| Niger | 0 | 0 | 0 | 0 | 0.00 | 0.00 |
| Sinegal | 2 | 2 | 2 | 6 | 2.00 | 2.00 |
| Syria | 7 | 8 | 5 | 20 | 6.67 | 6.67 |
| Togo | 3 | 2 | 6 | 11 | 3.67 | 3.67 |
| Tunisia | 0 | 2 | 0 | 2 | .67 | 2.00 |
| Upper Volta | 0 | 0 | 0 | 0 | .00 | .00 |
| South Vietnam | 13 | 11 | 11 | 35 | 11.67 | 11.67 |

[a]This average is attained by dividing Total by 3.

[b]This average is obtained by dividing Total by number of years in which violence reportedly occurred.

TABLE E-3: COMPUTATION OF POLITICAL VIOLENCE SCALE, TIME II

| Country | 1966 | 1967 | 1968 | Total | Average I[a] | Average II[b] |
|---|---|---|---|---|---|---|
| Algeria | 4 | 4 | 4 | 12 | 4.00 | 4.00 |
| Cambodia | 3 | 3 | 4 | 10 | 3.33 | 3.33 |
| Cameroon | 0 | 6 | 0 | 6 | 2.00 | 6.00 |
| Central Afr. Rep. | 6 | 2 | 0 | 8 | 2.67 | 4.00 |
| Chad | 3 | 3 | 8 | 14 | 4.67 | 4.67 |
| Congo (Brazz.) | 2 | 0 | 7 | 9 | 3.00 | 4.50 |
| Dahomey | 2 | 4 | 1 | 7 | 2.33 | 2.33 |
| Gabon | 0 | 0 | 0 | 0 | .00 | .00 |
| Guinea | 0 | 1 | 1 | 2 | .67 | 1.00 |
| Ivory Coast | 0 | 0 | 3 | 3 | 1.00 | 3.00 |
| Laos | 12 | 10 | 11 | 33 | 11.00 | 11.00 |
| Lebanon | 2 | 2 | 2 | 6 | 2.00 | 2.00 |
| Malagasy Rep. | 0 | 0 | 0 | 0 | .00 | .00 |
| Mali | 0 | 0 | 3 | 3 | 1.00 | 3.00 |
| Mauritania | 2 | 1 | 1 | 4 | 1.33 | 1.33 |
| Morocco | 1 | 1 | 0 | 2 | .67 | 1.00 |
| Niger | 0 | 0 | 0 | 0 | .00 | .00 |
| Senegal | 2 | 2 | 1 | 5 | 1.67 | 1.67 |
| Syria | 8 | 1 | 0 | 9 | 3.00 | 4.50 |
| Togo | 3 | 4 | 0 | 7 | 2.33 | 3.50 |
| Tunisia | 1 | 1 | 1 | 3 | 1.00 | 1.00 |
| Upper Volta | 5 | 0 | 0 | 5 | 1.67 | 5.00 |
| South Vietnam | 10 | 15 | 11 | 36 | 12.00 | 12.00 |

[a]This average is attained by dividing Total by 3.

[b]This average is attained by dividing Total by the number of years in which violence reportedly occurred.

when employing Average II rather than Average I.

## Scaling Procedures: Ethnicity Scale

The scaling procedure for the ethnicity scale was to code each country in our sample by four variables reported in A Cross-Polity Survey: (1) Religious homogeneity; (2) Racial homogeneity; (3) Linguistic homogeneity; and (4) Sectionalism. Scale scores were assigned to each code with the highest values indicating ethnic group strength, i.e., religious homogeneity = 1 and religious hetereogeneity = 2. Table E-4 presents the coded values reported in A Cross-Polity Survey and Table E-5 presents the computation method for arriving at our scale scores. The values for the raw characteristics utilized in these tables are as follows:

Raw Characteristic 16. Religious Homogeneity
(Derived from Raw Characteristic 15--Religious Configuration)

A. Homogeneous (A=Protestant, B=Catholic, G=East Orthodox, I=Hindu, J=Buddhist, K=Muslim or P=Jewish) (These codes are those used for Raw Characteristic 15): 57 polities.

B. Heterogeneous (H=Mixed, Christian; Q=Mixed, literate non-Christian; R=Mixed, Christian and literate non-Christian; X=Mixed, non-literate Christian; or Z=literate Christian, and non-literate non-Christian) (These are also codes used in Raw Characteristic 15): 49 polities.

3. Ambiguous: 3 polities.

5. Unascertained: 6 polities.

TABLE E-4: CODED VALUES FOR ETHNICITY SCALE[a]

| Country | Homogeneity[b] | Homogeneity[c] | Homogeneity[d] | Section-alism[e] |
|---|---|---|---|---|
| Algeria | A | A | G | B |
| Cambodia | A | A | B | B |
| Cameroon | B | A | G | B |
| Cen.Afr.Rep. | na | A | G | G |
| Chad | B | B | G | B |
| Congo(Brazz) | B | A | G | B |
| Dahomey | B | A | G | B |
| Gabon | B | A | G | B |
| Guinea | B | A | G | B |
| Ivory Coast | B | A | G | G |
| Laos | B | A | G | A |
| Lebanon | B | A | G | B |
| Malagasy Rep. | B | na | A | A |
| Mali | B | B | G | na |
| Mauritania | A | B | G | B |
| Morocco | A | A | G | A |
| Niger | B | B | G | na |
| Senegal | A | A | G | B |
| Syria | A | A | B | B |
| Togo | B | A | G | B |
| Tunisia | A | A | A | G |
| Upper Volta | B | A | G | G |
| Vietnam Rep. | na | A | B | G |

[a]Codes are those appearing in Appendix A, "Raw Characteristic Code Sheet" of Banks and Textor, A Cross-Polity Survey.

[b]Identification of the codes for religious homogeneity are: A =Religiously Homogeneous; B=Religiously heterogeneous.

[c]Identification of the codes for racial homegeneity are:A=90% or more of the population one race; B=Less than 90% of the population of one race.

[d]Identification of the codes for linguistic homogeneity are: A=85% or population speaks same language with no significant minority language; B=85% of population speaks same language with a significant minority language of 15% or less; G=No single language is spoken by 85% of the population.

[e]Identification of the codes for sectionalism are: A=Extreme; B=Moderate; G=Negligible; and na=Not Ascertainable.

TABLE E-5: COMPUTATION TABLE FOR ETHNICITY SCALE[a]

| Country | Religious Homogeneity | Racial Homogeneity | Linguistic Homogeneity | Sectionalism | Average Ethnicity Values[b] |
|---|---|---|---|---|---|
| Algeria | 1 | 1 | 3 | 2 | 1.75 |
| Cambodia | 1 | 1 | 2 | 2 | 1.50 |
| Cameroon | 2 | 1 | 3 | 2 | 2.00 |
| Cen.Afr.Rep. | na | 1 | 3 | 1 | 1.67 |
| Chad | 2 | 2 | 3 | 2 | 2.25 |
| Congo(Brazz) | 2 | 1 | 3 | 2 | 2.00 |
| Dahomey | 2 | 1 | 3 | 2 | 2.00 |
| Gabon | 2 | 1 | 3 | 2 | 2.00 |
| Guinea | 2 | 1 | 3 | 2 | 2.00 |
| Ivory Coast | 2 | 1 | 3 | 1 | 1.75 |
| Laos | 2 | 1 | 3 | 3 | 2.25 |
| Lebanon | 2 | 1 | 1 | 2 | 1.50 |
| Malagasy Rep. | 2 | na | 1 | 3 | 2.00 |
| Mali | 2 | 2 | 3 | na | 2.33 |
| Mauritania | 1 | 2 | 3 | 2 | 2.00 |
| Morocco | 1 | 1 | 3 | 3 | 2.00 |
| Niger | 2 | 2 | 3 | na | 2.67 |
| Senegal | 1 | 1 | 3 | 2 | 1.75 |
| Syria | 1 | 1 | 2 | 2 | 1.50 |
| Togo | 2 | 1 | 3 | 2 | 2.00 |
| Tunisia | 1 | 1 | 1 | 1 | 1.00 |
| Upper Volta | 2 | 1 | 3 | 1 | 1.75 |
| Vietnam Rep. | na | 1 | 2 | 1 | 1.33 |

Possible Range: 1 to 3.00/Actual Range: 1 to 2.67/Mean: 1.90

[a]In computing the scale values for the codes reported in Table E-5 we coded religious homogeneity as: A = 1; B = 2. For the other variables, the scale values are as follows: Racial Homogeneity, A = 1, B = 2; Linguistic Homogeneity, A = 1, B = 2; and Sectionalism, A = 3, B = 2, and G = 1.

[b]Averages are based upon the sum of scale values divided by the number of variables for which data were ascertainable.

Raw Characteristic 17. Racial Homogeneity

A. Homogeneous (90% or more of one race): 82 polities.

B. Heterogeneous (less than 90% of one race): 27 polities.

3. Ambiguous: 4 polities.

5. Unascertained: 2 polities.

Raw Characteristic 18. Linguistic Homogeneity

A. Homogeneous (Majority of 85% or more; no significant single minority): 27 polities.

B. Weakly heterogeneous (Majority of 85% or more; significant minority of 15% or less): 12 polities.

G. Strongly heterogeneous (no single group of 85% or more): 50 polities.

3. Ambiguous: 1 polity.

Raw Characteristic 32. Sectionalism

A. Extreme (one or more groups with extreme sectional feeling): 27 polities.

B. Moderate (one group with strong sectional feeling or several with moderate sectional feeling): 34 polities.

G. Neglible (no significant sectional feeling): 47 polities.

3. Ambiguous: 3 polities.

5. Unascertained: 4 polities.

All codes which were not A, B or G were coded N.A. as there were only five with no country having more than one variable where they did not receive a meaningful code value.