INTRODUCTION

1 OBJECTIVES AND SCOPE

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1.1 Introduction

The Third World is too diverse to allow us to make many meaningful generalizations. No matter how we define the Third World, some countries will fit the definition better than others. Pretty much the same can be said with regard to "underdevelopment". No one theory can explain underdevelopment everywhere, just as no one development strategy can solve all problems of underdevelopment throughout the Third World. In the same way that likenesses are hidden under apparent divergences, so differences are hidden under apparent resemblances.

If we accept the proposition that the principal task of development geography is to make a contribution to solving or alleviating such problems as human deprivation, environmental degradation, and underutilization of both human and natural resources, geographers should make a concerted effort to uncover those hidden differences and similarities. And that is precisely the main objective of the present study. Some of the questions addressed are: How do people respond to the challenge of making a living in ecologically difficult environments? Why have farmers living in different places, but with similar ecological conditions adopted different "livelihood strategies"? Are some strategies more successful than others, resulting in a higher quality of life and greater "food security"?

From 1983 onwards geographers from Amsterdam have dealt with these questions in the framework of a project called 'Semi-Arid Lands Project Amsterdam', with research locations in Morocco, Kenya, Togo, Mexico and Spain. It resulted in a number of doctoral dissertations and a considerable number of scientific and policy-oriented publications (see appendix). In all five countries a particular region was selected for in-depth studies. These regions have one thing in common in terms of climatic conditions: they are located in water-deficit regions, that is, regions where potential evapotranspiration exceeds annual precipitation. Each of the areas has to cope with at least one long dry season in which plant growth (and non-irrigated crop production) comes to a standstill. Because the amount of annual precipitation in these dry areas varies greatly from year to year, they experience recurrent water shortages as well as (partial) crop failures. They are drought prone. Thus, the biomass production of these dry-season areas (both semiarid and subhumid) is not only limited, but fluctuates from one year to the next, making life (survival)

highly unpredictable. In relatively wet years, the productivity of the land is much greater than in dry years, rendering the concept of carrying capacity - as a yardstick for measuring the potential needed to support a certain density of farming-dependent human population - difficult to apply.

Over the years, survival has become increasingly jeopardized in many of the world's semiarid (SA) and subhumid (SH) areas, due to growing population pressure, environmental degradation, incorporation into the world system, deteriorating terms of trade, etc. Large tracts of land have fallen victim to desertification processes, including denudation, accelerated surface run-off, soil erosion, and lowered ground-water tables. As a result of the decline in the natural environment's (innate) carrying capacity, local inhabitants have had to adjust their traditional livelihood strategies or develop new ones. In some SA/SH areas, local farmers have shifted from rain-fed to irrigated agriculture. Elsewhere, labor migration to urban centers or other countries has been resorted to as an alternative (and/or additional) means to earn a living. Small-scale production of consumer goods - to be sold outside the region - is another strategy which has gained importance in some SA/SH areas. In a number of instances, the government has given the rural population considerable (direct or indirect) assistance in finding ways to provide a livelihood, whereas in others the people were left to fend for themselves or, worse, were affected adversely by government intervention. Thus, while the problems caused by aridity may be much the same in different SA/SH areas, the human responses may vary a great deal, depending on the area-specific combination of demographic, social, cultural, political and economic factors.

1.2 Statement of the problem

The purpose of this comparative study of five rural areas with moisture-deficient (semiarid or subhumid) climates is to find out (1) whether there are marked differences in the level of living and in changes in the quality of life during the past few decades; and (2) whether these differences can be explained in terms of (a) differences in local livelihood strategies, and/or (b) differences in institutional (mainly governmental) interventions.

1.3 The five study areas

Most scientific results of the Semi-Arid Lands Project Amsterdam are restricted to mono-regional studies.
This book is an offshoot of the project as a whole, with a comparative focus. Each of the five country-specific research groups selected one small area within their study region for this comparative endeavour. Apart from their climatic similarities, these areas have several other common features: crop cultivation

dominates (hence the more pastoral semiarid areas are not included in this book, although they were part of the project as a whole); agricultural methods are technologically simple; crops and livestock are produced mainly for home consumption (subsistence), and all areas are located peripherally vis-à-vis the national core areas; politically and bureaucratically they "dangle" at the bottom of the national decision-making hierarchy. Furthermore, the areas have roughly comparable population densities, relatively infertile soils, and suffer growing environmental degradation.

Originally the project was restricted to Africa, with research in the Maghreb (Rif and Souss areas of Morocco), Sahel (northernmost part of Togo) and Kenya (Pokot and Kerio Valley). Later, a fourth aridity-plagued area, located in southeastern Spain, in the Andalusian province of Granada was added (Figure 1.1). It seemed worthwhile to discover whether - and if so, why - it makes a difference if a rural and relatively isolated SA/SH area is located in a less-developed country like Morocco, Togo or Kenya, or in a semi-developed country like Spain. More specifically, are there significant differences in livelihood strategy, food security, material well-being and government intervention in the Spanish area as compared to the three African areas? This, we felt, added an extra dimension to our study and might offer additional insight into the problem of how people in different socio-economic and political environments cope with aridity. What is it that makes it easier for the Spanish farmer than his African counterpart to maintain a reasonable level of living? Does he/she have better opportunities to tackle the problems posed by a limited and variable productivity of the land? And if so, what are these opportunities? Does the Spanish government do more than most African governments to enable farmers to find or develop alternative sources of income outside the agricultural sector?

Finally, in 1985, a fifth area, located in the state of Oaxaca, Mexico was added. Originally begun as a separate research project at the Free University of Amsterdam, it was decided to incorporate it into the present study on account of the fact that it resembled the research being carried out in the Spanish and African areas. It, too, deals with problems of survival among the rural poor in an uncertain, dry-season environment. Incorporating the Oaxaca study seemed particularly meaningful due to the circumstance that in terms of overall development level Mexico happens to rank lower than Spain, but higher than Morocco, Togo and Kenya.

1.4 Organization of the book

Chapter 2 deals with the specific problems posed by semiarid-to-subhumid (SA/SH) climates: their long dry seasons and the related seasonality problems, the intra- and inter-annual variability in precipitation, and the variable nature of

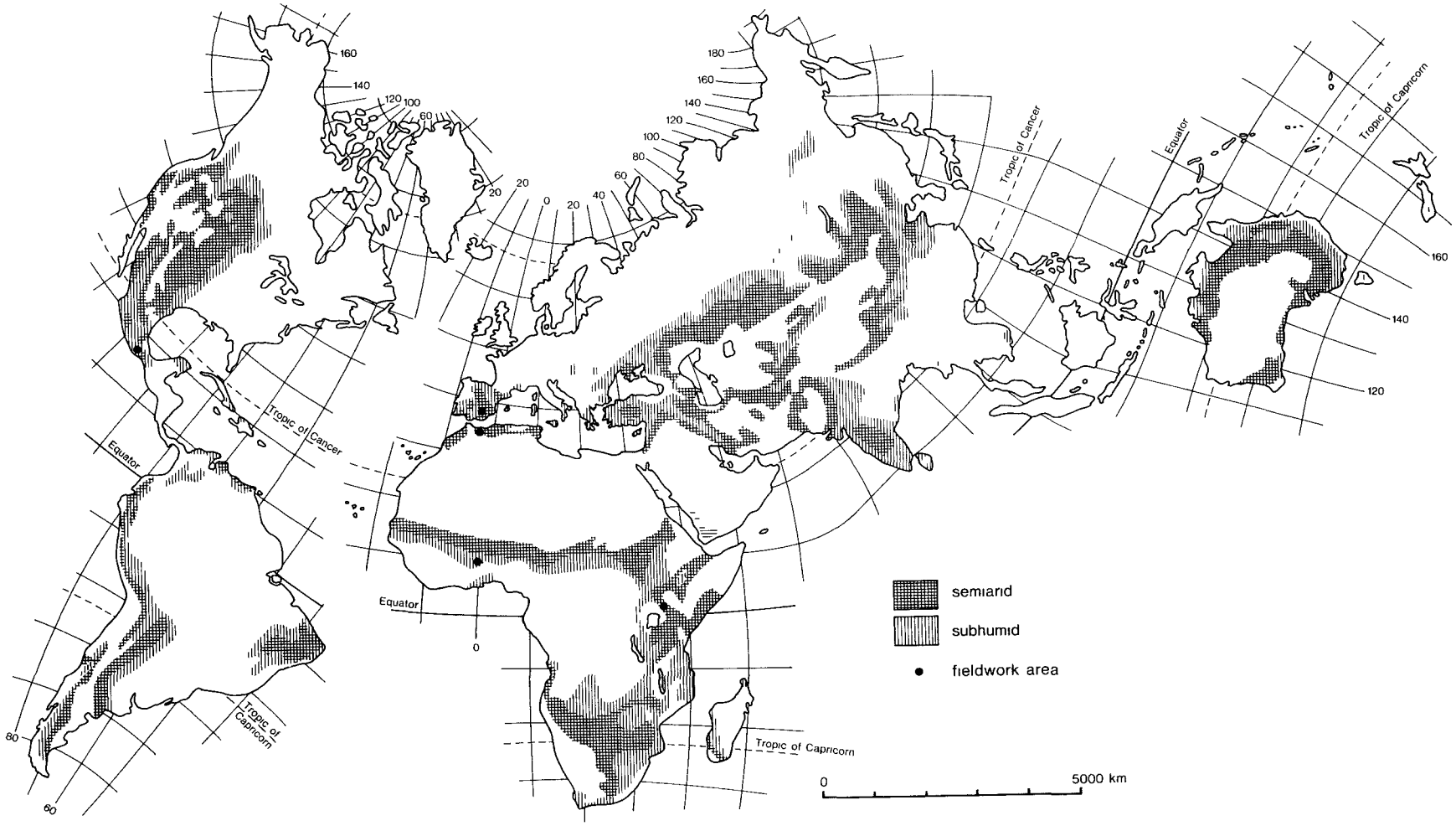

Figure 1.1 **World distribution of semiarid and subhumid regions, and location of fieldwork areas**
Source UNESCO, 1977.

the land's carrying capacity.
These features, together with erosion-proneness and the danger of salinization when irrigation is practised, place serious restrictions on long-term yield levels and are responsible for occasional crop failure. Furthermore, this chapter shows that some areas are more arid than others. Although accurate comparisons are not possible, if only because aridity is such a complex and geographically diverse phenomenon, it is clear that Beni Boufrah (Morocco) has the driest climate, and Kantindi (Togo) the most humid. The other tree areas have roughly the same climatic conditions. The climatic differences between Beni Boufrah and Kantindi should not be exaggerated, however, because (1) Beni Boufrah has a Mediterranean type of semiarid climate, meaning that precipitation is concentrated in the winter months (with relatively little evaporation during the growing season), and (2) the Kantindi area is exposed to the desiccating, dust-laden *harmattan* (December-February) with its extremely high evaporation rates.

In chapter 3 the core concept of the study, 'livelihood strategies' and related concepts like coping mechanisms and survival strategies are being explored.

Chapters 4 and 5 deal with the context of the five case study areas. It first considers the level of development of the countries in which the study areas are located. Using a wide variety of indicators, an attempt is made to estimate development levels, and to rank the countries accordingly. A similar effort to compare and rank the five study areas is made in the latter part of the chapter. However, lack of reliable and above all comparable quantitative data prevented the construction of a definitive rank order for the areas. In chapter 5 a comparison of the government policy concerning dry areas in the respective countries is presented, preceded by a discussion about a few conceptual issues. All five fieldwork areas are peripheral in the sense that they occupy a lowly position in the political-administrative hierarchy. Far removed from the national core areas, they have long been "forgotten". Still today they are somewhat neglected, receiving relatively few of the amenities and impulses (e.g., infrastructural works and public services) that usually go hand in hand with intensive government involvement and "bureaucratic penetration".

The major findings of the research activities are presented in five case study chapters: Kantindi/Togo (6), Endo-Mokoro/Kenya (7), Beni Boufrah/Morocco (8), Tlacolula/Mexico (9) and the Montes Orientales/Spain (10). Here we meet the people - mostly farm households - who are confronted year in year out with water shortages, unreliable rainfall, and variable growing seasons. A description is given of the ways in which the local people have adapted to the uncertainties and vagaries inherent in their drought-prone habitats. Also the manner is discussed in which households have changed their livelihood strategies over time in response to changed natural conditions (e.g., environmental degradation and declining carrying capacity) and human circumstances (e.g., increasingly

unfavorable man/land ratios and infrastructural improvements). While old (agricultural) opportunities "dry up", new (non-agricultural) opportunities, such as labor migration and small-scale industries, emerge. Some new ways of making a living turn out to be permanent, but others lack viability and last for only a short while. An important question addressed concerns the role of intervention by government and other institutions in creating new opportunities for the local inhabitants to secure a livelihood.

In Chapter 11, conclusions are presented regarding similarities and differences in the areas' livelihood strategies at the household level. Particular attention is given to changes in those strategies and to related increases or decreases in the quality of life. The final conclusion concerns the relative importance of contextual (circumstantial) variables (specifically those concerning government policies) as opposed to household strategies for securing the basic necessities of life and, where feasible, for improving the level of material well-being.