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STATE POLICIES, STATE PENETRATION, AND ECOLOGY: A COMPARATIVE ANALYSIS OF UNEVEN DEVELOPMENT AND UNDERDEVELOPMENT IN MEXICO'S MICRO AGRARIAN REGIONS

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by
Manuel L. Carlos

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STATE POLICIES, STATE PENETRATION AND ECOLOGY: A COMPARATIVE ANALYSIS OF UNEVEN DEVELOPMENT AND UNDERDEVELOPMENT IN MEXICO'S MICRO AGRARIAN REGIONS

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WORKING PAPERS IN U.S.-MEXICAN STUDIES, 19

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1981

Publication of this paper is made possible, in part, by a generous grant from the Rosenberg Foundation of San Francisco, California. The paper was presented at the Binational Consultation on U.S.-Mexican Agricultural Relations held February 25-27, 1981 in San Diego, California and sponsored by the Program in U.S.-Mexican Studies at the University of California, San Diego.

STATE POLICIES, STATE PENETRATION AND ECOLOGY: A COMPARATIVE ANALYSIS OF UNEVEN DEVELOPMENT AND UNDERDEVELOPMENT IN MEXICO'S MICRO AGRARIAN REGIONS

INTRODUCTION

The disparities between the developed and underdeveloped micro agrarian regions in Mexico have, in recent years, attracted the interests of both policy makers and social scientists. Yet there have been surprisingly few efforts by scholars and public policy planners to analyze these disparities on a cross-regional basis or to explain why they endure or have acquired a particular set of socio-economic characteristics (Restrepo and Sánchez Cortez 1972; Reyes Osorio 1974). This paper represents an effort to explain these contrasts and to relate them to state activities and state policies. It focuses on crop producing regions. The ethnographic baseline is taken from 12 micro regions in 13 states (see TABLE 2). These case studies and other corroborative data are used to generalize about national patterns in Mexico's micro regional development.

The basic thesis is that inequities in the development and economic activity levels of micro agrarian regions in Mexico are related (1) to national agricultural policies which have favored some regions over others; (2) to a region's ecological resources; and (3) to the differential and selective penetration by the state of distinct regions. State penetration is crucial to the analysis presented here because it is the state which provides or fails to provide the necessary infrastructural and farming services resources for altering the development levels of regions

(Barkin and King 1970; Carlos 1974). Furthermore, the kind of state penetration is also important since not all state penetration activities impact on a region's development (Finkler 1978; Corbett and Whitefort forthcoming). A second thesis is that many of the inequities analyzed are firmly established, related to ecological constraints and historically accumulated economic and technological differences and not subject to being readily reversed. In other words, it is very likely that Mexico's overall pattern of uneven micro regional development, as described here, will prevail for some time to come.

The paper first presents the theoretical concepts and rationale used. Next it examines the national policies which have led to the concentration of developmental resources in some regions and to the denial of the same resources to others. The relationship between state penetration and distinct levels of development in different types of eco-economic regions is discussed, and case studies of each type are presented. The conclusion examines some of the policy implications of the study and presents two synthesizing hypotheses about how state policies, state penetration activities and ecological factors have shaped the eco-economic structure and development of the micro regions analyzed.

THEORETICAL CONCEPTS AND APPROACHES

The meaning of several terms should be made clear from the start, as should the theoretical premises and approach guiding the paper. The first is the concept of state penetration. State penetration of agrarian regions refers to the state establishing an institutional presence in a

region, linking it up with intervillage political systems and impacting on its socio-economic and political life (Cliffe 1977). State penetration varies in the number and types of agencies which penetrate an area. On the whole, the more developed an area the more numerous and extensive the kinds of agencies there are in the region. The less developed a region the fewer the number and kinds of agencies.

Turning now to the concept of development, no exact quantitative measure is used here. Instead, some rather obvious and gross contrasts between distinct levels are set forth. In general by development is meant the achievement of increases in the actual and potential agricultural productivity of a region as a result of altering farming technologies and of the restructuring of the infrastructural conditions of agricultural production (Barkin 1975). It also includes historical expansion of communication and transportation means so as to achieve greater linkage with national and international markets. Development therefore implies the ability of a region to link up with and to sustain its participation in something other than local and regional markets. All of these factors are seen as generating contrasting levels of economic activity in a region's economic life.

Regions are viewed as more than socio-economic areas. They are seen as co-terminus with regional intervillage political systems. The latter are the principal transactors of state policies and center-periphery ties at the regional level (Young 1966; Poggie 1968; Carlos 1976). Intervillage political systems provide the local level political structures and networks through which the state contracts and gains control over an

area's society and economy. They are the units which the state penetrates with its agencies. They link a region to a state's developmental activities.

Micro agrarian regions of the sort analyzed here are comprised of multiple rural communities which are satellites of central urban centers and towns (Smith 1975). They occupy several hundred square miles at most and are frequently much smaller (Bassols Batalla 1976). They also have a common natural resource base, a bounded ecological and climatic zone and a common history and cultural niche.

The theoretical rationale is derived from a combination of arguments inherent in ecological, state penetration and center-periphery models of development. The ecological models of development emphasize the importance of ecological factors in determining the range of development, technological change and economic activity levels possible in a given area in any society (Geertz 1963; Aquirre Beltrán 1967; Palerm 1972; McCnetting 1974; Collier 1975). More important, ecological models correctly call attention to the importance of the developmental potential of an area as a production unit and to the kind of development possible in it (Bennet 1973). Ecological analysis also makes distinctions between developmentally advantageous and disadvantageous ecologies.

State penetration models argue that the absence or occurrence of significant local level changes in the economies and agrarian structure of Third World countries is primarily due to whether or not an area has been institutionally penetrated by the state and been made the recipient of state resources (Cliffe 1977). Proponents of this position correctly maintain that without state penetration the state cannot execute its

developmental goals nor impact on the economic infrastructure and farming activities supports. In a word, without state penetration, especially developmentally oriented state activities, agrarian regions and communities will lag behind in productivity and prosperity (Aguirre Beltrán 1967; Barkin and King 1970; Finkler 1978). These models also rightfully suggest that development takes place in heavily state penetrated areas because the state's investments serve as a magnet for attracting other capital and investors. State penetration also generates local political pressures for ongoing state investment in an area.

State penetration is related to the phenomena of center-periphery ties. Center-periphery models of development argue that local level development in societies is related to the extent of contact or interconnectedness between the center represented by the state, on the one hand, and the periphery represented by the sub-national unit on the other (Roberts 1965; Gottman 1980). The model carries with it the explicit connotation that the more extensive the contact the greater the resource commitment of the state to a given region.

STATE POLICIES AND THEIR IMPACT ON THE STRUCTURE AND DEVELOPMENTAL LEVELS OF ECO-ECONOMIC REGIONAL TYPES

The agricultural policies which this author believes have guided the selective allocation of withholding of state resources to distinct types of regions, thus shaping their level of development, will now be identified. They are discussed in this section in relation to the impact they have had on distinct types of differentially developed eco-economic regions which

are analyzed in the remaining parts of this paper. The regions as labeled by this author, are: (1) hyperactive regions; (2) moderately or intermediately active regions; and (3) inactive or minimally active regions. This set of categories is more complex and discriminating than the simple dualistic distinctions normally made in macro-regional analysis of Mexican agriculture between labor intensive and mechanized agriculture or between traditional and modern agriculture (Appendini and Almeida Salles 1977; Sánchez Burgos 1980). Each of these categories of regions is an "ideal" type or composite drawn from various data sources and ethnographic case studies (Smith 1978).

Each regional type is distinguished by its shared ecological, economic and technological traits. These traits are discussed further in the sections which follow. For now it can be said that hyperactive regions are more developed than moderately and minimally active regions.

The state policies which have led to the differential penetration and formation, maintenance and transformation of distinct types of eco-economic regions are as follows: first, the state, throughout the 1950s, 1960s and early 1970s, spent a large percentage, between 70 percent and 90 percent per annum, of its agricultural development budget in irrigation resource development (Lamartine Yates 1978). These patterns of investment and resource concentration in irrigation development and maintenance projects are clearly seen in APPENDIX I.

This has meant that those micro ecological regions with irrigation resources have been the principal benefactors of these policies. This policy of directing most of the country's investments in agricultural development to irrigation areas has involved implementing projects aimed

at the development, maintenance and rehabilitation of large-scale surface irrigation as well as moderate and small-scale sub-surface water or well-base irrigation projects (Erasmus 1967; Lees 1976; Hewitt de Alcántara 1976; Johnston and Kilby 1975). These policies have directly impacted on the development and economic activity levels of two types of regions, namely hyperactive and moderately active regions, hyperactive being those which are entirely based on large-scale surface irrigation agriculture, while moderately active regions are at times incorporative of small-scale sub-surface irrigation resources.

This policy has converted hyperactive regions into the most highly productive areas in the country (see APPENDIX II). Consistent producers of large amounts and varieties of agricultural goods, they are also centers for the largest domestic and transnational agribusiness activities and use the most advanced agricultural techniques (Rama and Vigorito 1980). The same policy has also made it possible for smaller irrigation districts to emerge and become, to varying degrees, smaller and somewhat less technologically advanced and active versions of the large areas (Warman 1978).

A second set of policies has reinforced the differential impact of the state's irrigation resource development programs. This is the state policy of concentrating the largest agricultural and farming loans over the last 30 years in irrigated zones including large, moderate and small irrigation areas (Hewitt de Alcántara 1976; Mújica Velez 1978). This policy has helped to further transform the technological and productive structure of these eco-economic regional types (Barkin and King 1970; Carlos 1974). Rainfed eco-economic regions with predictable or

nearly predictable rainfall and some adoption of improved farming methods, labeled moderately active regions, have been the other principal benefactors, but clearly not to the same degree. More significantly, regions with highly unpredictable rainfall have not benefited at all (Warman 1972; Montañez y Aburto 1979).

A third set of policies involves the extension and regional distribution of technical assistance. Again, the state has followed a policy of concentrating its technical assistance efforts in those eco-economic regions with the largest potential for development and increased agricultural productivity (Hewitt de Alcántara 1976). Those regions which have benefited the most (in terms of comparative state budget expenditures) have been those with irrigation resources or, at least, with some predictable rainfall and low-cost upgradable agricultural technologies (Lamartine Yates 1978).

Again, with some exceptions, the reference is to hyperactive regions and a limited number of moderately active and development areas. The technical assistance Plan Puebla in central Mexico is an example of the state providing technical assistance to select rainfed areas with some predictability in their rainfall (70-90 percent). In contrast to these few exceptions, all the irrigation zones have a rather long history of extensive contact with technical assistance (Hewitt de Alcántara 1976).

A fourth set of state policies impacting on Mexico's national eco-economic regional types, as identified in this paper, concerns policies toward ecologically impoverished and technologically underdeveloped eco-economic types. The policy of ecologically selecting regions for resource concentration has drained off resources and served to stagnate or maintain

the lagging economic and technological structure of certain other eco-economic regional types, namely those with inadequate irrigation resources and uncertain rainfall levels labeled here inactive or relatively inactive regions. As will be discussed, these minimally active regions are rainfall dependent areas with limited ecological resources, low agricultural sales and low technological levels (Montañez y Aburto 1979). They have low crop yields and produce low profit crops such as corn and beans.

These eco-economic types labeled minimally active or inactive are recipients of, at most, labor intensive, low-funded, minimally staffed community education and public services development projects. The most obvious set of programs of this kind is that followed in a given region by the Instituto Nacional Indigenista (INI, the National Institute for Indigenous Affairs) over the last 25 years (Díaz Planco *et al*. 1979). More recently the Coordinación General del Plan Nacional de Zonas Deprimidas y Grupos Marginados (COPLAMAR) or the General Coordinating Board for the National Plan to Aid Marginalized Groups and Deprived Areas has also been active in those regions. The latter dates to the late 1970s and is concerned largely with providing social and human services (Ovalle Fernández 1980).

Although they represent a very large ecological range of crop-producing zones from arid desert areas to the tropics, these eco-economic regions have the common trait of having very limited and costly economic growth potential. In other words they are near the upper ecological limits of their growth, and changes in productivity resulting from state penetration and intervention would be achieved at a high cost when com-

pared to more opportune investment targets such as those in regions with irrigation resources. Most of these marginalized eco-economic types are engaged in subsistence agriculture. They serve, along with other slightly less ecologically impoverished areas, as a contained labor reserve supplying Mexico's and foreign demands for low cost unskilled labor (Paré 1977). They are labeled here as relatively inactive eco-economic type regions.

Beginning in the 1970s several comparatively low budgeted and geographically dispersed state programs were initiated which addressed the issue of the unbalanced concentration of resources in select types of eco-economic micro regions. Each program seeks to bring about greater penetration and a more equitable distribution of state resources in the moderately and minimally active types of regions.

One is the Programa Integral de Desarrollo Rural, PIDER (Integral Rural Development Program) initiated in 1973 and aimed at increasing productivity of regions with moderately favorable ecologies that had not previously been recipients of normal state development assistance programs (Warman 1980; Schumacher 1981). The program, working largely through established government agencies and using its own field services staff, has several goals but has explicitly sought (1) to raise the productivity per person employed in agricultural activities and (2) to make better use of an area's natural resources. The importance of PIDER's approach is that it aims to impact on specific micro regions and to budget its allocation of resources on a region to region basis.

It is too early to determine how this program will impact on the general patterns described here or on the economic lives and development

potential of specific micro regions. In fact, it is claimed by some critics that though the program has funded the building of important roads and other public works, PIDER, has largely served a rural employment project rather than a program affecting economic activity levels and development of a region.

The second recent state program worth mentioning is the Sistema Alimentario Mexicano (SAM), The Mexican Nutrition System, started in 1980 (Comercio Exterior 1980; Mújica Velez 1980). It is a far more comprehensive social services and development oriented program than PIDER, with which it will coordinate efforts. Its major projects will be directed toward raising the productivity levels of rainfed agricultural regions. It also hopes to join with COPLAMAR in raising the productivity of underdeveloped and socio-economically marginalized areas. Of special concern here is the fact that this state resource spending program proposes to impact on hitherto largely ignored regions, the relatively inactive and underdeveloped. SAM is Mexico's version of a rural War on Poverty. It proposed to carry out its goals by contracting with existing farming services and infrastructure change agencies. Although it is the moderately and minimally active regional types which have been designated as the chief recipients of the benefits of this program, it would be premature to evaluate whether or not it will in fact serve to alter developmental and state penetration levels.

What is significant for the present purpose is that neither SAM nor PIDER has, at present, sufficient scope or funding to reduce effectively or reverse the vast cumulative differences in the developmental and economic activity levels or the ecological inequities of the dis-

tinct eco-economic regions analyzed. Under current funding levels they can aspire to making short term gains in agricultural productivity and to extending more farming and farm product purchasing services to a small number of areas; other proposed benefits include improving public services, local marketing access and health and employment conditions, thus raising the population holding capacity of these otherwise impoverished and predominantly out-migration zones. More important, given their tenuous political status (Schumacher 1980), these are all considered short-run programs rather than fundamental changes in state resource allocation policies and in the organizational structure of delivering developmentally-oriented services to micro regions.

For now it is understood that these programs as well as others like COPLAMAR will supplement rather than supplant the commitment which the state has to channeling a proportionately higher level of resources into hyperactive regions. Moreover, as noted above, the developmental target areas under PIDER and SAM are primarily suited for growing subsistence crops or basic staples and have little growth potential or price structures which compete effectively with the production and markets of hyperactive regions (Montañez and Aburto 1979). In fact, under SAM guidelines these regions will continue to produce low profit crops such as corn and beans (Mújica Velez 1978, 1980).

LEVELS OF STATE PENETRATION AND THE NATURE OF STATE-LOCAL-LEVEL TIES

Due to state agricultural investment policies, not all agrarian regions in Mexico are equally penetrated and interconnected with the state. Some have more, others fewer, center-periphery ties and state agencies. These differences and their import will now be considered.

The number and range of federal government agencies in a region is important because these two factors determine whether a region has strong, moderate or weak center-periphery or state-regional ties. Practical organizational limits are set on the sorts of resources states can channel into an area. The same set of indicators (number and range) serves as a measure of the extent of a region's penetration; heavy, moderate and minimal (see TABLE 1). The greater the range and number of agencies, the greater the extent of penetration and strength of state-regional ties in an area. Significantly, hyperactive regions have a wider variety of state agencies and activities including developmentally oriented social and farming services and political control, law enforcement and legal adjudication activities. The other two eco-economic types have fewer kinds of state activities and are limited to non-developmental or social services rather than farming support service and development or infrastructure oriented state activities.

State-regional ties and state penetration are important for policy analysis since the range and number of federal government agencies in a region are an effective measure of the importance of a particular region in the state's national agricultural goals and plans (Warman 1972). Fur-

TABLE 1

CORRELATION OF THE STRENGTH OF STATE-REGIONAL TIES WITH THE EXTENT OF STATE PENETRATION OF REGIONAL INTERVILLAGE POLITICAL SYSTEMS IN RURAL MEXICO

Strength of state-regional ties[a]	*Extent of State Penetration of Regional Intervillage Political Systems*[b]		
	Highly penetrated	Moderately penetrated	Minimally penetrated
Strong ties	+	-	-
Moderate ties	-	+	-
Limited weak ties	-	- +	- +

[a]The strength (strong-weak) of state-regional ties and the extent of state penetration is determined by the variety and number of federal government agencies operating in an intervillage political system and indirectly by the control which this gives the state over local affairs.

[b]The extent of state penetration is measured by the number and variety of agencies which make state control over an area possible.

NOTE: The distinction between the two above categories is functional; it refers to different dimensions of a related phenomenon.

ther quantitative research could be done on this matter, but the ethnographic evidence presented here on this correlation is clear. Local regional penetration patterns and variations correspond to the national policy priorities analyzed later. This section examines these contrasting patterns of state penetration through the analysis of three cases and three eco-economic types.

As already noted, regions vary from low to medium to high state penetration and are correspondingly varied in degree by the strength of their center-periphery ties. A political, economic and ecological prototype of a highly penetrated region with strong center-periphery or state-periphery ties is the Fuerte Valley area, a large-scale irrigation district in the northwestern state of Sinaloa (Carlos 1974); but there are data on many others (see TABLE 2).

As a hyperactive region, the Fuerte is among the most economically active, growth-prone and prosperous agrarian regions in the country (Lamartine Yates 1978). The value of its crops has kept pace with the inflationary spiral of the domestic and international food and agricultural commodity markets over the last 15 years. It has numerous and varied numbers of developmentally and service-oriented state agencies without which the area's growth would not have been possible nor sustainable. It can be added that the budgets of the agencies operating in the Fuerte Valley are collectively large enough to service a great number of other regions of the less developed types.

The Fuerte region and its economy are extensively penetrated by the state (Carlos 1974). For example, the area's 250,000 hectare irrigation system is administered by a large river basin development agency

TABLE 2

ILLUSTRATIVE ETHNOGRAPHIC CASES OF THE EXTENT OF STATE PENETRATION AND STATE-REGION TIES IN DISTINCT TYPES OF MEXICAN ECO-ECONOMIC REGIONS[a]

High degree of state penetration and strong state-region ties

(Hyperactive Eco-Economic Type of Agrarian Region)[b]

1. Fuerte River Valley, Sinaloa (Carlos 1974)
2. Comarca Lagunera, Coahuila-Durango (Restrepo y Sánchez Cortez 1972; Restrepo and Eckstein 1975; Senior 1954)
3. Tepacaltepec River Basin, Michoacán (Barkin 1975; Glantz 1974; Barret 1975)
4. Yaqui River Valley, Sonora (Erasmus 1967; Hewitt de Alcántara 1970)

Moderate degree of state penetration and moderately strong state-region ties

(Moderately Active Eco-Economic Type of Agrarian Region)

1. Mesquital Valley, Hidalgo (Bartra *et al.* 1975; Finkler 1978; Gutierrez 1977)
2. Amatzinac Valley, Morelos (Alonso 1974; Warman 1976)
3. Lake Patzcuaro area, Michoacán (Moone 1969; Foster 1967)
4. Valley of Oaxaca (irrigated zone), Oaxaca (Lees 1974; Hunt and Hunt 1978)

Minimal degree of state penetration and limited to weak state-region ties

(Inactive Eco-Economic Type of Agrarian Region)

1. Santiago River Valley (non-irrigated zone), Nayarit (Fisher 1953)
2. Talea-Juquila Region, Oaxaca (Nader 1964)
3. Mayo Indian Enclave, Mayo River, Sonora (Crumrine 1977)
4. Chamula and Tzotzil Indians, Highlands Chiapas area (Wasserstrom 1977; Collier 1975)

[a]Full citations for all works cited in this table may be found in the bibliography.

[b]See TABLE 3 for description of eco-economic traits; in general, eco-economic type refers to a region's ecological, economic and technological traits.

which sets policies about water use and issues crop growing permits. Farming services rendering agencies include state banks engaged in dispersing farming credits. Numerous technical advisors are attached to the banks and two other agencies. There is a permanent agricultural experiment station developing the best varieties of crops for the area. In addition, there are two developmentally oriented agencies in the area engaged in constructing and maintaining infrastructure improvement projects including roads and irrigation and drainage systems. Both this agency and the banks have numerous field offices and large office and field staffs. Social services rendering state agencies include numerous medical facilities, schools and community education programs located throughout the region. There are also several crop planting and water use policy-making boards with state and community-based representatives from the rural communities in the system. An exhaustive list would include (1) agencies which construct and maintain potable water systems, electricity systems, recreational facilities and rural schools; and (2) tax collecting and legal adjudication agencies including those which rule on land tenure conflicts and land related disputes.

In contrast to the situation in the Fuerte and other heavily state-penetrated areas like it (see TABLE 2), there are many other intervillage political systems (the majority) which are considerably less penetrated. They lack developmentally-oriented agencies engaged in agricultural infrastructure improvement and maintenance. At most, they tend to have a small number of agencies delivering a few social, farming support and finance services. Indeed, many regions have none of these and are provided with only law enforcement and legal adjudicating agencies.

This is clear from all the studies of moderately and minimally penetrated regions cited on TABLE 2.

The spread from many and varied agencies and types of services to smaller numbers and less variety is readily observable when comparing heavily penetrated with moderately and lightly penetrated intervillage political systems. These moderately penetrated areas also differ in that they lack the same scale of commercial farming, ecological advantages, economic dynamics and levels of development as those of the Fuerte type.

An example of a region with an intervillage political system that represents a mid-point between the sort of situation described first and cases which are its extreme antithesis is the Valle del Mesquital in the state of Hidalgo (Bartra 1974; Gutierrez 1977; Finkler 1978). This is a moderately active region which is partly dependent on rainfall and partly on small-scale irrigation. Like other small-scale irrigation areas it is also considerably smaller than the Fuerte region and other hyperactive regions. The state expends most of its efforts in trying to assist and direct the economic life of the irrigation sector of the economy. It is not particularly prosperous but has recently improved a portion of its production base by the development of small-scale irrigation systems (Finkler 1978). It represents other districts like it and forms part of the core agricultural region of central Mexico comprised almost entirely of rainfall and small-scale irrigation zones (Sánchez Burgos 1980).

All the agencies operating in the Mesquital Valley deliver social and farming services and administer political control and legal adjudication activities (Vartra 1975). The staffs and budgets of state agencies are

smaller than those of the Fuerte Valley. Included in the category of state adjudicating agencies is a federally created regional resource management commission.

Government agencies are relatively scarce and cover a narrow area of activities. There is only one government agricultural bank with one field office, and it services a small number of clients. Agency farming services outreach efforts are limited. There are very limited technical assistance programs or agencies. As in the Fuerte, there is a water users' board of community-based participants advising (Bartra 1975; Finkler 1978). Rural schools and rural education programs are limited to fewer communities and segments of the population as compared to the extensive education systems in the Fuerte (Carlos and Brokensha 1972). In contrast to the Fuerte, rural roads maintenance is not an important activity and is left to regionally and locally-based agencies.

The regional planning commission does not engage in development projects directly and has a small budget. Although the commission's goal is to give the area's economy greater coherence and market direction and to give communities guidance in their own community-inspired projects, in reality it is primarily an arena for political contention among the region's political elite (Gutierrez 1977).

There are other regional systems which are considerably less penetrated by the state than the Fuerte and Mesquital examples. There are regions which must be considered weakly penetrated. They have little contact with the state. As a whole this type of intervillage system probably outnumbers all others. A considerable number of these systems are to be found in areas with large Indian populations, primarily in central and

southern Mexico. Included in this group are regions such as those of highlands Oaxaca and Chiapas (see TABLE 2).

Except for the minimal social services provided by such agencies as INI to 150 or so micro regions, state contacts with these communities are generally reduced to ties with social and/or law enforcement and adjudication agencies. In this regard the most important state activity involves tax collection, including the sale of various government permits and the management and adjudication of land disputes. Government services activities, when they exist, tend to be limited to social areas and principally to primary education and community education programs. For all intents and purposes there are not support services for farming activities aside from an occasional instance of federal government agency activity in the area of price supports for food commodities. On the whole, these types of inter-village systems tend to be state tribute-rendering subjects (i.e. revenue or tax paying) rather than state resources and services beneficiaries. They represent the bulk of what the state's new COPLAMAR program calls deprived and socially marginalized zones (*zonas deprimidas*).

LEVELS OF ECONOMIC ACTIVITY AND DEVELOPMENT: A TYPOLOGY OF ECO-ECONOMIC REGIONAL TYPES

The comparative extent of state penetration corresponds to state investments in a region and to its ecological characteristics; these, in turn, affect the technological basis and economic activity and developmental levels. This section analyzes these phenomena and the economic and ecological structure of distinct types of micro agrarian regions.

As previously mentioned, micro agrarian regions can be divided into three basic eco-economic types: (1) hyperactive regions; (2) moderately or intermediately active regions; and (3) minimally or relatively inactive regions (see TABLE 3). As in the case of regions with contrasting levels of state penetration and state-regional interconnectedness, each of these categories is derived from a composite of actual ethnographic cases. Their major traits are summarized on TABLE 3).

On the whole, the areas described as hyperactive regions are more numerous in the north of Mexico. Although there are many of the other two types in the north, they predominate in the south and central areas where there are only one or two hyperactive regions (Appendini and Almeida Salles 1975; Pare 1977).

Hyperactive regions have an intense and widespread use of advanced farming technology, national and international market orientation and, in general, a higher and more profitable agricultural base when measured in terms of the annual value and market value of production (see APPENDIX II). Yields on comparable crops such as corn or wheat are also considerably higher when production inputs remain constant in irrigation districts. This is evident when ethnographic data from the 12 case sites used for this study are compared and when large comparisons are made between irrigation districts and rainfed areas (Montañez y Aburto 1979). Over the last 15 years (1965-1980) production in irrigation regions has risen at a rate of 57 percent per annum while it has declined at a rate of 3 percent per annum in rainfed zones (Montañez y Aburto 1979).

There are, at most, 15 or 20 hyperactive regions in the country. Together with the smaller irrigation zones they produce nearly 50 percent

TABLE 3

MAJOR ECONOMIC, TECHNOLOGICAL AND ECOLOGICAL TRAITS OF DISTINCT ECO-ECONOMIC TYPES OF MEXICAN AGRARIAN REGIONS

Traits	*Types of Agrarian Regions*					
	Hyperactive		Intermediately Active		Relatively Inactive	
	P*	NP	P	NP	P	NP
Technology						
Advanced technology	+		+	-		-
Traditional technology		-	+	-	+	
Market sales participation						
International	+		+	-		-
National	+		+	-	+	-
Regional	+	-	+	-	+	
Local		-	+	-	+	
Main source of crop irrigation						
Surface water (river and canal)	+		+	-		-
Sub-surface water (well)	+		+	-		-
Rainfall		-	+	-	+	

*P = Trait is present; NP = trait is never present (+ - = trait is sometimes but not always present).

of the value of the nation's agricultural production including many commodities for domestic consumption. They are also the most important export agriculture enclaves producing 90 percent of Mexico's agricultural exports (Esteva 1980; Warman 1978). APPENDIX IV contains a list of 11 of these hyperactive regions along with the crops they raise.

They have excellent ground transportation connections with national and international urban centers (road and railroad). They also have relatively good intra-regional road and transportation systems. The major ecological advantage is that their water supply generally assures them of the successful production of at least one crop cycle and sometimes as many as two or three a year. A significant comparative advantage they have in terms of ecological resources and trading facilities is that they can grow different varieties of crops and can therefore respond to changing market conditions and rising prices. Rainfed zones are capable of growing only the same subsistence crops from year to year and are tied automatically to market fluctuations (Montañez y Aburto 1979).

The next category of region discussed is the intermediately active region, which includes two sub-types, small sub-surface water irrigation systems (Appendini and Almeida Salles 1977; Reyes Osorio *et al.* 1974; Lees 1976) and rainfed regions with predictable supplies of rainfall (Restrepo and Sánchez Cortes 1972). In actual count, intermediately active regions would probably be the most numerous of the crop producing micro regions in the country (Sánchez Burgos 1980). Based on certain inferences derived from the data of geographers, it is safe to say that there are some 2,000-3,000 such micro regions in Mexico (Bassols Batalla 1976). They include a broad spectrum of geographic areas and contain the largest

concentration of rural inhabitants in the country. The most outstanding economic feature of these two subtypes is that their economies tend to be oriented toward national and local regional markets rather than to national and international markets. As is the case with hyperactive regions, most agricultural production is market-oriented, though a few individual producers sometimes engage in a mixed pattern of subsistence and market-oriented production.

Intermediately active regions tend to have a mixed technological base of relatively advanced and traditional modes of crop production (Finkler 1978). They have adequate road and transportation systems tying them to large urban centers and markets. On the whole they are less prosperous than hyperactive regions, but considerably less poor, less isolated and more integrated into the mainstream of the nation's social and political life than are relatively inactive regions.

Market-oriented production in those intermediately active regions with small-scale irrigation tends to involve more profitable cash crops (alfalfa, rice, tomatoes and other vegetables and fruits) than that of exclusively rainfed areas which produce corn, beans and some wheat (Sánchez Burgos 1980; Warman 1976). When the more profitable production base of small-scale irrigation regions is added to their more technologically advance crop production methods and their more frequent crop cycles, it tends to produce a more vital economy than that found in other farming areas of the same category (Finkler 1978), but there is still considerably less vitality and dynamism than that found in hyperactive regions. Relatively inactive regions are nearly as numerous as intermediately active regions, but cover a more narrow scope of ecological and geographic

conditions. The most extreme forms of relatively inactive regions are the "zones of refuge" in the remote mountain hinterlands of southern and southeast Mexico (Aguirre Betrán 1967; Collier 1975). In recent years the state has begun calling these regions marginalized areas. Their most distinguishing trait is that all tend to be entirely rainfed areas with unpredictable rainfall. They are almost entirely oriented toward local regional markets, though some have minimal indirect ties with national markets (Nader 1964; Beals 1975; Cook and Diskin 1976; Wasserstrom 1977).

These regions participate minimally, at best, in consumption of external market products and in the use of modern agricultural techniques. Their hallmark is remoteness or marginalization from the mainstream of the national consumption economy, national trends in society and modern technology.

Minimally active regions tend to have unprofitable agricultural production bases, traditional farming technologies and an almost total subsistence orientation in their crop production. They are part of the basic cereals and domestic food staples producing regions of the country. On the whole they do not use fertilizers or other yield improving man-made additives. As heavy, almost monocultural, growers of corn they produce one of the most poorly remunerative crops. These areas are never designated as primary developmental zones and are expected to be self-sufficient in agricultural commodities at best.

They have the greatest ecological disadvantages of all three regional types. They have small land parcels or *minifundia*, uneven and precipitous terrain, poor soil and remoteness from modern roads and trans-

portation systems (Turner 1972). When these are combined with the nearly total absence of government investments, antiquated technology and limited types of crops which can be produced, it is easy to see why they have very low yields per hectare under production and why they occupy the lowest levels of development of all the agrarian regions in Mexico.

SUMMARY AND CONCLUSIONS

The purpose here has been to analyze the role of the state and the influence of ecological factors in determining and accentuating contrasts in developmental and economic activity levels of the distinct types of micro eco-economic regions in rural Mexico. In particular, the paper analyzed state penetration patters and the most important agricultural resource development policies which have impacted on development and underdevelopment patterns in micro agrarian regions over the last 30 years. It was shown that a series of state policies starting in the 1950s led to cumulative differences in the development and economic activity levels of three regional types. More recently, and especially since the early 1970s, state policies have attempted to alter the socio-economic differences among regions. However, it is still very uncertain as to whether new state programs can reverse earlier trends. Some critics say it will take a decade or more before any significant changes will be detected (Schumacher 1981). The question is whether or not the productivity base of minimally and intermediately developed regions will be positively altered by the state's new regionally oriented programs such as PIDER, SAM and COPLAMAR, and whether or not these programs will in fact minimze the inherent inequalities in the ecological resources of each regional type.

A more complex system of classifying agrarian regions, one which goes beyond simple dualistic distinctions between modern and traditional agriculture was developed. The typology represents a step forward in the construction of a more suitable framework for analyzing basic eco-economic differences in crop producing micro agrarian regions and the possible role each will have in Mexico's future agricultural development.

Two concluding hypotheses about the distinct factors impinging on the emergence and significance of cross-regional contrasts and regularities in Mexico's regional development patterns are posited here. The first and most important is that the state will impact most readily on the economic and development levels of these regions with the most agriculturally favorable ecological resources and the greatest potential for development. Regional development is not a simple unidimensional process. Therefore, this summary statement correctly implies that certain regions, because of their ecological advantages, simply attract, generate and conduct more state resources and state-local level contacts and activities than do others. It is this latter set of conditions which brings about or fails to bring about strong or weak state-region ties and heavy or minimal state penetration. This, in turn, determines the range of government activities in an area and whether they will be developmentally, services or legal adjudication and law enforcement oriented. Without emphasis on the former two, services regions will simply not prosper.

The second hypothesis related to the importance of state penetration to a region's development is that the greater the state-regional ties and penetration, the more the likelihood that the region and its communities will benefit from a flow of resources, government investments

and agricultural and socio-economic support services programs (Corbett and Whiteford, forthcoming). The latter, in turn, is what serves to attract national and multi-national agribusiness interests to a region (Barkin 1975), although highly profitable crops in some of the moderately penetrated regions attract them also (Warman 1978).

This summary statement rightly suggests that state-region integration tends to provide comparative advantages to regions regarding the allocation of government resources on a cross-regional basis. It also encourages the growth of private capital and speculative investment by multinational firms (Hewitt de Alcántara 1970). The record in all the cases examined in the literature is relatively clear on this matter. Similarly it is the presence of agencies providing government developmental services and carrying out investment programs which create the potential for dialogue and some effective bargaining among the national state and a region's agribusiness interests and communities assuring an ongoing and further flow of resources into an area (Carlos 1976; Carlos and Anderson 1980).

APPENDIX I

INVESTMENTS IN IRRIGATION DEVELOPMENT AND AGRICULTURE, 1941-1974

Years	*Amounts invested in agriculture*	
	Total amounts invested in agriculture (millions of pesos)	Investments in irrigation development as a percentage of total value invested in agriculture
1941-46	649	96.3
1947-52	2,159	80.0
1953-58	3,585	92.3
1959-64	6,539	91.5
1965-70	12,505	88.8
1971-74	18,655	71.1

Source: Nacional Financiera, S.A. y Secretaría de Recursos Hidráulicos, as quoted in Paul Lamartine Yates, El campo mexicano (México: Ediciones El Caballito, 1978), p. 198.

APPENDIX II

AGRICULTURAL PRODUCTIVITY IN IRRIGATION AND RAINFED AREAS, 1952-1975

	Production per hectare: Value (millions of pesos)		Production per hectare: Value in 1970 (millions of pesos)		Increase in yields: 1952 = 100	
YEAR	*Irrigated*	*Rainfed*	*Irrigated*	*Rainfed*	*Irrigated*	*Rainfed*
1952	1,558	530	2,600	884	100	100
1961	2,758	1,071	3,403	1,321	131	149
1962	3,078	1,167	3,661	1,388	141	157
1963	3,061	1,367	3,525	1,570	135	178
1964	3,414	1,175	3,789	1,304	146	148
1965	3,579	1,400	3,846	1,504	148	170
1966	3,545	1,374	3,841	1,489	148	168
1967	3,746	1,563	3,770	1,573	145	178
1968	3,902	1,496	4,015	1,539	154	174
1969	3,730	1,648	3,735	1,650	144	187
1970	4,237	1,517	4,237	1,517	163	172
1971	4,652	1,552	4,578	1,527	176	173
1972	4,289	2,008	4,051	1,896	156	215
1973	6,087	2,453	4,502	1,814	173	205
1974	7,639	3,320	4,546	1,976	175	224
1975	7,004	4,208	3,564	2,141	137	242

Source: Lamartine Yates, El campo mexicano. p. 202.

APPENDIX III

CROPS AND LAND AREAS HARVESTED IN IRRIGATION DISTRICTS, 1950-1975

(Percentage of total number of hectares harvested)

	1949-50	1954-55	1959-60	1964-65	1969-70	1974-75
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Corn	15.6	10.9	20.7	23.8	17.8	13.7
Beans	1.0	1.6	2.8	0.2	2.5	5.5
Wheat	17.9	22.3	20.3	25.5	20.6	16.3
Rice	0.7	2.1	2.2	2.6	2.5	4.0
Sesame	0.0	0.4	2.0	1.6	2.1	1.1
Peanuts	0.7	0.3	0.2	0.3	0.5	0.2
Safflower	na*	na	0.4	0.7	5.2	9.1
Soy	na	na	0.5	0.8	4.3	7.8
Alfalfa	2.0	1.8	2.3	3.0	3.1	1.7
Sorghum	0.0	0.0	1.6	5.3	13.5	15.2
Garbanzo	1.8	1.0	1.2	1.4	1.0	1.3
Tomato	1.5	1.2	1.2	0.9	1.1	1.0
Cotton	53.9	53.1	37.3	21.8	13.4	6.0
Sugar Cane	na	na	2.5	3.9	3.2	3.5
Other cash crops	5.8	5.3	4.9	5.2	9.2	13.6

Source: Dirección General de Distritos de Tiego, S.R.H. as cited in Lamartine Yates, El campo mexicano. p. 198.

*na = not available

APPENDIX IV

PRINCIPAL CROPS AS PERCENTAGES OF TOTAL AREA HARVESTED IN 11 IRRIGATION DISTRICTS

Irrigation District	Crop	1951-1952	1964-1965	1974-1975
Río Colorado B. California Norte	Cotton	91.2	67.9	23.0
	Wheat	3.7	29.1	18.8
	Alfalfa	3.1	2.5	9.9
	Barley			13.5
	Safflower			8.4
	Sorghum			8.9
	Fodder			9.1
Río Yaqui, Sonora	Wheat	50.1	55.2	45.2
	Cotton	25.5	21.4	1.8
	Corn	3.9	16.6	5.7
	Sesame	5.2	1.7	
	Rice	10.6		
	Safflower	12.8		12.8
	Sorghum	2.6		2.6
	Flax	2.1		2.1
	Soy			27.6
Río Mayo, Sonora	Wheat	40.6	68.8	38.5
	Sesame	14.7	4.6	2.6
	Flax	11.9		4.0
	Corn	12.6		4.7
	Cotton	9.1	11.3	2.1
	Tomato	4.7		
	Safflower		5.5	22.4
	Soy			17.8
	Sorghum			1.9
	Alfalfa			1.9
Valle del Fuerte Sinaloa	Cotton	18.5	27.2	6.2
	Sugar Cane	17.1	9.5	5.0
	Beans	13.0	4.6	10.8
	Corn	11.8	3.7	4.1
	Garbanzo	10.7		
	Tomato	6.8	1.6	2.5
	Sesame	6.0	3.3	
	Alfalfa	6.0		
	Wheat		28.8	9.2
	Sorghum		2.3	10.7
	Soy		5.2	17.6
	Safflower		3.5	14.8
	Rice		6.3	8.1

(continued)

APPENDIX IV (continued)
PRINCIPAL CROPS AS PERCENTAGES OF TOTAL AREA HARVESTED IN 11 IRRIGATION DISTRICTS

Irrigation District	Crop	1951-1952	1964-1965	1974-1975
Culiacán, Sinaloa	Cotton	36.1	2.7	0.1
	Sugar cane	26.9	18.8	18.0
	Tomato	20.0	6.5	6.8
	Corn	12.0	2.4	0.6
	Rice		23.7	21.3
	Wheat		3.6	0.1
	Sorghum		5.4	12.3
	Beans		10.2	9.2
	Safflower		13.3	21.0
	Sesame		6.4	0.1
	Soy			5.9
	Garbanzo			0.1

Source: Lamartine Yates, El campo mexicano. p. 199.

BIBLIOGRAPHY

Aguirre Beltrán, Gonzalo

1967 Regiones de refugio, el desarrollo de la comunidad y el proceso dominical en mestizo américa. México: Instituto Nacional Indigenista

Appendini, Kirsten A. de y Vania Almeida Salles

1977 Agricultura capitalista y agricultura campesina en México: diferencias regionales en base al análisis de datos censales. México: Centro de Estudios Sociológicos, El Colegio de México.

Barkin, David

1972 Los beneficiarios del desarrollo regional. México: Sep-Setentas.

1975 "Regional Development and Interregional Equity: A Mexican Case Study," in Wayne A. Cornelius and Felicity M. Trueblood, eds., Urbanization and Inequality (Volume 5, Latin American Urban Research). Beverly Hills, Calif.: Sage Publications.

Barkin, David and Timothy King

1970 Regional Economic Development: The River Basin Approach in Mexico. Cambridge, England: Cambridge University Press.

Barret, Elinore M.

1975 La cuenca del Tepalcatepec: su desarrollo moderno. México: Sep-Setentas.

Bartra, Roger, *et al.*

1975 Caciquismo y poder político en el México rural. México: Siglo Veintiuno.

Bassols Batalla, Angel

1976 Geografía, subdesarrollo, y regionalización. México: Editorial Nuestro Tiempo.

Beals, Ralph

1975 The Peasant Marketing System of Oaxaca, Mexico. Berkeley: University of California Press.

Bennet, John W.

1973 "Ecosystemic Effects of Extensive Agriculture," Annual Review of Anthropology, 2, 1: 36-61.

Carlos, Manuel

1974 Politics and Development in Rural Mexico. New York: Praeger Publishers.

1976 "A Model of Broker, Constituency, and Network Politics In Mexican Regions and Communities." Paper presented at the Annual Meetings of the American Antrhopological Association, Washington, D.C.

Carlos, Manuel and Bo Anderson

1980 "Political Brokerage and Network Politics in Mexico," in Bo Anderson and David Willer (eds.), Social Exchange and Exchange Networks: The Elementary Theory and its Application. New York. Elsevier Press.

Carlos, Manuel and David Brokensha

1972 "Agencies, Goals, and Clients: A Cross-Cultural Analysis," Studies in Comparative International Development, 7, 2: 130-135.

Cliffe, Lionel

1977 "Penetration and Rural Development in the East African Context," in Lionel Cliffe, *et al.* (eds.), Government and Development in East Africa. The Hague: Nijhoff.

Collier, George A.

1975 Fields of Tzotzil: The Ecological Bases of Tradition in Highland Chiapas. Austin: University of Texas Press.

Comercio Exterior

1980 "EL SAM: principio de una estrategia," Comercio Exterior, 30, 7: 684-689.

Cook, Scott and Martin Diskin (eds.)

1976 Markets in Oaxaca. Austin: University of Texas Press.

Corbett, Jack and Scott Whiteford

Forth-coming "State Penetration and Development in Mesoamerica, 1950-1980," in Carl Kendall (ed.), Heritage of Conquest Revisited. Vancouver: University of British Columbia Press.

Crumrine, N. Ross

1977 The Mayo Indians of Sonora: A People Who Refuse To Die. Tucson: University of Arizona.

Díaz Polanco, Héctor, *et al.*

1979 Indigenismo, modernización, marginalidad. México: Juan Pablos Editores.

Erasmus, Charles

1967 "Culture Change in Northwest Mexico," in Julian Steward (ed.), Contemporary Change in Traditional Societies. Urbana: University of Illinois Press.

Esteva, Gustavo

1980 La batalla en el México rural. México: Siglo Veintiuno.

Finkler, Kaja

1978 "Policies of Social Integration in One Region of Mexico." Unpublished paper, Department of Anthropology, Eastern Michigan University.

Fisher, Glen

1953 Directed Culture Change in Nayarit, Mexico. New Orleans: Tulane University.

Geertz, Clifford

1963 Agricultural Involution: The Process of Ecological Change in Indonesia. Berkeley: University of California Press.

Glantz, Susana

1974 El ejido colectivo de Nueva Italia. México: Instituto Nacional de Antropología e Historia.

Gutierrez, José

1977 "El sistema político y la burgesía rural en México: el caso del Valle del Mesquital," Revista Mexicana de Sociología, 39, 3: 901-919.

Gottman, Jean (ed.)

1980 Center and Periphery: Spatial Variation in Politics. Beverly Hills: Sage Publications.

Hewitt de Alcántara, Cynthia

1976 Modernizing Mexican Agriculture: Socioeconomic Implications of Technological Change, 1940-1970. Geneva: United Nations Research Institute for Social Development.

Johnston, Bruce and Peter Kilby

1975 Agriculture and Structural Transformation: Economic Strategies for Late Developing Countries. New York: Oxford University Press.

Lamartine Yates, Paul

1978 El campo mexicano. 2 vols., México: Ediciones El Caballito.

McCnetting, Robert

1974 "Agrarian Ecology," Annual Review of Anthropology, 3, 1: 21-56.

Montañez, Carlos y Horacio Aburto

1979 Maiz: política institucional y crisis agrícola. México: Ecitorial Nueva Imagen.

Mújica Vélez, Ruben

1978 "Las zonas de riego: acumulación y marginalidad," Comercio Exterior, 29, 4: 404-410.

1980 "El sistema alimentario mexicano: los prolemas estructurales," Comercio Exterior, 30, 4: 327-329.

Nader, Laura

1964 Talea and Juquila: A Comparison of Zapotec Social Organization. Berkeley: University of California Press.

Ovalle Fernández, Ignacio

1980 "Un impulso real a la modernización entendida como decolonización interna," México Indígena, 34: 9-11.

Palerm, Angel

1972 "Ensayo de crítica al desarrollo regional en México," in David Barkin, *et al.*, Los beneficiarios del desarrollo regional. México: Sep-Setentas.

Paré, Luisa

1977 El proletariado agrícola en México: campesinos sin tierra o proletariados agrícolas? México: Siglo Veintiuno.

Pelto, Pertti and John Poggie

1974 "Modernization: A Regional Focus," in John Poggie and Robert Lynch (eds.), Rethinking Modernization. Westport, Connecticut: Greenwood Press.

Poggie, John

1968 "The Impact of Industrialization on a Mexican Intervillage Network," Unpublished Ph.D. Dissertation, University of Minnesota.

Rama, Ruth and Raul Vigorito

1979 Transnacionales en América Latina: el complejo de frutas y legumbres en México. México: Editorial Nueva Imagen.

Restrepo, Ivan and José Sánchez Cortez

1972 La reforma agraria en cuatro regiones. México: Sep-Setentas.

Reyes Osorio, Sergio, *et al.*

1974 Estructura agraria y desarrollo agrícola en México. México: Fondo de Cultura Económica.

Roberts, Bryan

1975 "Center and Periphery in the Development Process: The Case of Peru," in Wayne A. Cornelius and Felicity M. Trueblood (eds.), Urbanization and Inequality: The Political Economy of Urban and Rural Development in Latin America. Beverly Hills: Sage Publications.

Sánchez Burgos, Guadalupe

1980 La region fundamental de economía campesina en México. México: Editorial Nueva Imagen.

Schumacher, August

1981 "Agricultural Development and Rural Employment: A Mexican Dilemma." Paper prepared for presentation at the Binational Consultation on United States - Mexican Agricultural Relations, University of California, San Diego, February.

Smith, Carol A.

1978 "Analyzing Regional Social Systems," in Carol A. Smith (ed.), Regional Analysis, Volume II: Social Systems. New York: Academic Press.

Turner, Paul

1972 The Highland Chontal. New York: Holt, Rhinehart and Winston.

Warman, Arturo

1972 Los campesinos: hijos predilectos del régimen. México: Editorial Nuestro Tiempo.

1976 Y venimos a contradecir: los campesinos de Morelos y el estado nacional. México: Ediciones de la Casa Chata.

1978 "Desarrollo capitalista o campesino en el campo mexicano," Comercio Exterior, 29, 4: 399-403.

Wasserstrom, Robert

1977 "La tierra y el trabajo agrícola en la Chiapas central: Un análisis regional,: Revista Mexicana de Sociología, 39, 3: 1041-1064.

Young, Frank

1966 "A Proposal for Cooperative Cross-Cultural Research on Intervillage Systems," Human Organization, 25, 1: 46-50.

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