
Land Development in Mexico: A case study¹

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Introduction

Since the Revolution of 1910, the Mexican agrarian structure has undergone radical change. By 1970 over 60 million hectares of land (11 million of which are arable) had been distributed to 2 million beneficiaries. These beneficiaries (called *ejidatarios*) are given usufructural rights to land as members of 21,475 *ejidos* (landholding communities). Title to all *ejido* land is vested with the federal government in perpetuity. *Ejidos* can be farmed individually, semi-collectively or collectively; the great majority of them are divided into individual plots.

During the 1960s, many authors began to question the success of the Agrarian Reform in eliminating poverty and inequality. (Stavenhagen, 1968 and 1970), calling attention to the continued concentration of land within the private sector (which controlled 16 million hectares of arable land). At present two thirds of all private farm units are less than five hectares in size. At the other extreme, 34 per cent of farm units still control 98 per cent of all agricultural land which is not in *ejidos* (Stavenhagen, 1970:231). In addition to control by ownership, private landowners were increasingly renting *ejido* plots, particularly in areas of highest agricultural potential, in the irrigated zones of the North East and North West. They noted a corresponding concentration of benefits in a few hands from the green revolution (in 1960, 2 per cent of farms accounted for 70 per cent of the value of sales, while 55 per cent of farms had annual sales below £50). The *ejido* sector was characterised principally by its reliance on subsistence agriculture on micro plots under dry farming conditions. (In 1960 44 per cent of *ejido* plots were less than four hectares, and only about 20 per cent of the total were irrigated). These authors claimed that since 1940 credit and organisational assistance to the *ejido* sector had been

insufficient to enable it to compete effectively with the private sector. They argued that if a social and economic crisis were to be averted, (land invasions were increasing and the rate of growth in the agricultural sector declining),² government policy should give priority to a search for the most effective means of channelling the green revolution technology to the *ejido* sector.

Recalling the significant but ill-fated experiments in cooperative farming introduced during the government of President Cardenas (1934-40), collective *ejidos* were once again advocated by some, as one solution. In response to this current of opinion, policies were introduced with the aim of encouraging *ejidatarios* to form a range of cooperative organisations. These are embodied in the Agrarian Reform Law of 1971 which indicated that *ejidos* organised collectively would receive special attention from government agencies. Article 152, for example, obliges firms with government participation involved in the production of agricultural inputs to channel them directly to *ejidos* or associations of *ejidos*. Prior to the introduction of these policies the government of Diaz Ordaz had decided that the 19 *ejidos* in the Carrizo Valley Irrigation Scheme, in N.W. Mexico, would work collectively. This article examines the consequences of this decision.

Background to the scheme

The Carrizo Valley is situated in the north of Sinaloa State, N.W. Mexico between the large irrigation scheme of the River Fuerte Valley and the border of Sonora. Up to 30 June 1965, when the government announced its intention of irrigating the Valley by declaring it an Irrigation District, only 360 hectares were cultivated with tubewell irrigation. Responsibility for the irrigation project was vested in the River Fuerte Commission (CRF), a River Basin Authority responsible ultimately to the Minister of Water Resources but having wide-ranging delegated powers. The land tenure pattern was extremely complex with groups of *ejidatarios* and private owners laying claim to the same land areas. Government figures show 37.5 per cent of the land as belonging to *ejidatarios* and 62.5 per cent controlled by 153 'smallholders'. Out of the conflicting claims and activities by pressure groups and individuals, the

¹ This paper sets out in a highly condensed form some of the preliminary findings and analysis of a case study undertaken in N.W. Mexico in 1975 with the financial support of ODM Teaching Materials Project. I am grateful for the valuable assistance given by Susana Glantz and Carlos Sarti of CISINAH (Research Centre of the Institute of Anthropology and History), Manuel de Alba and Jose Antonio Garcia, anthropology students of the Universidad Iberoamericana, Mexico City during the period of fieldwork in Mexico. My thanks are also due to the members of the *ejidos* and credit societies and officials of BANOSA and CRF in the Carrizo Valley, and Los Mochis. A first draft of the complete case study is at present used in the teaching programmes in DAS (Winder D. 1976).

² In the decade of the 1960s agricultural production increased at an annual rate of 1.7 per cent compared with 5 per cent per annum from 1930 to 1960 (See Ballesteros, 1974).

Commission, in consultation with the Department of Agrarian Affairs (now Ministry of Agrarian Reform), decided on a compromise solution whereby all private owners were asked to surrender part of their property to the government in return for provision of permanent irrigation supplies on the remaining 30 hectares. It was then proposed that the government land be allocated to landless peasants who had gone through the legal procedures for petitioning grants of *ejido* land. In the plans, provisions were made for the creation of 11 further *ejidos* in addition to the eight created before 1965. These new *ejidos* would have 2,600 members cultivating 26,000 hectares. Eventually the *ejido* share was increased to 27,669 hectares, leaving the private sector with 24 per cent of the irrigated land in the valley. Two *ejidos* were to consist exclusively of *ejidatarios* displaced by the construction of the feeder reservoir.

The decision to create collective *ejidos*

It would appear from early studies (CRF, 1966), that the planners (hydraulic engineers, agronomists and economists) were thinking in terms of a system of land exploitation based on individual

10-50 hectare units. However, before the land was put under the plough, the decision was taken to work the *ejido* land collectively. This decision was incorporated in the Presidential Agreement of 24 June 1970 which stated "As the works and programmes carried out in the Irrigation District of the Carrizo Valley have been financed by funds from the Federal Government . . . the optimum use of which is in the national interest, it is imperative to proceed within the terms of Article 200 of the *Codigo Agrario*, to collectively organise *ejido* production. This will permit the best use of the land and water, the purchase of agricultural equipment, the purchase of agricultural inputs at better prices, the collective sale of products on better conditions, the correct application of agricultural techniques and the reduction of production costs, all of which will result in an improvement in the income of the *ejidatarios*" (*Diario Oficial*, 1970). The wording of the decree suggests that the decision to collectivise was influenced primarily by economic considerations. It responded to the need to maintain close control over the production process so as to achieve optimum productivity levels and ensure the repayment of all loans (50 per cent of



Ejidatarios working on a two hectare family subsistence plot, Carrizo Valley, Sinaloa, Mexico.

project capital came from the Banco Interamericana De Desarrollo, 35.7 per cent from private construction companies). It was considered that large units would offer economies of scale and advantages in the administration of credit and water.

It may be that the decision to favour collective units was partly influenced by the experience of the CRF in the River Fuerte Irrigation Scheme and elsewhere, where under a system of individual *ejido* plots the renting out of plots to large landowners had increased rapidly in recent years. The resultant concentration of control over the most profitable land in Mexico in a few hands, and the corresponding increase in social and economic inequality were contributory factors to increasing social tension, invasion of land by landless peasants and the seizure of renter harvests by *ejidatarios*. The planners hoped that by introducing collective agriculture in the Carrizo Valley they could avoid the renting of *ejido* land and subsequent loss of control, and at the same time achieve the social objective of ensuring that the benefits of harvests from the irrigated land would accrue directly to the *ejidatarios*.

In conclusion, the adoption of this particular policy was taken in the hope of creating efficient capitalist enterprises and not, I suggest, in response to a political ideology which favoured the increase of collective control of the means of production as part of a strategy directed at transformation to a socialist society. In economic terms the decision to adopt collective organisations appears a rational one, given the limited experience of the vast majority of *ejido* members in agricultural production under irrigation and in the use of high-yielding varieties of seeds, fertilisers, insecticides and modern farm machinery.

Operation of collective ejidos

Whilst the CRF retained overall responsibility for the control and operation of the irrigation works and the efficient management of the scheme, the major role in determining how the collective *ejidos* were to be structured, managed and controlled after the initiation of agricultural activities in 1969 fell to two government credit banks, the National Bank of Ejidal Credit (BANJIDAL) and the National Agrarian Bank of the North West (BANOSA)³. Operating under the Agricultural Credit Law 1955 they were not permitted to grant credit to an *ejido* as such, but

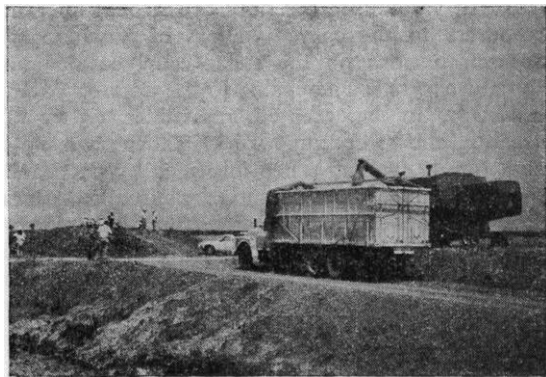
were obliged to constitute members of an *ejido* into one or more local Ejido Credit Societies. Members of these societies would then be jointly responsible for the administration of credit and the joint cultivation of their 10 hectare 'shares' of *ejido* land.

The *ejidatarios* displaced by the reservoir construction faced considerable difficulties in adjusting to the new forms of organisation and production. Most of their lives had been spent individually cultivating four or five hectare plots with maize and ajonjoli under dry farming conditions. In addition, each had an area of rough grazing land, giving an average area per *ejidatario* of 27 hectares. Some kept sheep, goats and beef cattle, whilst others sold their pasture rights to fellow *ejidatarios*. Many supplemented their low incomes by cutting firewood for sale in nearby urban centres. 38 per cent had experience of irrigated agriculture but only as seasonal migrant labourers to the coastal valleys of Sinaloa and Sonora to work on the sugar cane, cotton and tomato harvests. They came to the Carrizo Valley expecting to be granted individual rights of usufruct and to continue working their own plots with family labour. When informed by CRF and BANOSA that they had to organise themselves collectively, otherwise no credit would be forthcoming and they could stand to lose their rights as *ejidatarios*, 81 of the 210 resettled *ejidatarios* decided to form a collective credit society (Society A) and start joint production immediately. The remaining 129 opted to resist government pressure and hold out for individual plots but, after a further three months and with the next agricultural cycle approaching, they too agreed to form another credit society.

Society A suffered a net financial loss in each of the first three agricultural seasons. Whilst many factors contributed towards this initial economic failure, the principal reason was the inability of advisers and members to devise an efficient and workable system of production control based on mutual trust. Members had no previous experience of collective cultivation and had never been in receipt of government agricultural credit. According to the members, 'training' consisted of a number of talks to members in which technical staff of BANOSA and CRF stressed the advantages and benefits to be derived from collective work. There is little evidence of attempts being made to involve the members in devising an organisational structure, or in discussing the logistics of planning, implementing and supervising the production process and devising structures within which all members were given clear duties and respon-

³ Elsewhere I compare the administrative structure and strategy of the two banks (Winder, 1976) but in this paper I restrict my attention to the operations of BANOSA, which in 1974-75 worked with 20 Local Agricultural Credit Societies with a total membership of 1,280.

sibilities. In part, this is perhaps due to the fact that many of the technical staff were themselves inexperienced in the management of production co-operatives, and failed to see the importance of carefully planned promotional work aimed at increased collective consciousness. It also reflects the universal reluctance of planners and technicians to initiate a process of participation with people whom they think know little about the subject in hand and who inevitably will complicate matters and create further problems. As a consequence, the Statutes (*Acta Constitutiva*) and Regulations which prescribe the administrative structure of each credit society, the requirements for membership, rights and obligations of members and officials, procedures for financial control and management and the respective responsibilities of members, society and bank, were prepared by bank officials.



Wheat harvest on one of the collective units, Carrizo Valley, Sinaloa, Mexico.

Organisational structure

The organisational structure laid down in the Statute has much in common with cooperative organisations in other countries. Ultimate authority lies with the General Assembly of all members in which each has one vote. An elected Administration Committee is headed by a member delegate who administers the Society according to the norms laid down in the Assembly and the Administration Committee. The other principal committee within the society is the vigilant or watch committee, the Chairman of which acts as internal financial inspector and work foreman. Detailed examination of the procedures for credit allocation and control, however, reveals the constraints which were placed on the members in taking major policy decisions. First, each Society was obliged to appoint "necessary administrative and technical personnel, headed by a Director of Production" (*Acta Constitutiva, Sociedad Local*

de Credito Ejidal, BANOSA) who was to be selected from amongst candidates submitted by the Bank and paid out of Society profits. The Regulations stipulated that the Director of Production should "programme, direct and supervise the production activities of the society to ensure that they are carried out efficiently and opportunely and the best results obtained . . . ; formulate and present to the General Assembly the programme of work for the society at the start of each agricultural season . . . ; direct and supervise the technical and administrative personnel" (*Reglamento Interno, Sociedad Local de Credito Ejidal. BANOSA*). Each credit application was examined in detail by the Technical Cooperation Department of BANOSA who carried out field inspections to satisfy themselves that the proposed cropping pattern was the most appropriate (i.e. most likely to give a high rate of return on investment with minimum risk). They only considered requests for crops with a government guaranteed price and no credit was to be given for subsistence crops. As a further protection for their investment, BANOSA are obliged by law to ensure that all credit societies take out a credit insurance policy with the National Agricultural and Livestock Insurance Corporation (ANAGSA). This means that BANOSA have in turn to submit themselves to the norms and programmes of ANAGSA. ANAGSA officials carry out their own technical study before approving the planting and lay down a detailed timetable of operations to be followed for each crop. This calendar of operations also in effect determines the type of methods to be used. Only with a heavy emphasis on mechanisation could the agricultural operations be completed so as to conform to the demands of BANOSA and ANAGSA, and to enable two crops to be grown in 12 months.

The credit agreement signed at the start of every agricultural season stipulates how the credit is to be allocated and grants the Bank the right to indicate technical norms, acquire products, contract services and carry out inspection at any time to ensure the correct investment of the loan funds. In brief, the body of statutes, regulations and contract clauses introduced by the agency responsible for setting up the new collective production units conforms to the inevitable tendency of a banking institution to think first and foremost in terms of mechanisms to ensure economic viability of the production system and therefore maximum loan recovery. A consequence of the decision to judge success on the criterion of the rate of loan repayment is a reluctance to take risks such as the delegation of decisions to the

production unit. Looked at from the agencies' point of view, the insistence on adequate external supervision and credit control is logical given the large amounts of capital involved in producing one hectare of crops, the sophisticated technology used, the unknown quality of society members' organisational and agricultural skills, and the pressure from government to show quick economic success with what was considered a pilot scheme in collective agriculture amongst settlers in a new irrigation district.

Response of society members to collective system

Given the close supervision and control of credit, and direction of the production process, why did Society A and many other societies incur financial losses in the first agricultural seasons? Responses from members of Society A suggest that the failure of the collective system can be attributed to the lack of involvement of members in decision-making, and lack of information and any clear guidance in how to run a collective production unit and carry out highly technical agricultural operations. The absence of commitment to a form of organisation which had been imposed on them resulted in low motivation, increasing absenteeism and evasion of responsibility. The habit of 'clocking-in' to mark up a work point and then disappearing became commonplace, and adversely affected the morale of those who were genuinely making an effort. (Everyone was paid a maximum agricultural labourer's wage for a day's work). Correspondence conducted at the time between the Director of Production (significantly, always referred to by the Society Members as 'the Inspector') and the Society reveals the unsatisfactory nature of the relationship between the two parties and indicated the frustration felt by society officials at their exclusion from a large part of the decision-making process. Bank officials selected and purchased the seeds, fertilisers and insecticides, hired all the machinery needed (tractors, aeroplanes, combine harvesters) and arranged for the sale of grain. The role of the majority of members was reduced to providing labour for irrigation, weeding crops and cleaning field canals. For the greater part of the year they were unpaid spectators of the production process. Their alienation was increased by their inability to understand the complex accounts presented to them verbally by the Society accountant. In response to the failure of the collective system to produce any profits for distribution to members in the first 18 months and with the prospect of further losses, members met to discuss alternative forms of organisation which would encourage greater res-

ponsibility, permit more effective supervision and control of production and lessen dependence on the Bank.

Progressive subdivision of collective units

BANOSA eventually agreed to allow the Society to sub-divide into four sectors as from May, 1972. Since then each agricultural season has seen a further unofficial sub-division of land within each sector. My study suggests that this sub-division of the collective unit has been a major factor in explaining the improved economic performance of the Society since 1972. (Other factors include improved techniques, disease control, crop and seed selection.) The trend towards smaller production units with a few members involved in each facilitated better control and encouraged members to take a more direct interest in all aspects of the agricultural cycle. By 1975, 65 per cent of members had taken responsibility for the cultivation of individual 9.5 hectare plots whilst the remainder worked in small groups, composed of members originating from the same *ejido* outside the Valley and in most cases, kin. Under this semi-collective system, credit is still negotiated for the society as a whole and the regulations on collective responsibility for debts still apply. However, as soon as the seed has been sown the care of the crop becomes the responsibility of the individual or group, and the profits they receive are related to the production of 'their' plot and not, as before, to the number of days worked. Members therefore see a direct correlation between careful and opportune watering, spraying, weeding, etc., and improved cash income at the end of the season. Tractors are now contracted by groups and individuals who control the quality of the work. Groups are no longer dependent on the Bank for choice of fertilisers. An indication of this increasing independence is the hiring of private consultants by some groups to carry out soil analysis and survey irrigation contours. Another result of the increasing interest of members in controlling society expenditure and improving productivity was the decision to send society representatives to supervise the loading of fertilisers and pesticides into aircraft for aerial spraying. Previously it was not uncommon for pilots to spray the crops with water or a very weak solution and sell the chemical product on the black market.

The allocation of family subsistence plots

The majority of BANOSA societies have followed a similar pattern to that described above in response to pressure from members to gain greater control in the management of their production units and the allocation of resources.

However, in seeking for greater independence from official institutions, members of other credit societies advanced further by discovering that the 1971 Agrarian Reform Law permitted members of collective *ejidos* to request a family plot (Article 140 of A.R. Law 1971). This group of credit societies was successful in gaining the approval of the Department of Agrarian Affairs for the setting aside of part of the collective unit for individual exploitation in two hectare plots. The CRF expressed strong reservations over the creation of family plots, arguing that the irrigation system had not been designed for cultivation in two hectare plots, and as a consequence there would be problems of water seepage, difficulties of access for machinery and adverse effects on productivity. However, the societies have overcome these problems by redesigning the irrigation and drainage systems.

One of the most serious problems facing members has been the lack of working capital for their family plots. For some this was a result of low profits from the collective unit and in others an inability to save. BANOSA made it clear that they were not able to provide credit for subsistence crops on family plots. Again, each society has devised different ways of overcoming this problem. One society bought seeds, fertiliser and insecticides on behalf of members and allowed them to cancel the debt at the end of the agricultural season. In some cases, societies gave personal loans to members to help in covering production costs. With few exceptions, these family plots have been brought under cultivation and have enabled individual members to absorb some of the untapped labour potential within the household unit and to satisfy an increasing amount of family demand for subsistence crops. Many society members expressed the opinion that the two hectare individual plot is more productive than the equivalent amount of collective land because they devoted more care and attention to it. Whilst this has yet to be proved, the fact that pressure continues for an increasing amount of collective land to be farmed individually or in small groups suggests that the *ejidatarios* consider this system to be economically and socially more successful. By mid-1975, however, most societies had not applied to the Agrarian Reform Ministry for permission to allocate individual two hectare plots to members. An explanation put forward by the Member Delegate of one society was that his members preferred to wait until they could control individual ten hectare plots.

Continuing dependency

Despite fragmentation of collective units into

smaller units for production control purposes, credit societies remain in a relatively weak position within the regional economic and political system. They are involved in a network of dependency ties with external agents as a result of their continuing debt relationship with the government credit agency and the type of technology they have been obliged to adopt. This dependency relationship has limited manoeuvrability of the societies and has meant that any increase in productivity has generally been matched by an equivalent or greater increase in production costs.

Cooperation between credit societies

A review of the literature on earlier collective *ejidos* and credit societies reveals the vital role played by Unions of *ejidos* and credit societies in strengthening the bargaining power and the economic viability of the *ejido* sector *vis-à-vis* other interest groups. In the case of the Yaqui Valley, between 1937 and 1943, the credit societies purchased tractors, lorries and combine harvesters and the central union ran an agricultural machinery depot, a machine parts and tyre store, a petrol station and a bus company (Hewitt, 1974).

An examination of planning documents related to the Carrizo Project indicates that the need to create an organisation above the level of the credit society or *ejido* which would be run by *ejidatarios* and service the needs of constituent organisations, was not foreseen. It was envisaged that the CNC (National Peasant Confederation) through its regional organisation would represent the political interests of the *ejidatarios* and that the official banks would take all necessary steps to ensure that the economic interests of society members were protected.

BANOSA, aware of the potential benefits to be gained from the creation of an organisation to provide a range of services and inputs which could not economically be provided by individual societies, took the initiative in setting up a credit society, AGROVAC (Agro Industry of the Carrizo Valley). In 1970 the Bank persuaded most BANOSA societies to become members of AGROVAC by assuring them that they would receive benefits in the form of services and products delivered efficiently, opportunely and at low cost, and would participate in any profits. They were not required to purchase any shares in the society and their only obligation was to make use of the goods and services provided by the society.

An examination of the achievements of AGROVAC over five years shows that the

potential for growth was not realised. Whilst the society satisfied most of the liquid fertiliser demand from members through its liquid nitrogen fertiliser production plant and spraying service, it failed to provide a range of services which would have lessened the dependence of societies on private companies (purchase of tractors, combine harvesters, crop storage, processing and transport, to mention just a few).

Members attribute the ineffectiveness of AGROVAC to maladministration and misuse of resources. However, I suggest that the root cause was the lack of participation by *ejidatarios* in the administration of the Society. Members say they never saw it as *their* Society serving *their* interests. For them, the clearest indication of this was the imposition by the Bank of a General Administrator and Accountant to administer the Society and take major policy decisions.

More recently (1975) an attempt was made to create a Union of Ejido Credit Societies in the Valley under *ejidatario* management to promote actively the collective interests of all society members in the valley. The first move of this new organisation was to petition government agencies in Mexico City for financial assistance to establish a regional consumer shop, construct warehouses for the storage of harvests and seeds, an agricultural machinery depot, flour mill and fertiliser plant, and to authorise the member societies to produce their own seed and purchase fertiliser directly from the Government Fertiliser Company (GUANOMEX). The experience of AGROVAC suggests that the government agencies approached for assistance in projects involving significant capital investment, will wish to maintain close control over the management of these resources, and that major investment decisions will still be made by non-peasants and will tend to reflect the interests of other social, economic and political sectors. There are, in addition, a number of factors internal to the *ejido* sector which will tend to impede the development of increasingly autonomous systems of inter-societal co-operation.

First, the process of increasing social and economic differentiation within societies has led to the creation of a group of members who stand to benefit from a continuation of the present system. This group has purchased agricultural machinery which is hired to the society (only five societies have their own machinery), lorries which are used to transport inputs and harvest, and small retail shops and garages. Members of this group often occupy positions of leadership within their credit society. Second, whilst many members are aware of some of the potential

benefits to be gained from inter-societal co-operatives, they have also experienced the frustrations and difficulties of attempting to create co-operative organisations within their own *ejidos* with inadequate help and guidance, and can anticipate a range of problems. The conditions which contributed to the disintegration of *endos* and societies still prevail, and mean that members concentrate their attention on extending their span of individual control and protecting their own resources. In the long term one can expect that socio-economic differentiation within the *ejido* sector will increase as a result of differing resource allocation strategies, and that the society members with entrepreneurial skills will diversify out of farming into a range of non-agricultural economic activities. Some of the *ejidatarios* will thus join the group who can perhaps be considered the principal beneficiaries of the irrigation scheme—those who supply the societies with machinery, transport services, and 'green revolution' inputs, and who dispose of their crops.

Conclusion

The collective system of production introduced in the Carrizo Valley Irrigation Scheme has experienced significant modification during the first five years of operation. Members of credit societies, whilst maintaining collective responsibility for credit, have sub-divided their organisation into progressively smaller units thus enabling more members to take certain decisions concerning the management of production (e.g., when to weed, water, spray and plough). As these changes in internal organisation have not reduced government control over such vital aspects as credit expenditure and repayment, choice of crops and seeds, sale of harvest and control of water, BANOSA have permitted them to take place. As the majority of societies has failed to generate any saving capacity with a view to eventually financing their own programmes, this control is likely to continue. The economic advantages to the State of this control are apparent; the payment of all charges to government agencies is guaranteed, the government is able to plan the agricultural production of the *ejido* sector in terms of national needs and the expensive hydraulic systems are well maintained. Optimum productivity is far from being reached, and the CRF are closely monitoring productivity for each Credit Society in an attempt to identify the reasons for low output and profits.

More could have been done to strengthen the economic position of *ejido* members by the creation of a Union of Credit Societies to provide the range of services and inputs now pro-

vided by a wide range of intermediaries. However, once these entrepreneurs become established and recruit members of credit societies into their midst the likelihood of establishing an effective Union of Credit Societies diminishes.

Finally, one is left questioning the wisdom of opting for a highly mechanised system of extensive agriculture in a situation where the major resource of the *ejidos* was manpower. If the rates of rural employment and unemployment are not to increase even further⁴ then more priority needs to be given to the creation of a wide range of employment opportunities on schemes such as the Carrizo Valley. By diversification into areas such as vegetable, fruit, poultry, pig and milk production and the construction of related agro-industries including a flour mill and a plant for soya products, full productive employment could have been provided not only for the Carrizo Valley *ejidatarios* but also for their sons and daughters. CRF and BANOSA, however, opted for the low risk approach, and confined their attention to a limited range of cash crops (principally wheat/soya rotation) using the capital-intensive green revolution technology package. The credit societies never had the unified purpose or will which would have enabled them to press for an alternative strategy based on maximum self-sufficiency of the *ejido* sector.

⁴ It is estimated that 30 per cent of manpower in the agricultural sector has productive employment throughout almost the whole year, 60 per cent work only from one to five months a year and the remaining 10 per cent have no productive employment (Ballesteros, 1974).

Instead, they concentrated on taking steps to identify a particular plot of land to which they might some day have a title of tenure guarantee. At the same time, they struggled to reach a full understanding of the technical and financial complexities of the most advanced agricultural production systems in Mexico.

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