

The Knowledge Economy and the Social Economy: University Support for Community Enterprise Development as a Strategy for Economic Regeneration in Distressed Regions in Canada and Mexico

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Abstract

Most contemporary interest in university-industry linkages stems from a concern to increase the birth rate of new technology based firms and/or the velocity with which indigenous scientific capability is translated into commercial technologies. Many analysts of science parks and Silicon Valleys argue that this kind of knowledge-based innovation requires cosmopolitan economic and social milieux with good communication links, easy access to air transportation, highly educated workers, and sophisticated cultural amenities.

On the receiving end of contemporary innovation systems are indigenous and other disempowered groups and economically depleted communities with little stake in scientific and technical advancement and virtually no involvement in the policy or social networks set up to steer the knowledge system. In this paper, we describe an experiment to discover processes by which marginalized, economically distressed communities can use institutions of the "knowledge economy" to foster the social and technological innovation necessary for their survival. The project assumes that universities contain much of the formal and organizational technology necessary for economic development. We have joined the University College of Cape Breton with universities in Mexico to form structured relationships with communities on Cape Breton Island and with a Mayan community on the Yucatán Peninsula. These communities are unique culture bearers in their respective regions, and the survival of each is seriously threatened by strong forces that peripheralize these communities and undermine their economic bases.

The participating universities provide an enabling structure that use formal techniques to form and develop community businesses, central actors in the "social economy." The techniques have to do with searching for economic opportunities, construction of community business organizations, training, community development, and supportive aftercare services to provide the three components of community economic regeneration: finance, technology, and formation. We are working to find ways to use the dynamics of triple helix innovation to construct knowledge systems that work in favor of the peripheral communities

threatened by trade liberalization and the decline of resource regions. Specifically, how can the institutions of the "knowledge economy" contribute to the development of a local sub-economy that supports small communities? We employ a social economy approach to the establishment of community businesses, differing from many of our colleagues in the community business movement in our belief that the "knowledge economy" can provide resources and eventual economic and social survivability to distressed regions. We argue that: 1) economic regeneration among marginal groups requires access to improved production and organizational technologies; 2) universities can provide this access, especially in distressed communities; 3) a transfer system usually has to be established; 4) specific steps must be taken to establish new community businesses; and 5) a maintenance system with specific characteristics must be established.

Introduction

As Berman (1988) reminds us in his classic study of modernism and the experience of modernization, the challenge and hope of development is to find a model that serves people, not one that people must serve. On this score the evidence is mixed. Many recent observers express ambivalence about the consequences of technological advance for society and nature. This ambivalence extends far into contemporary thinking about the future of "developing" countries and regions. Often deeply impoverished, these countries face certain social conflict and environmental degradation unless they are able to modernize in ways that reconcile economic efficiency, social equity, and environmental sustainability. No solution is possible without the capacity to mobilize science and technology, but science and technology-based development is an "uncertain quest" (Salomon et al 1994), especially so for indigenous and other disempowered groups and economically depleted communities. These are the people on the receiving end of modern innovation systems. Marginalized groups have little apparent stake in scientific and technical advancement and virtually no involvement in the policy, social, or market networks that steer the modern knowledge system. At the same time, their own knowledge systems are marginalized or exploited for others' benefit.

In marginalized societies and depleted communities, innovation-driven globalization tends to provoke further marginalization and depletion. Vulnerable societies are decreasingly able to make the knowledge economy work for them. The international development literature is replete with stories of failed scientific institutions, wasted investments in technology, and lost opportunities to apply and mobilize science and technology for development purposes. Insofar as access to the resources of the science and technology system is a prerequisite to cultural and economic survival, groups excluded from the knowledge economy are relegated to an inferior status akin to apartheid. Differential control of technology and technological innovation is a growing cause and consequence of global inequality in the late twentieth century (Smith 1993).

The major institution in the developed world where scientific knowledge is sought, created, developed, and disseminated is the university. Therein are located those who create this knowledge and disseminate it via learned journals and conferences. To a large extent, these scientific and technological knowledge specialists leave it to others to use and apply the results of their research in the world of practice. Often, the knowledge conclusions of the university community simply remain in libraries. However, there have been instances where universities and economic enterprises have collaborated. For example, in the United States, Hoy and Berstein (1981) have shown how effective collaboration between the university and the business community can be. In addition, Johnson (1985) and Bowman (1963) have shown how the land grant colleges, in the United States, working with farmers and others made direct contributions to agriculture to the benefit of the university.

Similarly, according to Sir Eric Ashby, the creation and the development of the red brick universities in Britain's industrial heartland in the mid to late 19th century were a consequence of the collaboration between the Royal Society of Arts, the local industries, the local communities, and businesses to the vast benefit of the communities concerned.

Today, the conventional problematic concerning university-society relations is how to establish a dynamic

system relating government, the university and conventional corporations such as IBM for the benefit of the dominant economy. In the context of the above, our problematic has shifted to how we can form a dynamic system relating the university and government with socially oriented business corporations working in marginalized economies.

This paper describes an experiment to identify processes by which marginalized, economically distressed communities in Canada and Mexico can use institutions of the "knowledge economy" to foster the social and technological innovation necessary for their survival. Specifically, institutions of the knowledge economy must contribute to the development of a local subeconomy that supports small communities. Universities contain much of the formal and organizational technology necessary for economic development. We have joined the University College of Cape Breton with several Mexican universities in the Yucatan area to form structured relationships in support of a Mayan community on the Yucatan Peninsula, in a manner parallel to the university- community relationship which exists on Cape Breton Island. These two communities are unique culture bearers in their respective regions, and the survival of each is seriously threatened by strong forces that peripheralize these communities and undermine their economic bases.

The participating universities provide an enabling structure to form and develop community business corporations, central actors in the "social economy". The techniques have to do with searching for economic opportunities, organization of community business corporations, training, and provision of supportive aftercare services. These techniques can help to construct knowledge systems that work in favor of peripheral communities threatened by trade liberalization and the decline of natural resource regions. The three components of community economic regeneration are: finance, technology, and learning. Economic regeneration among marginalized groups requires access to improved production and organizational technologies, which universities can usually provide. However a specific transfer system is usually required along with specific methodologies to establish new community businesses and nurture them with a maintenance system.

In the next section we discuss the role of technological innovation as a force which creates a prosperous superclass while creating a marginalized underclass outside of the productive dynamic system. We then introduce the reader to new instruments in the third sector social economy which attempt to correct this inequity.

1. Innovation and the Social Economy

In suppressing traditional levers of economic and social governance, globalization raises insistent issues of international order as well as problems of local response to economic and social opportunities and threats (Griffin and Rahman Khan, 1992). Canada and Mexico are each experiencing the social and political tensions that come from hugely unbalanced patterns of growth and decline on the national territory. The traditional boom-and-bust cycle of resource regions is well known in Canada, but now the national government has diminished capacity to mitigate the local economic situation. In Mexico, where the principal economic advantage within the North American economy is a huge reserve of cheap labor, campesino communities are fighting for survival and Mexico City is suffering from extreme hyperurbanization. In each country as well as in the United States, a growing urban underclass is experiencing the disadvantages of a rapidly mutating knowledge economy, while former members of the middle and working classes are newly learning about income precarity. Growth without employment, and concentration of income into shrinking upper fractions of the population, appears to be the emerging model of knowledge-intensive development in the Americas.

A distressed community is one in which many of the economic and social support systems have broken down. It is characterized by high unemployment, out-migration, and decline in local cultural, educational, health, and political institutions. Distressed communities experience the loss of vital services (schools, hospitals, housing, finance), deterioration of transportation and communications infrastructure, loss of

population, and declining influence in central political institutions. The trigger to decline is often economic, as in single industry towns that lose their principle source of income when mines close or fisheries become depleted. In many industrialized countries, decline occurs when industry moves to lower-wage regions and as family-scale farming disappears. In rural areas of North America, agricultural and natural resource industries are being replaced by low-wage manufacturing and service industries. The decline of rural and small town America has been accelerating since the Second World War; commentators predict that 90% of the population in North America will live in metropolitan areas by the year 2000. The OECD considers that the survival of nonmetropolitan areas is a serious problem and has stimulated such OECD research programs as ILE, the "Initiative for Local Employment" (OECD 1987).

Robert Heilbroner (1992) has pointed out that the major economic philosophers -- Smith, Marx, Schumpeter, Marshall, Keynes, Hayek -- regard capitalism as an inherently and necessarily self-destructive form of economic and social organization. The obvious reason for this, says Heilbroner, "is the sheer difficulty of maintaining capitalist macro- and micro-order. The more suppositious one is nagging doubts about its political and moral validity" (1992: 103). The amount of energy released by capitalism is stupendous and so is the potential for disorder and misery. To triumph as a dominant system, capitalism had first to make emergent market institutions prevail over archaic religious and communal Systems. Then it had to overcome authoritarian, highly collectivized national industrial regimes. Now the issue is the extent to which market institutions should be defended primarily in terms of production efficiency, and what are the alternatives in terms of distribution of benefits. The present international capitalist system is volatile, globalizing, and still largely unregulated. Market institutions need to be designed to provide an adequate range of welfare benefits to all societies, and political and social institutions to provide participation and dynamic stability.

The Canadian political discussion oscillates within a two-sector conceptual framework: on the one hand economics is regarded as the affair of private interests and on the other, it is argued that government should maintain control of key economic levers. Crown corporations and a highly protected national market were the policy instruments used during the 1960s when the federal government began to elaborate an active economic development role for itself by "creating or restructuring an integrated national economy through the agency of a powerful state apparatus" (Leslie, 1987: 8). The federal government aimed at increasing the value-added to natural resources, augmenting national technological inputs, and increasing involvement of indigenous capital and indigenous entrepreneurs. It subordinated the needs of resource regions to this industrialization project through increases in taxation on resource industries, encouragement of secondary manufacturing through protection and subsidies, and control over energy prices to subsidize central Canada. These policies favored the manufacturing regions, generally located in Ontario and Quebec, over resource regions, to the enduring resentment of the latter. During the 1980s this state-supervised industrialization regime was dismantled by the Tories in favor of its opposite, ultraliberal free trade. Economic policy has rested on no strategy or program for economic development except to get the prices right, control the public debt, and facilitate adaptation to changing world market conditions. This approach was the price of Canadian membership in NAFTA, which prescribes sharply circumscribed roles for the state (Davis 1993).

In Latin America, the developmental state has undergone a similar process of delegitimation and dismantlement, precipitated by the debt crisis and the failure of import substitution industrialization strategies. Under the terms of the Washington consensus, countries must reduce public spending and curtail market-displacing or -inhibiting activities. Macroeconomic stability, liberal trade and exchange policies, export orientation, and recessive fiscal and monetary policies are the primary approaches to economic development in Latin American countries (Sunkel 1994). As in Canada, this recipe is providing some economic growth, but without substantial increase in employment. Latin American societies have some of the most highly unequal distributions of income in the world, with very high levels of urban and rural poverty. Dissatisfaction with two-sector neoliberalism is growing but the alternatives are not obvious. In Canada as well as in Latin America, scenario-builders describe possible prosperous futures if a measure of social consensus and political guidance can permit solutions to be found to looming crises, especially problems of international competitiveness and income distribution. Darker possible futures involve

national crashes into authoritarian governance and severe social conflicts (CFA 1995; Rosell 1995).

The Social Economy

Many contemporary observers propose a participative "third sector" as the remedy to the ills of capitalism and the paralysis of the state sector, providing a measure of economic democracy, *gemeinschaft*, and social services where the public and private sectors fail. Peter Drucker, a well known business writer at Claremont, makes some insightful observations in his most recent book *Post Capitalist Society* (Drucker 1993). He says:

The mega-state has all but destroyed citizenship. To restore it, the post capitalist polity needs a "third sector", in addition to the two generally recognized ones, the "private sector" of business and the "public sector" of government. It needs an autonomous social sector. (Drucker 1993)

Drucker sees the social sector as a *counterweight* to markets and public hierarchies. Heilbroner, in contrast, regards participative economic institutions as possible *successors* to capitalism (Heilbroner 1992). Paul Hawken (1994) puts forward a view of a moral capitalist order that combines market principles, environmental sustainability, corporate accountability, and democratic governance. Robert Lane (1991), at the conclusion of his exhaustive review of English-language social scientific knowledge about the market experience, proposes an axial change in economic practice in favor of welfare- and development-producing market institutions. Jack Quarter (1992), in his pioneering study of the Canadian voluntary sector, argues that the survival of democracy will depend upon citizen participation in new forms of social economy. Canadian political scientist Duncan Cameron (1991) sees the third or popular sector as the most likely candidate for democratic alternative to state and market failures, and proposes a number of policies including progressive income taxes, life-cycle needs-based salaries, control over pension funds, community-based enterprises, and new forms of public and private equity ownership, improvement of funding for voluntary agencies, and integration of economic and social policies.

The "third sector" conventionally includes professional associations, charitable organizations, mutual aid societies, special interest groups, educational and health organizations. The idea of a third or social sector brings together actors from the old Left and Right because it appears as a centrist movement in which the institutional foundations of civil society (families, schools, voluntary associations) promote and sustain personal and civic responsibility, balancing individual with social rights and their responsibilities. Typically this centrism is nonpolitical and very community oriented, placing its faith in active local citizen involvement in problem solving. For example, the American Civic Forum's call for New Citizenship distinguishes itself from "the 'state-centered left' which thinks government can solve every problem" and "the 'market-centered right' which believes in the social power of the 'invisible hand'" as well as from the "'technocratic center' where faith resides in experts" and from "talk show democracy, whose politics of grievance and self-righteousness distorts public discussion, confounding democracy with demagoguery."¹

Most writers on the third or civic sector do not address the issue of how to redirect innovation -- at the local, regional, national, or international levels -- for purposes of sustainable and equitable development. In our view the third-sector movements have not placed enough emphasis on the economic issues underlying political empowerment and civil society. Our primary interest is in community enterprise or community-based firms; that is, the economic basis of the social economy.² Although difficult to define precisely, the social economy can be considered to be the category of *economically based activity* which is in the third sector falling between government and private for-profit enterprises. According to Jack Quarter (1992), the concept of social economy contains four kinds of actors: cooperatives, mutual insurers, non-profit corporations, and various associations. The social economy includes economic activities intended to counteract community decline and solve problems of unemployment, as opposed to conventional economic thinking about rational-actor profit-maximizing behavior.

In his book *The Canadian Social Economy* (1992), Jack Quarter provides the most systematic treatment

available of the Canadian socially directed economy. He includes as social economic actors the very broad category of nongovernmental organizations (NGOs) the purpose of which is not to make private profit, but to provide a service to groups such as the handicapped or to the community in general, for example a community owned forestry project or a consumers cooperative. Quarter points out that the voluntary sector is a continuum ranging from the Red Cross and Church organizations to nonprofit corporations such as New Dawn. Few Canadians realize that such a very significant percentage of the Canadian economy can be attributed to the social economy. Of a population of approximately 24 million, 12 million Canadians are affiliated with some form of cooperative business. Nonprofits, ranging from daycare centres to the Saskatchewan Wheat Pool, have become the largest employer sector in Canada. In Quebec, one-third of the provincial savings are in cooperatives: \$34.7 billion. In Saskatchewan 57% of the population belongs to credit unions. Twenty-seven percent of Canadians over age fifteen are volunteers in not-for-profit institutions. Quarter describes innovative cases such as the Local Community Service Centres in Quebec which are nonprofit community-owned corporations that deliver health care and social services. Doctors are salaried and accountable to a local board. Quarter also describes cases of worker buy-outs and cases of new kinds of cooperatives which tend to socialize capital. In the field of housing he points out that 95% of housing is privately owned but that there is an increasing development of demand for socialized housing, but appropriate and effective structures for social housing have not yet been devised.

The business enterprise is the conventional nongovernmental instrument or agent for carrying out economic activities in most industrialized countries. Corporate enterprises such as General Motors, Fiat, Siemens, or Shell Oil are collections of capital, people, and technologies which are organized and reorganized to produce goods and services and generate profit for shareholders. The problem with conventional corporate enterprise is that it is usually controlled by absentee owners who have no commitment to the local community. More than ever before, large corporations have become international, moving from country to country according to the level of economic enticements. The result has been high unemployment in many depleted communities. If we view the business corporation as a corporate person, we see that the key problems lies in the overall intent. In a conventional corporation the over-riding intent is to increase profits for the private use of the shareholders. The well-being of the community where the corporation functions is of secondary concern.

In the nineteenth and early twentieth centuries, a number of new corporate forms emerged in response to the social problems caused by typical private enterprises. These are the production, financial, consumer, or service cooperatives found in most countries. The cooperative movement has been a major player in the social economy of most developed countries during this century. Two polar ideal types of cooperatives exist: nonutilitarian, multifunctional communities such as Israeli kibbutzim, which are highly cohesive ideologically, and unifunctional economic organizations such as many conventional cooperatives. Three intermediate types of social enterprises can be located between these two poles: worker cooperatives, segmented unifunctional associations, and socially owned but self-managed organizations (Rosner 1991). In the area of finance, the community sector has not really responded, at least in North America. Finance cooperatives or credit unions usually concentrate on domestic finance, leaving business to the commercial banks although a few credit unions such as those in Quebec have become involved in business investment in recent years.

Traditional forms of social economy have been inadequate in the face of the economic changes during the last thirty years or so. The social economy has been mainly concentrated in the retail-consumer area and in domestic finance through credit unions. It has not been flexible enough to serve as an instrument for job creation and economic survival in marginal economies. A new and rising response to unemployment and marginalization in many communities is the formation of community business enterprises (called "empresas sociales" in Latin America). Although the cooperative is a vast improvement over the traditional corporation, the primary intent or concern of cooperatives, in general, is the well-being of a special-interest group -- the member-consumers or employees. However, the community enterprise is distinct in that its central intent and concern is the well-being of the *overall community* where it carries out its business. Hence, job-creation is usually an objective of a community enterprise. Traditional corporations as well as modern megacooperatives are often controlled by absentee managers. In both the traditional

corporation and the cooperative, the assets are owned by individuals and not the community as such. The *Yearbook of Cooperative Enterprise*, published by the Plunkett Foundation (1992), outlined the key characteristics of a community enterprise as follows:

1. A community enterprise is a business which aims to create sustainable jobs and related training opportunities for local people and/or to provide commercial services.
2. A community enterprise aims to make profits and to become financially self-supporting; to use profits only for investment in its enterprises, for limited bonus payments to workers, and for community benefit.
3. Membership or share-holding in the community enterprise is organized on democratic one-person-one-vote principles.
4. A community enterprise must be registered either as a company or as a cooperative society using a model or other legal structure which is recognised as acceptable.
5. The assets of the community enterprise are owned on behalf of the community and are held in trust by the directors such that the assets may not be disposed of to benefit financially individual members or directors.
6. The membership of the community enterprise must be open to all persons within its agreed area of benefit. In some circumstances a "community of interest" or a "community of need" can be established.
7. The community enterprise is committed to being a good employer regarding wage levels, terms and conditions, equal opportunities, and employee participation.
8. The community enterprise is committed to evaluating and reporting annually on the effectiveness of its impact on the local community.

A development organization called Community Business Scotland has settled upon the following as a definition:

A community business is a trading organization which is owned and controlled by the local community and which aims to create ultimately self-supporting and viable jobs for local people in its area of benefit, and to use profits made from its business activities either to create more employment or to provide local services, or to support local charitable works. A community business is likely to have a multi-purpose enterprise and it may be based on a geographical community or on a community of interest. (p.4, "Community Business Works", a report by the Calouste Gulbenkian Foundation, UK Branch, London, 1982)

The community enterprise may or may not involve worker ownership but it must always involve majority *local ownership and control*. A community business corporation like BCA (see below) is similar to a conventional business from the point of view of most operations. For instance, it must generate enough money to pay expenses and must deal with the management and control problems faced by most businesses. However, it is profoundly different in many respects. The key motivation of a community enterprise is community improvement with profit being a means and not an end in itself. A community enterprise is not owned by shareholders or workers but operates as a trust in the interests of the local community. A community enterprise is localized and builds on the local community, and is normally not moveable and not subject to being "bought out." A community enterprise depends upon a high degree of volunteer involvement.

The most notable case of a successful community business is that of Mondragon in Northern Spain. Although this billion dollar social economic initiative is employee owned, it is not a traditional worker-owned cooperative but is called "The Mondragon Cooperative Corporation."

The complex employs over 25,000 workers and is made up of four main divisions: (i) financial, which includes a community bank; (ii) industrial, which includes 83 factories producing a wide range of goods from refrigerators to machine tools; (iii) distribution which includes Eroski, one of the largest retail chains in Spain; and (iv) corporate, which includes a polytechnical college with specialized research institutes.

This complex has never had a failure in its forty year history, which is due in large part to the tightly orchestrated collaboration between all of the divisions. Although it developed independently of the Franco-dominated government in Madrid, the other two pillars of university and industry in collaboration were of key importance; the third pillar of the triple helix, government, eventually became involved during the last ten years.

The Mondragon example shows that it is possible to develop a community-oriented production complex in a marginal area. Although it is dependent on outside markets, the Mondragon complex has succeeded in buffering the community it supports from many international economic forces. It has done this by building the linkages between innovation system actors that characterize the innovation "clusters, chains and complexes" that are the goals of many local initiatives.^{3<3>}

The Cape Breton and Yucatan initiatives discussed below are attempting to set up an intradependent model. On a small scale in a limited geographic area, linkages are being established between local capital, universities, and local resources. This is a third-sector-driven triple helix dynamic and the hope is that it will become an economically viable dynamic system.

The most important theoretical issue, in our view, is whether social motivation can be an adequate driving force to stimulate corporations to create wealth and jobs. Business textbooks assume that the motivator of business enterprise is private profit for the shareholders. To quote the well-known business icon, Milton Friedman, "The only obligation which business has in and to society is to get on with the job of producing profit for its shareholders... and the managers are the agents appointed to carry out the purpose of the shareholders" (Friedman 1980). The organizers of community business corporations are in disagreement with this claim and propose that business corporations can be efficient and entrepreneurial when community improvement is the principal motive. Profit is a means, not an end.

Some commentators have criticized the Mondragon experiment as being nontransferable because of the deep commitment to the local community. However, the best counterproof is the very successful complex of community businesses organized around the Caixa Popular in Valencia, Spain. The origin of this multimillion dollar complex of community-owned companies is a small team of community leaders who were inspired by Mondragon and who consciously copied some of the basic methods used by the Mondragon leaders. Also, it will become obvious that some of the Canadian and Mexican business experiments were inspired by Mondragon. It is not so much the detail that is important, but rather it concerns a basic understanding of the concept of the business corporation.

In his classic textbook on company law, LCB Cower points out that the shareholders are only fictional owners of the business (Gower, 1969). Rather, they are lenders of capital and the real controllers are the managing directors. He suggests that it is time to reform the corporation and submit it to a more appropriate guidance system (Cower P.57 to 64). The corporation is a "legal person" and as such it seems reasonable that we speak of it as having responsibilities and purposes other than that of simply making profits. In British and Canadian law, corporations are still required to present a memorandum of association outlining their purposes.

If we agree that a social collectivity such as the business corporation is defined by its purpose, then a shift in purpose means a redefinition of the business corporation. The board of directors does not represent the will of the shareholders who want higher dividends. Rather, the board represents the general, local community which desires development and improvement. With regard to board motivation, the community business board is akin to that of a university or a hospital. In such cases the board serves "pro bono publico" (for the public good). Internal corporate decision-making structures are a secondary issue and are related to circumstances and culture. For instance, one type of management structure would be appropriate for a corporation composed of graduate engineers while another type would be appropriate for a factory where the majority of workers are barely literate. Although the internal structures of a community business corporation may vary, the over-riding purpose is always improvement of the local community as opposed to enrichment of the nonresident shareholders.

In distressed communities or rural regions, infrastructure for innovation is deficient. Isolated firms are unlikely to be technologically and organizationally innovative; hence, they are less likely to be competitive. An innovative community needs locally available innovation support facilities in the areas of investment, technology upgrading, planning, training, and market development (Davis 1993). A locally oriented innovation system would help deliver technical systems that permit economic and cultural survival in rural environments (House 1990). In many countries universities are expected to play a key supporting role in economic regeneration of distressed regions. Most contemporary interest in university-industry linkages stems from a concern to increase the birth rate of new technology-based firms and the velocity with which indigenous scientific capability is translated into commercial technologies. Many analysts of science parks and Silicon Valleys argue that this kind of knowledge-based innovation requires cosmopolitan economic and social milieux with good communication links, easy access to air transportation, highly educated workers, and sophisticated cultural amenities. However, university-based research parks are being used as a strategy to develop rural regions (Goldstein and Luger 1992), complementing the traditional role of land-grant university-based extension and service delivery. The National Association of State Universities and Land Grant Colleges in the United States has put forward an agenda to improve economic competitiveness and diversification, support management and strategic planning, promote community leadership capacity, and assist families and communities to adjust to stress and change (NASULGC 1990).

In the next section we describe an experience of local economic regeneration which is not based on incubation of privately owned high technology firms, but in which a university is playing a supporting role as an institution of the knowledge economy in support of community-based business.

2. UCCB Experience with Local Economic Regeneration

With an area of 6,500 square kilometers and a population of 170,000, Cape Breton Island has suffered from unemployment levels exceeding 20% since the post-World War Two decline of the mining and fishing industries. It is a classical case of the marginalization of a resource-based nonmetropolitan economy. In a community with chronic unemployment, outmigration, and low incomes, the University College of Cape Breton became a beacon of hope when it was established in 1974. From the first, the organizers conceived the university as different and experimental with a strong mandate to lead social and economic change. In some respects it resembled a polytechnic with programs in technology as well as in the traditional arts, science, and business administration curricula.

Because of the developmental mission of the university, it was natural for faculty members to become more involved in local affairs than is usual in the university tradition. Although cultural linkages between the university and the local community have been strong, of special interest in this paper is the accent on economic development. In 1974, a number of UCCB professors became involved in the search for new forms of commercial organization which might expand the kind of social-economic role served by cooperatives in earlier times. One result was New Dawn Enterprises, a community development corporation, and another was the more recent BCA Holdings, a community venture finance company.

New Dawn Enterprises is one of the oldest community business corporations in Canada. New Dawn Enterprises was established in 1974 by a group of UCCB professors and other local citizens concerned about economic decline. The structure is not-for-profit mother corporation with a number of subsidiaries. In response to the expressed needs of the community, over the past two decades New Dawn established a large real-estate portfolio offering affordable housing for people on low and medium income, a home for the aged, dental centres, home nursing, a volunteer resource centre, and a wide variety of job-creation schemes. With over one hundred employees and a yearly payroll of \$1.7 million, New Dawn is self-sustaining, able to generate sufficient revenue to cover expenses and fund new developments. In 1995, total assets were over 15 million dollars, mainly in real estate. It is within the private-community sector and functions as a flexible business structure able to respond to a variety of community needs.

Although the founders of New Dawn began to use the term "Community Development Corporation," the inspiration did not come from the United States. The organizers were active in a number of organizations including cooperatives, credit unions, labour, senior citizen groups, and business. All admired the cooperative movement and identified with the local tradition of self-help in economic development. However, the originators were clear in their conclusion that traditional cooperative forms were too rigid and that a new and more flexible formula was necessary. As long as community purpose and one-vote-per-person were maintained, they didn't worry about changing other aspects of the cooperative concept.

The mere fact that a community corporation like New Dawn has survived over twenty years indicates that serious business can be undertaken in an efficient manner, even though it is for community good rather than the financial profit of the board, shareholders, or any one special interest group. New Dawn never saw itself as serving a special interest group such as consumers, producers, or employees. The board saw itself as serving the community interest in general and relied heavily on volunteer input. People volunteered to join and others were recruited. In a sense, their board is formed in a manner similar to that of a hospital or of a university in Canada. This kind of volunteer board is usually described as "pro bono publico." Between the board, committees, and the volunteer resource centre, there were approximately two hundred people involved in New Dawn in 1993.

People are often surprised to learn how simple it was to start New Dawn as a business. A small group of people from a variety of organizations began as a study group to examine ways to create jobs and to help fight unemployment. The board members signed a bank guarantee and borrowed money in 1973. Credit Unions were not involved in business loans at that time. New Dawn then bought a run-down building and fixed it up through grants and volunteer labour. Based on the increased equity, more properties were bought and new projects initiated. The intention to make money was explicit, but as a means and not as an end. When profit was made on one project, the money was used to expand into new commercial areas. The basic rule is that each project must serve some community need and must pay its own way. For example, New Dawn started a wonderful business to sell and clean healthy, ecological baby diapers. This venture lost money and was soon closed down.

An example of a New Dawn initiative in response to community needs occurred when the Department of National Defence closed a radar base in Cape Breton in 1990. A wide variety of unsuccessful efforts were made to utilize the vacant facility. Eventually local government authorities came to New Dawn because it was the only organized institution in the area able to take over such a facility. New Dawn acquired the property and is developing it as a housing and business complex. This particular military establishment contains fifteen duplex homes. With a good sense of social entrepreneurship, New Dawn has turned these thirty lodgings into homecare units for the aged. Three senior citizens are lodged in one side and a caregiving family is lodged in the other. The family is paid a salary to care for the three seniors. It works wonderfully. The seniors are kept out of the large nursing homes, people are given jobs in an area of high unemployment, and New Dawn earns revenue from the project.

Another example from the social economy is BCA Holdings, an experimental community venture finance company. It was organised by some members of UCCB and some activists in New Dawn. The stimulus for BCA was the obvious need for alternative financing for any community business enterprise which attempts to operate outside of the usual norms of free enterprise business. The idea was very simple. A group of community activists established a not-for-profit company with the mission of gathering money in the local community and using it to create new businesses. The philosophy was similar to that of New Dawn. The money would be used to increase local control and ownership of business.

BCA was fortunate in that a federal government development agency, Enterprise Cape Breton Corporation, offered to lend \$500,000 for venture finance if a local group would match it. BCA was successful in doing so. Hence, BCA began operations in 1993 with one million dollars as an investment pool. Again, the idea is simple and inspired by the success of Mondragon. Besides gathering money from the local community, an effort was made to gather business expertise. With the help of world-wise business entrepreneurs from the community and technical "knowledge" people from the university, a proactive strategy was adopted.

BCA looked for opportunities in the community and helped groups to formulate their business ideas. The following are some of the BCA business projects.

1. Tompkins Development:

A small credit union in Reserve Mines, near UCCB, was in difficulty and required new premises. In a joint venture between BCA and the credit union, a new community business corporation was established. BCA financed the new corporation to construct a new building. The building is now owned by Tompkins Development Ltd., and the tenants are a library, the Credit Union, and Tim Horton's Donuts. All are doing well and are pleased with the site. Engineers at UCCB helped with the design and business professors helped develop the business strategy.

2. East Coast Rope:

In 1992, a high-tech rope manufacturing company went bankrupt in Cape Breton. In an extremely fast procedure, a rope manufacturer from Louisiana purchased the machinery and attempted to move it to the United States. The community was enraged and blocked the roadways to prevent the plant machinery from being moved. BCA Holdings put together a group of investors to take over the plant under the name "East Coast Rope." Management is delighted with the high quality and strength of the rope now being produced. Upwards of 35 people are employed on a 24 hour basis. It is hoped that a strong relationship with UCCB will help to implement a worker development strategy, a strong R&D program, and a marketing campaign. The company is seriously looking at new products based upon high strength woven fibres. BCA Holdings is the largest single shareholder. This company has recently opened a warehouse in Seattle. In 1995, the company showed a profit.

3. Plumbing and Heating:

In a period of frequent bankruptcies, BCA Holding's role in reconstituting a plumbing and heating company has been a great success. BCA provided the capital and not one repayment has been missed.

4. Bras d'Or Lakes Inn, St. Peters:

BCA purchased this hotel in bankruptcy at the urging of many local people who feared that too many local businesses were being bought by outside companies. BCA is promoting an ecotourism development in the St. Peters area. In conjunction with researchers at UCCB, an effort is being made to develop history-based tourism in the area, which boasts the seventeenth-century Nicholas Denys trading post. The hotel is on the highway leading to the restored Fortress of Louisbourg, built in 1715 by King Louis XV of France.

5. Bras d'Or Broadcasting:

CHER Radio was the last locally owned media outlet, with all other radio and newspaper companies being parts of national chains. When this company went bankrupt, BCA made a purchase bid out of concern for loss of local access to the media. Outside monopoly control of commercial radio is unacceptable to many community people. Recognizing that an "orphan" radio station is at high risk, BCA made a joint venture with an Atlantic Canadian chain of broadcast companies. The Chain will be a minority partner and provide technical expertise. BCA will provide the local community participation and hold the majority of voting shares.

6. Cape Smoky Project:

When a government-owned ski resort got into difficulty, the local community formed a community business corporation to take over the operation. The government agreed to turn over the property and to invest capital if the group could raise local financing. BCA provided the private finance portion

and now an exciting new experiment is underway in the field of recreational business. Since Cape Smoky was a fishing community where the cod-stocks became depleted, this enterprise could be an important creator of jobs in the recreation/tourist industry when so many fishers are idle. BCA will also provide business advisors and university based research.

BCA has also invested in a number of smaller projects. As a matter of policy, BCA invests amounts exceeding \$75,000 and only in companies that have proven management capacity and where the degree of risk is deemed relatively low.

UCCB and the Local Community

Within Cape Breton Island are four main traditions, the Acadian French-speaking, the Mi'kmaq, the Scotch who used to speak Gaelic, and the mixed-English speaking. Of special interest is the Mi'kmaq community which forms a small minority of 5000 people, mainly in villages around the Bras D'Or Lakes, an inland sea. Because of the close proximity of the university and the proactive university approach to the local community, aboriginal participation is higher at UCCB than in any other university in Canada. Over 250 Mi'kmaq students are enrolled at the university in regular programmes. A distance education facility exists at Exkasoni, the largest Mi'kmaq community. Chapel Island is a Mi'kmaq village in the center of Cape Breton Island near St. Peters, the location of the BCA-owned hotel. A community business corporation is being formed in Chapel Island, which will be oriented towards history-based tourism. A boat will be purchased with the help of BCA Holdings and the government economic development agencies. Effectively, this will be a partnership between the Mi'kmaq community, BCA, and the university.

These examples drawn from the New Dawn/UCCB collaborative experience in Cape Breton demonstrate what can happen when the faculty of a university link up with local citizens to study their problems and participate in the solutions. This is done by drawing on the scientific, social, and technological expertise of the faculty members along with the practical experience of the local community leaders. The town/gown divide then breaks down as both sides join in the creation and development of community-oriented enterprises and, as stated above, the benefits accrue to the total community rather than to a small group of private investor-owners.

To this end, the University College of Cape Breton has adopted local community economic development as part of its mission. As well as offering technical and cultural support such as CAD/CAM, Environmental Testing Laboratories, Archives for local history, and community theater, the university has encouraged faculty members to play a role in experimentation in economic development. At times formally, and mostly in an informal manner, the university has served as a source of knowledge and technique for local development in many senses. In 1995, the involvement was made more formal by establishing the Community Economic Development Institute as a conduit to channel university resources to community economic research projects as well as to administer a proposed MBA degree in Community Economic Development.

The UCCB's Tompkins Institute has specialized in the design of new corporate forms for business development. At a more general level, the Tompkins has attempted to reconcile the dichotomy between technological development and human values. In much of western history, new technology has meant social distress and breakdown of communities. Instead of technology causing layoffs and high unemployment, the intent of the Tompkins Institute has been to use technology to create jobs and restore the local community to sustainability. It has developed a model of intervention, described below, that is being shared with a Mayan community in the Yucatan peninsula.

3. The Yucape Project

The Yucatán Mayans have been regularly studied by North American anthropologists interested in modernization of peasant societies, and consequently much is known about their cultural and economic

survival strategies (this literature is reviewed in Breton and Labrecque 1972, and Thompson 1974). However, neither scholarly attention nor the advent of modern research institutions in Southern Mexico have visibly contributed to increasing the economic self-reliance of Mayan society. On the contrary, trade liberalization and monster tourism are undermining the campesino societies, which have been unable to compete with highly capitalized, highly knowledge intensive, and highly competitive agricultural and service industry investors from outside the region. The campesino economy in the Yucatán is agricultural and labour intensive with low rates of literacy. Its present economic and social structures are built on the remains of the classical and very hierarchical Mayan society which was decapitated by the Spanish colonizers and integrated into a quasi-feudal agricultural economy which, in the nineteenth century, became dependent on the export of staples: first cattle products and then henequen (sisal). Eventually, with the loss of state support and with new competition from other natural and man-made fibers, this workforce declined from 55,000 campesino workers in 1984 to 8,000 in 1992. Today, about 85% of the farms in the Yucatan use traditional subsistence techniques, supporting about 400,000 people (Cuanalo and Ramirez 1994). The amendment to the Mexican constitution allowing for the dismemberment of ejidos (communally held land, the Mayans' principal wealth) offers the strong temptation of a one-time trade of land for money.

If trends continue, the impact in the Mexican campesino economy will be devastating. The tendency will be for the campesino population to leave the countryside and go to the metropolitan areas. The experience of Mexico City has indicated that this trend has more negative effects than positive ones. In November of 1992, delegates from twenty-four NGOs met in the Canadian Embassy in Mexico City to discuss the emerging situation. They observed that:

"In the economy we see a profound crisis of production, of marketing, of capital and of technology; the visible consequences of this are seen in high levels of unemployment and low salaries. From an economic perspective, we are of the opinion that this situation will become more grave for the majority of the population once the Free Trade Treaty becomes operational with Canada and the United States.

We foresee that with the application of the new political economy, only the large agrobusinesses will benefit who apply methods of intensive capital, technology and white collar workers, thereby excluding from any benefit a large sector of the population, accelerating the process of rural impoverishment and migration to the cities." (Report of NGO meeting, Canadian Embassy, Mexico city)

The report pointed out that 90 percent of the rural population manifests some degree of malnutrition and that unemployment is extremely high.

Interest on the part of the Tompkins Institute in Mexico began as a result of the North American Free Trade Agreement. From the perspective of Cape Breton Island, this could only mean progress for the well-equipped metropolitan centers and further decline for the marginal regions in Canada. We wished to determine if there were marginal areas in Mexico similar to Cape Breton Island and if there were community business groups attempting to oppose the tide of centralization and rural depletion. An area in Mexico was sought which resembled Cape Breton. The closest was the Puuc region of the Yucatán Peninsula where a community business called "Chac Lol" had been recently formed. Having established an informal relationship with Chapingo University and Chac Lol in 1993, a project was devised and successfully proposed to the International Development Research Council (IDRC).

Our methodology for enterprise development consists of three elements:

1. A process of technology transfer, involving acquisition of physical and organizational technology.
2. Institutional linkages to incubate an enterprise based on this technology and provide "after-care" or support from consultants with specialty skills to help overcome "growing pain" problems in the fledgling enterprises.

3. A formula for commercial success involving finance, technology, and education.

The approach is inspired by an analysis of a number of existing community business models such as the Mondragon complex in Spain. In this approach the critical success factors are appropriation of technology, finance, and human resources. Regarding technology, the guiding principle is that the best appropriate world class technology will be sought out and implemented. Regarding finance, the guiding principle is that social enterprises especially need secure access to capital. Thus, a related community-based financial institution is essential. Regarding human resources, the guiding principle is that every effort must be made to maintain a program of continual development of management and work-force skills among the locals.

The institutional linkage is based on the notion that several institutions linked together in a systematic fashion can do more than each of the institutions operating as isolated units. Thus, "linking" is both micro and macro. Micro means that new commercial enterprises are linked to each other so as to operate in an integrated manner. Thus in the Yucatán area, Chac Lol and other new enterprises will be units in a larger corporate complex. The macro level of linkage refers to the national and international scales. It means that the new social enterprise will have systematic linkages to both national and international connecting universities and commercial projects.

In the context of the process of economic and social change described earlier, the research project proposed to develop and test a process to strengthen existing campesino business enterprises and to create new ones. It is not clear what kind of model will work in some rural villages on the Yucatán peninsula, considering that enormous forces are creating a new kind of social economic system where there is no role for a significant campesino population.

Our model includes the university as an agent of technology transfer. It presumes that both technological innovation and social innovation are necessary for the social-economic survival of these communities. Governments tend to think that a technological fix will cure problems, while community activists tend to think that good intentions and democratic participation are enough. It is now quite clear that one can't work without the other. Technology that blindly follows free market forces can destroy societies, while highly ideological movements without the powers of technology will be humanly interesting, but they will remain economically marginal.

The purpose of our research is to discover processes by which initiatives in the social economy, exemplified by the local campesinos, could be strengthened through contact with models available in the knowledge economy, including the famous examples from the social economy of Spain, Mondragon, and Valencia, as well the models from Cape Breton in Canada. With these ideas in mind, we set up a team to review the structures of Chac Lol. Our basic strategy was to encourage local self sufficiency in food, while searching for new kinds of businesses which would be culturally and environmentally friendly. Clearly, new businesses were considered necessary to bring in new money and new jobs. Fundamentally, we used the three-sided Mondragon triangle of technology, finance, and human resources as guide. For human resource formation and technology, we relied upon the local universities, using notions of technology transfer which are commonly accepted in Canada. Chapingo University specializes in agricultural engineering. Their people sought new kinds of production based upon the land. We were quite fortunate in enlisting both the School of Architecture of the University of Yucatán and the National Institute for History and Archeology. If we were to respect the Mayan culture, it was important to have specialists involved who understood the cultural context. Specializing in business, Mayab University was called upon to assist in business and marketing plans.

Before long it became obvious that a structure was necessary to channel information. For this, we set up a consulting company called Caiparu. The key members are mainly the people who were already involved with Chac Lol. Next a small loan fund (fondo revolvente) was established. Over the first year, various improvements were made in the Chac Lol structure, especially with the formulation of roles. A process of communication was begun with the international world. As part of the training program two Mayan delegates were sent to Venezuela to participate in an ecotourism conference. One campesino delegate was

the President of Chac Lol. Also, two young Mayans came to Cape Breton to study English. They stayed with local Mi'qmaks in Eskasoni. Two Chac Lol leaders spent several weeks in Canada in order to become familiar with the BCA corporate system. None of those involved in Yucape speak English, so it was considered important to start an English learning process.

After much discussion with Yucatán and Canadian participants, we finally evolved a social enterprise project which seemed to fit. By December of 1994 we had conceived of a Mayan Environmental Park which would include a hotel. The Chac Lol campesino association provided long-term loan of 30 acres of prime ejido land for the project. The site is fifteen minutes from the Uxmal pyramid built in the year 600. The facility will be owned and controlled by the Maya in Muna. The hotel will be built according to the principles of low-environmental impact. To make this possible, several university groups have lent their expertise. The School of Architecture at the University of Yucatán held a design competition and the best design was chosen for the hotel. The architectural students of the University of Yucatán are designing the hotel complex to include an arboretum, a botanical garden, a restaurant, craft concessions, and Mayan-style cabins for tourists. Mayab University will do the business feasibility. The Chapingo University is taking on the task of designing an arboretum (tree park) and a botanical garden as part of the tourist attraction needed to draw in culture-based tourism. The National Institute of History and Anthropology is contributing advice on how to protect and enhance the local traditional culture.

The transfer of technology has been significant in several respects. Experts from the University of Chapingo developed plans for the botanical garden and the arboretum. The botanical garden will contain the most important species from an economic point of view. This is logical since the Mayan people survived for a long time through their ability to harvest and use the natural vegetation without destroying the source.

As well as classifying plants for commercial uses, such as dyes, and for cooking, the Chapingo experts are planning a medicinal section. The Mayan people are well known for their herbal medicines and so the group is building on this expertise. However, as well as using the traditional practices, the department of biochemistry will analyze and advise on the use of herbs. In that respect, the team is negotiating with the department of biochemistry at the University of Yucatán to assist in the classification and interpretation of traditional herbal medicines. In connection with this initiative is a plan to establish a herbal medical clinic in an interior area where there is neither doctor nor hospital in over 10,000 square kilometers. Such a clinic could be an important experiment in alternative medicine.

A Mayan-owned tourist facility is especially significant in Mexico because most of the giant tourist centers in the Yucatán are owned by Japanese, Spanish, or American investors. They are certainly not owned by the Mayans, who are a kind of tourist attraction for the business interests. Worse, in the communities around the typical tourist sites, the Mayan language is not encouraged; indeed, it is discouraged. The trend is to preserve the Mayan buildings, but not the Mayan people and their culture. In contrast our Chac Lol tourist project is in a Mayan speaking town and all employees must be able to speak Mayan. Besides being shown the physical ruins, the tourist will be treated to presentations by the living Mayans concerning their culture and traditions. Tourists will be invited to their homes to meet their children and their animals.

The project is a living example of an attempt to use some of the values found in Mondragon and Valencia. The result will resemble neither Mondragon nor Valencia nor New Dawn. However, our working thesis is that the essential element is not a particular structure or a quantity of assets. The essential is made up of certain principles and values that are transnational and transcultural. These values include a respect for technology while using it in a way that enhances a community. They concern a spirit of sharing so that the various economic units collaborate and act in an integrated manner for the good of the entire community, a positive regard for people in the local community not only as a resource but as the ones who should control their own development.

By September of 1995, the Yucape pilot project was developing on several fronts. Internally, four key initiatives were advancing: the environmental hotel and park, the food-self-sufficiency system, the Caiparu

consulting arm, and the revolving loan fund. Externally, new relationships were being established with campesino groups in other parts of the Yucatán who came to seek assistance.

Conclusions

Our general conclusion from this research project is that the triple helix model can be modified so that the community business corporation replaces the conventional profit-oriented corporation with the result that a powerful instrument is created for the regeneration of economically marginalized communities. Rather than a completed research project, our examples must be viewed as steps in an ongoing search for methodologies which can serve to correct social and economic inequities. We have clearly demonstrated that the university can be a source of technological process for the social economy at least in modest cases. However, we claim that this is a necessary but not sufficient condition for the development of business enterprises. The other two prongs of the method are the strategic mix of finance, technology, and education as well as the creation of a dynamic and interlinked system of mutually supporting institutions.

Much greater refinement and further testing are required in the development of this methodology. In a project spanning two countries with an annual research budget under US\$50,000, we are more than satisfied with our interim results. Both the Yucape project in Mexico and the BCA project in Canada are fledgling and experimental as alternative ways of doing business and thus offering hopeful instruments to threatened communities. Both are undercapitalized but nevertheless both show surprising progress. It is hoped that this paper will encourage more collaboration among university researchers who are searching for ways in which the university system can strengthen the social economy in its role of establishing basic equity amongst all sectors of society. The postindustrial economy has and is causing enormous human misery in all parts of the world. It may well be that the university is the one institution best placed to play the key role in finding a solution to this malfunction.

Footnotes:

<1> 1 American civic Forum Call for a New Citizenship.

<2> 2 Most work on the social economy concerns producer or consumer cooperatives.

<3> 3 The best-known theorist of innovation clusters is Michael Porter, but many other theorists and practitioners have contributed to the search for the right structure for innovation in particular economic and social contexts. For a useful review of this literature see Marceau (1994).

References

Ashby, Eric, 1974. *Technology and the Academies: Adapting Institutions for a Technological Society*. Jossey-Bass, San Francisco.

Association Nationale pour le Developpement Locale et les Pays, 1985. *Developpement Locale et Initiatives, Rencontres d'Aurillac*. Syros, Paris.

Azurmendi, Jose. *El Hombre Cooperativo*. Mondragon, Caja Laboral Popular, Spain.

Berman, Morris, 1988. *Todo lo Solidio se Desvanece en el Aire. La Experiencia de la Modernidad*. Siglo Veintiuno, Mexico.

Blasi, Joseph Raphael and Douglas Lynn Kruse, 1991. *The New Owners: The Mass Emergence of Employee Ownership in Public Companies and What It Means to American Business*. HarperBusiness,

USA.

Breton, Yves, and Marie-France Labrecque, sous la direction de, 1981. *L'agriculture, la pêche et l'artisanat au Yucatan*. Presses de l'Université Laval, Ste.-Foy.

Cameron, Duncan, 1991. "Beyond the Market and the State: How Can We do it Better," pp. 435-448 in D. Drache and M. Gertler, *The New Era of Global Competition. State Policy and Market Power*. McGill-Queen's University Press, Montreal.

Coté, Marcel, 1991. *By Way of Advice: Growth Strategies for the Market Driven World*. Mosaic Press, Oakville, Ontario.

CFA, 1995. *Which Future for the Americas? Four Scenarios*. Canadian Foundation for the Americas, Ottawa.

Cuanalo de la Cerda, Heriberto, and Genovevo Ramirez Jaramillo, 1994. "Microempresa campesina en la península de Yucatan," *Comercio exterior* 44(7), 602-606.

Cumming, Victor, Lynn Curtis and Frank Green, eds, 1993. *Entrepreneurial Communities*. Westcoast Development Group, Vernon, British Columbia.

Davis, Charles H., 1993a. "Integración económica de América del Norte y la política de innovación en Canadá," pp. 105-150 in *Ciencia y Tecnología, y Tratado de Libre Comercio*. Consejo Consultivo de Ciencias, Presidencia de la República/SECOFI, Mexico.

Davis, Charles H., 1993b. "Innovation Support Services for Innovative Communities," pp.71-94 in D. Bruce and M. Whitla, eds., *Community-Based Approaches to Rural Development*. Mount Allison University, Sackville, New Brunswick.

Defourny, Jacques, and José L. Monzon Campos, 1992. *Economie sociale (entre économie capitaliste et économie publique)/The Third Sector (Cooperative, Mutual and Nonprofit Organizations)*. Centre international de recherches et information économie publique, sociale, et cooperative, Bruxelles.

Douglas, David J.A., 1994. *Community Economic Development in Canada, Volume One*. McGraw-Hill Ryerson, Toronto.

Drucker, Peter F., 1993. *Post Capitalist Society*. Harper Business, New York.

Economic Council of Canada, 1989. *Local Development Paper Series*. Ottawa.

Friedman, Milton, 1980. *Free to Choose*. Harcourt Brace, New York.

Galaway, Burt and Joe Hudson, eds, 1994. *Community Economic Development: Perspectives on Research and Policy*. Thompson Educational Publishing, Inc, Toronto.

Gaventa, John, Barbara Ellen Smith, and Alex Willinham, eds, 1990. *Communities in Economic Crisis: Appalachia and the South*. Temple University Press, Philadelphia.

Goldstein, Harvey A., and Michael I. Luger, 1992. "University-Based Research Parks as a Rural Development Strategy," *Policy Studies Journal* 20(2), 249-263.

Gower, L.C.B., 1969. *The Principles of Modern Company Law*. Stevens and Sons, London.

Griffin, Keith, and Rahman Khan, Azizur, 1992. *Globalization and the Developing World: an Essay on the International Dimensions of Development in the Post-Cold War Era*. United Nations Research Institute for Social Development, Geneva.

- Hawken, Paul, 1994. *The Ecology of Commerce*. HarperBusiness, New York.
- Heilbroner, Robert, 1992. *Twenty-First Century Capitalism*. Anansi, Toronto.
- House, Douglas, 1990. "Rural Development and Technological Change," pp. 61-69 in *Changing Newfoundland's Economy Through Science and Technology. Seminar Proceedings*. Newfoundland and Labrador Science and Technology Advisory Council and Economic Council of Newfoundland and Labrador, St. John's.
- Hoy, John, and Martin Berstein, 1981. *Business and Academia: Partners in New England's Economic Renewal*. University Press of New England, Hanover.
- Kinder, Peter, Steven D. Lydenberg and Amy L. Domini, 1993. *Investing For Good: Making Money while Being Socially Responsible*. HarperBusiness, New York.
- Krimerman, Len, and Frank Lindenfeld, eds, 1992. *When Workers Decide: Workplace Democracy Takes Root in North America*. New Society Publishers, Philadelphia.
- Lane, Robert E., 1991. *The Market Experience*. Capmbridge University Press, Cambridge.
- Leslie, Peter, 1987. *Federal State, National Economy*. University of Toronto Press, 1987.
- Levi, Yair, 1990. "Relating the Cooperative and the Community: A New Classificatory Approach," *Scandinavian Journal of Development Alternatives* 9(2-3), 151-157.
- Lewis, Mike, and Frank Green, 1993. *Strategic Planning for the Community Economic Development Practitioner*. Westcoast Development Group, Vancouver, British Columbia.
- Lowry, Ritchie P, 1991. *Good Money: A Guide to Profitable Social Investing in the '90s*. WW Norton & Company, New York.
- MacLeod, Greg, 1991. "Community Business: A Video/Booklet Series" Tompkins Institute/University College of Cape Breton, Sydney, Nova Scotia.
- MacLeod, Greg, 1988. *New Age Business*. Canadian Council on Social Development, Ottawa.
- Marceau, Jane, 1994. "Clusters, Chains, and Complexes: Three Approaches to Innovation with a Public Policy Perspective," pp. 3-12 in M. Dodgson and R. Rothwell, eds., *The Handbook of Industrial Innovation*. Edward Elgar, U.K.
- NASULGC, 1990. *Revitalizing the Rural Economy for Families and Communities*. National Association of State Universities and Land Grant Colleges, Washington, D.C.
- Nozick, Marcia, 1992. *No Place Like Home: Building Sustainable Communities*. Canadian Council on Social Development, Ottawa.
- OECD, 1989. *Capital and the Promotion of Entrepreneurship*, ILE Programme Working paper, Paris.
- OECD, 1988. *Local Employment Initiatives in a Rural Framework*, ILE Programme Working Paper, Paris.
- OECD, 1987. ILE reports in "Feedback Elise no. 1&2".
- Parzen, Julia, and Michael hall Kieschnick, 1992. *Credit where It's Due: Development Banking for Communities*. Temple University Press, Philadelphia.

Perry, Stewart E., Mike Lewis and Jean-Marc Fontan, 1993. *Revitalizing Canada's Neighbourhoods*. Westcoast Publications, Vancouver, British Columbia.

Perry, Stewart E., 1989. *Le développement régional par l'engagement communautaire*. Economic Council of Canada, Local Development Paper no.17, Ottawa.

Plunkett Foundation, 1992. *Yearbook of Co-operative Enterprise*. Oxford, UK.

Quarter, Jack, 1992. *Canada's Social Economy*. James Lorimer, Toronto.

Rodriguez Canto, Adolfo, and Jorge Flores Torres, eds., 1994. *La agricultura de Yucatan ante el Tratado de Libre Comercio*. Universitiano Autonoma Chapingo, Merida.

Rosell, Seven A., 1995. *Changing Maps. Governing in a World of Rapid Change*. Carleton University Press, Ottawa.

Rosner, Menachem, 1991. "Worker Ownership, Ideology and Social Structure in 'Third-Way' Work Organizations," *Economic and Industrial Democracy* 12(3), 369-384.

Salomon, Jean-Jacques, Franciso R. Sagasti, and Ce line Sachs-Jeantet, 1994. *The Uncertain Quest: Science, Tedinology, and Development*. United Nations University Press, Tokyo.

Smith, David A., 1993. "Technology and the Modern World-System: Some Reflections," *Science, Technology, and Human Values* 18(2), 186-195.

Sunkel, Osvaldo, 1995. "La crisis social de América Latina: une perspective neoestructuralista," pp. 129-181 in F. Bombarolo and H.E. Caride, eds., *Pobreza y modelos de desarrollo en América Latina*. FICONG/IDE World Bank, Buenos Aires.

Thomas, Henk, and Chris Logan, 1982. *Mondragon, an Economic Analysis*. Allen and Unwin, London.

Thompson, Richard A., 1974. *The Winds of Tomorrow. Social Change in a Maya Town*. University of Chicago Press, Chicago.