



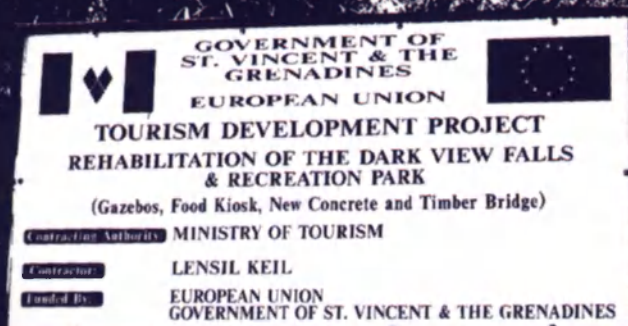
COMMITTEE OF RURAL AREAS
POLISH GEOGRAPHICAL SOCIETY



RURAL AREAS STUDY GROUP
STANISLAW LESZCZYCKI
INSTITUTE OF GEOGRAPHY AND SPATIAL ORGANIZATION
POLISH ACADEMY OF SCIENCES

Socio-economic disparities and the role of local development

Editor:
Jerzy BAŃSKI



COMMITTEE OF RURAL AREAS
POLISH GEOGRAPHICAL SOCIETY

RURAL AREAS STUDY GROUP
STANISLAW LESZCZYCKI
INSTITUTE OF GEOGRAPHY AND SPATIAL ORGANIZATION
POLISH ACADEMY OF SCIENCES

Rural Studies
Vol. 20

**SOCIO-ECONOMIC DISPARITIES
AND THE ROLE
OF LOCAL DEVELOPMENT**

EDITORS:

Jerzy BAŃSKI (Editor-in-chief),
Roman KULIKOWSKI, Mariusz KOWALSKI,
Włodzimierz ZGLIŃSKI
Secretary: Barbara SOLON

EDITORIAL BOARD:

Jan FALKOWSKI (Chairman),
Benicjusz GŁĘBOCKI, Bronisław GÓRZ, Michał JASIULEWICZ,
Eugeniusz RYDZ, Władysława STOLA

Volume reviewed by:

Ana FIRMINO (New University of Lisbon)
Krzysztof JANC (University of Wrocław)
Wojciech JANICKI (Maria Curie-Skłodowska University, Lublin)

Editorial Office:

Institute of Geography and Spatial Organization, PAS
00-818 Warsaw, ul. Twarda 51/55
r. 421, phone no. +48 22 697-89-21

Technical editors:

Jan W. OWSIŃSKI, Maria BEDNAREK-SZCZEPAŃSKA

Prepared for print by:

W-TEAM

Publication co-financed by the Ministry of Science and Higher Education and by
the Committee of Geographical Sciences, Polish Academy of Sciences

ISSN 1642-4689

ISBN 978-83-62089-05-5

Delivered to print: November 2009

Printed by: Wydawnictwo „Bernardinum” Sp. z o.o.

<http://rcin.org.pl>

Contents

Introduction	5
Tony SORENSEN – Local development under uncertainty: Australia's rural experience	7
José A. ALDREY-VÁZQUEZ, Rubén C. LOIS-GONZÁLEZ, Román RODRIGUEZ-GONZÁLEZ – Territorial planning as support for local development. A methodology applied to Guatemala	27
Serhiy MOROZ – Challenges and perspectives of rural development in Ukraine	47
Jerzy BAŃSKI – Rural areas of economic success in Poland – diagnosis and conditioning	69
Antonín VAISHAR, Jana ZAPLETALOVÁ – Microregional development in border regions of Czechia	89
Michael SOFER, Levia APPLEBAUM – The emergence of farmers-entrepreneurs as local development agents in the rural space of Israel	107
Suman SAO, Ersad ALI – Strategies for the development of sericulture for rural development. Case study of Malda District of West Bengal, India	127
Ashley GUNTER, Lukas SCHEEPERS – Informal housing and community led local economic development	153
Jesús Abraham NAVARRO MORENO – Agricultural conditions and local development in Michoacán, Mexico	165

Introduction

Last September this year, the conference of the Commission on Local Development International Geographical Union, entitled: Socio-economic disparities and the role of local development, was held in Warsaw. The Commission on Local Development IGU provides an international forum for the study of issues related to matters such as: local and regional development, reorganization of space and the role of both institutions and agencies in developing and reshaping the local space.

In the Warsaw conference, representatives of various academic centers from five continents took part. As a result of that event, several papers were prepared, and some of these are presented in the current publication. This volume extends our knowledge regarding directions of local development in the countries located in different geographical zones as well as ways of solving the problems resulting from the socio-economic spatial disparities occurring in those countries.

Jerzy Bański

Tony SORENSEN
School of Behavioural Cognitive and Social Science
University of New England
Armidale, NSW 2351, Australia
Tony.Sorensen@une.edu.au

Local development under uncertainty: Australia's rural experience¹

Abstract. Rural Australia's well-being is largely reliant on primary industries operating in increasingly uncertain and risky economic, social and physical environments. Unlike much of the world, the primary sector and its dependent rural communities operate on market principles and receive little in the way of government support. Both mining and agriculture are also strongly export oriented, which adds to uncertainty through fluctuating exchange rates and commodity prices – the latter being distorted by widespread producer subsidies. In Australia's case, producers face the added risks of large fluctuations in seasonal conditions and rapid technological expansion in often remote and sparsely settled locations. Such conditions lead to the rapid transformation of rural society in often unexpected and certainly uncontrolled ways, yet for the mostpart rural regions are innovative and prosperous. The keys to prosperity, and the stable adaptation accompanying it, are four-fold. First, the absence of significant public support for agriculture, mining and rural settlements has encouraged commercial mindsets among rural residents attuned to a market economy. That, secondly, has made a virtue of an innovative culture focused on the rapid transfer among commodity producers of intensive research and development. Market economies also reward individual and self-reliant behaviours which abound in rural Australia. Finally, government policies have sought to reward innovation and investment rather than retain the status quo. The outcome is not only prosperity, but huge adaptive capacity which is beneficially rewriting the geography of rural communities and exposing flaws in Richard Florida's metrocentric views of the creative society.

Key words: primary production, economic uncertainty, innovative culture, Australia

¹ This paper draws heavily on numerous research grants, two from the Australian Research Council, one each from the Rural Industries Research and Development Corporation, the Cotton Catchment Communities Cooperative Research Centre, and NSW Department of Environment and Climate Change, and travel grants from the ARC Research Network in Spatially Integrated Social Science.

On uncertainty

Australia's rural regions are afloat on sea of rising and acute uncertainty, which may be conceived as a state of limited knowledge about both current circumstance and future possible conditions (Hubbard, 2007). Uncertainty, at least in the mind of the lay person, is associated with risk, the probability of error, and fear of the unknown, and is therefore something to be avoided. Yet most of Australia's rural regions show great adaptive resilience, dynamism and comparative wealth. The primary task, then, is to explain the sources of uncertainty stalking rural regions and explore their undoubted adaptive capacities which have turned risky conditions into wealth and opportunity. Although Australia's rural regions experience enormous diversity of environmental conditions, the economic and social forces shaping them are largely homogeneous nation-wide. We therefore focus on big-picture issues, while acknowledging regions' very different adaptive capacities based on specific local combinations of social, human, built, finance, and environmental capital. *Inter alia*, we focus on the governments' roles in both creating and mitigating uncertainty either directly and indirectly, and on the balance between public and private action.

Unlike Europe, much of rural Australia lies well beyond the commuting range of large cities, whose residents use rural space for mass leisure and recreation or rural residential lifestyle reasons. Thus, this analysis treats a largely productivist landscape with three main components: economic bases in agriculture and mining and service delivery for both producers and consumers. However, these productivist landscapes are not inherently simple; rather they are beset by large, complex and rising uncertainties only balanced by equally responsive adaptive systems that ensure continued prosperity, albeit in rapidly changing form. These are shown in Figure 1 as a kind of double helix which reinforces ever faster *stable adaptation* (Sorensen and Epps, 2005) in a world of accelerating change. This is propelled by a complexly interlinked and exponentially expanding constellation of technologies, economic structures, social relationships, law, governance systems, and spatial scales of action. In one sense this is an extension of the enlightenment project reported by Hindle (2000) in his treatise on the rise of the modern state and capitalism in the period 1550–1640, a period that laid the foundations for the industrial revolution in the 18th century. In another sense, society is buffeted by storm force *gales of creative destruction* (Schumpeter, 1942) whose fury is intensifying as producers and their products are constantly replaced, and as lifestyles evolve in unforeseen directions in the back of rapidly rising wealth, knowledge, opportunity, and channels for instant communication. Of course, complexity itself begets uncertainty, which in turn unleashes compensating adaptive processes.

Human attempts to *control* uncertainty, rather than *adapt* to it, look fraught because effective personal or regulatory action requires:

- accurate system specification in terms of strength of forces at work and their interactions;
- knowledge of likely system modifications over the period of proposed intervention;
- ability to control, rather merely influence, key vectors.

Increasingly, both governments, and the societies from which they draw legitimacy, appear increasingly unable to specify their operating environments closely enough to control their evolution. The problem lies not just in specifying major variables and their interconnections, but in the fact that many variables are inherently unstable, such as boom and bust business cycles or industries, the actions of Nietzsche's (1885) *Übermensch* – who have the ability to buck tradition and change the direction of economy and society, climatic cycles and the incidence of natural disaster, competitive international trade, and fluctuating commodity prices – to name a few. The ebb and flow of economic life is therefore lumpy, with some individuals, businesses, institutions and even regions running counter to trend. These uncertainties fuel what Rittel and Webber (1973) termed *wicked problems*.

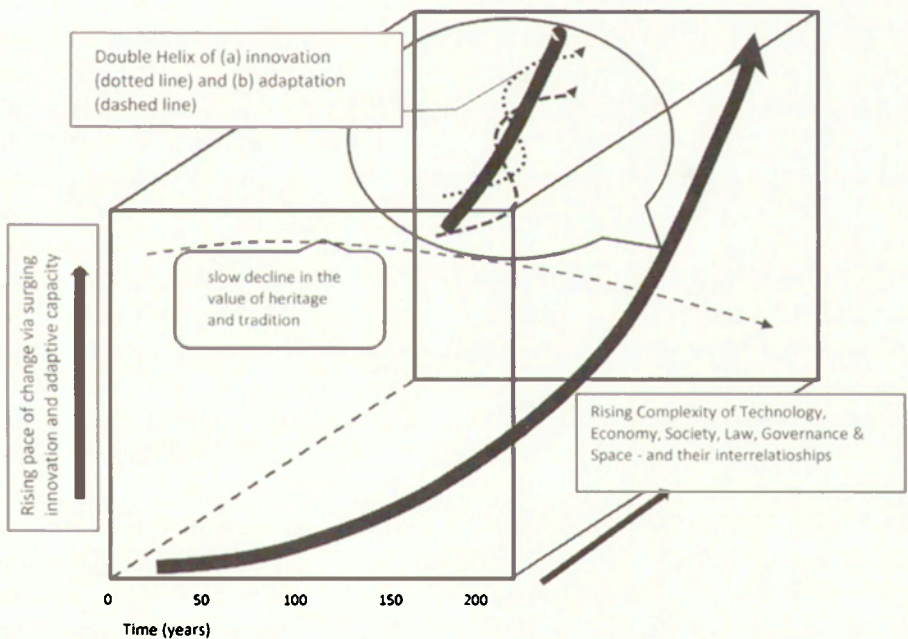


Figure 1. The intersection of innovation and adaptation
Source: adapted from Sorensen and Epps, 2005.

In this regard human society resembles aspects of quantum mechanics, which envisages matter adopting simultaneous wave-like and particle-like behaviours, and Heisenberg's (1930) related uncertainty principle, which asserts the impossibility of stating accurately both the location and velocity of such particles. For example, we are often able to detail the current condition of an economic or social system, but know next to nothing about how fast it is evolving and in which direction. Secondly, we might also be in the position of Schrodinger's cat (1980) which, in the celebrated mind game, could be both dead and alive simultaneously. Thus, a system may be growing and declining simultaneously depending on the geographical or philosophical viewpoint of the beholder or, alternatively, our understanding of process and knowledge of how a key component has behaved. Let us consider one final example of the murky and uncertain world of our economic and social systems. Spencer (and Darwin) coined the term *the survival of the fittest*, which is now generally used to describe the ability of actors to survive in a competitive (especially commercial, sporting or artistic) world. It initially appears an accurate portrayal of a key social mechanism but, in practice, it hardly explains current circumstance or accurately predicts the future. These examples underscore the huge difficulty we encounter in specifying, with any useful degree of accuracy, the position and trajectory of uncertain systems ... and therefore developing useful public policy.

To make things more difficult, our polities are themselves becoming more complex and unstable. Thus, proliferating viewpoints are reflected in a wide range and diversity of both public and sectional institutions, and there is often acrimonious debate among the conflicting parties requiring systems of mediation. Moreover, governments increasingly establish arms length advisory bodies and pursue the separation of powers to give voice to quasi-independent perspectives or deflect difficult decisions. These, in turn, are part of what Foucault (1978/1991) calls the technologies of government whereby the public sector, like its private counterpart, has steadily refined the art of administration (see also Hearfield and Sorensen, 2009). In the process, western societies have progressively redefined the legitimate functions of government, preferred outcomes, policy priorities, appropriate ways to handle issues, and optimal strategies. Local development strategies are a case in point. The evolution of such technologies can be traced back to Plato's *Republic* and Machiavelli's *The Prince* (1513).

Human systems also operate simultaneously on several spatial scales from the local to the global. The efficiency, stability, and prospects of particular economies can be judged differently according to the spatial scale employed and this is often a source of political tension. Moreover, the locus of both private and public economic management has spiralled upwards from the local to the global, and both these processes create uncertainty for producers and communi-

ties as they progressively lose control or even gain it in some circumstances. The uncertainty effects are further distorted by such qualities of space as:

- population density,
- wealth of natural resources (quality of farmland, minerals, rainfall and stored water, climate more generally, quality of landscape),
- economic and social infrastructure,
- proximity of (and access to) major population centres,
- qualities of agricultural or industrial production systems.

Each can reduce or exacerbate the processes and conditions discussed in this section. Note, too, that the constitutional allocation of powers and duties across tiers in multi-layered polities rarely reflect current technologies of government, a mismatch that further increases the uncertainty of public policy.

It is also more than a century since Nietzsche (1885) pronounced the death of God, in which the rote, unreflective and bovine content of religion is replaced by social experimentation and the constant modification of social norms and human relationships. Perhaps Nietzsche's philosophy is best regarded as a metaphor of modernity in which long-standing traditions are repeatedly challenged by new practices in the market-place of ideas. This is reflected in Figure 1 by the decline in the value of heritage and tradition in many parts of economy and society, further increasing uncertainty.

Living on the edge: uncertainty in primary production and services

Commodity overview

We noted earlier that, irrespective of geography, Australia is a remarkably homogeneous continental polity, resulting from a universal set of national and international forces whose explanation is crucial for constraining local difference. To begin, Australia has a strong and relatively distortion free market economy within which agriculture, mining and service provision are embedded. Financial support for agriculture is a little over 4% of the gross value of production, negligible compared with the European Union's 32% or the US's 28% (Productivity Commission, 2005); and it barely exists for mining and services. Primary production is highly deregulated and, with few exceptions, farmers or miners can deliver commodities of their choice to any market through any contractual arrangement they like. Where exceptions exist, as with the ban on uranium sales to India, they arise from such treaties as that covering nuclear non-proliferation. However, primary production is hedged by an extensive and growing array of environmental legislation: for example, the capping of ground water extraction and diversion of stream flow, buy-backs of irrigation licenses to

bolster stream flow in the Murray-Darling Basin, prohibitions on land clearing, strategies to avoid spray drift and mandatory restoration of mine sites. These, like urban planning, are eminently justifiable on grounds of widespread market failure. For the location of the Murray-Darling Basin and other places mentioned in this article, refer to Figure 2.

Australia's primary producers are both highly productive and heavily integrated with the global economy. In 2007–08, agriculture accounted for about 2.9% of the workforce and a little less of GDP, reduced from usual levels because of a long drought in many places. However, it produced 14.9% of Australia's total exports – or >20% if processed exports are taken into account. Moreover, in 2007–08 exports of unprocessed rural products were A\$27.49 billion, or two-thirds of that financial year's farm GDP of A\$41.21 billion. The percentage rises to 76.6% if processed farm output is included ABARE (2009). In comparison, mining employed only about 1.2% of the workforce, but contributed over 6.3% of GDP, a level of productivity over 5 times the national average. Mineral exports of A\$116 billion in 2006–07 were 111% of production, on account of rapidly escalating prices between mine and transport overseas and withdrawals from stockpile. Both rural sectors together accounted for >A\$143 billion of unprocessed exports (or about 57.5% of all exports), 8.4% of GDP and just 4.1% of the workforce whose combined productivity was more than double the national average. So, one can run a modern first-world economy on a resource base.

Yet, the heart of the Australian economy is hostage to prices set on the Chicago Mercantile Exchange, the London Metals Exchange and several other global commodity trading houses. While agricultural prices are distorted by protectionism, minerals and energy prices are prone to speculation in spot markets and bilateral sweetheart deals between producers and governments. As Table 1 shows, both sets of prices are wildly unstable, as is the exchange rate. Since nearly all export prices are denominated in \$US or £, farm and mine receipts can experience a wild ride. It is also in the interests of Australian producers to have weak exchange rates like those in 2001–02. Take this example: a commodity fetches \$US100 a tonne in both 2001–02 and in 2007–08, but the miner receives A\$192 in the former year and just A\$111 in the latter. The statistics in this section are largely sourced or computed from ABARE (2008) data. Consequently, Australian producers are mostly price-takers, not setters, and have to respond quickly to international price signals which not only reflect unstable supply and demand conditions, but are themselves distorted in various ways by governments. For such reasons, Australia ranks third of 179 countries behind Hong Kong and Singapore on the Heritage Foundation's 2009 Index of Economic Freedom².

² <http://www.heritage.org/index/Ranking.aspx>

Table 1. Fluctuating commodity prices and exchange rates

Date	Real farm prices received	Farmers' terms of trade	Iron ore	Thermal coal	Gold	Exchange rate per \$A1	
Metric	1997-08 = 100	1997-08 = 100	A\$ per tonne	A\$ per tonne	US\$ per tonne	US\$?
2007-08	140,5	92,6	69,4	72,7	823,35	0,90	0,45
2004-05	115,9	91,7	35,5	59,6	422,49	0,75	0,40
2001-02	122,6	108,6	31,2	57,5	289,1	0,52	0,36
1998-99	96,1	95,6	28,4	44,8	285,9	0,63	0,38
1995-96	111,2	111,8	22,7	49,3	389,9	0,76	0,49

Source: ABARE, 2008.



Figure 2. Australia locality map

Variations in exchange rates can also frequently be sourced to macro-economic causes unrelated to the prices of commodities and their value as exports. Interest rates differentials between countries and perceptions about their respective economic strength are two important considerations. These, in turn, reflect inflationary threats, the looseness of monetary policy, surplus or deficit budget-

ary outcomes and domestic input constraints. It is partly true that the Australian dollar is perceived by the international community as a commodity currency which moves synchronously with commodity prices. However, its run-up over the first eight months of 2009 from US55c (cents) to US85c reflects numerous other conditions: strong economic growth in China, failure to enter technical recession (the only OECD country to avoid that fate), buoyant retail sales, only a small rise in unemployment and close to zero public debt. Sound macro-economic management leads to a strong currency, and paradoxically weaker incomes for primary producers.

On the other hand, the Australian government's international trade strategy is steadily working to assist primary producers through:

- its work with the Cairns group of nations³ to have agriculture treated the same as manufacturing and services in such WTO rounds as the current Doha negotiations;
- bilateral trade negotiations with such countries as Thailand, Singapore, China, Japan and the United States or such trading blocs as ASEAN.

Both seek to improve commodity access to other nations, though occasionally it is a double edged sword. Australia's Closer Economic Relations (CER) agreement with New Zealand, which is in effect a common market, probably works more to the latter's advantage than the former's. Perhaps, too, Australia's comparatively rapid population growth of about 1.5% per annum, which results from fast economic growth and strong immigration, will create a larger and more secure domestic market.

Agriculture

The deregulation of Australia's agricultural production over the last 40 years has removed numerous marketing boards and production or price controls, many of which were a form of social security designed to protect small farmers. Their removal tended to accelerate the dominance of large scale producers, who applauded the move and the demise of small producers, as was the case with the two most recent examples – dairy deregulation in 2000 and abolition of the single desk selling of wheat in 2007. Removal of economic regulation is, however, not an unalloyed good for larger operators because they may encounter extra costs depending on their knowledge bases, management skills and capitalisation. Uncertainty, for example, rises with their need to negotiate the price and volumes of sales to international markets. On the positive side, freedom of

³ Founded in 1986, this is a group of 19 agricultural exporting countries seeking free trade. Apart from Australia, Canada, Pakistan, and South Africa, the nations are mainly from S E Asia and South America.

action also opens up opportunities to realise higher prices for premium quality, greater market share, improved efficiency and higher profit. On balance, their gains exceed the losses. The effects of agricultural deregulation are often geographically variable because small producers and target commodity sectors are often spatially concentrated. This was particularly noticeable with dairy deregulation because the previous system of regionally prescribed quotas and markets kept small-scale and high cost farmers in business. The creation of an open market in 2000 enabled large-scale and highly cost-competitive Victorian producers, with up to 10,000 milking cows, to sign supplier contracts with the large national supermarket chains. This severely damaged such bastions of small-holders as the Dorrigo Plateau on the NSW Mid-North Coast. However, the simultaneous introduction of a consumer levy established a government supervised fund to compensate producers forced to leave the industry.

Resources sector

While the resources sector as a whole is highly prosperous, local impacts are sometimes highly variable because:

- individual commodity prices move asynchronously,
- resources and even processing plants are location specific,
- when mines are exhausted they close and their workers, who are exceptionally mobile people, move on to new opportunities.

In short, mining landscapes are often ephemeral, including the settlements supporting them. For example, the Mary Kathleen uranium mine⁴ near Mt Isa in Queensland closed in 1982 and, as part of site rehabilitation, the associated town was literally hauled away to other destinations. The development prospects of mining provinces are often strangled by a fly-in-fly-out (FiFo) culture where workers prefer to live with their families in such large cities as Brisbane or Perth, or in attractive coastal settings like Broome or Yeppoon, and commute up to 2000 km to work on a 7 (or 10) days on, 7 (or 10) days off basis. The FiFo culture is now also extending to agriculture.

Mining companies frequently make colossal investment mistakes which have severe local impacts once facilities are mothballed. The most spectacular recent example occurred at Ravensthorpe on the south coast of Western Australia between Albany and Esperence. BHP opened a A\$2.1 billion nickel mine and smelter there in 2006 and closed it a little over two years later in January 2009⁵ with the loss of 700 jobs at the mine itself, destroying the town's economy in the process. The company subsequently wrote off most of the investment.

⁴ <http://www.sea-us.org.au/oldmines/marykathleen.html>

⁵ <http://www.theaustralian.news.com.au/business/story/0,28124,24928826-643,00.html>

Unfortunately for the project, the low grade and high processing costs of the local ores relative to global competitors rendered the mine and processing facility uneconomic in the global recession. Simply, prices received collapsed below the level of costs. BHP's loss was tiny for the giant company, but devastating for Ravensthorpe and the private businesses investing in the town.

Environmental regulation

Large increases in environmental regulation over the last 30 years have created additional uncertainty for farmers, miners and service businesses alike. This is irrespective of producer size, commodity, financial capacity or geographical location, although larger businesses usually handle uncertainty more effectively. Environmental management and protection issues are generally complex and long-running, as illustrated by some of Australia's current environmental debates. The first concerns an environmental disaster facing the Murray-Darling River catchment, and especially its southern half where drought conditions have persisted for 7 years in some places. Water storages over the whole 1 million km² river system (which is about double the size of France) were at just 17%⁶ of capacity in early 2009. Stream flow had stopped in many places, the river no longer reached the sea, and yet in normal seasons the region normally produces one-third of the nation's agricultural output, with the aid of irrigation. The Federal Government has allocated up to \$3.1 billion to buy back farmers' water entitlements and return the water to stream flow in an attempt to sustain the river system's fragile ecology. One of the earliest buy-backs was announced in September 2008 with the purchase of Tourale station near Bourke in northern NSW at the junction of the Darling and Warrego rivers. The owners, Clyde Agriculture, sold the 91,000 ha property for A\$24 million and the new owner, the NSW Government, intends to remove its 30,000 sheep and 1,700 cattle, and to stop cropping, to create a nature reserve, while returning an annual 14 billion litres of water to the Darling river. The Bourke local council estimates that this will cost the town A\$5 million in lost trade annually and shrink the town's economy by 10%. Since the buybacks are voluntary, the uncertainty resides with affected communities and their businesses.

Large areas of prime agricultural land in Australia also conceal mineral resources and major conflicts have sometimes erupted between farmers and large mining companies. Australia's law separates ownership of land from ownership of sub-surface minerals and mining companies have legal rights to explore for minerals on what farmers regard as their private property. More

⁶ See: <http://www.mdba.gov.au/water/waterinstorage> and http://en.wikipedia.org/wiki/Murray-Darling_Basin

importantly, it is difficult for farmers to prevent the exploitation of proven mineral reserves, as a group on the Liverpool Plains are finding out. Despite having some of the most productive farm-land in Australia and important underground aquifers to irrigate their properties, they appear to be losing the battle as of mid-2009 to prevent the mining giants BHP and the Chinese owned Shenhua from going ahead with massive coal mines that are likely to damage both their top-soil and aquifers. Legally, then, it appears that mining has preemptive rights over agriculture, to the uncertainty of the latter.

One final example of an issue generating much debate and uncertainty in Australia is the configuration of the Federal government's carbon emissions trading scheme, which is likely to become law in 2010. Although agriculture *per se* will be initially exempt from the scheme for several years, it still poses potentially large threats to agriculture. Farm costs are likely to rise sharply because of their intensive energy and chemical inputs, whose prices will rise on the back of carbon taxes. Once farming becomes part of carbon trading, livestock production could be taxed for its methane production and become less viable, unless carbon credits are available for on-farm forestry and the possible use of bio-char to enhance soil structure or other forms of carbon sequestration. The problem for the agricultural sector and dependent country towns, is that there is insufficient information on these matters to enable forward planning. The mining sector is also under threat from emissions trading because Australia's power generation is heavily coal dependent and coal is a major source of CO₂ emissions. On the other hand, rural Australia stands to gain from almost all alternative energies: uranium (>50% of global reserves), solar, wind, hot-rock, and bio-fuels – especially algae and ligno-cellulose.

Rural settlements

Most Australian rural settlements exist to serve agriculture and mining and are therefore precariously hostage to the fortunes of their economic base, as we demonstrated in the case of Bourke and water buy backs. The rural service sector is also quite unprotected from two major events. First, a nation-wide reconstruction of rural service delivery has been under way for the last century or more as a settlement system constructed in the days of the horse and buggy is shaped to the market needs of the 21st century (Sorensen, 1990). Larger service centres are the beneficiaries of virtuous cycles of growth created by regional centrality and steadily improved transport access. They have also acquired most of the higher order public and private services arising from growing consumer wealth and professional knowledge. Given static or slowly declining populations in many rural locations, the success of large communities cannibalises the trade of smaller places, which then suffer a vicious spiral of declining populations and

reduced quality of life. A second and interconnected trend has been the national homogenisation of producer and consumer services dominated by large corporations and franchise operations. These deliver standard products at nationally set prices, which is what consumers want, so that the product mix and range of choice in large regional service centres now resemble major suburban centres in the states' capital cities. The losers are small and locally owned enterprises in small communities, which cannot compete on price, quality, or range of goods and are struggling to survive. Such trends also affect the delivery of public education, health and other services.

Governments have largely abandoned formal regional policy designed to propel the growth of specific places in favour of locally operated do-it-yourself strategies (Sorensen, 2002, 2009c; Sorensen et al., 2007), just as they have taken a back seat in agricultural support. They know their acute limitations in a market economy, the potentially bottomless outlays for regional support which attempt to stem the tide of history, and the benefits of market processes in driving entrepreneurship, efficiency and wealth. Thus, rural settlements frequently experience large losses of population and businesses over short time periods and with no possibility of external compensation.

In conclusion, Australia's market oriented rural regions have uncertain and high risk economies, and fluid societies. Both are profoundly impacted by global and national settings over which rural residents have little control or influence and it is almost certain that their highly globalised economies face ever rising uncertainty both on demand and supply sides of the ledger. Taken together, we estimate that government farm support and formal regional development outlays amount to 0.3% and 0.1% respectively of Australia's gross non-metropolitan regional product, 0.4% in total, or \$A1.28 billion of a A\$320 billion regional economy that is home to some 7 million people. This is a negligible sum and about 61% of the amount written off at Ravensthorpe by BHP.

Antidotes to uncertainty and risk

Four pillars appear to be the most important antidotes to uncertainty and risk because they are the levers for the necessary commercial and community leadership for short-run profitability and enduring competitive strength in a market economy) and any other for that matter:

1. Commercial mindset,
2. Innovative culture,
3. Individualism and self reliance,
4. Government focus on avoidance of market failure and flexible polity.

It might appear somewhat ironic that these are much the same considerations that have fuelled rising uncertainty in first place, but remember the double helix in Figure 1 which shows the mutual interaction between forces for change and the creation of an adaptive society. Governments are not well placed to steer particular commercial investment decisions, although they have a central macro-economic role in making private investment attractive. Public research funding can achieve massive returns, especially in the case of agriculture where large numbers of geographically scattered producers (SMEs) would find it difficult to fund research of their own accord. Using this line of thinking, all four items in the list are, for the mostpart, common nationally and apply everywhere. However, their spatial impacts may be very unequal for the reason given earlier: the geographical diversity of place.

The notion of commercial mindset embodies the usual characteristics of successful commercial ventures. These include selection of an appropriate product mix and quality:

- focusing on market needs or preferences;
- timely delivery at competitive and affordable prices;
- accessing available scale economies;
- conservative and reflective management attuned to opportunities when they arise and willingness to take considered risk;
- strong personnel management and stock control;
- effective leadership and entrepreneurship.

This mindset is common among the larger farmers and especially global mining companies who dominate Australia's primary production and among the chain or franchised service businesses.

Consequently, farming is no longer a way of life but an ever larger business capable of competing internationally in some of the most price-distorted markets in the world. Indeed, several agricultural commodity sectors are becoming increasingly corporatised either privately or through stock market listings. This is true for example of the wine, beef cattle and cotton industries. Thus, Heytesbury Pty Ltd, Stanbroke Pastoral Company and Sundown Pastoral Company are all huge privately owned cattle enterprises operating in different parts of Australia. Stanbroke employs 500 people operating 1.62 million ha of land, while the Statham family, who run Sundown, operate 58,000 ha of some of the best cattle country in Australia in the author's home region (New England). By cropping standards, many cotton properties are similarly large scale. Auscott Ltd and Cubbie Group Ltd are two important companies in the field, the latter having the capacity to produce annually 330,000 bales of cotton worth about \$160 million on 33,000 ha of land. This is Australia's largest cotton producer.

It should therefore come as no surprise that corporate style agriculture is no respecter of tradition and that the main rule of thumb in commodity produc-

tion is profit yielded. This can transform industries fast. One example is Australia's iconic wool industry which, during the Korean war, was simultaneously the mainstay of agriculture and the national economy. The number of sheep and lambs declined from 170 million in 1990 to an estimated 90 million in 2008 (ABS, 2008) and one alarmist forecast has just 50 million by 2010. The collapse in numbers reflects a long-running slump in wool prices against the rising cost of shearing the animals and a sudden leap in global sheep-meat prices and consumption. The logical reaction is to convert from wool production to the dinner table, but at some damage to the wider rural community since the cattle industry is a lot less labour intensive than wool. The little town of Blackall in Central West Queensland found this out to its cost in the early 2000s when the local pastoral sector switched from sheep to more profitable cattle and school enrolment numbers suddenly declined by 30%.

Such agricultural dynamics are captured by the average decline in farm employment of 1.5% per annum over 30 years, as farms consolidate, while the net value of the average farm now stands at >A\$3.5 million after accounting for average debts of -A\$550,000 ABARE (2009b). That debt figure has vastly expanded since an average of -A\$175,000 in 1989–90 in constant 2008–09 dollar terms, showing the propensity of farms to take on more debt as properties have grown larger, though the debt servicing ratio is only a little larger as a proportion of farm income. Farming as business has obviously become more attractive and that has been reflected in a spike in the ratio of land values to receipts per ha from < 5.0 in 1989–90 to >8.0 in 2007–08, though the numbers are helped a little by adverse climatic conditions reducing income. The attraction of increasing farm size also lies in net annual cash incomes, which have risen over the last 20 years in constant 2008–09 dollars from just over A\$100,000 to nearly A\$300,000 for the top 25% of producers. These larger producers also accounted for 54% of broadacre production and 85% of business profits. Note, however, that cropping farms have performed much better than pastoral enterprises over this period. Of course, such figures vary greatly according to region and commodity, with the main cropping areas tending to have higher profit returns.

An innovative culture applies to businesses and communities alike, but governments struggle to come to terms with the concept. It has three interlinked components:

- sources of ideas;
- willing adopters;
- channels of communication to link the two ends (Fig. 3).

Superior innovative cultures are those that deliver a stream of excellent new ideas to producers to boost their long-term productivity for immediate adoption. They may be generated either internally or externally to the enterprises.

Sorensen (2009a) shows that Australia's agricultural innovation system generates a huge flood of research and development ideas across all commodity sectors, with benefit cost ratios estimated by Mullen and Orr (2007) at about 21.0 and an internal rate of return of 17.0%. The adoption of research is often lightning fast because producers need it for commercial survival. The two ends of Figure 3 are connected by highly effective distribution channels in the form of conventional agricultural extension, producers organisations, and the internet. This process aided by two further conditions. One is close to zero cost for the technologies in question since >80% of rural R&D is government funded and involves few royalties. The second is that R&D organisations have technological dissemination as requirement of their charters.

This kind of human system appears to resemble Heike Onnes' 1911 discovery of electrical superconductivity – i.e. zero electrical resistance occurring in certain materials at temperatures close to 0 Kelvin. Sorensen (2009b) also notes that this highly creative innovation culture goes a long way to disproving Florida's (2002) analysis of the creative class and presents the following vignette as an illustration. The small town of Narrabri (population 6,100), which is located in North-west NSW >500 km from a large city, is home to a large rural research cluster supporting the cotton industry. Four separate research organisations co-locate in the same field 20 km from the town: the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Australian Cotton Research Institute (operated by the NSW Department of Primary Industries), the Cotton Catchment Communities Cooperative Research Centre, and the Cotton Research and Development Corporation. Their location, surroundings and focus are hardly congruent with Florida's prescriptions of a home for the creative class, but these interrelated organisations conduct world-class research for Australia's most research intensive commodity. The proportion of Narrabri's working population in Scientific Research Services is 2.7%, nine times the national average, reflecting the combined presence of these research organisations, and the local government area has proportionately Australia's highest number of doctoral graduates.

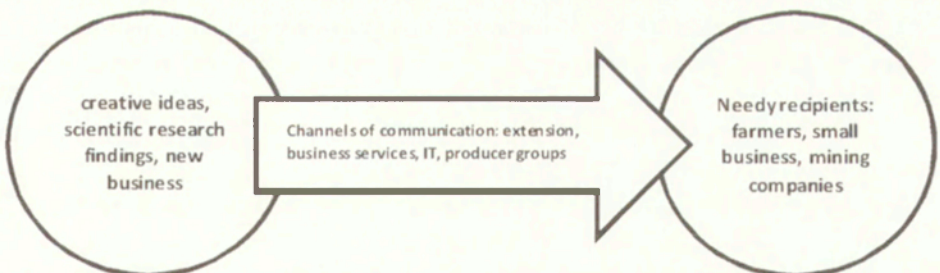


Figure 3. Key components of an innovation system

The mining industry operates at 100% of global best practice and is also heavily research intensive. It and agriculture account for about 17% of national research and development expenditure, or a little less than double their share of GDP. In agriculture's case this strong research performance is allied to high long term multi-factor productivity growth of 2.8% per annum over the 30 years to 2004, 2.5 times that of the whole market economy (Productivity Commission, 2005). Productivity improvements accounted for all increases in farm output over that period as labour and capital contributions simultaneously declined. Labour, in particular, has declined by 1.7% per annum for the last 30 years (ABARE, 2009a), while the RBA's index of agricultural production rose an annual average of 2.3% over the same period. Capital inputs also declined by 1.2% per annum, so the basis of productivity increases lay not so much in ownership of machinery, equipment or buildings as:

- research into genetics, environmental science, husbandry practices or financial management,
- the use of specialist contractors,
- the benefits of scale economies,
- practices designed to minimise the impact of drought and ensure stability of operations.

These data exclude private on-farm research and development, but that has always been strong from the first days of European settlement as migrants struggled to come to terms with agricultural production in an alien environment located in the Sahel belt between 10 and 30 degrees from the equator.

A final token of innovative culture is the speed with which Australian farm use of modern management techniques including: substitution of capital for labour, good marketing, the increasing contracting-in of specialist services, and up-to-date financial management (including the forward hedging of commodity prices and the application of expert systems); (Martin et al., 2005).

Individualism and self-reliance have long been a core element of Australian rural culture, for the obvious reason that farmers tend to be socially isolated by vast distances and remote from many government services. That same trait often dramatically affects health of small rural towns perched atop their rural economic bases. Rural workers, and even those owning farm properties are hugely mobile, with some townships losing 30% or more of their inhabitants in some 5 year inter-censal periods. These movements depend largely on either or both:

- the availability of work, which regularly slumps in droughts or at times of low commodity prices, or
- the enticement of better pay and conditions in other industries like mining or long-distance haulage.

Often, too, the moves are long-distance: up to 3000 km common in the recent mining boom, which sucked in tradesmen from all over Australia. Nor should one forget that many rural communities are sufficiently unpleasant in climate, facilities or long-term opportunities that residents prefer to leave when work dries up and unemployment beckons. Such moves owe little or nothing to public policy.

The final antidote to uncertainty and risk lies with government, but mostly in terms of avoiding market failure through effective macro-economic or environmental management. A central element is the creation of an investment attractive economy, and major components include:

- low taxation (at 32% of GDP) compared to the OECD average of 36% and 41% for the EU 15⁷,
- strong economic growth (Australia's average GDP growth in the decade to 2006 was 3.5% per annum compared with the G7 average of 2.4%); (ABS, 2008),
- negligible public debt (which reached zero in 2008),
- strong profit share of total factor income (up from 21% in 1990–01 to 27% in 2005–06); (ABS, 2008),
- a well-developed banking system and strong lines of credit (as of August 2009, four of Australia's trading banks were in the global top 10 by profitability),
- high capital inflow from overseas (running at 5–6% of GDP throughout the 2000s),
- strong prudential regulation of financial assets,
- modest industry regulation,
- a fairly deregulated labour market by international standards,
- a low level of economic distortion created by industry subsidies or trade barriers,
- active government pursuit of trade liberalisation via bi-and multi-lateral trade negotiations.

All these traits are being reinforced by the standardisation of business law and regulation nationally across state and federal jurisdictions.

In conclusion, Australia's rural economies have to survive largely on their own in a hostile world in which local development has become a discretionary do-it-yourself activity involving some combination of local government officiality, Nietzsche's Übermensch, and community activists ranging from chambers of commerce and progress associations. The development and community resilience arising from such activities is only to a small extent strategic,

⁷ See OECD: http://www.oecd.org/document/15/0,2340,en_2649_201185_35472591_1_1_1_1,00.html accessed 09.08.09.

in view of the gross uncertainties for rural economy and society and the paucity of local funds. More likely it reflects the uncoordinated and disjointed entrepreneurial efforts of a host of actors living in town, down on the farm and at the mine. In these respects local development is really also part of the market economy. Development flows to the communities that have:

- most developable resources,
- the most successful entrepreneurs capable of tapping private capital markets or governments' small pots of money,
- the greatest future orientation,
- a host of other adaptive behaviours.

Sorensen (2009c) identified >40 separate behaviours contributing to adaptive capacity. Indeed, appropriate psychology is possibly now the preeminent driver of local development and the massaging of community behaviours the dominant, if unintended or unfocused arm of Australian public policy connected with local development. In the light of all these comments, it is hardly surprising that regional development resources, entrepreneurial effort, degree of individual and community commitment, effectiveness of action and quality of development outcomes are spatially hugely variable. Yet, in the author's view, most parts of rural Australia – with the exception of regions hit by the worst drought in century – are in good shape by adapting fast and flexibly to the vicissitudes of fortune.

References

- ABARE, 2008, *Australian Commodity Statistics*, Australian Bureau of Agriculture and Resource Economics.
- ABARE, 2009a, *Australian Commodities*, 16 (1), Australian Bureau of Agriculture and Resource Economics.
- ABARE, 2009b, *Australian Farm Survey Results, 2006-07 to 2008-09*, Australian Bureau of Agriculture and Resource Economics.
- ABS, 2008, *Australian Yearbook*, Australian Bureau of Statistics, cat. 1301.0.
- Hubbard D., 2007, *How to measure anything: finding the value of intangibles in business*, John Wiley & Sons, London.
- Florida R., 2002, *The rise of the creative class*, Perseus, New York.
- Foucault M., 1978/1991, *Governmentality*, [in:] G. Burchall, C. Gordon, P. Miller (eds.), *The Foucault Effect: studies in governmentality*, ch. 4, Harvester Press, London.
- Hearfield C., Sorensen A., 2009, *Regional economic governance: a technology of government or regional autonomy in New South Wales?*, *Space and Polity*, 13 (2), 93–107.
- Heisenberg W., 1930, *The physical principles of quantum theory*, University of Chicago Press, Chicago.

- Hindle S., 2000, *The state and social change in early modern England c. 1550–1640*, St. Martin's Press, New York.
- Martin P., King J., Puangsumalee P., Tulloch C., Treadwell R., 2005, *Farm financial performance 2002–03 to 2004–05*, Australian Commodities March Quarter, 12 (1), 180–99.
- Motluk A., 2009, *Eight ways to boost your productivity*, New Scientist, 2707 (May 9), 32–34.
- Mullen J., Orr L., 2007, *R&D: A good investment for Australian agriculture*, Presidential Address to the 51st annual conference of Australian Agricultural Resource Economics Society, Queenstown, NZ.
- Nietzsche F., 1885, *Also sprach Zarathustra*, Ernst Schmeitzner, Chemnitz.
- Productivity Commission, 2005, *Trends in Australian agriculture*, Productivity Commission Research Paper, Canberra.
- Richerson P., Boyd R., 2005, *Not by genes alone: how culture transformed human evolution*, University of Chicago Press, Chicago.
- Rittel H., Webber M., 1973, *Dilemmas in a General Theory of Planning*, Policy Sciences, 4, 155–169.
- Schrodinger E., 1980, *The present situation in quantum mechanics: a translation of 'Schrödinger's cat paradox' paper*, Proceedings of the American Philosophical Society, 124, 323–38 (the original article appeared in 1935 in *Naturwissenschaften*).
- Schumpeter J., 1942, *Capitalism socialism and democracy*, Harper & Row, New York.
- Sorensen A., 1990, *Virtuous cycles of growth and vicious cycles of decline: regional economic change in Northern NSW*, [in:] D. Walmsley (ed.), *Change and adjustment in Northern NSW*, Department of Geography and Planning, University of New England, Armidale.
- Sorensen A., 2002, *Regional economic governance: states, markets and DIY*, [in:] S. Bell (ed.), *Economic Governance and Institutional Dynamics*, Oxford University Press, 262–285.
- Sorensen A., Epps R., 2005, *From Thucydides to Florida: stable adaptation, social depth, and the seamless generation of unforeseen futures*, [in:] A. Hodgkinson (ed.), *The Regional Development Cocktail—shaken not stirred*, Refereed Proceedings of the ANZRSI Inc 28th Annual Conference, Wollongong, 229–248.
- Sorensen A., Marshall N., Dollery B., 2007, *Changing governance of Australian regional development: systems and effectiveness*, Space and Polity, 11 (3), 297–315.
- Sorensen A., 2009a, *Australian agricultural R&D and innovation systems*, Paper presented to the Tinbergen Institute, Free University of Amsterdam, June.
- Sorensen A., 2009b, *Creativity in rural development: an Australian response to Florida (or a view from the fringe)*, International Journal of Foresight and Innovation Policy, 5 (1/2/3), 24–43.
- Sorensen A., 2009c, *The Psychology of Regional Development*, paper presented to 21st Conference of the Pacific Regional Science Conference Organisation, Surfers Paradise, July.

José A. ALDREY-VÁZQUEZ, Rubén C. LOIS-GONZÁLEZ, Román RODRÍGUEZ-GONZÁLEZ
Department of Geography
University of Santiago de Compostela
Praza da Universidade, 1
15782, Santiago de Compostela, Spain
joseantonio.aldrey@usc.es; rubencamilo.lois@usc.es;
roman.rodriguez.gonzalez@gmail.com

Territorial planning as support for local development. A methodology applied to Guatemala

Abstract. Guatemala is a country with an enormous social, economic and territorial disparities, which affect directly quality of life of its inhabitants and its development potential. Among the existing difficulties, a very significant one is the lack of culture of planning. Until a few years ago, there was a lack of territorial politics, which hindered implementation of local development processes aimed at an integral improvement of life of citizens. The aim of this paper is to present a methodology with a strategic vision for a Municipal Planning System (MPS). It should integrate various basic aspects: urban territorial planning in the municipal area and a set of social and economic proposals, designed to promote local development. A brief description is provided of the municipal situation in Guatemala, then the evaluation of the proposed scheme and of the components of the MPS is given. Finally, there is a summary of the phases and of the required methodological process for the technical development of SPM. The methodology presented is aimed at creating a guide to obtain a future territorial model, which merges integrally the socio-economic planning at a municipal scale and may channel the local authorities' action.

Key words: Municipal Planning System, development, Guatemala

Introduction: the case of Guatemala

The Republic of Guatemala is a Nation-State of Latin America, with typical characteristics of the territories of Central America. Among these characteristics, there is an emergent economic development, increased social and ethnic inequalities, democratic system in a process of territorial consolidation and poor territorial dimension. The last one is the result of the territorial fragmentation of the Central American isthmus. Guatemala is defined as an excellent example

of the developing world (Slater, 2006; Burnell and Randall, 2008). In all the independent analyses carried out of its internal reality, there is the debate whether we face an example of a failed state (Migdal, 1988; Leftwich, 2000) or a model of country that has overcome a long civil war and can, at present, formulate sustainable policies of economic growth and territorial rebalancing (Pike et al., 2006). This second interpretation encouraged the carrying out of a project concerning territorial development. The project aimed at providing all the municipalities of the country, where we participated, with the mechanisms for an integral planning (Aldrey and Rodriguez, 2008). It was funded by the European Commission as a further example of the importance of the external support for the affirmation of democracy in Latin America. Such a democracy must be based on improving living conditions of the population, as well as its active role in the implementation of the policies for economic improvement (Gould, 2005; Burnell, 2008), which on numerous occasions does not happen.

Any analysis of the situation in Guatemala qualifies it as a perfect example of the developing and underdeveloped world, with the typical tensions of that world. Nevertheless, Guatemala has both elements in common with other developing areas and definite specific features. Among the former, there is the heavy population concentration around the main urban centers, especially the capital city of Guatemala. This concentration is the result of an uncontrolled rural exodus, which accelerated already long time ago, due to violence against indigenous communities. This has led to virtually uncontrolled growth of the shantytowns, surrounding the traditional town center, something which is very common in Latin America (Ford, 1996; Aguilar, 1997; Pacione, 2001). Urban concentration also expresses the state of prostration and acute poverty in rural areas. In fact, nearly 22% of the total population live on less than a dollar a day, this percentage rising to 38% among the rural indigenous (UNDP, 2005). Rural areas are divided between those of indigenous people, where communities practice agricultural work that hardly suffices to survive, as it happens in other parts of Central America (McReynolds, 1998), and the extensive large estates ("latifundio"), specialising in a tropical export agriculture. These estates support a rural oligarchy similar to the one of other neighboring countries (DeJanvry, 1981; Painter, 1995). In any case, integration of the country into the globalization process should be rated as weak, especially in those rural areas that are still folded over onto themselves. An aspect of the international intervention and the regional standards of political normalization have undoubtedly influenced the incipient development of a democratic system, which was reached after the 1996 peace accords between the government and the guerrillas (Sieder, 1998).

Despite the doubtless similarities that Guatemala has with the remaining Central American countries, and with Latin America in general, there are many

elements of its recent history and of its current situation that should be considered as original. On the one hand, one has to consider the acquired importance of the indigenous population, made up of several groups, among which there is the Mayan population. The indigenous question links Guatemala to other far republics as Bolivia or Ecuador, where the majority of the inhabitants are Indians, and where a rural-based indigenous movement consolidated and nowadays participates in the government, proposing changes in the political structures (Albo, 2004; Garcia-Linera, 2006). In Guatemala, the indigenous question was interpreted as a threat and the emergence of the Marxist guerrilla in 1960s was the excuse for the Army to slaughter many rural communities across the country for over thirty years. This fact has undoubtedly weakened the weight of the peasantry and of the agrarian structure as independent social structures. As agreed by several authors, the Guatemalan state shows doubtless signs of heritage linked with a series of very powerful groups of the country. Some of them are big landowners and major employers, but these are also the army (with a very high organizational autonomy) and groups linked to Protestant evangelical churches, that have expanded in the urban slums and rural communities.

It is a polarized and unfair society, whose inequality index is similar to the one of the South African Republic (Burnell and Randall, 2008) and whose political apparatus is dominated by oligarchic groups. Within this general and structural framework, the recent years have brought about a significant change: the international pressure has made it possible to leave behind the civil war and the massacres of the indigenous farmers, and the 1996 peace agreements have opened a new period of national reconciliation and construction of democracy (Sieder et al., 2002). All political forces have integrated themselves into the new system. Substantial external aid for the construction of a modern and fair state is being received, and from time to time elections are held, validated by external observers. In Guatemala, the systematic violence of the Army against the indigenous farmers has disappeared. On the contrary, the Army has been strengthening an inefficient state apparatus, which has a few stable public workers and which is controlled by traditional power groups. This structure is more solvent in financial terms as it receives continuous international assistance to development and democratization. Consequently, a relatively strong central government is further reinforced; furthermore, it is slowly introducing into its agenda the need for a territorial planning at various scales and the rebalancing between the extremely poor rural areas and the urban nucleus (Aldrey and Rodríguez, 2008). These plans are not only just, but they also allow for the raising of additional external funds and feed back the political system (Moore, 2004; Woods, 2006).

The international determinants, under the form of development aids of the European Commission, have forced the Guatemalan government to take on the planning and the territorial rebalancing as aims, with particular emphasis on the less favored rural areas. At this moment, sharp power centralization has developed a classical and managerial planning model, which attaches great importance to small and medium cities in the rural development processes (Mattson, 1997). The starting point is a notion of governance of the country, although the recent European and North American convictions recommend that the theoretical design of the model make an explicit reference to the concept of local governance and to the role of the local actors (Murdoch and Marsden, 1998; Connelly et al., 2006; Paniagua, 2009). With reference to this, the 1996 peace agreements stress the obligation to consult the indigenous communities for any decision affecting them. This consultation is usually realized with results which are more theoretical than concrete. The opinion of the communities is dealt within the various areas of public management, but, indeed, their opinion is given little attention. It has even been noted that the community leaders involved in this consultation mechanism compete to represent their people every year, because the institutional act involves a visit to the following head town, a stay in a hotel and eating conveniently, which is something not ensured every day.

The effort to develop integral planning, similar to the one realized in Guatemala in the last period, faces another important difficulty: many municipalities have only a minimal structure to take on a dynamic endogenous development. In many rural areas, the seats of the local power coincide with the ones of regular markets, but this is not a location of a fully stable settlement of the population. Local leaders, mayors, and other representatives usually act as professional politicians, framed in a governmental partisan option that they, however, do not hesitate to leave if the presidential elections put at the leadership of the State a representative of another group. We are facing leaders, who negotiate their survival in a weak democratic system, following the basic principles of the patronage-client relationship, both in the upstream and downstream sense (Roniger and Eisenstadt, 1984; Hagopian and Mainwaring, 2005). Therefore, the proposed territorial planning attaches great importance to the role of small and medium-sized cities as drivers of rural development. This is inevitable, since these centers are the lowest tier, where the basic structures of the political and economic power are established. An interesting option would have been to grant competences to the regions of the country, which are territories adapted enough to assume the process of internal development processes, with tradition of identity (Ray, 1999; Hall and Stern, 2009). Because of the factors mentioned and because of the fear that indigenous movements articulate (as it occurs in Bolivia or Ecuador) the autonomy aspiration, the possibility of an adequate

territorialization to boost local economic potentialities should be discarded. In fact, all the models of government in Guatemala agree in defining themselves by their interest in minimizing the strong social and ethnic tensions that pervade throughout the country. If in the case of the indigenous culture these tensions are translated into empowerment of the singular as native, they could undoubtedly represent a factor of sustainable development for the future (it is possible to think of the international textile crafts made by Maya).

For these reasons, it has been decided to make a uniform planning for the whole territory. It is a model created from the central power of the republic, which would be applied in the same way to different regions, districts, municipalities and associations of municipalities. From the theoretical point of view, we deal with application of classical managerial principles, based on criteria of territorial governability. According to the European mid-twentieth century examples, there are established plan-territories of strictly functional content. These territories are articulated with respect to urban centers, which are hierarchically classified according to their population size. They are aimed at generating a planning impulse, which slowly comes to the different municipalities, and which considers the urban management of infrastructure and equipment, the definition of a basic network of public services, from a unitary point of view, boosting of economic activity and some environmental preservation considerations. In order to facilitate this process, the aid of the European Commission also contemplates training of local technicians and realization of pilot projects in some municipalities. Like in the classical examples of territorialization, based on a central location with minimum resources (Haggett, 1965; Shuper and Valesyan, 1999), the small urban nucleuses have a central role in the implementation of the planning program. The countryside is therefore subject to the dynamizing role of the small and medium-sized cities, in a theoretical traditional conservative model. In any case, the municipalities are the receivers of the whole proposed schema. The construction of their stable administrative structures is essential in order to discuss the implementation of development policies at the local level. This field sees the birth of the principles of the governance, of active participation of local actors and autochthon communities, together with all the constraints previously commented. Finally, the planning system calls for sustainability and social viability of the proposed model. It is once more essential to voice definite doubts as to the achievement of tangible results for the management of an impoverished and heavily dismembered rural.

Our experience in Guatemala consisted in participating as external experts in all this process. By means of the funding from the European institutions, we proposed the model to local leaders and technicians. Thanks to the support of the tools provided by the GIS, we have also designed a comprehensive base of information at municipal level that would be the key tool for the planning,

management and development policies in various municipalities. The work enabled us to transfer knowledge and, at a completely different level, it also enabled to realize a comprehensive assessment system for local development planning implemented in Guatemala. We will try to answer the following questions with the extensive information at hand: a) Is the external support and the import of classical models of territorial management transferred from other contexts useful for local development, meant to take place in a very disadvantaged rural reality? b) Are the political structures of the country, normalized by the peace agreements, ready to undertake sustainable development policies and territorial rebalancing?

Guatemala: a territorial development to build

Guatemala can be characterized as a country with persistent underdevelopment. During the last decades, the demographic dynamics featured an average growth rate of 2.6%, the highest one in the region. Such a growth produces very young age structure and high population densities. Given Guatemalan climate characteristics, human settlement distribution is concentrated in the central highlands, usually in areas of potential natural hazard (valley bottoms, ravines, unstable slopes, under active volcanoes, etc.). The rural and urban population shares are 50%, even if there is a great macrocephaly of its capital, which accounts for nearly 40% of the total population of the country.

Apart from a very strong dearth of infrastructure and equipment, Guatemala lacks a rational pattern of land occupation, which might facilitate the development and achievement of a higher quality of life. Rural settlements show a high dispersion level (with frequent occupation of the most productive lands) and a deep shortage of the basic community services (water, electricity, road access, etc.). Meanwhile, in the urban areas, the evident infrastructural weakness is exacerbated by the competition among various land uses. Yet, in urban areas poverty is lower than in the countryside, where poverty rate is three times higher (77% versus 29% in urban areas) and four times higher than in the capital (Sieder, 2008).

Furthermore, regional differences and the ones among ethnic groups are very large. The twenty-three indigenous ethnicities (Maya, Xinca and Garifuna) represent 45% of the population (according to the conservative World Bank data published in 2003), and they account for 72% of the extreme poverty. Thus, at least three-quarters of the Indians live below the poverty line, whereas this percentage drops to 41% among the non-Indian populations. Inequalities are also evident in gender questions; in this case, high female illiteracy rate, 39%, is still



Figure 1. Regional and departmental division of Guatemala

much higher among indigenous women, reaching there 62% (World Bank, 2003).

In spite of the fact that macroeconomic indicators reveal a positive growth between mid-1950s and mid-1990s, Guatemalan economic base is weak. This is due to the strong population growth, which has produced an insignificant increase of the per capita income. Important internal seasonal migrations satisfy the needs for jobs in coffee, sugar and banana plantations, which are the main export crops and the main sources of employment, along with other low skilled jobs. During recent years, the international crisis of prices on these agricultural products has drastically reduced the possibility of internal migrations, thus favoring illegal immigration towards the United States. Its significance is evident as the remittances sent from the United States represent about the 10% of GDP (Migration Information Source, 2006). Let us add that industry has little significance, with “maquileras” (textile) locations and companies, whose products are destined to the domestic market.

The country is administratively divided into 22 departments and 332 municipalities. It has 8 regions, that although do not have legal recognition, constitute a framework for planning and territorial organization. Nevertheless, municipalities are the closest authorities for the people. On the other hand, given the concentration of Guatemala around the capital, its administration is the only visible one for the Guatemalans. In addition, there was an attempt of empowerment in the democratization processes and the impulses deriving from the signing of the 1996 Peace Accords, which have become a structural pathway for the State of Guatemala (Jonas, 2000).

In October 2000, a DEMUCA Foundation report about Territorial Management and Planning, affirmed that at that time in Guatemala there was no approved legislation relating to land use, neither in process before the Parliament. Indeed, since the return to a democratic system in 1986, the priorities of the country included decentralization and electoral reforms to increase the opportunities of citizen participation in local government (Sieder et al., 2002). In 2009, the situation changed owing to the proposal, still in debate, about the Law on Land Management and Sustainable Development (outcome of the electoral process in 2007).

Territorial management and development should be planned together and coordinated (Harris, 2001), especially in an area with limited resources, like the analyzed one. In both cases, a global, integral and strategic vision must prevail. A final goal is: to improve the quality of life of people with respect to employment, income, health, transport, education, environmental quality, safety, etc. (Ray, 1999). As it is an integral part in planning, it plays a key role for the inter-administrative coordination (ESPON, 2004). Further, it is also necessary to encourage coherent governmental action and ensure the participation of all stakeholders in the planning process (Stocker, 1997). Finally, there is pretence of fostering new forms of rural governance, with participatory nature, but this reduces to an exercise of local elites, because of the strength of their political power (Sieder, 1998).

Despite the lack of specific legislation on this matter, Guatemala has different legal standards directly affecting planning. Those standards that set the scales, on which the territory can be framed in terms of political administration, are particularly interesting. The preliminary regionalization Act of 1986 introduced the notion of Region, thus dividing the Guatemalan space into eight entities relatively homogeneous from geographical and socioeconomic points of view.

The enactment in 2002 of the Municipal Code is of singular importance, and it is linked to the political process of decentralization. It introduces the image of the Community: a voluntary association of several municipalities for the more efficient and effective common provision of a definite public service.

But these should not be considered as a direct reference to the territorial planning. The Municipal Code establishes the responsibilities in the field of territorial and urban management. Among these competences, there is the obligation to develop a Territorial Management Plan (POT: Plan de Ordenamiento Territorial) and to boost bringing into operation of Municipal Technical Offices to plan and coordinate various territorial public policies. The Code sets out the mechanisms for the coordination with the *Community Development Councils* (COCODES: Consejos Comunitarios de Desarrollo) and the *Municipal Development Councils* (COMUDE: Consejos Municipal de Desarrollo). Since the Peace Accords the purpose is to create mechanisms enabling citizen participation, especially among indigenous people and women, both in rural and urban areas. For rural areas it is relevant to undertake a theoretical attempt to introduce new organizations of governance through COCODES.

The municipalities are responsible for urban planning and management. It is significant, with what speed Guatemala establishes the general legislation in this area. In 1956 it adopted its draft town planning law, which still remains in force today. The Draft Law sets the instruments that each municipality should adopt to manage its land use (zoning) and urban development. The effectiveness of this legal framework has been very low in Guatemala due to the lack of tax system that would grant municipalities stable financial resources to influence the provision of basic public services. For this reason, the Municipal Code questions the need for the development of a POT, which can be assimilated to a new legal framework regarding urban development. It opens the door to the establishment of coordinating mechanisms through programs of municipal investment, which are crucial for concrete works.

At the beginning of the 21st century, there is an almost total lack of means to plan the territory. It is possible to rely on planning documents prepared mainly by international cooperation teams. These are characterized by being produced outside the local and national institutions, and so the vast majority of them were not implemented.

The aspects mentioned, along with the weak democratic culture and governance, as well as the chronic need for funding, turn the mostly rural Guatemalan municipalities into very vulnerable and weak institutions. Several analysts (García González, 2005; Galán Vioque, 2006; Samuels Milson, 2007) stress that this situation is the result of an overly centralized traditional institutional framework and of a series of historical-cultural conditions. Only the socio-political breakthrough of the Peace Accords assigned the municipality a unique role in the development of all citizenship (Sieder, 1998). Then, the adoption in 2002 of meaningful laws such as the Decentralization, the Municipal Code or the one of the Rural and Urban Development Councils attributed municipalities a significant role in public life.

Strategy and territory: the national planning system

In view of the absence of specific legislation on territorial planning and development in Guatemala, the design of the planning tools derives from the National System of Strategic Territorial Planning (SINPET: Sistema Nacional de Planificación Estratégica Territorial). This is developed within the governmental body of the General Secretariat for Planning (SEGEPLAN: Secretaría General de Planificación).

The SINPET pretends to fill a major gap in the governance of Guatemala. It is a system allowing greater coordination of public and private actors interacting across the territory. It assumes a strategic vision, aiming to promote better human development and quality of life. In order to achieve this aim, it introduces planning tools, like the Territorial Strategic Plans of supra-territorial nature and the Municipal Development Plans (SEGEPLAN, 2007). These tools integrate civic participation through the various levels of development councils. In turn, the subsidiarity principle is the conceptual basis for the decentralization process, which aims at higher development levels throughout the territory.

The SINPET draws the structure of the territorial planning tools and a series of analysis references that are fundamental to understand the planning system. This document is significant to define the Territorial Development Strategy (EDT: Estrategia de Desarrollo Territorial). It is essential for the conceptual framework of territorial planning (SEGEPLAN, 2006). The EDT studies the urban network system, taking into account the demographic criteria and the situation of the urban centers with respect to the network roads. Although it would be welcome to introduce more criteria (function, role in the territorial structure and organization of the society, etc.) it is an initial step of interest. Its methodology recovers the classical theories of territorial planning based on the use of the urban network as development disseminator throughout the territory (Hall, 1992). It guides the territorial planning policy towards creation of a decentralized performance system, by means of the main urban centers as a support for spreading the strategies of integral development.

This matrix planning should be grounded with the investment action of the public sector and orient, when possible, private investment. In this sense, the EDT is intended to produce the foundations to lead a process that could be termed as *„concentrated decentralization’*. In other words, it deals with identifying within the urban network those urban settlements that have greater potential to focus development processes and become places of balance.

The EDT proposes a classification of the settlements system, whose starting point is the main urban reference of Guatemala: Guatemala City. From this, different hierarchical levels are established. Upon the analysis of the document, the disconnection between the levels of the city system and the political and

administrative structure emerges. It would be desirable to enhance this relationship, with the intention to achieve greater complementarity and synergies in the quest for public action. The model proposed by the EDT retrieves traditional Western planning proposals (Sachs, 1984; Hildebrand, 1996). In this model, rural space is located outside the main development strategies. Despite huge gaps in economic and human development of rural areas, this situation seems to be repeated in the EDT of Guatemala.

The EDT provides a list of the main urban centers of Guatemala at different scales. It establishes five hierarchical categories of centers: *Local Service Center*, *Communitarian Strategic Center*, *Communitarian Center*, *Intermediary Center* and *Regional Center*. These categories are fixed in the perspective of a demographic target in the year 2025. The EDT does not indicate the expected population of the Local Service Center, but it indicates the population of the other kinds of centers, which would respectively be, more or less, at least 5,000, 35,000, 75,000 and 300,000, respectively. The EDT says that in every town there should be a „settlement“ that will become „Community Strategic Center“ (CEC: Centro Estratégico Comunitario), although it is not physically identified on the territory. This territorial identification is realized in the case of settlements of superior level, which are listed according to region and department (SEGEPLAN, 2006b). These kinds of centers should work as natural centers of social, productive and commercial character, providing such services as health, education, supply, electricity, rural telephony, security and Internet access. They must also rely on a network road ensuring easy communication with the minor villages. The aim is to produce some kind of attraction with respect to the near rural communities. In this case its identification is highly important, as this area can be related with the so called “micro regions”, which, in turn, become the basic element for the participation of the local population (Paasi, 2003).

Once the urban and hierarchical structure of the centers established, the EDT proposes the interconnection of the centers through a road network (also hierarchical) which would favor the increasing competence both among the same centers and with regard to the state Capital. Trade, distribution and commercialization functions would become viable among the different cities and administrative regions of the network. Once more, the EDT gives more priority to the urban centers than to the rural space, which keeps on having a subordinate status. In accordance with what has been mentioned, the EDT proposes the giving up of the public investment according to regions in strategic productive economic activities, especially in the regional and intermediate centers. This is aimed at encouraging the private initiative to start productive activities in these places.

Table 1. Proposed correlation between administrative levels and the national urban network

Territorial scale of reference	Designation of urban centers according to EDT	Territorial characterization
Region	Regional center	Regional capital exercising leadership over its regional area
Department	Intermediate center	Capital of department and other cities of minimum capacity for the generation of spatial centralities
Community (subdepartmental unit)	Community center	Municipal entities or other settlements of minimum capacity to exercise centralities on supramunicipal rural areas
Municipality	Communal strategic center	Municipal entity or other settlements of minimal attraction to exercise centrality on supramunicipal rural areas
Microregion (submunicipal unit)	Local services center	Rural settlements, with minimal services, which serve as reference for the near local communities

The definitions correspond to criteria set by the designers of this analysis, as they are not indicated in the EDT established by SEGEPLAN.
 Source: SEGEPLAN, 2006.

The previous statements can be summarized in Table 1, where the EDT structure interacts with proper contributions. The planning realized should not be meant, however, as a completely rigid and unchangeable scheme, as it should be adapted to the concrete realities of each territorial context. Still, it is conceived as a reference base that generates a basic planning structure for the whole territory. The SINPET must be implemented as a political action line in the Guatemalan territory. Its conversion into a legislative document with statutory law would be extremely important. This would increase its legitimacy and would strengthen the political commitment of the whole process (Liepins, 2000). Its results and viability are still uncertain. It would be difficult to reach a territorial equilibrium with development strategies focused only on the urban world. This situation might worsen the gap between rural and urban areas, particularly given the low investment capacity of the state.

Territorial planning: municipal scale

With the intention to promote regional development, the authors proposed, on the basis of own experience, a model of planning at the municipal level. The proposal originates from in situ work, which was realized in a consultancy of the country after the cooperation agreement ended in 2008 between the European Union and the Government of Guatemala. The model integrates the urban ter-

ritorial planning in municipal context, the overall social and economic proposals and the investment plans (long term and annual). Its purpose is to allocate, to measure and to plan in time the foreseen investments strategies and projects identified in previous plans.

Like the whole planning project, the first step consists in the characterization and the analysis-diagnosis of the pre-existing situation (Fig. 2). The database must be examined in depth, so that a complete radiograph of the whole municipality might be realized. Likewise, the analytical units should allow for identifying the intra-municipal units. This internal partitioning is very important, as it

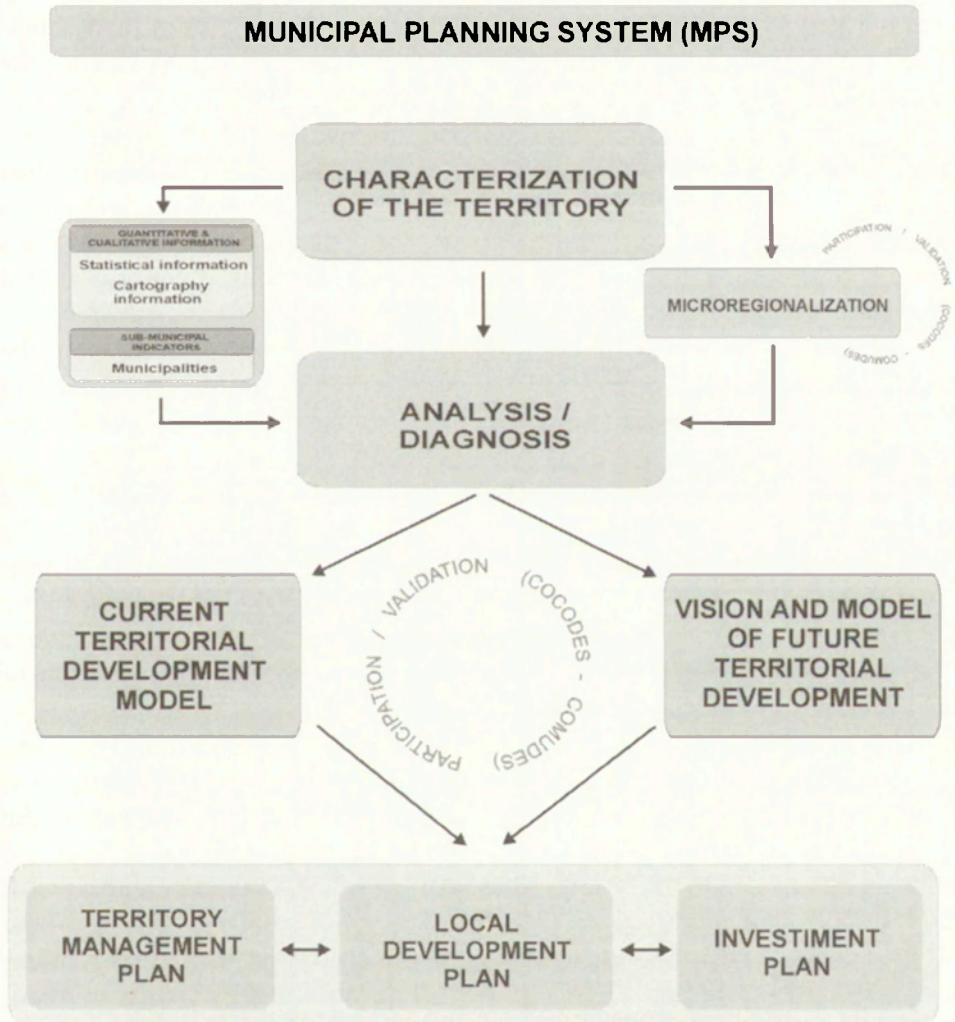


Figure 2. Proposal of the Municipal Planning System

enables civic participation, territorialization and identification of the specific situation of each portion of the municipality (Warren, 1987; Hummon, 1990). These micro regions must be logically based on geographical and socio-cultural criteria.

After the realization of this activity on behalf of the Municipal Planning Office (which relies on technicians trained for this purpose), the Current Territorial Development Model (MDTA: Modelo de Desarrollo Territorial Actual) must be established, being a complete vision of the situation of the municipality. Later on, the Future Territorial Development Model (MDTF: Modelo de Desarrollo Territorial Futuro) will have to be prepared, which is nothing else but the scenario that planners desire. This last one corresponds to the elaboration of the strategic vision of the municipality, which is the reference for the whole planning action.

In order to realize this strategic vision, the Municipal Planning System should generate three differentiated instruments (Fig. 2). The Territorial Plan and the Development Plan should consider the long and medium term effects (between 12-16 years), while the investment plans should correspond to 4 years (coinciding with the election periods), and to one year, linked with the annual budget. The content of the plans is constituted by the following items:

Territorial Management Plan: this document analyzes the organization of the municipal area (roads, settlement structure, location of the population and of services, etc). It also sets the basic standards for the land occupation and the territory zoning according to various potential uses.

Local Development Plan: the document proposes the key projects, dealing with social and economic conditions, which must be carried out. It covers the aspects of training, creation of social web, identification and valuation of productive resources, strategies of economic development, etc. (Silva Lira, 2003).

Investment Plan: it examines the financial viability of projects and actions raised in the previous documents. The plan should include the provision of public services (Rojas, 2006).

In this process it is necessary to introduce public participation (Murdoch, 2000). Taking the system of Development Councils as organizational support, two participatory events are proposed. During the first one, the aim is the involvement of the stakeholders to provide qualitative information. It should also serve to validate and / or specify the micro-regionalization introduced. The second event is of more important implications; it validates the territorial analysis from a technical perspective and it gives rise to the future spatial strategies to be defined in the MDTF. From here, the documents of territorial management and local development there will be prepared, along with the investment plans.

After having realized the proposal, there is evidence that the advanced methodology has been adopted in the development of plans in 60 rural municipalities of Guatemala. The cooperation program „Democratic Municipalities”, financed by the European Union, gave birth to a professional planning generation, which followed the references of our proposal. The instruments have been drafted, but we doubt whether they have been applied on the part of the responsible of the municipalities. The great underdevelopment of the Guatemalan rural areas and the enormous institutional weakness of the municipality prioritize the local action in questions of most basic needs. The majority of the municipalities had access to this cooperation experience because it was financed by external funds, which the local elites considered as an income. At least according to our impression, this was the determining factor and not the real interest in introducing minimal rules of territorial planning. This situation should make us ponder and ask ourselves whether the efforts put into cooperation do have real repercussions in the development and quality of life of the potential beneficiaries?

Conclusion

In a situation, where the wounds of an armed conflict lasting more than three decades are not yet healed, where the poverty, especially in the rural areas, has alarming values, the obvious priorities of the public administration have not brought the inclusion of territorial management. Although this situation can be understandable, such a behavior cannot continue.

It is possible to observe that during the last years the demographic growth has implied a progressive increase of the intense exploitation of soil and natural resources. This process is seen both in urban areas, which show an uncontrolled and spontaneous growth of their nearest peripheries, and in the rural areas, where the anarchic dispersion of the new constructions implies high costs for the collectivity (loss of productive space, difficulties in providing public services and consequently bad quality of life).

It is precisely this framework that motivates us to present some basic spatial planning criteria that can serve as a benchmark to guide the action of human occupation on the territory. The land management provides indisputable benefits to the main part of the society with respect to quality of life (access to public services, preservation of natural resources, security, etc.) and to the potential of economic development (to reduce incompatibilities of use, to ease production factors, etc.).

A progressive culture of territorial planning and management must be gradually introduced. This is a slow process, which needs to begin by combining pre-

cautionary decisions. First of all, the most significant and influential stakeholders, especially the municipal local politicians, must understand the importance of a simple classification of land uses in order to improve the quality of life and encourage the potential productive development. The territorial management is not only based on public investment and on the availability of financial resources, but, according to us, of very high importance is the existence of politicians' will to elaborate and interpret the basic principles and to respect them. Against this process, the striking institutional weakness of the country plays a central role; it impedes continuity in development initiatives in the four-year political shifts (the president can be elected for only one term) involving complete dismantling of the administrative structure and building of a new one. Moreover, municipalities have difficulties in meeting their responsibilities for the provision of basic services to the population because of the endemic lack of funds. Finally, also external initiatives, with the import of classical models of territorial management of proven success, have failed, because of the manifest impossibility of maintaining the structures established once they cease to be financed by international cooperation agencies.

References

- Aguilar A.G., 1997, *Metropolitan growth and labor markets in Mexico*, *Geojournal*, 43 (4), 371–383.
- Albó X., 2004, *Ethnic identity and politics in the Central Andes. The cases of Bolivia, Ecuador and Peru*, [in:] J.-M. Burt, P. Mauzeri (eds.), *Politics in the Andes: identity, conflict and reform*, University of Pittsburg Press, Pittsburg, 17–38.
- Aldrey-Vázquez J.A., Rodríguez-González R., 2008, *Planificación municipal en Guatemala. Metodología para el componente de ordenación territorial*, IDEGA-University of Santiago de Compostela, Santiago de Compostela.
- Burnell P., 2008, *Democratization*, [in:] P. Burnell, V. Randall (eds.), *Politics in the developing world*, Oxford University Press, Oxford, 268–291.
- Burnell P., Randall V. (eds.), 2008, *Politics in the developing world*, Oxford, Oxford University Press.
- Connelly S., Ricardson T., Miles T., 2006, *Situated legitimacy. Deliverative arenas and the new rural governance*, *Journal of Rural Studies*, 22, 267–277.
- DeJanvry, A., 1981, *The agrarian question and reformation in Latin America*, John Hopkins University Press, Baltimore.
- ESPON (European Spatial Planning Observation Network), 2004, *Governance of Territorial and Urban Policies from EU to Local Level. First Interim Report*, ESPON Project 2.3.2, submitted by University of Valencia, Lead Partner for ESPON 2.3.2 (available at: www.espon.lu/online/documentation/projects/policy_impact/policy_impact_146.htm).

- Ford L., 1996, *A new and improved model of Latin American city structure*, *Geographical Review*, 86(3), 437–440.
- Fundación DEMUCA, 2000, *Ordenamiento y Planificación Territorial*, Reflexiones para el debate, 6, San José, Costa Rica.
- Galán Vioque R., 2006, *Análisis de la situación del municipio y del gobierno*, Informe del Programa Descentralización y fortalecimiento municipal, Guatemala (local unpublished).
- García González D., 2005, *La cuestión municipal en Centroamérica: un desafío para la consolidación y la modernización del Estado*, AECI-Fundación DEMUCA, San José, Costa Rica.
- García-Linera A., 2006, *Crisis of the state and popular power*, *New Left Review*, 37, 2006(1), 66–78.
- Gould J., 2005, *The new conditionality: the politics of poverty reduction strategies*, Zed Press, London.
- Hagopian F., Mainwaring S. (eds.), 2005, *The third wave of democratization in Latin America: advances and setbacks*, Cambridge University Press, Cambridge.
- Haggett P., 1965, *Locational análisis in Human Geography*, Edward Arnold, London.
- Hall P., 1992, *Urban and regional planning*, Routledge, London.
- Hall P.V., Stern P., 2009, *Reluctant rural regionalism*, *Journal of Rural Studies*, 25, 67–76.
- Harris N., 2001, *Spatial development policies and territorial governance in an era of globalisation and localisation*, [in:] *Towards new role for spatial planning*, OECD, Paris.
- Hildebrand Scheid A., 1996, *Política de ordenación del territorio en Europa*, Universidad de Sevilla-Junta de Andalucía, Sevilla.
- Hummon D., 1990, *Common Places*, SUNY Press, Albany, NY.
- Jonas S., 2000, *Of Centaurs and Doves. Guatemala's peace process*, Boulder, Colo. and London, Westview Press.
- Lefwich A., 2000, *States of development. On the primacy of politics in development*, Cambridge, Polity Press.
- Liepins R., 2000, *New energies for an old idea: reworking approaches to "community" in contemporary rural studies*, *Journal of Rural Studies*, 16, 22–35.
- Mattson G.A., 1997, *Redefining the American small town: community governance*, *Journal of Rural Studies*, 13(1), 121–130.
- Mc Reynolds S.A., 1998, *Agricultural labour and agrarian reform in El Salvador: social benefit or economic burden?*, *Journal of Rural Studies*, 14(4), 459–473.
- Migdal J.S., 1988, *Strong societies and weak states. State-Society relations and state capabilities in the Third World*, Princeton, Princeton University Press, New Jersey.
- Migration Information Source, 2006, *Remittance trends in Central America* (available at www.migrationinformation.org/Feature/display.cfm?id=393)
- Moore M., 2004, *Revenues, state formation and the quality governance in developing countries*, *International Political Science Review*, 25/3, 297–329.

- Murdoch J., 2000, *Networks – a new paradigm of rural development?*, Journal of Rural Studies, 16, 407–419.
- Murdoch J., Marsden T., 1998, *Editorial: the shifting nature of rural governance and community participation*, Journal of Rural Studies, 14(1), 1–4.
- Paasi A., 2003, *Region and Place: regional identity in question*, Progress in Human Geography, 27 (4), 475–485.
- Pacione M., 2001, *Urban geography. A global perspective*, Routledge, London.
- Painter M. (ed.), 1999, *The social causes of environmental destruction in Latin America*, Ann Arbor, The University of Michigan Press.
- Paniagua A., 2009, *The politics of place: official, intermediate and community discourses in depopulated rural areas of Central Spain. The case of Riaza river valley (Segovia, Spain)*, Journal of Rural Studies, 25, 207–216.
- Pike A., Rodríguez-Pose A., Tomaney J., 2006, *Local and regional development*, Routledge, London.
- Ray C., 1999, *Endogenous development in the era of reflexive modernity*, Journal of Rural Studies, 15(3), 257–267.
- Rojas Morán L.M., 2006, *Manual para la Gestión Municipal del Desarrollo Económico Local*, OIT/ Oficina Subregional para los países Andinos, Proyecto Pres, Lima.
- Roniger L., Eisenstadt S.N., 1984, *Patrons, clients and friends. Interpersonal relationships and the structure of trust in society*, Cambridge University Press, Cambridge.
- Sachs I., 1984, *Development and Planning*, Cambridge University Press, Cambridge.
- Samuels Milson S.A., 2007, *El papel de los municipios en el ordenamiento territorial y la protección del medio ambiente en Centroamérica*, Universidad de Jaén-Universidad San Carlos de Guatemala-Unión Iberoamericana de Municipalistas (unpublished).
- Secretaría de Planificación y Programación de la Presidencia (SEGEPLAN), 2007, *Gua de facilitación de la Planificación Estratégica Territorial (PET) y el Plan de Desarrollo Municipal (PDM)*, Guatemala.
- Secretaría de Planificación y Programación de la Presidencia (SEGEPLAN), 2006, *Sistema Nacional de Planificación Estratégica Territorial (SINPET)*, Marco Conceptual, Guatemala.
- Secretaría de Planificación y Programación de la Presidencia (SEGEPLAN), 2006b, *Estrategia de Desarrollo Territorial (EDT)* (available at http://www.segeplan.gob.gt/index.php?option=com_remository&Itemid=41&func=fileinfo&id=336).
- Shuper V., Valesyan A.L., 1999, *Spatial structure of urban settlements systems. Stability versus changeability*, Cybergéó, 88.
- Sieder R. (ed.), 1998, *Guatemala after the peace accords*, Institute of Latin American Studies, London.
- Sieder R., Thomas M., Vickers J., Spence, J., 2002, *Who governs? Guatemala five years after the peace accords*, Hemisphere Initiatives/Washington Office of Latin America, Washington DC.

- Silva Lira I., 2003, *Metodología para la elaboración de estrategias de desarrollo local*, CEPAL, Santiago de Chile.
- Slater D., 2006, *Geopolitics and the postcolonial. Rethinking North-South relations*, Oxford, Blackwell, Oxford.
- Stoker G., 1997, *Public-private partnerships and urban governance*, [in:] G. Stoker (ed.), *Partners in urban governance: European and American experience*, McMillan, London, 1–21.
- UNDP, 2005, *Human Development Report 2005, International cooperation at a crossroads aid. Trade and security in a unequal world*, United Nations Development Programme, New York.
- Warren R., 1987, *The community in America*, The University Press of America, Lanham, MD.
- Woods N., 2006, *The globalizers: the IMF, the World Bank and their borrowers*, Ithaca, Cornell University Press, New York.
- World Bank, 2003, *Guapa: Guatemala Poverty Assessment*, Washington.

Serhiy MOROZ
Department of Production Management and Entrepreneurship
Sumy National Agrarian University
160, Kirov St., Sumy, 40021, Ukraine
serhiymoroz@yahoo.com

Challenges and perspectives of rural development in Ukraine

Abstract. The paper discusses the trends and issues of rural development in Ukraine. It is concluded that the main reason of the current deplorable situation in rural Ukraine is that the existing approach, related to the development of rural areas is not sufficiently focused and targeted to deal with the problems of the population there. That is why it is necessary to work out the well-defined rural development strategies, which would allow the country to ensure the development of rural territories, to increase the competitiveness and the viability of the rural economy, and to improve the quality of rural life.

Keywords: rural development, rural policy, Ukraine

Introduction

The process of formation of market economy in Ukraine requires positive changes in respect to development of rural territories, an improvement of their viability and creation of adequate socio-economic conditions for rural dwellers. Taking into account, on the one hand, the existing deplorable situation within the rural areas in Ukraine, and, on the other hand, the great potential, which exists in the Ukrainian rural economy, it is obvious that new approaches should be introduced to overcome these problems, to ensure the development of rural territories, and to facilitate the adaptation of the rural sector to the conditions of market economy. This is particularly important for Ukraine because of its recent entry into the World Trade Organization and its intention, as a long-term perspective, to join the European Union (EU).

To solve the existing rural issues, it is necessary to work out the appropriate rural development policy. According to OECD (2006), this policy is needed for at least three reasons. First, rural areas face significant challenges that undermine territorial cohesion within countries. Second, rural areas often possess largely unused economic potential that could be better exploited and thus contribute to the well-being of rural citizens and to the overall national development. Third, neither sectoral policy nor market forces are able to fully account for the heterogeneity of challenges and potentials of rural regions and to cope with positive and negative externalities.

As stated by Bertini et al. (2006), a more effective rural development policy should be based on the following principles:

- identification of clearer objectives;
- expansion of the nonfarm economic base;
- making rural life more attractive through the provision of basic services and amenities.

The experience of the EU countries proves that the most active factors, which could promote more effective development of rural regions, are human capital and social capital. Human capital represents skills, knowledge, ability to work and good health that together enable people to pursue different livelihood strategies and achieve livelihood objectives (Buchenrieder et al., 2007). This capital is mostly referred to by the term „capacity building”, but it is also present in any action encouraging innovation and entrepreneurial risk-taking (Schuh et al., 2006).

Social capital is defined as norms, values, and trust embodied in the specific structural forms (e.g. networks, associations, groups etc.). The relevance of social capital for transitional processes in the central and eastern European countries is explained by the importance of ensuring informal institutional changes, together with the formal ones, especially with regard to growing roles of individual responsibility, informal relations, and bottom-up initiatives (Valentinov, 2003).

The above-mentioned types of capital are a basis of creation of public-private partnerships - local action groups (LAGs), which have a significant impact on development of rural territories in the EU countries. Such a group is an original and important feature of the LEADER approach. The LAG has the task of identifying and implementing a local development strategy, making decisions about the allocation of its financial resources and managing them (European Commission, 2006).

The aim of our paper is to provide an overview of main concepts of rural development, analyze tendencies of development of rural territories in Ukraine, and identify directions for improvement of the viability of the countryside, creation of favorable living conditions for rural residents, and the growth of the

rural economy in the long-term perspective, taking into account the experience of the EU countries.

Concepts of rural development

There are various definitions of rural development. For instance, Anríquez and Stamoulis (2007) define rural development as development that benefits rural populations; where development is understood as the sustained improvement of the population's standards of living or welfare.

Nemes (2005) pays attention to a concept of integrated rural development, which is considered as an ongoing process, involving outside intervention and local aspirations; aiming to attain the betterment of living standards of groups of people living in rural areas and to sustain and improve rural values; through the redistribution of central resources, reducing comparative disadvantages for competition and finding new ways to reinforce and utilize rural resources.

According to Hubbard and Gorton (2009), there are four models of rural development:

- agrarian,
- exogenous,
- endogenous,
- neo-endogenous.

The agrarian model is based on the belief that the essence of rural is agriculture. This has taken two forms: productivist and multifunctional. According to the first form, the primary function of the rural economy is to produce food and fibre. Success under this model is measured in terms of the marketable surplus of farms and improvements in productivity. The task of policy is to support research and development that improves agricultural productivity and to put in place the supporting measures for domestic market and trade that ensure the continuation of farming (Hubbard and Gorton, 2009).

In the past, the agricultural sector was often the engine of growth in rural economies and represented the predominant source of rural income, employment and output. Consequently, rural and agricultural issues were considered to be virtually synonymous and it was often assumed that agricultural and rural objectives could be pursued through a single set of policies designed to aid the transition of the agricultural sector. That situation has changed, principally because agriculture is no longer the main sector in rural regions, either in terms of output or employment (OECD, 2006). So, international experience shows that the productivist form of the agrarian model is not sufficient because of the declining share of agriculture in gross domestic product, continuing globalization, and increasing competition in world markets.

The second agrarian model is based on multifunctional agriculture. The term multifunctional agriculture implies that agriculture provides more than what is traditionally perceived as its main function: producing food and fiber. The central elements of multifunctional agriculture are:

- landscape: biodiversity, cultural heritage, amenity value of the landscape, recreation and access, scientific and educational value,
- food related issues: food security, food safety and food quality,
- rural concerns: rural settlement and economic activity (Romstad et al., 2000).

So, this approach takes into account the fact that agriculture produces many commercial goods, as well as other goods that do not have markets or the markets for those goods function inefficiently. As a result, in agricultural activities there are many spheres of „market failures” that have a positive or negative character (Wilkin and Klepacka, 2005).

The exogenous development model put industrialization at the center of development of rural regions. The key principles of this model centered on economies of scale and concentration. Urban centers were regarded as growth poles for the economic development of rural areas. The function of rural areas was primarily to provide food for the expanding cities, and the development problems of rural areas were diagnosed as those of marginality. Rural areas were distant technically, economically and culturally from the main (urban) centers of activity and in all of these respects were considered „backward” (Ward et al., 2005). In this case, policy should be geared towards attracting capital, principally branch plants to relocate in the countryside. Under this approach, variations in rural development are explained by differences in the extent, to which they can attract external capital and offer resources that are useful to urban-led development, particularly land and labor (Hubbard and Gorton, 2009).

In contrast to the previous model, the endogenous model sees local resource endowments – climate, land fertility, and environmental quality – and the specific characteristics of human and cultural capital, as providing the fundamental conditions for long-term rural development. The main purpose of this perspective is to improve local economic and social circumstances through mobilizing internal resources (Ward et al., 2005).

This model has the following features:

- key principle: the specific resources of an area (natural, human and cultural) hold the key to its sustainable development;
- dynamic force: local initiative and enterprise;
- functions of rural areas: diverse service economies;
- major rural development problems: the limited capacity of areas and social groups to participate in economic and development activity;
- focus on rural development: capacity building (skills, institutions and infrastructure), overcoming social exclusion (Lowe et al., 1998).

The neo-endogenous model is based on institutionalist theories of development. Such theories maintain that the key to local development is building a local institutional capacity able both to mobilize internal resources and to cope with the external forces acting on a region. This perspective emphasizes not only that economic or business development needs to be embedded in the region, but that the means of achieving this objective is through the participation of local actors in internal or external development processes (Ward et al., 2005).

The main characteristics of the neo-endogenous approach are:

- key determinants: interaction between local and global forces;
- drivers of growth: globalization, knowledge economy;
- functions of rural areas: participation of local actors in local and external networks and development processes;
- major rural development issues: resource allocation and competitiveness in a global environment;
- focus on rural development: enhance local capacity and actors participation to direct local and external forces to their benefit (Hubbard and Gorton, 2009).

Using the neo-endogenous approach, development based on local resources and local participation can be animated from three possible directions, separately or together:

- by actors within the local area,
- from above, by national governments and/or the EU,
- from the intermediate level, particularly by nongovernmental organizations which see in endogenous development the means by which to pursue their particular agendas (Ray, 2006).

Among programs, which are related to development of rural regions, and which have been successfully implemented in the EU countries for a long period of time, featuring innovative aspects, it is first of all worth mentioning the LEADER initiative. The LEADER program has gained reputation for standing for a particular approach to rural development. The LEADER „method” includes the following features:

- the area-based approach,
- the bottom-up approach,
- the local partnership,
- innovation,
- multi-sectoral integration,
- inter-territorial co-operation (including trans-national co-operation),
- networking,
- decentralised management and financing (Tödting-Schönhofer et al., 2004).

According to Lowe et al. (1998), the essential elements of the LEADER program are:

- to explore innovative approaches to rural development (and that could be transferable to other areas),
- through essentially low cost projects,
- organized around a locally-controlled organization,
- to animate the participation of local people and organizations in development projects in the social, economic, cultural and environmental fields,
- funded by a block grant from the EU but requiring matching funding from local/regional/national public and private bodies.

The LEADER method shows its organizational originality at the local level in the role and functioning of the local action groups (LAGs), which play a key role as the “crossroads” of the complex system of vertical and horizontal relationships. The functions of the LAGs can be summarized as follows:

- managing the program and its funds,
- developing local development plans,
- handling the final beneficiaries’ requests and carrying out the payments to them,
- analyzing, selecting, and following up the projects (OECD, 2006).

Demographic and socio-economic changes in rural areas of Ukraine

The problem of rural development in Ukraine has multiple aspects and is connected with various social and economic processes. First of all, it is related to the worsening of the demographic situation in rural areas of Ukraine. The total number of rural population decreased from 16.8 million people in 1990 to 14.7 million people in 2007, or by 12.5%. First of all, this tendency could be explained by the fact that, during this period, the birth rate of the rural residents went down from 12.7 to 10.7, while the death rate increased from 16.1 to 20.1. As a result, the growth rate declined from -3.4 to -9.4 (State Committee..., 2008). The rural population also shrank due to the constant outflow of the most active part of the rural dwellers – young people – from villages to urban settlements. The decline in number of births took place owing to the significant deterioration of the socio-economic living conditions of rural families, the reduction of the number of marriages, the rise of the divorce rate, and the worsening of the state of health of rural inhabitants. Hence, the number of rural families having many children fell significantly. In contrast, childless families became much more widespread. The increase of mortality occurred because of

the negative impact of social, economic, ecological, and other factors, as well as the inadequate level of medical services in the countryside.

Rural depopulation expanded to almost all rural settlements. For instance, in 2005, 12.4% of villages did not have newborns at all. Between 1991 and 2005, the share of rural settlements which did not have children less than 5 years old and young people grew from 8.8% to 10.6% and from 4.5% to 5.8% respectively. In 2005, there were 25.7 thousand villages (or 90.1% of the total number), which were characterized by excess of deaths over births.

The deteriorating demographic characteristics have been accompanied by changes in the rural population structure. For the period 1991–2007, the most significant decline was observed in the population under working age (by 30.7%). The share of young residents in the total rural population structure shrank from 22.2% in 1991 to 17.6% in 2007. The substantial reduction of the share of people under working age creates an unfavorable demographic prerequisite for the reproduction of the rural population and the rural labor force in the near future and the long-term perspective. It means that the ageing of the rural population intensified. If the tendency with respect to the young age group continues, even the simple reproduction will not be possible for rural areas in Ukraine (Yakuba, 2007).

The distribution of villages by number of rural residents worsened as well. The share of small villages with the population number less than 49 dwellers went up from 10.0% in 1990 to 13.9% in 2005. At the same time, the share of rural settlements with more than 1000 inhabitants decreased from 17.7% to 15.1%. So, owing to the fragmentation of the villages, two clear tendencies took place in rural districts: the decrease of the number of large settlements and the increase of the number of small settlements. The number of dwellers in an average statistical village fell from 590 people in 1990 to 534 people in 2006. Due to the deterioration of the demographic situation, around 33% of rural settlements are on the verge of self-reproduction and are in the degraded category (Institute of Agrarian Economics..., 2003). In general, the demographic crisis and the fragmentation of the villages are linked. On the one hand, the fragmentation of rural settlements is a logical result of unfavorable demographic processes, which take place in the rural sector. On the other hand, to a certain degree, this is a reason and a factor, causing the deepening of the demographic crisis (Balanovska et al., 2000). If the structural deformation processes continue in the rural areas at the current rate, they will lead to the complete disappearance of small rural settlements and the beginning of irreversible degradation of the countryside.

So, unfavorable demographic tendencies confirm the lack of positive changes with regard to socio-economic development of rural territories in Ukraine. The main reason of this situation is inadequacy of the existing demographic policy,

which leads to the worsening of the rural population structure and continuation of degradation processes of the countryside. Among other reasons, one should also note the lack of adequate social and living conditions for rural people and the deterioration of the state of health of the rural population and the ecological situation of rural regions. As a result, rural areas lose the ability of proper functioning and reproduction, as well as attractiveness in terms of living conditions and production activities.

Significant changes have been observed with respect to employment of rural inhabitants. The number of rural inhabitants employed in the place of residence shrank from 6.1 million people in 1990 to 2.3 million people in 2005 (or by 62.3%). During the period 1990–2005, the number of rural residents employed in agriculture decreased by 69.1%, in industry – by 77.8%, and in the social sphere – by 37.8%. For rural dwellers employed in the place of residence, the agricultural sector still remains the main sector of employment. For example, in 2005, 13.8% of the rural population worked in agriculture, not considering rural dwellers employed only on household plots. In terms of the attractiveness of the labor market, its real capacity, and income opportunities, villages are in a worse situation as compared with urban areas, where processes of development of productive forces are more intensive and successful (Shepotko et al., 2003).

The number of rural inhabitants who had jobs outside their rural settlements was 1.5 million, or by 11.5% more than in 1990. During the same period, subsistence farming became one of the most important types of economic activities of the rural population. Between 1990 and 2005, the number of rural residents working on individual plots grew by the factor of 11.9 (State Committee..., 2006). This sharp increase occurred because of restructuring of the former collective agricultural enterprises and the substantial reduction of their labor force. The majority of rural inhabitants, who lost their jobs in agricultural enterprises, became small farming operators, due to the lack of other employment and income earning opportunities in rural districts. So, this tendency cannot be estimated as a positive fact. Besides, it is worth noting that, as a rule, individual plots are based primarily on manual labor and have low level of productivity.

During 1999–2007, the rate of rural employment grew from 54.8% to 61.5%, while the rate of rural unemployment dropped from 6.3% to 5.4%. At first sight, these changes could be treated as positive with respect to the rural labor market. However, one has to take into account that, according to the program of survey of economic activities of population in Ukraine, rural residents who are engaged in the individual plots and sell their products at a market (at least, partly) are considered as employed (Institute for Demography..., 2007). Let us also note that the share of rural inhabitants working in the household plot sector has been constantly growing. In 2005, it amounted to 41.0%. So,

the changes of the rates of rural employment and unemployment were mainly connected with the use of the above-mentioned statistical approach. That is why the employment possibilities for rural inhabitants did not improve essentially during this period.

The unfavorable situation is observed with respect to the educational and professional level of the rural residents. This is particularly related to people who work in agriculture. This factor has a negative impact on the reproduction of productive forces, formation of labor supply, the ability to deliver competitive products to the market, and development of non-farm activities in the rural districts (Shepotko et al., 2003). It is worth stressing that the level of unemployment increases not only among the rural inhabitants, who are not competitive in the labor market due to the lack of practical skills or the low educational level, but also among people with the high educational level and professional qualification. So, the economic deterioration of human capital became a serious problem for Ukraine (Borodina, 2003). This deterioration has the following directions:

- the depreciation of knowledge and skills obtained previously and related to the former centralized system,
- the depreciation and the deterioration of knowledge and skills which are not used because of unemployment and the constant release of the economically active population from the production process (Betliy et al., 2006).

Moreover, the rural labor market also includes a significant part of hidden unemployment, which is not taken into consideration by the official statistics. The number of agricultural workers with this type of unemployment is estimated between 1.0 and 1.3 million people (Institute of Agrarian Economics..., 2000). The complicated situation with the rural employment is also connected with the fact that a large share of villages does not have any legal entities engaged in economic activities. For instance, in 2005, this share was 49.3% (State Committee..., 2006). Such tendencies lead to the inability of the majority of rural settlements of carrying out economic functions and bring about destructive processes in the territorial organization of rural areas (Institute of Agrarian Economics..., 2003).

Considering the standard of living of rural dwellers, the attention should be paid to the total rural household revenues. From 2000 to 2006, they rose from 458 to 1497 Ukrainian hryvnias, or by 3.6 times. However, considering the increase of the index of consumer prices by 1.58 times in the same period, the real increase of total rural household revenue was significantly lower. Besides, the ratio between rural and urban households with respect to total revenue dropped from 1.1 in 2000 to 0.9 in 2006. By 2006, total expenses of a rural household increased 2.4 times compared to 2000. Though, as it was also noted

for the total revenue, rural households lagged behind urban households in terms of total expenses. For instance, in 2006, the respective ratio was 1.2. The most significant part of total rural household budget was spent on food, although its share decreased from 74.1% in 2000 to 61.5% in 2006. According to international standards, this budget structure is typical for the population living in poverty. The share of rural inhabitants with average per capita monthly total expenditures below the minimum living wage threshold decreased from 82.6% in 2000 to 63.9% in 2006. At the same time, the ratio of total expenditures of the richest 20% to the poorest 20% of the population rose from 4.0 times in 2000 to 4.2 times in 2006. Although the growth of total revenues and expenditures had a certain positive impact on the level of living of rural inhabitants, it did not lead to significant reduction of the rural poverty rate and income disparity between various groups of rural population.

The food consumption pattern of rural residents changed completely. For the period 1990–2007, the consumption of main food products shrank significantly, including meat and meat products – by 28.1%, milk and milk products – by 27.2%, fruits, berries, and nuts – by 43.2%. In 2007, compared with the recommended rate of food consumption, rural population actually consumed only 61.2% of meat and meat products, 71.9% of milk and milk products, 75.0% of eggs, 66.4% of vegetables and melons, and 28.0% of fruits, berries, and nuts. However, the opposite tendency took place with regard to vegetable oil and bread and bread products, for which the actual consumption rate exceeded the recommended rate by 54.5% and 35.7%, respectively. The main reason of this situation was the lack of adequate incomes of rural residents to ensure sufficient nutrition. Under these circumstances, in order to compensate to some extent for the unbalanced structure of nutrition, rural people were forced to consume other less expensive types of food products. As a result, it caused the decrease of the biological potential and the deterioration of the state of health of rural dwellers, as well as the intensification of the unfavorable demographic processes in rural regions.

The other important factor is provision of rural settlements with technical infrastructure. Despite the slight increase of the quality of housing amenities, villages continued to lag substantially behind urban settlements in this respect. For instance, in 2007, the share of rural households with running water, sewer systems, and central heating was 21.6%, 17.4%, and 26.9%, respectively. The corresponding figures for urban households were 76.9%, 75.7%, and 74.7%. The only exception for rural households was gas supply. The share of households with gas supply grew from 79.4% to 84.5% between 1995 and 2007 (State Committee..., 2008).

The negative trends, which took place in the rural regions, led to the significant reduction of the number of educational, cultural, and medical infrastruc-

ture facilities. In 1990–2005, the provision of rural settlements by pre-school organizations fell from 44.1% to 23.2% and by district hospitals – from 5.1% to 2.6%. During the same period, the share of villages, which had club-houses dropped from 72.8% to 55.3%, and libraries – from 64.8% to 50.9%. The substantial deterioration of the provision of rural regions by social infrastructure could be explained by the fact that the majority of these facilities in the former Soviet Union belonged to agricultural enterprises. These enterprises ensured the maintenance and construction of rural infrastructure facilities. As a result of the farm restructuring, a significant portion of these facilities have been transferred from collective and state agricultural enterprises to the municipal property. According to the existing legislation, at least 0.5% of the gross domestic product should be directed to rural social infrastructure development. Though, due to the constant lack of budget resources, these funds were not provided to rural authorities. Even the maintenance of the existing social infrastructure became highly problematic, not to mention construction of new facilities. For example, in 2005, 26.9% of pre-school organizations, 23.0% of schools, 42.1% of club-houses, and 21.6% of hospitals were in need of capital repairs (State Committee..., 2006). In the period 1990–2007, the volume of construction of the majority of rural infrastructure facilities decreased drastically, including: schools – 12 times, pre-school organizations – 200 times, hospitals – 16 times, and club-houses – 40 times (Borodina et al., 2008).

The situation is also quite complicated with regard to rural roads. In 2005, 7454 rural settlements (26% of their total number), with population of 2.4 million people, did not have hard surface roads at all. Among these villages, 1531 (21%) and 799 (11%) rural settlements were situated within 5–10 kilometers and more than 10 kilometers away this type of roads, respectively. In general, the share of hard surface roads was only 44.5% of their total length in rural districts. The provision of rural settlements with transportation services is at a low level as well. For instance, in 2005, 7.6 thousand villages did not have stops of public transportation; 23% and 6% of these rural settlements were located from the nearest stop within 5–10 kilometers and more than 10 kilometers, respectively. So, the rural transportation system does not create appropriate conditions for development of rural regions.

It should be noted that, up to now, a separate government institution, meant to resolve rural development issues, has not been established in Ukraine. The budgetary financing for the rural development measures is mainly provided through the Ministry of Agricultural Policy of Ukraine. Some other ministries and government agencies also have several programs related to development of rural regions. The significant part of the Ukrainian society has the point of view that socio-economic issues of rural territories should be solved primarily on the basis of the agricultural production. Rural policy is considered only as a compo-

ment of the agricultural policy. The resources for development of rural districts are included in budget expenditures directed to agriculture.

In respect to the budgetary funding, the priority is given to agricultural production (Table 1). In 2007, the largest shares of budget resources were provided to financial support of crop and livestock production (29.0%), training and qualification improvements of specialists and workers for rural production and social sphere (15.5%), and management of the agro-industrial complexes (14.6%). At the same time, only a small part of budgetary funds was allocated for development of rural areas and the solution of rural problems. For instance, just 0.2% and 0.3% of the budget transfers were spent on dissemination of experience and consulting services and development of rural infrastructure correspondingly.

Table 1. The structure of budget expenditures on agriculture in 2004–2007, %

The budget expenditures of the Ministry of Agricultural Policy of Ukraine	2004	2005	2006	2007	2007 (+, -) to 2004
Management of the agro-industrial complexes	18.9	14.1	12.5	14.6	-4.3
The „amber box“					
- financial support for crop and livestock production	13.6	13.3	27.2	29.0	+15.4
- reduction of costs of commercial credit	4.6	6.8	3.6	8.3	+3.7
- planting of young fruit and berry orchards, and hops	3.5	3.4	3.1	3.4	-0.1
- partial compensation of costs of agricultural machinery and fertilizers	12.7	5.2	0.4	3.5	-9.2
- financial support for private farmers	0.2	0.5	0.4	0.5	+0.3
The „green box“					
- research and development, and scientific programs for selected products	2.0	2.2	1.8	1.6	-0.4
- pest and disease control	2.8	2.5	1.9	2.1	-0.7
- crop selection and livestock breeding	4.9	4.3	2.9	2.9	-2.0
- dissemination of experience and consulting services	0.3	0.3	0.5	0.2	-0.1
- development of rural infrastructure	0.5	0.3	0.2	0.3	-0.2
- training and qualification improvement of specialists and workers for rural production and social sphere	19.5	17.0	13.7	15.5	-4.0
Other	16.5	30.1	36.8	18.1	+1.6
Sum	100	100	100	100	0

Source: Borodina et al., 2008.

So, the current situation is characterized by insufficient attention paid to socio-economic conditions of rural territories, including the maintenance and development of social infrastructure, provision of rural dwellers with educational, medical, and utility services, etc. These conditions have a non-commercial nature. Because of the lack of well-defined rural development policy, the majority of the limited budget resources are directed to cover the current expenses of the agricultural production, while only a small portion of funds is allocated to support for the development of rural areas (Moroz, 2007).

Recommendations

The natural question is the following: What measures should be taken to improve the situation concerning development of rural territories in Ukraine? We suppose that to solve rural development problems more effectively, it is expedient to separate rural development policy from agricultural policy. These policies, of course, should by no means be mutually opposed. They can only be regarded as interdependent and supplementary. Though, taking into consideration the above-mentioned peculiarities and the necessity to adapt the rural territories and the rural economy to market conditions, as well as the appropriate experience of countries of the European Union, an explicit rural policy will create better opportunities for implementing a comprehensive approach to the development of rural regions, to promotion of economic growth, and to improvement of living conditions for rural people. The national rural policy needs to have a comprehensive, well-defined long-term strategy. In this context, rural development policy should be based on the following principles (Fig. 1):

- agricultural multifunctionality,
- integrated territorial approach,
- decentralized approach,
- improvement in the quality of rural life.

Agricultural multifunctionality is an important factor, which will provide the basis for reforms and policy changes in the rural sector. Owing to multifunctionality, there will be a possibility of finding an appropriate balance between commercial and non-commercial aspects of development of rural territories. It is necessary for Ukraine to move away from the traditional approach, focused on the agricultural production, to other essential elements concerning agricultural multifunctionality, including food related issues, landscape, and, of course, socio-economic development of rural settlements.

The experience of the EU countries confirms that the traditional sectoral policy does not guarantee the positive results due to the impact of globalization and the growth of competition in the world markets. Thus, the rural policy ought to

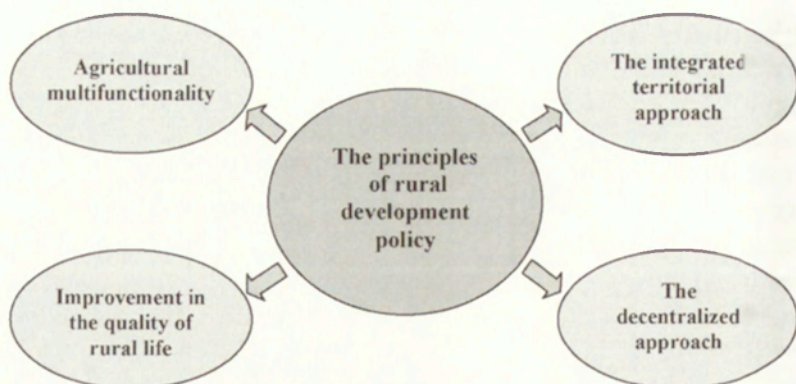


Figure 1. The proposed principles of rural development policy in Ukraine

be directed toward the integrated development of rural areas and resolving their economic, social, ecological, and other issues. To achieve these aims, the long-term rural development program should be elaborated and implemented in Ukraine.

For the coordination of rural development activities at the national level, it is necessary to establish the National Agency for Rural Development. This agency could be also responsible for the introduction of the above-mentioned rural development program. We suppose that all rural development measures should be divided between the axes, as it takes place in the EU countries. This approach will provide a good opportunity for improving the allocation of budget resources and to ensure the effective monitoring and evaluation of the rural development program in Ukraine.

Effective implementation of the rural development program is directly connected with the improvement of the quality of rural human capital. Unfortunately, its current level is quite low. For instance, in 2006, the share of the rural inhabitants older than 25 years with complete higher education was only 9%, while 21% of rural dwellers of the same age group did not have even secondary education (Borodina et al., 2008).

As shown in Figure 2, the level of rural human capital could be improved using the following directions:

- quality of education,
- special educational and training programs,
- extension services,
- LEADER approach.

First of all, the rural educational system has to be enhanced. Its main goal should be development of human potential in rural areas and creation of opportunities for rural dwellers to obtain practical skills, which will allow rural inhab-

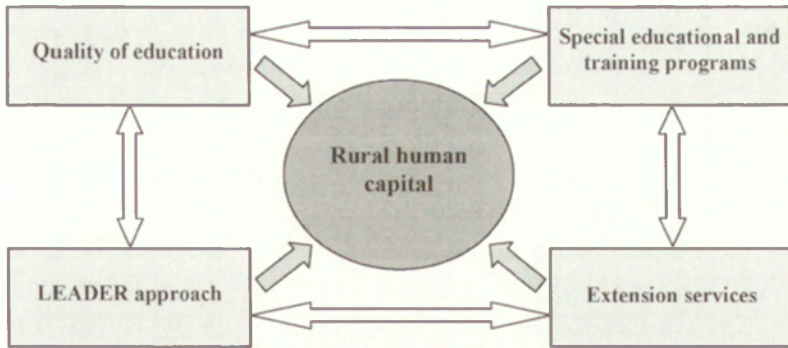


Figure 2. The principal directions of the improvement of rural human capital

itants for finding jobs and earning adequate incomes. That is why educational establishments should pay more attention to practical training of students and their ability to work effectively in current economic conditions.

The subsequent direction for development of human capital is connected with working out of special educational and training programs. These programs should be aimed at the rural unemployed. It is essential to retrain them, in order to give them the possibilities of improving professional skills or acquiring new professions, which are in demand in the rural labor market. Also, appropriate measures should be taken to facilitate development of rural entrepreneurship, including formation of business incubators, introduction of special training schemes and courses related to starting of a business, etc.

Extension services also play a significant role in the enhancement of human capital. They provide a continuous increase of the educational level of the rural population through the transfer of knowledge and practical skills. Besides, extension services include information and consulting functions ensuring proper access of rural entrepreneurs to market information. Let us mention that Ukraine has already had positive experience with regard to extension services (Borodina, 2003; Talavyrya, 2008). It is necessary to continue the formation of the national extension network and dissemination of experience of extension service centers, which operate successfully in Ukraine.

Rural residents should be directly involved in socio-economic transformations of rural territories. The effective implementation of rural development programs will be possible only if rural inhabitants are interested in their realization. Rural inhabitants should become initiators and active participants of rural transformation processes and have real opportunities to influence the decision-making processes. In this context, the necessary precondition is the decentralization of rural development in Ukraine. This could be achieved through implementation of a program similar to the LEADER initiative. This program

has already shown positive results in the EU countries. It is well known that the LEADER community initiative is based on the territorial approach and the integrated innovative strategies for development of rural areas. Besides, the specific feature of the program is the bottom-up approach, giving an opportunity for rural dwellers to participate directly in the decision-making and to select priorities for development of rural regions.

One of the main components of the LEADER program is the local action group (LAG). The structure of the group can be seen in Figure 3. The groups should be formed taking into account the needs of a certain rural territory and ideas and initiatives of the local rural community in this respect. They could be created with the participation of the rural dwellers, local authorities, associations, public organizations, investors, etc. The significant feature for the establishment and further activities of LAGs is to ensure common understanding of the aims by all group participants and the coordination of their joint actions.

From our point of view, the implementation of LAGs in Ukraine should start from special pilot projects. With regard to their potential participants, particular attention ought to be devoted to rural communities that will be really interested in the accomplishment of project tasks and have a considerable potential for development.

The international experience shows that, within the framework of established local action groups, positive changes in respect to the level of cooperation of rural inhabitants, public organizations, and local authorities take place. As

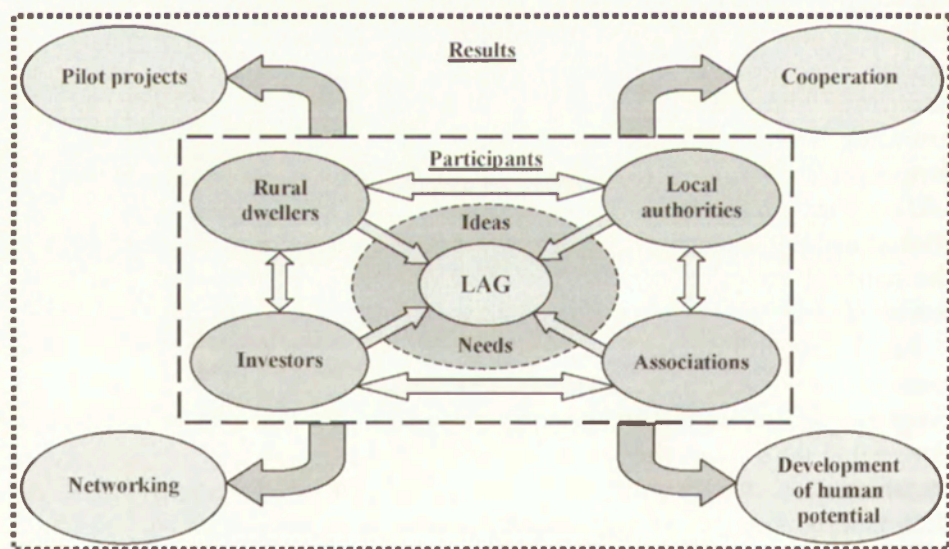


Figure 3. The structure of a Local Action Group

a result, the trust between group participants is gradually built. Besides, this should lead to comprehension that a possibility of the solution of rural development issues depends, to a significant extent, on the ability of the participants to unite, generate new ideas, reach compromises, and attract new participants for the achievement of group goals.

The experience of LAGs will be a basis for development of human potential of their participants. Consequently, it will influence positively on the resolution of issues of rural territories. If the pilot projects are implemented successfully, residents of other rural regions, where such groups have not yet been created, will be interested in studying and understanding the experience and opportunities for the solution of local issues due to the activities of these groups.

The necessity for networking between LAGs in Ukraine will arise at a certain stage of their development. Networking could create favorable conditions for joint actions, concerning discussion of existing rural issues, evaluation of effectiveness of program measures, and working out of long-term recommendations on development of rural territories.

It is important that proposals on creation of LAGs be elaborated by local communities. The use of the bottom-up approach will provide good opportunity for that (Fig. 4). To ensure the integrated development of rural areas,

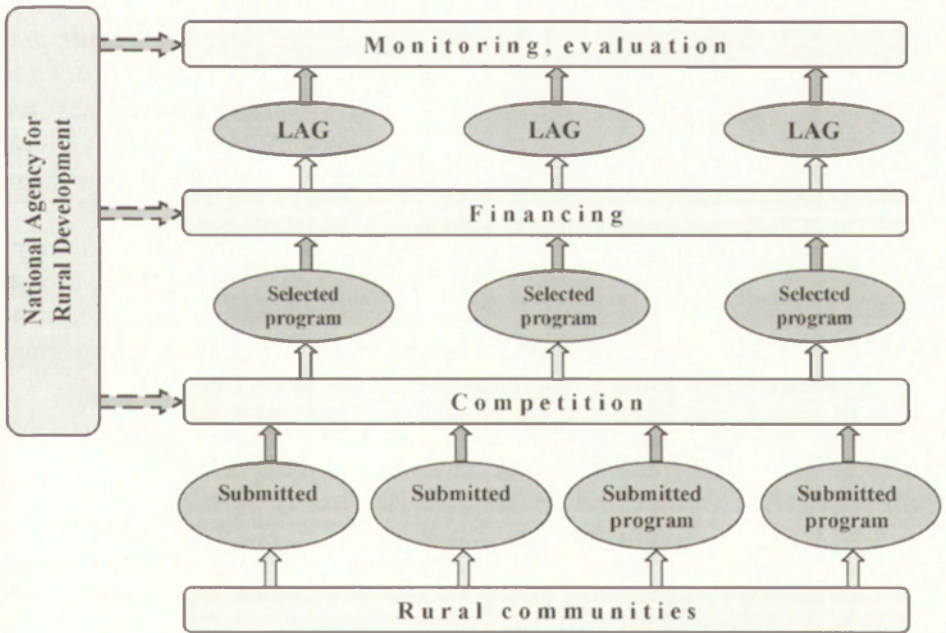


Figure 4. Implementation of the bottom-up approach for promotion of integrated rural development in Ukraine

a clear competition procedure for project selection has to be implemented. In our opinion, the National Agency for Rural Development should be responsible for this procedure.

It should be also mentioned that the monitoring and evaluation system does not exist in Ukraine. At the same time, it is an essential component of rural development policy in the countries of the European Union. This system ought to be introduced in Ukraine as well. It should be used by the National Agency for Rural Development to control and evaluate all rural development measures.

The experience of the LEADER program in the EU countries confirms that the combination of the bottom-up approach and the traditional programs of national and/or local authorities creates proper conditions for integrated development of rural territories. The LEADER approach works well in quite different situations and types of areas (European Commission, 2006). It is also important that this program is supposed to ensure the effective and manageable rural development policy even in conditions of limited financial resources (The World Bank / FAO, 2001).

Conclusions

So, the implementation of a program similar to the LEADER initiative will significantly improve the socio-economic situation of rural territories, create prerequisites for their integrated development, and enhance the quality of rural life in the long-term perspective. Also, introduction of this program will give the possibility for the rural residents to participate directly in resolving of local issues, unlock the long-term potential of rural regions, and improve the effectiveness of the rural development measures in Ukraine.

Thus, we propose that implementation of the well-defined rural development strategies and decentralization of rural development using the approach similar to the LEADER program will allow Ukraine to ensure the development of rural territories, increase the competitiveness and the viability of the rural economy, and to improve the quality of rural life.

References

- Anríquez G., Stamoulis K., 2007, *Rural development and poverty reduction: is agriculture still the key?*, Electronic Journal of Agricultural and Development Economics, FAO, 4, 1, 5–46, <http://www.fao.org/es/esa/eJADE>
- Balanovska T., Hudzynsky S., Zavadsky Y., Zalevsky V., Kosenko V., Maksymuk O., Plonsky V., Prokopa I., Shepotko L., Yarovy V., Yahno

- O., 2000, *The rural sector of Ukraine on the boundary of millenniums*, 1, *The Potential of the Rural Sector*, Institute of Economics of the National Academy of Sciences of Ukraine, Kyiv.
- Betliy M., Borodin S., Borodina O., Feher I., Haydutsky A., Hazners Y., Hulbe I., Karlova N., Lekse O., Mohylny O., Mokshyna P., Moldavan L., Onyshchenko O., Petrechenko V., Popova O., Popp D., Potori P., Prokopa I., Serova E., Shubravskya O., Shyk O., Skurska N., Zinchuk T., 2006, *The agrarian sector of Ukraine on the way to eurointegration*, Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine, Uzhgorod, IVA.
- Bertini C., Schumacher A., Thompson R., 2006, *Modernizing America's food and farm policy: vision for a new direction*, Task Force Series, Report of the Agricultural Task Force, The Chicago Council on Global Affairs, 1–101.
- Borodina O., Betliy M., Feher I., Golovchenko N., Kyrzyuk S., Mykhaylenko O., Popova O., Prokopa I., Rykovska O., Shevchyshyn M., Shyk O., Yahno O., 2008, *State support of the agrarian sphere: evolution, problems*, Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine, Kyiv.
- Borodina O., 2003, *Human capital in the rural area: scientific basis, the current status, problems of development*, Institute of Agrarian Economics of the Ukrainian Academy of Agrarian Sciences, Kyiv.
- Buchenrieder G., Möllers J., Happe K., Davidova S., Fredriksson L., Bailey A., Gorton M., Kancs D., Swinnen J., Vranken L., Hubbard K., Ward N., Juvanèiè L., Milczarek D., Mishev P., 2007, *Conceptual Framework for Analysing Structural Change in Agriculture and Rural Livelihoods*, Discussion Paper, 113, Leibniz Institute of Agricultural Development in Central and Eastern Europe, Halle (Saale), Germany, 1–83.
- European Commission, 2006, *The Leader approach: a basic guide*, Fact Sheet, Directorate-General for Agriculture and Rural Development, Brussels.
- Hubbard C., Gorton M., 2009, *Agriculture and rural structural change: an analysis of the experience of past accessions in selected EU15 regions*, IAAE Mini-symposium „Structural change in Europe's rural regions, Farm livelihoods between subsistence orientation, modernisation and non-farm diversification“, Studies on the Agricultural and Food Sector in Central and Eastern Europe, 49, Leibniz Institute of Agricultural Development in Central and Eastern Europe, Halle (Saale), Germany.
- Institute for Demography and Social Studies of the National Academy of Sciences of Ukraine, 2007, *Population of Ukraine. Social and demographic problems of rural area*, Kyiv.
- Institute of Agrarian Economics of the Ukrainian Academy of Agrarian Sciences, 2000, *Reforming of the rural social sphere: organization and methodical principles*, Kyiv.
- Institute of Agrarian Economics of the Ukrainian Academy of Agrarian Sciences, 2003, *Agro-industrial complex of Ukraine: the present status, tendencies, and perspectives of development*, Information and Analytical Publication, 6, Kyiv.

- Lowe P., Ray C., Ward N., Wood D., Woodward R., 1998, *Participation in rural development: a review of European experience*, Research Report, Centre for Rural Economy, School of Agriculture, Food and Rural Development, University of Newcastle upon Tyne.
- Moroz S., 2007, *Issues and Perspectives of Rural Development in Ukraine*, Economics, Finance, Law, 9, Kyiv, 3–12.
- Nemes G., 2005, *Integrated rural development: the concept and its operation*, KTI/IE Discussion Papers, 6, Institute of Economics of the Hungarian Academy of Sciences, Budapest, 1–52.
- OECD, 2006, *The new rural paradigm: policies and governance*, Paris.
- Ray C., 2006, *Culture economies: a perspective on local rural development in Europe*, Centre for Rural Economy, University of Newcastle upon Tyne.
- Romstad E., Vatn A., Rorstad P., and Soyland V., 2000, *Multifunctional agriculture: implications for policy design*, Report No. 21, Agricultural University of Norway, Department of Economics and Social Sciences.
- Shepotko L., Prokopa I., Hudzynsky S., Yarovy V., 2003, *The rural sector of Ukraine on the boundary of millenniums*, 2, The Social Resources of Rural Areas, Institute of Economics of the National Academy of Sciences of Ukraine, Kyiv.
- Schuh B., Tödting-Schönhofer H., Wimmer H., Lukesch R., Vercauysse J., O'Grady S., 2006, *Synthesis of mid-term evaluations of LEADER+ Programmes. Final report*, Vienna, ÖIR-Managementdienste GmbH.
- State Committee of Ukraine for Statistics, 2006, *Statistical Yearbook of Ukraine in 2005*, Kyiv.
- State Committee of Ukraine for Statistics, 2008, *Statistical Yearbook of Ukraine in 2007*, Kyiv.
- Talavyrya M., 2008, *Organizational and Economic Mechanism of State Support of Development of Rural Territories. Monograph*, National Agrarian University, Kyiv.
- The World Bank / FAO, 2001, *The challenge of rural development in the EU accession countries: Third World Bank / FAO EU Accession Workshop (Sofia, Bulgaria, June 17-20, 2000)*, World Bank Technical Paper, 504, Europe and Central Asia Environmentally and Socially Sustainable Development Series, Washington, D.C.
- Tödting-Schönhofer H., Lukesch R., Bontron J., Ricci C., 2004, *Methods for and success of mainstreaming Leader innovations and approach into rural development programmes. Final report*, ÖIR-Managementdienste GmbH, Vienna, Austria.
- Valentinov V., 2003, *Social capital, transition in agriculture and economic organisation: a theoretical perspective*, Discussion Paper, 53, Institute of Agricultural Development in Central and Eastern Europe, Halle (Saale), Germany, 1–35.
- Ward N., Atterton J., Tae-Yeon K., Lowe P., Phillipson J., and Thompson N., 2005, *Universities, the knowledge economy and the "Neo-Endogenous Rural Development"*, Discussion Paper, 1, Centre for Rural Economy, University of Newcastle upon Tyne, 1–15.

- Wilkin J., Klepacka D., 2005, *Multifunctionality of agriculture: comments, case studies and areas for further research*, Policy Brief, 8, European Network of Agricultural and Rural Policy Research Institutes, Thematic Network on Trade Agreements and European Agriculture, Brussels, 1–2.
- Yakuba K., 2007, *The vital and labor potential of the rural population of Ukraine. Theory, methodology, practice*, Institute of Agrarian Economics of the Ukrainian Academy of Agrarian Sciences, Kyiv.

Jerzy BAŃSKI
Institute of Geography and Spatial Organization
Polish Academy of Sciences
Twarda 51-55, 00-818 Warszawa, Poland
jbanski@twarda.pan.pl

Rural areas of economic success in Poland – diagnosis and conditioning

Abstract. The main aim of the work described here has been to achieve a theoretical understanding of rural areas of economic success, as well as the factors stimulating economic progress in the Polish countryside. The search for rural areas of success involves space which is not in general „susceptible” to economic success and in most senses constitutes Poland’s economic periphery. Thus, to be successful in the meaning of this study, an area should be characterised by a positive course to socioeconomic processes, which are promoting or strengthening the development of the said area’s spatial and functional structure.

The research carried out shows that the most success-prone rural areas are those situated around large cities. The further towards the periphery an area is located, the more difficult it becomes for it to achieve any economic success not associated with agricultural activity.

Key words: economic success, economic development, regional disparities, rural areas, Poland

Introduction

Work on disparities to levels of regional or local development usually identifies two mutually-exclusive categories of area, i.e. the area of growth and the area of economic stagnation or decline. While areas of growth enjoy dynamic economic development, migratory influxes of people, increasing prosperity and multi-functionality, areas of decline – often dubbed problem areas (Bański, 2001) – suffer from high levels of unemployment, an unfavourable demographic structure, outflows of population, monofunctionality and outright poverty. Such a duality, and indeed a bipolar system, where areas are concerned characterizes most of the basis work done on regional development (Myrdal, 1957; Friedmann, 1966; Hirschman, 1958, Williamson, 1965), as well as different but

associated theories of labour (Demesick and Wood 1987; Lloyd and Dickens 1972; Hanington 1976; Henderson et al., 2001; Kenny and Williams, 2001; Robinson, 1969; Stohr and Taylor, 1981). The idea is present in the concept of poles of growth from F. Peroux (1955), the central-peripheral model of J.R. Friedmann (1966), equilibrium theory, and the theory of polarised development and the classification of regions after L. Klassen (Friedmann and Wiever, 1979). Between the two categories of region referred to, it is with areas of growth that economic success is associated.

The issue of economic growth is of particular importance in the Central and Eastern parts of Europe, since the levels of socioeconomic and civilisational development here lag significantly behind those in the west of the continent. The collapse of the Iron Curtain some 20 years ago kicked off the economic transformation in the formerly communist countries from the centrally-planned to the market-orientated liberal open to global processes. This was associated with dynamic social and economic phenomena, albeit ones primarily concentrated in relatively the best-developed regions (Bański, 2005b, Gorzelak et al., 1999; Ingham and Ingham, 2002; Ira, 2005; Nagy, 2005). As a result, the last 10 or so years have witnessed ongoing spatial polarisation, i.e. an increase in developmental disproportions between metropolitan areas on the one hand and their surroundings on the other (Beluszky and Gyori, 2005; Marada et al., 2006; Szekely, 2006).

The main objective of the work described here has been to identify the economically successful rural areas that are present, along with the factors stimulating such progress in the Polish countryside. The research was carried out at the level of the *gmina* (i.e. the local authority areas in Poland – NUTS-5 level), the statistical material deriving from the period 1995–2005. The search for rural areas of success has entailed the perusal of space not obviously prone to that success, and in general regarded as peripheral economically. Any areas of success that were found were thus taken to be of particular importance, inasmuch as that they might serve as models for other rural areas seeking out the factors of their own that might activate them economically.

Regional and local areas of success – theoretical aspects

The original factor behind the emergence of areas of success is the regional or local inequality of disparity. Such areas are an element in the theory of poles of growth, wherein the growth centres are deemed to be urban areas experiencing dynamic economic development, a concentration of socioeconomic life and a capacity to export growth to areas in the vicinity (Darwent, 1969; Nicholas, 1969). Agglomerations are capable of generating growth on account of their size,

and the way in which they concentrate economic potential. The overall conclusion is that economic success is first and foremost associated with urban areas.

The allocation of economic potential under the central-peripheral model in turn indicates that economic success is most associated with the core, this being marked by its high development potential and capacity to generate innovation. Peripheral regions enjoy only much more limited opportunities. The opportunities for economic success to be generated are seen to decline with greater distance away from core regions and in the direction of peripheral ones. However, not all peripheral areas are condemned to economic stagnation or degradation. In line with their development potential, J. Friedmann (see Berry et al., 1976) singled out upward transitional peripheries to be regarded as areas entering the growth phase, and hence capable of achieving success.

In turn, the classification of regions after L. Klaassen sees areas of success as those in which there are adequate resources as opposed to shortfalls as regards resources during the development phase (Friedmann and Wiever, 1979). A „prosperity area” is one that is highly-developed already, but still developing dynamically, while a „distressed area in the process of development” is a weak one in which there is nevertheless marked development potential, this allowing for rapid development to take off. More spectacular examples of economic success are to be expected in the second type of area, precisely because the development kicks off from what is such a very low level at the outset.

In theory at least, the greater the spatial disparities within a country or selected region are, the more distinct and easy-to-identify the areas of success will be. In the spatial sense, economic success is „the progeny” of uneven regional development. A success area is an element inherent to the theory of cumulative causality, which assumes an increase in regional disparities, as well as the theories of polarised development or of equilibrium, which deal with the evening out of developmental differences.

Assuming there is free movement of capital and labour between rich (A) and poor (B) regions, the equilibrium theory would anticipate the onset of investment flow between A and B, while the workforce heads from B to A (Nagle and Spencer, 1997). It is in this way that disparities between regions will come to be reduced. Such processes will boost the development of both A and B, but it will mainly be in region B that economic success becomes observable. With time, the attainment of equilibrium will ensure the evening out of differences in the developmental dynamic.

The theory of polarised development in turn envisages a first stage of economic development in which economic success will mainly characterise region A (as a centre of growth). Only at a further stage (following the influx of innovation), will growth concentrate in region B. In line with the theory of cumulative causality, in turn, region A will experience a shift to compensate for high

labour costs, while the outflow of the workforce from region B will be limited by the high costs of the outflow to region A. Developmental disparities may grow in this way, with advancement experienced in region A, which will come to stand out ever more visibly against the background of region B.

On the regional and local scales, it is urban centres that play a particular role among the areas of success. Cities, as national, regional or local centres of development, are very much slated for that success. Of course, the size of the centre involved plays a major role here, success being easier to achieve in cities large enough to generate development internally and then draw in social and economic goods from their surroundings. Economic success becomes a much more difficult proposition in small towns and rural areas in which both internal potential and the capacity to attract investment are relatively limited. However, in seeking out such areas, one must abandon the regional scale in favour of detailed, local-scale studies.

Rural areas of success may be classified by reference to spatial, subject-related and temporal criteria. Furthermore, by bearing in mind the scale of ongoing phenomena, it is possible to draw a distinction between local and supra-local areas of success (the former comprising several gminas or villages, the latter a large complex). Another important factor obviously involves the geographical locations of rural areas of success, since the nature and type of the economic activity that can feasibly be engaged in depends greatly on location vis-à-vis large urban centres and main transport routes. The types of economic phenomena present in rural areas near agglomerations and those in peripheral areas are obviously different. In the Polish case, the former tend to move in the direction of multifunctionality, with the importance of farming in steady decline (Bański and Stola, 2002). In contrast, traditional rural areas remain dominated by agriculture, as often augmented by forestry and tourism. The situation is very much similar in other CEECs (Ilieva and Mladenov, 2003; Rusu and Florian, 2003; Vaishar, 2008).

Another sort of division of success areas reflects the types of economic activity that start up. Where rural areas are concerned, these will mainly be connected with farming or else centre around non-agricultural activity. The first type is associated with such a development of agriculture as allows farmers to achieve the goals for production they set themselves, with the result that the significance of the agricultural function in an area's economy actually increases. The second type of area more obviously involves success with diversification, i.e. the development of non-agricultural functions.

Economic success also has its different sources. Most generally, a distinction can be drawn between internal (endogenous) and external (exogenous) sources of success, with the former including social potential or capital and economic potential, the latter primarily interventions from outside (including investment,

support and assistance) that seek to stimulate the area, or allow for the expansion of innovation out of higher-order areas within the economic hierarchy. Economic success may theoretically arise from exclusively internal or external sources, but it is usual for it to reflect a combination of both.

Results

Method of identification

The identification of rural areas of success entailed the selection of features diagnosing population phenomena, living conditions, and the level of socio-economic activity among inhabitants. These are the issues addressed most often in the literature on rural development (e.g. Fukuyama, 2003; Raminiceanu and Ackrill, 2007; Johnson and Raster, 1995; McQuaid, 1997; Slangen et al., 2004; etc.). Among the measures representing the features in question were:

- the size of a gmina's population,
- the utilisable area of dwellings,
- the length of water-supply pipelines,
- the number of businesses registered within the country's private sector,
- gmina own income.

Change in the value of a feature in successive years was assumed to signify economic progress if it was more favourable than the national average value. Most of the values for measures displayed year-on-year rises in Poland in the years 1995–2005, though this was not true of population, which began to decline steadily after 1998. There were also individual cases of declines in the amounts of income obtained by gminas, and the numbers of private-sector businesses (Tab. 1).

The procedure used in delimiting areas of success is described as follows. A uniform database was established for all rural gminas, this compiling data on the five measures referred to, and taking in the successive year intervals of the 1995–2005 period. Each gmina was then compared for the changes in values of the measures across the 10 time intervals 1995–1996, 1996–1997... 2004–2005. The differences arising were expressed in relative terms via the $A_{ij}(t_k)$ index, as calculated using the formula:

$$A_{ij}(t_k) = \frac{100R_{ij}(t_k)}{a_{ij}(t_k)}$$

where: $R_{ij}(t_k) = a_{ij}(t_k, 1) - a_{ij}(t_k)$

$a_{ij}(t_k)$ being the value of the measure i (1, 2, ..., 5) in unit j for period t (1, 2, ..., 10),

$k \{0, 1, \dots, 10\}$ being time indices,

t_k being successive years (1995, 1996, ..., 2005)

Table 1. Year-on-year changes in selected diagnostics features over the period 1995–2005 (values averaged for Poland and expressed in percentage terms)

Year	Population size	Utilisable area of dwellings	Length of water-supply network	No. of private-sector business entities	Gmina own incomes
1995/1996	0.079	0.776	8.609	0.0	34.458
1996/1997	0.083	0.919	8.494	7.770	29.381
1997/1998	0.042	1.033	6.217	9.166	10.730
1998/1999	-0.032	0.956	4.548	6.622	70.988
1999/2000	-0.019	1.046	4.144	4.397	6.059
2000/2001	-0.013	1.215	2.926	4.164	7.061
2001/2002	-0.058	9.142	3.065	4.137	3.565
2002/2003	-0.097	7.669	3.348	3.126	1.167
2003/2004	-0.039	1.059	2.957	-0.278	23.804
2004/2005	-0.050	1.093	2.685	1.037	-47.105

Source: author's own calculations on the basis of Central Statistical Office data.

In the same way, using the index $A_i(t_k)$, a calculation of the change in the value for the said feature in the country as a whole was made, the next step entailing the normalisation of calculated values for the measures. Thus the values of all indices $A_{ij}(t_k)$ were normalised, it being assumed that, should the value of index $A_{ij}(t_k)$ exceed the averaged value for the index $A_i(t_k)$ in the country as a whole, a rank of 1 would be obtained, as opposed to 0 in the converse situation. In other words, a change more favourable than the average for the country obtained rank 1, while an unfavourable change, or one corresponding with the national average was ranked 0. This process may be expressed in the form of a logical function:

$$\begin{aligned} \text{if } A_{ij}(t_k) > A_i(t_k) \text{ to } Z_{ij}(t_k) &= 1, \\ \text{if } A_{ij}(t_k) \leq A_i(t_k) \text{ to } Z_{ij}(t_k) &= 0, \end{aligned}$$

where $Z_{ij}(t_k)$ is the normalised value of the index $A_{ij}(t_k)$.

The final step was the designation of the rank-sum S_i in the different units, i.e. the summing of assigned ranks for all five indices across the 10 time intervals. The process is expressed by the formula:

$$S_i = \sum_{k=1}^{10} \sum_{j=1}^5 A_{ij}(t_k)$$

The sum S_i can assume values between 0 (where none of the indices across the 10 time intervals achieved values above the national average) and 50 (where all of the indices in all periods exceed the national average).

All the rural gminas were divided among five groups:

- A – trends to changes consistently negative – index $Z_{ij}(t_k)$ in the range 0–2, or S_i 0–10,
- B – trends to changes mainly negative – index $Z_{ij}(t_k)$ in the range 2–4, or S_i 10–20,
- C – mixed trends to changes – index $Z_{ij}(t_k)$ in the range 4–6, or S_i 20–30,
- D – trends to changes mainly positive – index $Z_{ij}(t_k)$ in the range 6–8, or S_i 30–40,
- E – trends to changes consistently positive – index $Z_{ij}(t_k)$ in the range 8–10, or S_i 40–50.

Diagnosis of the changes

Population size

Through almost the entire post-War period, the Polish countryside witnessed major outflows of population, albeit ones compensated for by relatively high levels of natural increase. The result was for the population in rural areas to be maintained at a rather constant level. In this way, the 15,597,000 people living in rural areas in 1946 represented 66% of the then national population, while the 14,619,000 rural residents of 2002 accounted for just 38% of the overall Polish population.

As rates of natural increase have become lower and lower, an ever greater role in the spatial differentiation to population size has been being played by processes of migration. The largest and most identifiable group to migrate from the countryside to urban areas comprises the young, well-educated, and hence economically active. Villages are most often left because of the low incomes there, the unsatisfactory extent to which technical and social infrastructure has been made available, the burdensome nature of the jobs to be had, the social barriers present, the hindered access to education and culture, and difficulties with finding a partner to found a family. The result of all this is ageing of the rural population, and hence a further slackening off of the rate of natural increase.

To the extent that the outflow of people from rural areas was stemmed after 1989, this was a reflection of labour-market constraints. Beyond that, there was the simple fact that the „supply” of mobile populace in many rural areas had by then „dried out”. Either way, the 1990s brought an overall decline in the rate of migratory outflow from rural areas. However, a new stage was reached at the end of the 1990s, with the first signs of a reversal of migratory trends – i.e. the

onset of urban-rural migration (Fig. 1). In spatial terms, the change was not a marked one, however, as most rural areas continued to experience limited outflow of people, the influxes being largely confined – and particularly dynamic – in villages located in the vicinity of the large agglomerations.

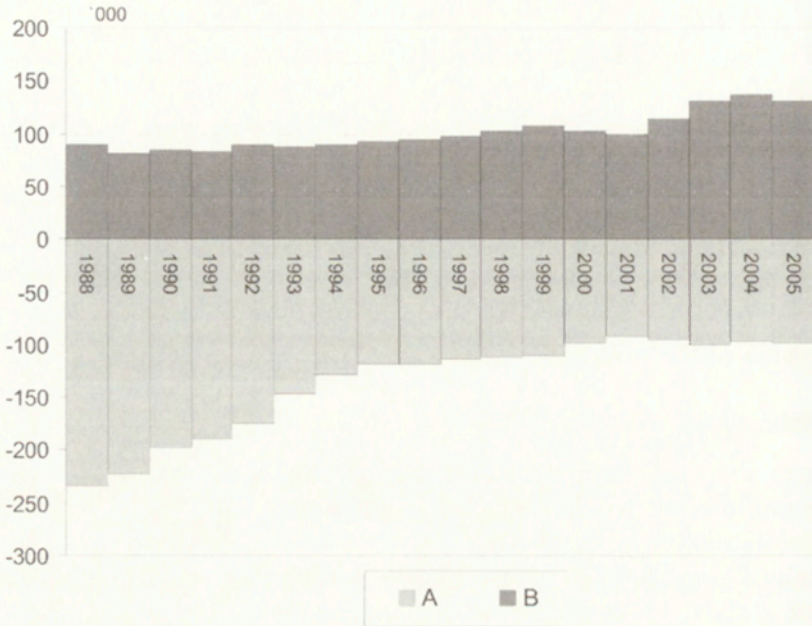


Figure 1. Influx of population in the rural-urban (A) or urban-rural (B) directions in the years 1988–2005
Source: author's own presentation based on Central Statistical Office data.

Thus changes in population affecting rural areas in recent years have been in two directions. Suburban zones have come to be characterised by positive migration balances, the values becoming ever smaller further and further towards the periphery. In contrast, areas more distant from towns and cities, or with hindered transport or communications access have in general maintained negative values for their balances.

Utilisable area of dwellings

The period 1995–2005 saw a slow rise in the utilisable area of dwellings. The increase to be noted in rural areas was greatest in suburban areas around large urban agglomerations. These are areas of intensified construction work, both reflecting and stimulating outflows of inhabitants from the cities. In recent years, the „Big 5” (Warsaw, Poznań, Kraków, Wrocław and the Tri-City) have accounted for some 25% of all the living space given over for use. Relatively large increases in the utilisable area of dwellings in rural areas have characterised

the western part of Małopolska region (Małopolskie voivodeship) as well as the Kaszuby region near the Tri-City, these being areas in which population has itself increased. Elsewhere, figures for the increase were in fact lower than the average for Poland as a whole.

Development of the network of water pipelines

The redevelopment of infrastructure in general has been favoured by the enfranchisement of local authorities and the influx of EU funding. Activity of this kind has likewise been seen as a priority by local authorities, and an analysis of their investment outlays confirms that the construction of wastewater treatment plants, water supply networks and sewerage have been of cardinal importance in the recent period.

In the last decade, it is the water-supply network that has developed most intensively of all – this being of basic significance. By the end of the 1990s, the primary needs in respect of running water had been met – allowing for a shift in emphasis to spending on sewers. The period of the transformation did thus witness a „great leap forward” when it came to both the quantity and the quality of the water supply.

Businesses

The level of economic activeness among country-dwellers increased with the introduction of the market economy in Poland. However, in the face of declining farm incomes, it was to finding new sources of upkeep that most rural areas had to turn their attention. The number of economic entities registered in rural gminas increased from around 370,000 in 1995 to 600,000 in 2005. This remains a modest number when set against the towns and cities, though the rise over the decade was comparable in relative terms (Fig. 2).

The largest relative increases in numbers of businesses in fact characterised the peripheral areas, in which economic activity had previously been very scarce. For comparable reasons, the relative increase in the number of registered entities was smallest in suburban areas.

Own incomes

The own incomes of the gminas (local authority areas) derive from taxes, fees and charges, a share in the taxes feeding into the state budget, the incomes of budgetary units, interest on financial means and interest from gmina-owned assets. Among these various sources it is income from taxes and the charges paid by private persons and businesses that are of the greatest significance. The level of income of a gmina is thus a good indicator of overall economic activity and the quality of social capital.

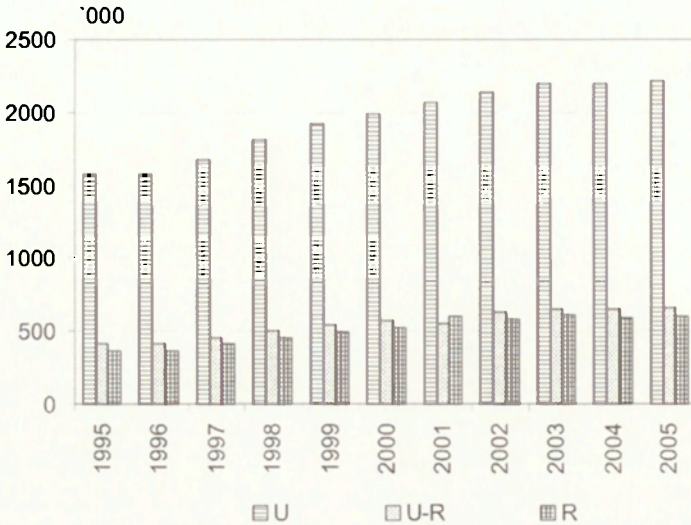


Figure 2. Change in the number of private-sector business entities in the years 1995–2000
 U – urban gminas, U-R – urban-rural gminas, R – rural gminas

Source: author's own presentation based on Central Statistical Office data.

A very small number of gminas witnessed an above-average increase in levels of own income in the studied decade. The group includes just 24 rural gminas first and foremost located in the vicinity of the Poznań and Warsaw agglomerations. Gminas with a prevalence of positive trends to changes are distributed evenly across the country, making it difficult to point to a single contiguous area in which there have mostly been rises in the level of gmina own incomes within gmina budgets. Relatively the greatest numbers of such units are located in the vicinity of large cities, however.

Spatial identification

Spatial analysis of the changes characterising the five diagnostic features made it possible to identify the so-called rural areas of success. The greatest concentrations of these are to be found around Warsaw and Poznań, as well as in the Kaszuby region (areas inland from Gdańsk, etc.) and in the south-western part of Małopolska (Fig. 3). Small concentrations of gminas whose development can be said to be progressing are also present near other urban agglomerations.

The identification of the areas of success was followed by detailed research on the gminas so identified. Eight units in different parts of the country were selected for study, the fieldwork done in them allowing a wealth of empirical material to be gathered on the subject of how economic success is conditioned. The work mainly relied on interviews with representatives of the local authori-



Figure 3. Rural areas of success and the locations of gminas (local authority areas) selected for further detailed study

ties, as well as expert analysis of the relevant scientific literature and statistical databases.

The conditioning of economic success in rural areas – a discussion

Only rarely has the scientific literature turned its attention to the conditioning of economic success in rural areas. One of the few such studies was by J. Ferguson (2003), who was able to single out six factors underpinning the success of rural areas in India, i.e. the sustainable utilisation of local resources, knowledge empowerment and management, sustainability, gender empowerment, commu-

nity involvement and technologies as tools. In turn, A. Papzan et al., (2008) identified the factors behind the success of economic undertakings in the vil-lages of Iran. The latter were found to include: innovation, motivation of need for achievement, and an internal locus of control and marketing. In their work, L.A. Coulson and D.L. Darling (1996) were able to show that the principal fac-tor conditioning success was the level of activity and optimism displayed by local leaders, as well as the support for the said activity extended by local busi-nesses and inhabitants. In turn, a Regional Women`s Advisory Council report (*The Success Factors ...*, 2001) had on its list of factors capable of conditioning success, work for the common good, the protection of the environment and natural resources, the attracting of new business, the promotion of existing enterprises, support from governmental institutions, strong local leaders, the safeguarding of job opportunities for future generations, innovation, and the raising of professional qualifications.

In the present study, the fieldwork allowed for the compiling of a long list of factors underpinning economic success, albeit ones that could be assigned to one of four main groups involving location-related advantages, social capital, economic factors and technical, technological and organisational conditioning. Within each group, it was possible to point to factors playing leading or second-ary roles, as well as to other factors whose significance in generating success were of more of a local than universal character (Tab. 2).

Table 2. Factors underpinning economic success in rural areas

Factors	Location-related advantages	Social capital	Economic factors	Technological, technical and organisational conditioning
Leading factors	the proximity of cities	inhabitants' levels of education	inhabitants' level of economic activeness	outfitting in infrastructure
Secondary factors	<ul style="list-style-type: none"> □ features valuable in tourism 	<ul style="list-style-type: none"> □ social activity □ level of spontaneous organisation of inhabitants □ openness to innovation 	<ul style="list-style-type: none"> □ inward investment 	<ul style="list-style-type: none"> □ efficiency of the local authority □ promotion of the gmina
Other factors	<ul style="list-style-type: none"> □ communications accessibility □ the raw-materials base □ natural conditions 	<ul style="list-style-type: none"> □ the upholding of tradition □ the ethos of work for the community 	<ul style="list-style-type: none"> □ state aid 	<ul style="list-style-type: none"> □ the degree to which planning documents are up-to-date □ the degree to which new investors are made welcome □ local authority succession

Location-related advantages

An attractive location is an element of fundamental significance to the economic success of rural areas. However, this concept needs to be understood in a very broad sense. Attractiveness is a feature that may characterise areas adjacent to large urban agglomerations and important transport routes, areas of the occurrence of natural resources or assets, and areas with valuable natural, cultural and tourist features. Favourably located gminas are areas in which various positive social and economic trends coincide.

As has been suggested, success is first and foremost enjoyed by rural areas located in the vicinity of large urban centres. Through dynamic development and the adoption of urban patterns of activity, these areas lose their rural character steadily and are incorporated into the „organism of the city” (Bruegmann, 2005; Dahms and McComb, 1999; Gutry-Korycka, 2005; Pryor, 1968).

Location goes a very long way to determining the economic functions a given area can reasonably serve. Multifunctionality tends to characterize areas in the vicinity of large cities, for example, though the leading roles go to housing and services, which are both functions stimulating economic development. An attractive location for a gmina is in many cases the most important, decisive element that generates the other (mainly economic) factors behind economic success.

The success of suburban gminas is also to be attributed to the development of housing construction, above all single-family. The intensity at which new building is taking place is very much a function of the size of the adjacent urban centre and the area's distance from it. Housing construction concentrates close to the main transport arteries, along which a belt of enhanced economic activity is to be found. The new housing estates in such places attract a stream of former city-dwellers, who are well-educated, wealthy and „demanding” – all circumstances that propel along the development of services, commerce and infrastructure, as well as reinforcing the social factors underpinning success.

In a sense, the suburban areas in question can be deemed „doomed” to success. In fact, the term looks all the more appropriate when it is recalled that their very growth has certain threats inherent in it – most especially those associated with over-development and overpopulation. Before long, the transport system may prove inadequate to the new situation, ensuring that the commute to the city becomes obstructed, journey times to work and school increasing as a result. Moreover, the new estates may be so urban that they degrade the very rural landscape that had proved attractive in the first place. Furthermore, architects have been allowed so much freedom that they have seen fit to introduce elements of built infrastructure that seem entirely alien to the rural landscape.

Social capital

In the opinion of the local leaders, a high level of education achieved by inhabitants is the most important component element to a gmina's social capital. Well-educated people are more socially and economically active and are open to new ideas. At the same time they have greater expectations and requirements in relation to the world around them. The well-educated are inclined to assess the changes taking place in the country more favourably, and are better-disposed to think of the future in this way, irrespective of the region of residence (Bański 2005b).

A high level of community activity on the part of inhabitants was one of the factors underpinning success in the studied gminas to be mentioned most frequently. Among the manifestations of this were a high turnout at local council meetings and a tendency for people to come forward with valuable social initiatives subsequently put into effect by the gmina. Also important are various grassroots initiatives whereby associations are set up to engage in varied socio-economic activity helping or otherwise promoting the gmina resided in. As of the years 1995–2006, the number of NGOs per 10,000 head of population increased from 1.2 to 18.9 in rural areas. These are very positive changes, attesting to the fact that the rural populace is more and more aware of its role in shaping decisions concerning its own future.

Economic factors

A high level of economic activeness on the part of inhabitants can go some way towards compensating for unfavourable location factors. Once an investor with larger amounts of capital has somehow been attracted, the way is clear for the face of a gmina to change, with dynamic development then being ushered in. Economic activeness is here taken to mean, above all, the skill to start off in new undertakings that lead development away from agriculture only – into services, tourism, housing, small-scale production and crafts. Here there is a particular role for the so-called local or community „leaders”, since their economic activity more often than not serves as a model for other inhabitants of a gmina to follow.

Small entities also have an important role to play in developing a gmina, since they often cooperate closely with one another, establishing their own kind of network of linkages. Where large enterprises are for some reason dominant, this kind of local-level entrepreneurship may tend to be stifled, inevitably being subordinated to the needs of the predominant business present in the community.

It is true to say that the last 10+ years now have seen the dynamic development of non-agricultural business entities in rural areas. Country people are thus becoming much more active economically. Nevertheless, the rural households engaging in non-agricultural activity remain a very small sub-group at this stage.

The most important of the non-agricultural activities are in services, followed by trade and small-scale production. Once again, however, those services and small-scale production activities are primarily concentrated in suburban areas and satellite villages, first and foremost thanks to the location decisions taken by enterprises in construction, transport, repair and wholesaling (Bański, 2005a). Non-agricultural economic activity can locate close to cities because the technical infrastructure is more favourable, and because inhabitants tend to be better educated. Indeed, it is typical for entrepreneurs to seek at some point to „escape” from large cities to suburban areas, these having lower land prices and often been associated with tax breaks.

Among the external investments, the most important are those located by large enterprises in production, trade or services, or housing. These provide for a gmina's economic activation, serving as a source of income for the budget and improving the employment structure. In most of the gminas studied, dynamic development had been kicked off by the appearance in the area or its immediate vicinity of some large single investment.

Unfortunately, larger investment outlays are a rarity in rural areas, at least away from the gminas close to the larger cities. This mainly reflects the lack of a qualified workforce and a poor level of equipping with technical infrastructure. Construction companies and firms of developers are an important group of external investors, but their attention is again focused in suburban and recreational (second-home) areas.

Technical and organisational factors

These play an important role in a gmina's search for new investment and hence promoted economic development. Where these processes have advanced little, there is practically no chance of a gmina achieving economic success.

If the presence of technical and social infrastructure is essential to the achievement of economic success, we can at least note progress in this area over the last decade, with development of the infrastructural networks clearly tending to reduce disparities from one area to another. Mains water, sewerage and modern wastewater treatment are now pretty much standard, though the gas-supply system remains subject to disparities, being primarily accessible in the most densely-populated areas.

Economic success is obviously most likely to be generated where the road system provides for efficient and rapid journeys to work and school, as well as to places where foods and services are purchased. Nevertheless, the virtual, teleinformatic, system is also of growing importance, above all where access to broadband Internet is concerned.

Up-to-date and binding planning documents underpin all investment in production, services, commerce, housing, etc., hence the frequency with which these are invoked as factors behind economic success. To put it bluntly, a gmina possessing a plan guaranteeing inexpensive designation of land for production or construction may enjoy a competitive advantage over other administrative units in its vicinity.

Where gminas are covered by physical development plans it is made easier for developments to be put into effect. Return times are thus shorter and the spatial order is more likely to be retained. Plans also serve as a guarantee to investors when it comes to the future directions to a gmina's development, as well as the places it is designating for further investment.

Another success factor mentioned often is the efficiency and activeness of "local leaders". What is being alluded to here is activity in seeking out sources of funding – combined with the ability to make use of it once it has been found, an investor-friendly attitude and ability to negotiate, efficiency as a manager, and the skill to promote the gmina and engage in effective marketing activity. In a nutshell, those representing the local authorities need to be well versed in modern management techniques, while at the same time possessing the traditional attributes of a full and sound knowledge of local conditions, people and problems. A further conclusion here would involve the importance of succession among those in authority, as well as gradual advance through the local hierarchy from lower through to higher offices.

Summary

Contemporary social and economic development in Poland is putting in place the conditions favourable to economic success. This is equally true of individual undertakings and comprehensive action taken in a given area. The work described here has studied areas of economic success from the spatial point of view. It has been accepted that successful areas are those displaying a promising course of socioeconomic processes, in that spatial structure is being stimulated and/or strengthened. Above all, the said development must be noticeably in advance of that to be noted in neighbouring areas.

Economic success is shown to relate to urban areas first and foremost, the development here being very intensive. Even within his category, it is the large

cities that are found to be doing best, since they have been best placed to take advantage of Poland's post-1989 economic transformation. This is not to say that development has left the rural areas and small towns of Poland untouched, but merely to note that the process has been much slower in these areas. In consequence, recent years have witnessed an accelerating spatial polarisation process, with growing disparities in levels of economic development between regions, and along the urban-rural continuum.

When it comes to the rural areas exemplifying economic success, we must look primarily at those concentrated in the vicinity of large urban agglomerations. There are very few gminas characterised by success in the country's more peripheral areas.

Thus, according to the work detailed here, economic success is most likely to arise in the rural areas surrounding large cities. These are basically „condemned” to success by the accumulation within them of a series of favourable phenomena both social (migratory influxes and consequent high levels of activeness among inhabitants) and economic (inflows of investment, intensive building activity, effective outfitting in infrastructure and the proximity of large markets for goods, services and labour).

The further towards the periphery, the more difficult will be the achievement of economic success not associated with agricultural activity. Rural areas located further from the national or regional economic centres are markedly less attractive to investors, and have more limited chances of developing non-agricultural economic functions. For economic success to ensue, a number of favourable conditions need to be in place.

Fieldwork carried out in 8 gminas identified the most important factors underpinning success, these dividing into groups concerned with the benefits of a good location, social capital, economic factors and technical, technological or organizational factors. The location factor mentioned most often was proximity to a large agglomeration, while the most important aspect to social capital was found to be a high level of education of inhabitants. Among the economic factors, it was economic activeness that was crucial, while the presence of technical infrastructure was foremost among the organisational factors. Beyond that, the roles and importance of the different factors in generating success have to be said to vary markedly. Ideally, all of the factors mentioned should be present, but in practice one or two factors usually played a leading role, being merely supplemented by the others.

Notwithstanding attempts made over 10+ years to achieve a balancing of economic development, an ever faster process of spatial polarisation is what is actually being observed. The levels of economic development are more and more disparate between regions, among which growth regions, regions of stagnation and regions of regression can be singled out. Work on regional-level dif-

ferences described here emphasises how economic development is at its most dynamic in metropolitan areas, while rural areas (especially peripheral ones) suffer from a number of social and economic problems. It is crucial that these be fully and properly identified ... and then solved. One way in which this objective might be achieved is via the study of larger areas that are achieving economic success. It would be in this way that an understanding of how success is generated could come to contribute to the addressing of unfavourable social and economic phenomena. Areas of economic success would then be serving as examples which other rural areas could emulate.

References

- Bański J., 2001, *Problem areas in Polish agriculture*, *Geographia Polonica*, 74 (1), 47–63.
- Bański J., Stola W., 2002, *Przemiany struktury przestrzennej i funkcjonalnej obszarów wiejskich w Polsce*, *Studia Obszarów Wiejskich*, 3, PTG, IGiPZ PAN, Warszawa.
- Bański J., 2005a, *Suburban and peripheral rural areas in Poland – the balance of development in the transformation period*, *Geograficky casopis*, 57 (2), 117–130.
- Bański J., 2005b, *Przestrzenny wymiar współczesnych procesów na wsi*, *Studia Obszarów Wiejskich*, 9, PTG, IGiPZ PAN, Warszawa.
- Beluszky P., Gyori R., 2005, *A slow response system: the urban network*, [in:] G. Barta, E. Fekete, I. Kukorelli-Szorenyine, J. Timar (eds.), *Hungarian Space and Places: Patterns of Transition*, Centre for Regional Studies, Pecs, 378–396.
- Berry B.J.L., Conkling E.C., Ray D.M., 1976, *The Geography of Economic Systems*, Prentice-Hall Inc., Englewood Cliffs.
- Bruegmann R., 2005, *Sprawl, a compact history*, The University of Chicago Press, Chicago-London.
- Coulson L.A., Darling D.L., 1996, *Coping Strategies of Successful Rural Communities*, *Agricultural Experiment Station*, Report 754, Kansas State University, Manhattan.
- Dahms F., McComb J., 1999, *Counterurbanization, interaction and functional change in a rural amenity area – a Canadian example*, *Journal of Rural Studies*, 15 (2), 129–146.
- Darwent D.F., 1969, *Growth poles and growth centres in regional planning – a review*, *Environment and Planning*, 1, 5–31.
- Demesick P.J., Wood P.A. (eds.), 1987, *Regional Problems, Problem Regions and Public Policy in the United Kingdom*, Clarendon, Oxford.
- Ferguson J., 2003, *From Beedees to CDs: snapshots from a Journey through India's Rural Knowledge Centres*, IICD Research Brief, 4, International Institute for Communication and Development, <http://www.ftpiicd.org/files/research/briefs/Brief4.pdf>
- Friedmann J., 1966, *Regional development policy: a Case Study of Venezuela*, M.I.T. Press, Cambridge.

- Friedmann J., Weaver C. 1979, *Territory and Function. The Evolution of Regional Planning*, Edward Arnold Ltd., London.
- Fukuyama F., 2002, *Social capital and development: the coming agenda*, SAIS Review, 22, 23–37.
- Gorzela G., Jałowiecki B., Woodward R., Dziemianowicz W., Herbst M., Roszkowski W., Załuski T., 1999, *Dynamic and factors of local success in Poland*, Regional and Local Studies, 15. EUROREG, Warsaw.
- Gutry-Korycka M. (ed.), 2005. *Urban Sprawl Warsaw Agglomeration. Case study*, University Press, Warsaw.
- Hanington W., 1976, *The Problem of the Distressed Areas*, EP Publishing, Wakefield.
- Henderson J., Shalizi Z., Venables A., 2001, *Geography and development*, Journal of Economic Geography, 1 (1), 81–106.
- Hirschman A.O., 1958, *The strategy of economic development*, Yale University Press, New Haven.
- Ilieva M., Mladenov Ch., 2003, *Changes in the rural areas in Bulgaria: processes and prospects*, Geographia Polonica, 76 (1), 97–110.
- Ingham H., Ingham M., 2002 (eds.), *EU Expansion to the East. Prospects and Problems*, Edward Elgar, Cheltenham-Northampton.
- Ira V., 2005, *Quality of Life and Urban Space (case studies from city of Bratislava, Slovakia)*, Europa XXI, 12, 83–96.
- Johnson J. D., Rasker R., 1995, *The role of economic and quality of life values in rural business location*, Journal of Rural Studies, 11 (4), 405–416.
- Kenny K., Williams J., 2001, *What do we know about economic growth? Or, why don't we know very much?*, World Development, 29 (1), 1–22.
- Lloyd P.E., Dicken P., 1972, *Location in space: a theoretical approach to economic geography*, Harper & Row, New York-San Francisco-London.
- Marada M., Chromy P., Jancak V., Havlíček T., 2006, *Space polarisation and peripheral regions in Czechia*, EUROPA XXI, 15, 29–35.
- McQuaid R.W., 1997, *Local enterprises companies and rural development*, Journal of Rural Studies, 13 (2), 197–212.
- Myrdal G., 1957, *Economic theory and underdeveloped regions*, Methuen, London.
- Nagle G., Spencer K., 1997, *Advanced Geography*, Oxford University Press, Oxford.
- Nagy G. 2005, *Changes in the Position of Hungarian Regions in the Country's Economic Field of Gravity*, [in:] G. Barta, E. Fekete, I. Kukorelli-Szorenyine, J. Timar (eds.), *Hungarian Space and Places: Patterns of Transition*, Centre for Regional Studies, Pecs, 124–142.
- Nicholas V., 1969, *Growth poles: an evolution of the propulsive effects*, Environment and Planning, 1, 193–208.

- Papzan A., Zarafshani K., Tavakoli M., Papzan M., 2008, *Determining factors influencing rural entrepreneurs' success: a case study of Mahidasht township in Kermanshah province of Iran*, African Journal of Agricultural Research, 3 (9), 597–600.
- Peroux F., 1950, *Note sur la notion de „pole de croissance”*, Economie Appliquee, 8 (1-2), 307–320.
- Pryor R., 1968, *Defining the Rural-Urban Fringe*, Social Forces, 47 (2), 202–215.
- Ramniceanu I., Ackrill R. 2007, *EU rural development policy in the new Member States: promoting multifunctionality?*, Journal of Rural Studies, 23, 416–429.
- Robinson E.A.G., 1969. *Backward Areas in Advanced Countries*, Macmillan, London, St. Martin's Press, New York.
- Rusu M., Florian V., 2003, *Rural space and rural development in Romania*, [in:] J. Bański, J. Owiński (eds.), *Alternatives for European rural areas*, European Rural Development Network, Warsaw, 39–56.
- Slangen L.H.G., van Kooten G.C., Suchanek P., 2004, *Institutions, social capital and agricultural change in Central and Eastern Europe*, Journal of Rural Studies, 20, 245–256.
- Stohr W.B., Taylor D.R.F., 1981, *Development from above or below? The dialectic of regional planning in developing countries*, John Willey, Chichester.
- Szekely V., 2006, *Urban municipalities versus rural municipalities – selected aspects of quality of life in Slovakia*, EUROPA XXI, 15, 87–102.
- The Success Factors – Managing change in regional and rural Australia*, 2001, Regional Women's Advisory Council. Department of Transport and Regional Services, Union Offset Printers, Canberra.
- Williamson J.G., 1965, *Regional inequality and the process of national development: a description of the patterns*, Economic Development and Cultural Change, 13 (2), 3–45.
- Vaishar A., 2008, *Possibilities for the multifunctional development of rural regions in the Czech borderland*, EUROPA XXI, 17, 63–70.

Antonín VAISHAR, Jana ZAPLETALOVÁ
Institute of Geonics, Czech Academy of Sciences Ostrava, Branch Brno
Drobného 28, 60200 Brno, Czechia
vaishar@geonika.cz; zapletalova@geonika.cz

Microregional development in border regions of Czechia

Abstract. The paper responds to the new situation in European borderlands. A new task for geographers is to look for the potential of cross-border collaboration. It follows from the general characteristics of the Czech borderland that the poor educational level of population is the main indicator of its marginality, whereas relatively attractive and mostly not so much impacted landscape is its main advantage. Three microregions with concentration of disadvantages from the national viewpoint were chosen for empirical analysis. Following potentials were discovered: diversified mixture of non-productive agriculture, forestry, local industry based on small and medium enterprises (SMEs) of local entrepreneurs, tourism and amenity migration. Quality of life should be the main aim.

Key words: borderland, microregions, education, landscape protection, potentials, Czechia

Introduction

Developmental dispositions are markedly geographically differentiated in terms of local natural, economic, and social conditions, or the previous historical development and geographical location. Noticeable attention is usually paid to locations that are handicapped in some way or another. Such locations are, for example, border microregions. This is because in the period, when the border used to form a barrier to passage, the span of influence of microregional centres was limited and their catchment areas were deformed. In the Czech context this is further accentuated by the fact that the border is predominantly formed by natural mountain barriers; the consequence being that the microregions in the borderland are also affected by the second most frequent cause of marginality –

rugged topography with reduced transport capacity and lack of suitable conditions for agriculture. The third factor is constituted by the fact that the majority of Czech border microregions (except for the new state border with Slovakia) have suffered from the consequences of post-war ethnic population exchange. Furthermore, some segments of the northern border are in a bad environmental state as they coincide with coal extraction and associated industries.

In the past twenty years, essential transformations of the character of Central European national borders occurred. Let us name the Iron Curtain's demise, unification of Germany, breakup of Czechoslovakia, Yugoslavia, and the Soviet Union, enlargement of the EU, entry of other states into the Schengen area, and the gradual introduction of Euro in the Central European countries. The state border nowadays still continues to constitute an administrative and psychological barrier, yet it allows for a relatively free movement of persons and goods. The state border ceases to constitute an economic barrier and a question suggests itself of whether the time is ripe for considering cross-border cooperation as a factor of microregional development.

Although it was already mentioned that the major part of the Czech national border is at the same time a physical barrier, in sporadic cases the microregions are open towards the foreign country and the barrier is located further inland. We selected three such microregions (of Vejprty, Králůvský Újezd and Javorník) for empirical analysis (Fig. 1). The analysis was conducted within the scope of the National Research Programme II funded by the Ministry of Education, Youth and Sports of the Czech Republic under the code 2D06001.

The aim of this paper is to indicate general problems of microregional development in the Czech borderland and, by an analysis of concrete cases, to show whether in such regions future prosperity may be expected or under which conditions.

Question of the Czech borderland and prerequisites for microregional development

Several authors from Central Europe have been recently engaged in analysing the borderland aspects in the unifying Europe. The objective no longer rests in the delimitation of borders but in the issue of international cross-border cooperation (Anderson et al., 2003). Experts from practice as well as from scientific and research institutes started to address practical and theoretical questions pertaining to the weakening of the role of the national border, its permeability, and the need for a solution to the marginality of the border areas. This topic is, for example, addressed by Prost (1974), Rafestin (1974), Hansen (1977), Prescott (1978), Heigel (1982), and others. In the countries of Central and Eastern

Europe the question emerged only after the fall of the Iron Curtain. Among the authors engaged in this topic were, e.g., Grimm (1995, 1998), Pak (1987), Ravbar (1999), Haase and Hudselljak (2000), and Bufon (2001, 2007).

Similarly, several Czech authors were recently dealing with the issue of national borders within the scope of numerous significant projects. M. Jeřábek is involved in a systematic research of border regions. His research does not entail exclusively theoretically oriented studies (e.g. Jeřábek [ed.], 1999; Jeřábek [ed.], 2001; Jeřábek 2003b; Jeřábek, Dokoupil, Havlíček et al., 2004), but also regionally focused analyses (Jeřábek, 2000; Balej and Jeřábek [eds.], 2001), concerning the labour market and trans-border work migration (e.g., Jeřábek, 1998, 2004), and studies concentrating on cross-border cooperation and the issue of Euroregions (Jeřábek, 1999, 2000, 2001). Reports dealing with theoretical problems of the borderland were published for example by Hampl (2000), Chromý (2000), Dokoupil and Havlíček (2002). Novotná (2000, 2001) has long studied agriculture in the West Bohemian borderland, and Řehák (1998) analysed transport issues in the borderlands. Evolution of the settlements and population was addressed, e.g., by Dvořák (2007), Vaishar (2008), Vaishar et al. (2008); for the development of the Czech borderland we refer the reader to, e.g., Řehák (1997), Dokoupil and Řehák (2001), Dokoupil and Havlíček (2002), Vaishar (2008), Tousek, Tomsíčková, and Kunc (2002). In the past few years, great attention has been directed to the questions of a possible development of the borderlands within the framework of Euroregions: For example, see the already mentioned Jeřábek (1999, 2000, 2001) Halás (2005), Novotná (1993), Havrlant (2000, 2001), Dočkal (2005), Peková and Zapletalová (2005) and others.

The first theoretical issue is to answer the question regarding the current definition of the borderlands in Czechia. The answer is more complex than it appears. Several social science disciplines (history, sociology), as well as a significant segment of the public consider the borderland to be the area occupied on the grounds of the Munich Agreement by Hitler's Germany throughout World War II, from which the absolute majority of the German population was transferred after the war and replaced to some degree by Slavic or other populations. This delimitation is territorially accurately defined and has its logic. As a consequence of the indicated events, a specific social climate emerged here, including an increased occurrence of socially pathological phenomena, which until the present day continues to affect the social system.

Geography, nonetheless gives preference to its own delimitation methods for microregions. Moreover, the historical delimitation mentioned above does not consider the Czech-Slovak border as borderland. On the contrary, numerous pre-war German-speaking enclaves were situated relatively deep inside the

Czech interior. Although the historical burden endures to some level, other factors must be taken into account. In this paper, we shall chiefly look at the rural borderlands. This is because large and medium towns in the borderlands have different characteristics and face different problems. High immigration to these towns was due more to industrialization than to ethnic population exchange. Towns, furthermore often form regional centres and microregional development is only of secondary importance to them.

Another issue is microregional development per se. Nowadays, in times of developed transport and communications, life does not take place in single locations, but over microregions, in whose territories people commute to work, services, and leisure on a daily basis. It is typical in the Czech conditions that the labour market is realized at a microregional and not at local level. For this reason, we replace the term "local development" by "microregional development".

How do we define the prerequisites of microregional development? Apparently, at present, development is no longer chiefly of quantitative nature and based on increasing production of the main commodities. It shall rather concern prosperity of the microregions, based on indicators of quality of life and sustainable development. This, however, opens up a series of other contentious questions, concerning the definitions of the above stated concepts. We will therefore not conduct any evaluation of future microregional development but we will try to analyse its prerequisites.

The principal hypotheses of the presented study are as follows:

- General conditions for microregional development in the rural borderlands are less favourable compared to the inland and urbanized areas.
- This circumstance is reflected in the development and structure of the social system. The characteristics of demographic trends, skill structures, unemployment levels, etc., should be an expression of this.
- Natural barriers, which coincide with the majority of the Czech national border, will even in future prevent a more intense development of cross-border cooperation between neighbouring rural microregions. Areas physically open towards a foreign country have better dispositions for the use of their location along the border.

Characteristics of the Czech borderland

With respect to the aforementioned context, the Czech borderland is composed of 110 microregions of municipal offices, whose territories are contiguous with the national border. The centres of most of these microregions are small towns of maximum 15,000 inhabitants. Several centres rank as medium and large towns. Characteristics of their microregions differ, because they are usually big-

ger, economically stronger, and the consequences of the post-war ethnic exchange in them were remodelled by intense industrialization and urbanization during the first half of the socialist era. In addition, the borderland location is not their most important feature. In unique cases, microregional centres are municipalities without the status of a town.

The first results of the assessment of these microregions (Vaishar, Zapletalová, Dvorák, 2008) showed that an unambiguous indicator of extraordinary significance of the social characteristics of the borderland is the qualification structure of its population. None of the 110 borderland microregions (including the urban ones) reached the mean percentage of persons over 15 years of age with completed post-secondary education, which amounted to 12.4% in the Czech Republic at the time of the last census (2001). This fact entails a whole range of consequences.

One of the potential issues is the situation in the labour market. Surprisingly, the hitherto development did not suggest this very distinctly, since the labour markets were rather trying to cope with the economic restructuring. The highest levels of unemployment thus occurred in the microregions of larger towns, former centres of raw materials extraction and of heavy industry. Numerous rural provincial microregions had, conversely, lower unemployment in comparison to the inland. Among other potential problems one can cite a single-track orientation of the local economies towards traditional industrial sectors (primary sector, conventional industry) requiring lower skills of the workforce and generally lower cultural level, which can be a handicap for acquiring funds, deepening the cross-border cooperation, etc.

In the demographic sphere almost no negative tendencies were registered. In the period between 2002 and 2006, 626 municipalities registered an increment, and 386 a decline, out of total 1,038 borderland municipalities of more than 2,000 inhabitants. It is true, however, that in this period natality increased somewhat. This was because the generation of the 1970s, the children of post-war baby boom, boosted by the population growth-stimulating state policies, entered the reproductive age. A greater part of the population increment of the rural municipalities was, nevertheless, still a result of a mechanical movement – that is, immigration. Even though the credibility of the statistical data can be accepted only with some reservations (many persons are registered at their place of birth, yet in fact they usually reside elsewhere), in this case we cannot refer to the general depopulation tendency of the Czech rural borderlands. Even the smallest municipalities of less than 200 inhabitants maintain a rare balance: out of 229 municipalities, 109 registered an increment and 109 a decline.

If the greater segment of the national border is simultaneously a physical barrier, it means that the area is also attractive. Its value – mainly at the border to

Bavaria and Austria – is even accentuated by the fact that during the Iron Curtain era the borderland zone was practically enclosed and it has therefore preserved unique natural values, manifested by the existence of national parks, protected landscape areas, and other forms of large- and small-scale conservation. This introduces possibilities for the development of tourism, which is with small exceptions limited by insufficient infrastructure and local inhabitants not being quite ready for developing services for tourists.

Case studies of the regions of Vejprty, Králiky, and Javorník

To empirically illustrate the outlined situation, we selected three borderland microregions. All of them have the following characteristics in common: their centres are very small towns, all have been affected by the post-war ethnic population exchange, and all of them are in a strongly peripheral location as regards the distance from more significant inland centres (Tab. 1). On the other hand, all of the selected microregions are exceptional by the fact that their terrains are opened towards the neighbouring countries and the mountain barrier passes only between them and the interior centres. In these cases, we can pose ourselves the question of whether under the new situation the remoteness from the intrastate perspective could be partly compensated for by the cross-border cooperation.

Table 1. Main characteristics of the microregions under study

Characteristic of microregion	Microregion			Czech Republic
	Javorník	Králiky	Vejprty	
Total area (km ²)	16,345	15,874	35,550	78,867
Number of municipalities	5	5	5	6,249
Population	5,175	9,175	4,840	10,383,130
Population density (inhab./km ²)	31.7	57.8	36.5	132.0
Age index*	70.5	55.8	64.0	102.0
Number of economically active population	3,040	5,794	3,163	5,215,000
Economically active population in agriculture, forestry and fishery (%)	13.2	3.9	2.0	3.0
Population with tertiary education (%)	6.0	8.1	4.5	11.0
Unemployment (%)**	11.1	9.9	16.1	8.6

* age index = ratio of population over the age of 65 to population under the age of 14

** data relevant to 30.9.2009

Source: Czech Statistical Office.

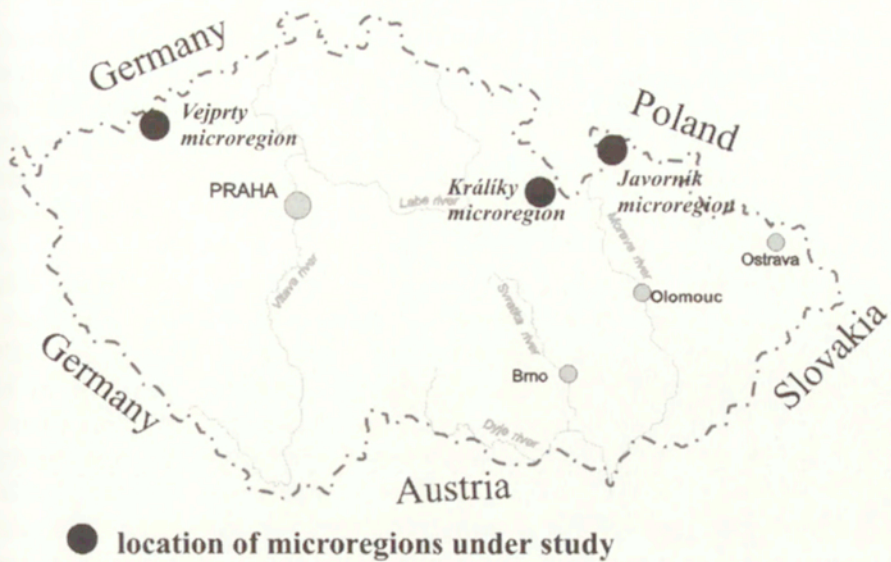


Figure 1. Location of study areas

The microregion of Vejprty

The microregion of Vejprty is located in the north-western part of the Chomutov district on the border to Saxony, in the valleys of the Polava, Černá voda, and Přisečnice streams in the Ohře River basin. It is separated from the Czech inland by the main ridge of the Krušné hory Mts. The town of Klášterec nad Ohří is 23 km away, Kadaň, the municipality with extended competence, lies in the distance of 26 km, the district town of Chomutov is 32 km away, the regional capital Ústí nad Labem is as far as 97 km away. Karlovy Vary, the capital of the neighbouring region, is closer – at only 42 km. Moreover, the roads pass through a difficult terrain. On the contrary, the German district town of medium size – Annaberg-Buchholz – is only 12 km away and it is accessible by a higher class road. Also the nearest German city of Chemnitz lies much closer than Ústí nad Labem.

The settlement structure is formed by the small town of Vejprty and four rural municipalities. Prior to World War II, the current territory of the microregion was inhabited by people of German nationality in 96%. In 1939, the area was yet inhabited by 27,177 persons¹, despite the population decrease at the beginning of the 20th century. In 1950, the population totalled 10,312

¹ Population census, conducted on May 17, 1939 in the Sudetenland district; source of the data: Statistik des Deutschen Reichs. Band 550: Amtliches Gemeindeverzeichnis für das Deutsche Reich. Berlin, 1941, pp. 276–272.

inhabitants, and as of January 1, 2009, there were only 4,840 inhabitants, out of whom 3,314 persons in the very town of Vejprty. The steep decline in the number of inhabitants was caused not only by the ethnic population exchange following World War II, but also by a complete demise of 5 municipalities, including a former town of Přísečnice, that had to cede to the water reservoir to supply the Chomutov Region with water. The depopulation gradually continues even nowadays, a phenomenon which is not all too common.

From the perspective of the population qualification structure, Vejprty is lagging behind extraordinarily or even critically. Predominant type of education in Vejprty is vocational education and secondary education without the GCSE examination (General Certificate of Secondary Education²), followed by elementary education. Over two thirds of the Vejprty residents of more than 15 years of age (69.5%) have this kind of education, while the situation in the rural settlements is even worse. The share of persons with post-GCSE education is at mere 4.5% – even smaller than the proportion of people without any education. These values for Vejprty are far from European standards as well as Czech average values. The share of socially misfit persons can be estimated even at 15%.

In spite of a considerable downturn of industry after 1990, as of 2001, it was still the major employer in the rural municipalities. At the same time, commuting for work was still relatively low (around ¼ of economically active persons) and dispersed. The branch of social (including education and healthcare) and public services ranked significantly high in the service structure – i.e. branches prevalently dependent on the state budget. The branch of tourist services, however, also showed proportionally high employment levels (catering, accommodation). In July 2009, unemployment reached the level of 16.9%, the highest in the Chomutov district.

The Vejprty microregion disposes of a relatively large accommodation capacity for tourism and recreation. This includes family recreational cottages, week-end-houses for individual recreation, and a whole range of facilities for commercial tourism: Different types of accommodation facilities are available, from low-cost boarding houses to a well equipped four-star hotel. The second homes and farmhouses, chiefly in the closest surroundings of the Klínovec Mt., are ever more frequently offered for commercial use. The availability of attractions for active leisure, like volleyball playgrounds and tennis courts, minigolf courses, as well as leisure amenities in cases of bad weather in the microregion (indoor swimming pool, bowling, squash, etc.), is still rather insufficient.

Czech and German municipalities are concentrated in the Polava stream valley, which constitutes a very weak natural barrier. Individual settlements along the border form pairs: Vejprty – Bärenstein, Loučná – Oberwiesenthal, České

² It corresponds to the abbreviation GCE – general certificate of education or A level exam.

Hamry – Hammerunterwiesenthal, Černý Potok – Johstadt. Although the only border crossing by road functions between Vejprty and Barenstein, all of the specified coupled settlements can be mutually comfortably reached on foot or by bicycle. On the German side, the significant road 95 with operating public transport, passes through the valley. Labour costs – and therefore also service prices – are considerably higher on the German part of the border. The prices of goods are more or less equal, in some cases (e.g. electronics) the German prices are lower. The citizens of both countries can thus profit from diverse prices of goods and make mutually beneficial deals. The purchasing power of the German households is higher by roughly one quarter.

Creation of a unified labour market will take time, due to higher unemployment rate in Saxony and lower qualification structure of the Vejprty residents, persisting administrative obstacles on the German side, and lower labour costs on the Czech side. But even here the differences are not insurmountable in the future. Psychological barriers are an obstacle to cooperation within the German borderland, such as smaller willingness to communicate in a foreign language, the historical burden, negative perception of „strangers”, etc. It seems, however, that also these barriers are slowly disappearing. On the Czech side, at least elementary knowledge of German becomes standard with the middle and higher classes of the population, shop assistants, and employees in the sector of tourism. Equally on the German side of the border, interest in the Czech grows correspondingly to the expected influx of Czech visitors. In addition, the young generation in both countries will most likely use the universal English as a means of communication with each other. Former German inhabitants of Vejprty were transferred to West Germany. Relations with them are improving, but apparently they have no direct influence on the situation in the borderland.

The microregion of Králíky

The microregion of Králíky is situated in the Králícká brázda Furrow, a natural gate connecting the Polish Lower Silesia with Bohemia and Moravia, formed by the Orlické hory Mts. on the one side and Králícký Sněžník massif on the other. Their promontories form a natural barrier towards the inland. This gateway forms part of the long-distance road connecting Vienna, Brno, and Wrocław. The distance between the district town of Ústí nad Orlicí and Králíky is 42 km. An alternative centre can be constituted by a closer and larger Moravian town of Šumperk located at the distance of 31 km. The regional centre of Pardubice is 88 km away; Hradec Králové, an alternative regional centre for Králíky, is roughly by 5 km closer and it is accessible by higher class roads. Of higher significance is the Polish regional centre of Wrocław (135 km), but at this hierarchical level, alternative services are offered by the closer and more

readily accessible Brno. In the case of the Králky microregion, the Polish centres are not located more favourably compared to the Czech centres.

The settlement structure is composed of a small town of Králky and four rural municipalities, which are, in turn, formed by a series of very small settlements of less than 200 inhabitants. Slow depopulation also commenced in this region during the second half of the 19th century. The post-war population exchange also marked a considerable turning point, although not as strong as in the Vejprty microregion. The population dropped from 15,726 in 1930 to 9,154 in 1950. The current population of the Králky microregion totals 9,175 persons³, and in the second half of the 20th century a concentration of the population was taking place in Králky and Ěervená Voda at the expense of smaller settlements. The town of Králky, including the affiliated settlements, totals 4,634 residents. The present demographic development is slightly unfavourable.

The Králky microregion is characterized by the population educational structure far below average, too. The share of persons over 15 years of age without the GCSE in Králky amounts to 68.8%. Persons with GCSE as the highest reached education account for 23% of the whole and 8.1% of the population have post-GCSE education. This is more than in Vejprty, but still only at the level of around two thirds of the country's average. The situation in the settlements outside the centre is worse than in Králky.

The pre-1989 economic structure of Králky consisted of industrial sectors, which could do only with low-skilled workforce (manufacture of lighting units, textile industry, food industry). After the industrial downturn the economy became restructured to diversified enterprises focused on trade, primary sector activities, construction, and industry. Long distance commuting to work is common. A certain hierarchical relegation of Králky occurred due to the recent loss of a grammar school. Unemployment is surprisingly at „only” 9% and it is below the district average.

The microregion of Králky is planning to base its prosperity, apart from other things, on the development of tourism. It has outstanding dispositions for winter tourism, undemanding hiking, religious tourism (Pilgrimage Church of the Assumption of the Virgin Mary on the Marian hill), and military history tourism, owing to the pre-war fortifications of the Czechoslovak army. It is now considered that the area could appeal to Polish tourists as well. Unfortunately, the infrastructure of the microregion, mainly the level of the available services, does not stand up to this intent. Opportunities for swimming and alternative leisure are missing, too.

Formal cooperation with the Polish borderland microregion of Miedzylesie is already in place. The problem consists in the fact that the Polish side has simi-

³ As of January 1, 2009, Czech Statistical Office in Prague.

lar, if not worse, parameters of remoteness from the national centres and equal social structure of the population. The Polish side of the border witnessed a similar post-war population exchange, the difference being that the microregion was partly settled by Polish people from western Ukraine and western Belarus with markedly different culture. No tradition of cross-border cooperation is established. The cooperation does not rest on any economic basis of importance and collaboration between entities is negligible; if it exists at all, it is rather directed from a somewhat economically stronger Czech Republic to Poland. Language barrier is less distinct, yet motivation for mastering the communication skills with the neighbours is low and in the near future no change can be expected.

The microregion of Javorník

The Javorník microregion occupies the projection of the Czech territory surrounded by Polish microregions from three sides, and is administered by the Jeseník district. In the west it is separated from Klodzko in Poland by the Rychlebské hory Mts., in the north the territory opens towards the Polish Opole Voivodship. The Sokolský hřbet Ridge then separates the Javorník microregion from the region of Jeseník and the Hrubý Jeseník Mts. isolates the entire region of Jeseník from the Czech inland. Historically, the Javorník microregion formed a part of historical Silesia and in terms of ownership it used to belong to the Wrocław diocese. It became a periphery after the Prussian-Austrian wars, when Silesia was split by the state border.

The peripheral location of Javorník is also manifested by the distance of Javorník from the nearest settlement centres on the Czech and Polish sides. Jeseník is around 25 km from Javorník but this district centre is a small town. The closest Moravian town of medium size is Šumperk (population of 28,000), 64 km away and across the mountains. The regional centre of Olomouc is 121 km away (although in Mohelnice an expressway starts), while the historic town of Opava is 98 km away. Klodzko, of similar size with Šumperk, lies across the mountains at the distance of 37 km. Nysa, with close to 47,000 residents, lies even closer (35 km). The closest large regional city is Wrocław (633,000 inhabitants), 92 km, surpassing Olomouc in terms of its European significance by two orders. It has therefore sense to consider that the Polish centres, particularly Nysa, could prospectively replace the Czech centres with some of their functions.

The Javorník microregion is also formed by a small town and four rural municipalities that have numerous affiliated settlements. The population reached its peak at the outset of the 20th century and has been slowly decreasing since. The microregion lost more than half of its population as a result of the

post-war ethnic exchange (from 12,315 in 1930 to 5,861 in 1950)⁴. The five municipalities of the Javorník microregion currently count 5,175 persons, of whom 2,943 are residents of the town of Javorník and the affiliated settlements. Even here, the present demographic trend has a very slightly negative tendency.

From the perspective of the educational structure, Javorník ranks between the Vejprty and Kralupy microregions with roughly 6% of persons over 15 years of age with post-secondary education. This educational structure correlates with the economic structure, whose focus lies in primary sectors and in conventional industry. In July of 2009, the unemployment rate was approximately 11.1%, the second most favourable value after the Jeseník Region in the entire district. Hence, the situation in this microregion has not reached critical levels with this respect.

According to Drahošová (2003), a second type of residence developed in the Javorník microregion in the form of recreational cottages, with relatively large plots, which can turn into permanent residences after the owners retire from economically active life. Commercial tourism is rather weak and inexpensive, which corresponds to potential domestic visitors belonging to the groups with medium incomes. The majority of visitors come from the Ostrava Region and from central and southern Moravia. The microregion also lacks facilities for entertainment and socializing.

Recently, not only was the absolute majority of the formal barriers to cross-border contacts abolished, but also formerly non-existent border crossings were established for pedestrians, cyclists, and passenger cars. This rendered accessible the surrounding Polish towns of Łądek Zdrój, Złoty Stok, Paczków, and Otmuchów. For the people residing in the Czech municipalities along the border the Polish small towns are closer than the towns in the Czech territory. They can undertake trips there or purchase some assortments of goods that can be cheaper in Poland. One of the water reservoirs on Nysa Kłodzka River can serve as a recreational opportunity for the inhabitants of the Javorník microregion. It can be apprehended, however, that the financial means spent in the neighbouring country are relatively small since the trips are only brief and optional visits are not accompanied by any additional activities.

On the other hand, the Polish apparently take advantage of shopping tourism and gastronomic facilities on the Czech side of the border. An incomparably denser network of restaurants and other catering establishments are a very good prerequisite for this. With respect to the fact that the Javorníky microregion cuts into the Polish territory and the roads on the Polish side are still of

⁴ The population reductions between 1930 and 1950 in all of the analysed microregions are naturally also the result of other factors, such as war losses of the German population and long-lasting natural downward trend observable throughout the entire 20th century.

lower quality, transit of the Polish vehicles through the Czech territory can be also considered. The potentials for development of cross-border cooperation rest in the tourist sphere, including mutual visits to cultural events. The border ridges of the Rychlebské hory Mts. provide preconditions for developing common hiking trails and their joint promotion. The terrain in the northern and eastern sections of the border is almost flat and thus remarkably suitable for bicycle tourism. In both cases, however, the infrastructure is lagging, despite some partial improvements. It can be stated that this cooperation is still in its infancy.

Discussion: Possibilities of future development of localities in the Czech borderland

All of the microregions considered are characterized by common features: remoteness from inland centres, steep depopulation in the mid-20th century, highly unfavourable educational structure of the population, with corresponding orientation towards undemanding industrial sectors, distinct natural attractions, but inadequate infrastructure that could sustain more intense tourism. All of the microregions are formed by a small town with roughly three thousand inhabitants as a centre and four rural municipalities. The microregions are therefore of rural nature.

Common features also result in common problems. The remoteness brings along with it a lack of external (foreign or domestic) investments. Contrary to this situation, some tendencies exist, aimed at relocating the existing plants to more favourable locations. Remoteness also prevents the local residents from commuting to work, which is often not reachable within a tolerable distance. The issue is either solved by emigration (especially of the young and qualified persons) or by working elsewhere for extended periods of time (in the construction or transport sectors, etc.). Low skills of the remaining workforce do not even allow more important employers to establish branches in the microregion.

As far as cross-border cooperation opportunities are concerned, the fundamental question is the situation across the border. This involves the degree of development of the neighbouring foreign region and its distance from larger foreign centres. Microregions bordering on economically more advanced neighbours (in case of Czechia it is chiefly the border with Bavaria) can take advantage of their location. If, on the other hand, they are situated next to a similarly or more marginal region, the possibilities for beneficial cooperation are limited.

The majority of length of the Czech national border passes through attractive terrain suitable for winter and summer tourism, inappropriate, though, for intensive farming. The borderland usually disposes of other attractions, too, of architectonic, historical, and cultural natures. Orientation of the border regions

towards tourism suggests itself which could be of potential use for the border regions of the neighbouring country. Apart from insufficient infrastructure (both in terms of quantity and quality), another barrier is often constituted by low readiness of the inhabitants to carry out business activities in tourism. The level of preparedness is again due to skill levels and employee mentality of former workers in industrial sectors.

In which directions the rural border microregions ought not to set out? In principle, the concept of economic and demographic growth must be rejected as usually favourable conditions are absent. It is apparently not suitable to work towards attracting a large employer with hundreds of jobs. Unilateral focus on one big employer entails high risks. In a similar fashion, one-sided orientation towards tourism cannot be recommended, because it is subject to fashion trends, competition, weather, and other factors, not easily predicted and without any possibility of the microregion having influence over them. The idea of intensive production farming needs to be altogether abandoned as well.

It can be assumed that economy of the rural border microregions ought to be based on a diversified structure of small and medium-sized enterprises. Diversification helps resist external crisis phenomena, as well as internal fluctuations. It also enables employing persons with varied qualifications and skills. It is highly desirable if the enterprise owners or managers come from the local communities and are attached to them because this endows them with a sense of responsibility towards the place and the microregion. It is also more likely that their profits will at least partly remain in the community.

Agriculture is important mainly as a part of landscape tending and for the preservation of rural lifestyle. This is also the main purpose of existence of organic farms. The soil should not lie fallow. On the one hand, arable soil can be turned into meadows, pasture lands, or forest, and on the other, forests at these elevations can be interesting with respect to their wood-producing function. Here the emphasis lies on the necessity of sustainable management.

Local industry should be primarily based on the processing of local raw materials – agricultural, forestry, and mineral products. Such processing plants tend to have local connections and do not require high qualification of the workers. Local traditions (specialization in specific branches), existence of the local education specialized in a certain field, or off-season non-agricultural activities of agribusinesses can be employed, too.

In peripheral microregions, services constitute a branch in development. Apart from standard services for the local population and tourist services, also location of supralocal services of social nature can be recommended. The quiet environment of remote rural areas is ideal for the establishment of retirement homes, sanatoriums, and similar facilities, which are in part financed by the state and which are less susceptible to prosperity fluctuations. Considering the

problems associated with the skill and educational structure, special attention should be paid to retraining centres.

As regards tourism, a whole set of questions needs to be tackled related to the construction of the missing infrastructure, training of the entrepreneurs and workers in this field, and marketing. We must pose the question why should visitors come to the specific microregion, on what visitors each microregion should focus, and how to make them use an entire complex of services, so that their money stays within the specific area. Although attractions can be found everywhere, they are rarely of the kind that would alone lure the visitors. Hence, the services in a microregion need to be offered as a package. Good quality catering and accommodation services are essential.

What currently lies in the centre of attention, is the economic crisis which will impact on peripheral microregions in such a way that no external investments can be expected. Some companies can potentially even leave such microregions. Yet, the attention of the domestic holidaymakers could be diverted from package tours abroad to less expensive vacations in their home country. This is why the crisis could paradoxically help the peripheral regions, provided they will be able to respond to demand in a flexible manner.

With respect to an absence of prerequisites for the development of quantitative indicators, the borderland localities are advised to tackle the quality of life of the local population, visitors, and entrepreneurs. Municipalities often stress the issue of completion of technical infrastructure. This is important, but the development of civic life by way of support to associational activities, traditions, and participation of the citizens in administrative issues is of higher significance.

References

- Anderson J., O'Dowd L., Wilson T., 2003, *New borders for a changing Europe*, Frank Cass, Portland.
- Balej M., Jeřábek M. (eds.), 2002, *Pohraničí, přeshraniční spolupráce a euroregiony*, Sborník z XX. Jubilejního sjezdu ČGS, UJEP, Ústí nad Labem.
- Buřon M., 2001, *Geografická obmejnosti, dezmejně regije in oblike Čezmejně povezanosti*, Geografski vestnik, 73 (2), 9–24.
- Buřon M., 2007, *Border regions in a re-integrated Europe*, Moravian Geographical Reports, 15 (1), 2–13.
- Chromý P., 2000, *Historickogeografické aspekty vymezení pohraničí jako součásti geografické analýzy*, Geografie, 105 (1), 63–76.
- Czech Statistical Office, <http://www.czso.cz>.

- Dočekal V. (ed.), 2005, *Přeshraniční spolupráce na východních hranicích České republiky. Růzový obláček a hrana reality*, Studie Mezinárodního politologického ústavu MU, Masarykova univerzita, Brno.
- Dokoupil J., Havlíček T., 2002, *Border and border region: theoretical aspects, identification and determination*, Acta Universitatis Carolinae, Geographica, 37 (1), 27–44.
- Dokoupil J., Reháček S., 2001, *Perspektiva dalšího vývoje pohraničí ČR*, [in:] M. Jeřábek (ed.), *Reflexe regionálního rozvoje pohraničí České republiky*, Sociologický ústav AV ČR, Ústí nad Labem, 85–88.
- Drahošová A., 2003, *Cestovní ruch v oblasti Jeseníků a Javornického vybežku*, Geografie, 108 (4), 289–303.
- Dvořák P., 2007, *Settlement development of the Czech Republic border regions from 1930 to 1950*, [in:] R. Blaheta, A. Kolcun (eds.), *PhD Workshop 2007, Proceedings*, Institute of Geonics AS CR, Ostrava, 25–28.
- Grimm F., 1995, *Regionen an deutschen Grenzen*, Institut für Länderkunde, Leipzig.
- Grimm F., 1998, *Grenzen und Grenzregionen in Südosteuropa*, Südosteuropa Gesellschaft, München.
- Haase A., Hudselljak I., 2000, *Perspektiven und Probleme der neuen Nachbarschaft*, Europa Regional, 8 (2), 2–8.
- Halás M., 2005, *Cezhraničné väzby, cezhraničná spolupráca na príklade slovensko-českého pohraničia s dôrazom na jeho slovenskú časť*, Univerzita Komenského, Bratislava.
- Hámpel M., 2000, *Pohraniční regiony České republiky: současné tendence rozvojové diferenciace*, Geografie, 105 (3), 241–254.
- Hansen N. M., 1977, *Borders regions: a critique of spatial theory and an European case study*, Annals of Regional Science, 11, 1–14.
- Havrlant J., 2000, *Beskydy – transformace a pohraniční oblasti cestovního ruchu*, Spisy Přírodovědecké Fakulty Ostravské Univerzity, Repronis, Ostrava.
- Havrlant J., 2001, *The Beskydy euroregion as an area of travel and recreation*, Moravian Geographical Reports, 9 (2), 15–23.
- Heigl F., 1982, *The border as sociological, social and national phenomenon – the anthropogenous region in cooperation and conflict in border areas*, [in:] G.D. Zotti, R. Strasoldo (eds.), *Cooperation and conflict in border areas*, Milano, 215–234.
- Jeřábek M., 2004, *Vnější vztahy Východního Krušnohoří – vliv hranice, sousedství s Německem, přeshraniční spolupráce*, [in:] M. Balej, J. Anděl, M. Jeřábek (eds.), *Východní Krušnohoří – geografické hodnocení periferní oblasti*, Acta Universitatis Purkynianae, 96, Studia Geographica V., UJEP, Ústí nad Labem, 198–205.
- Jeřábek M., 1998, *Vytváření přeshraničního trhu práce – pendlerství v česko-německém pohraničí*, Demografie, 40 (1), 39–42.
- Jeřábek M., 1999, *The Czech border regions standing against the background of the republic and opportunities for co-operation*, [in:] *The Situation and Perspectives of Trans-border Development and Co-operation of Border-regions in Germany, Poland, Slovakia and the*

- Czech Republic, House for Polish-German Co-operation, Friedrich Ebert Stiftung, Gliwice, 28–45.
- Jeřábek M., 2002a, *Česko – německá (saská) pohraniční spolupráce se zaměřením na Euroregion ELBE/LABE*, Geografie, 107 (3), 260–276.
- Jeřábek M., 2002b, *Regionální rozvoj Ústecka a Euroregion ELBE/LABE*, [in:] J. Anděl et al. (eds.), Geografie Ústecka, UJEP, Ústí nad Labem, 121–127.
- Jeřábek M., 2003a, *Euroregion Elbe/Labe – v číslech, grafech a mapách / Euroregion Elbe – in statistic figures, graphs and maps*, Czech Statistical Office, Liberec (CD-ROM).
- Jeřábek M., 2003 b, *Pohraničí v regionálním rozvoji a jeho výzkum*, Geografie, 105 (1), 1–9.
- Jeřábek M. (ed.), 1999, *Geografická analýza pohraničí České republiky*, Sociologický ústav AV ČR, Praha/Ústí nad Labem.
- Jeřábek M. (ed.), 2000, *Geografická analýza pohraničí ČR*, Working Papers, 11/99, Sociological Institute, Czech Academy of Sciences, Praha.
- Jeřábek M., (ed.), 2001, *Reflexe regionálního rozvoje pohraničí ČR*, Sociological Institute, Czech Academy of Sciences, Praha.
- Jeřábek M., Dokoupil J., Havlíček T. et al., 2004, *České pohraničí – bariéra nebo prostor zprostředkování?*, Academia Praha, Praha.
- Novotná M., 1993, *Euroregion Šumava – Bohmerwald – Mühlviertel*, Miscellanea Geographica Universitatis Bohemiae Occidentalis, 1, Západočeská univerzita, Plzeň, 51–57.
- Novotná M., 2000, *Hodnocení zemědělského využití krajiny v pohraničním regionu Posumaví*, Geografie, 105 (1), 34–40.
- Novotná M., 2001, *Vimpersko. Geografická analýza pohraničního mikroregionu*, Westbohemian University, Plzeň.
- Pak M., 1987, *Meja kot factor razvoja obmejnih obmocij. Zbornik radova sa naucnog simpozijuma Geografiki problemi pograncnih regija z nase zemlje*, Odsek za geografiju i prostorsko planiranje Prirodno-matematičkog fakulteta u Beogradu, Narodni muzej u Vranju, Vranje, 13–24.
- Peková J., Zapletalová J. (eds.), 2005, *Euroregiony, státní správa a samospráva*, Ústav geoniky AV ČR/Vysoká škola ekonomická, Ostrava/Praha.
- Prescott J.R.V., 1978, *Boundaries and Frontiers*, Croom Helm, London.
- Prost B., 1974, *Frontiere et individualité regionale: la frontiere Italo-Yugoslave et la formation de la Slavia friulana*, Etudes géographiques sur la montagne, Adres du 99e Kongres national des sociétés savantes, Besancon.
- Rafestin C., 1974, *Elements pour une problematique des regions frontalières*, L'Espace géographique, 1.
- Ravbar M., 1999, *General characteristics of border areas in Slovenija*, [in:] *New Prosperity for Rural Regions*, Institut za geografijo, Ljubljana, 11–20.

- Řehák S., 1997, *Aktuální změny prostorových interakcí na Moravskoslovenském pomezí [závěrečná zpráva grantu GA CR číslo 205/95/1184]*, Masarykova Univerzita, Brno.
- Řehák S., 1998, *Kontakty se Slovenskem na moravsko-slovenském pomezí: role vzdálenosti hranic*, [in:] *Geografie X*, Masarykova Univerzita, Brno, 122–127.
- Toušek V., Tomšňáková B., Kunc J., 2002, *Hodonínsko: border region of intensive relationships with Slovakia*, [in:] *State border reflection by border region. Population of V4 states*, Konstantin Filozof University, Nitra, 64–71.
- Vaishar A., 2008, *Aktuální demografický vývoj v českém pohraničí*, [in:] E. Kallabová, I. Smolová, V. Ira, (eds.), *Změny regionálních struktur České republiky a Slovenské republiky*, Ústav geoniky AV ČR, Ostrava, 90–94.
- Vaishar A., Zapletalová J., Dvořák P., 2008, *Border administrative units in the Czech Republic*, *Moravian Geographical Reports*, 16 (1), 46–54.
- Vaishar A., Dvořák P., Nováková E., Zapletalová J., 2008, *Settlement problems in the Czech borderland*, *Geografický časopis*, 60 (3), 241–253.

Michael SOFER, Levia APPLEBAUM
Department of Geography and Environment
Bar-Ilan University
Ramat-Gan, 52900 Israel
soferm1@mail.biu.ac.il

The emergence of farmers-entrepreneurs as local development agents in the rural space of Israel

Abstract. The rural space in Israel has been undergoing a process of economic, social and physical restructuring for a number of years, resulting in the appearance of a multifunctional space, characterized by a growing number of pluriactive households. A major aspect of this process is the emergence of farmer-entrepreneurs, who, besides their farming activities, operate non-farming businesses on the family farm in the Moshav type settlement. The paper characterises these farmers-entrepreneurs, explains the underlying causes for their choice of pluriactivity as an income-producing adjustment strategy, and identifies the impact of their entrepreneurial activity on the local community and region. It is argued that these farmers turn out to be important driving forces of local development at both the community and the regional levels.

Key words: non-farm enterprises, family-farm, pluriactivity, local development, Israel

Introduction

For several decades the rural space in Israel, as in many developed countries, has been undergoing a process of economic, social and physical restructuring. The origins of this process lie in the decline of agriculture as the major basis of the rural economy and the subsequent readjustment endeavours made by both exogenous and endogenous drivers of change, including public institutions and local and external private actors. The outcome of these endeavours is the appearance of a multifunctional rural space, characterized by a mixture of productive and consumptive functions, by a growing number of pluriactive households and by an increasing spatial heterogeneity and inequality.

This paper presents a study of one aspect of this process – the emergence of farmers-entrepreneurs, who, besides their farming activities, operate non-farming businesses on the family farm. These farmers turn out to be important driving forces of local development at both the community and the regional levels. The study had a three-fold aim: to find out who are these farmers-entrepreneurs, to explain the underlying causes for their choice of pluriactivity as an income-producing adjustment strategy, and to identify the impact of their entrepreneurial activity on the local community and region. It is hypothesized that their choice reflects their awareness of opportunities derived from the changing local conditions on the one hand and government policies and regulations on the other hand, and their ability to utilize them for their economic benefit. The empirical foundation of the investigation is a field study carried out among eighty farming households located all over the rural space of Israel, using structured questionnaires, and reinforced by open-ended interviews with selected office-holders on both the local and the national levels.

The paper is divided into four parts. The first part outlines the theoretical framework of the phenomenon of on-farm non-farming enterprises, followed by a description and analysis of the Israeli setting in the second part. The third part summarizes the findings of the study with respect to the characteristics and underlying reasons for the development of such enterprises, while the conclusions consider the economic implications for the individual rural household as well as for the community and the region it is part of.

Theoretical background

The process of economic, social and physical restructuring, manifested in recent years in the rural space of the developed economies is a complex process, driven by a number of long-term trends of change. The most important among these trends are the declining significance of agriculture for both national and rural economies, the increased awareness of the importance of a sustainable environment, the improved transportation and communication infrastructure in rural areas, and the growing demand for both rural housing and rural recreation and tourism. The cumulative effect of these changes prompted a reassessment and revision of policies regarding the rural space, and the long-standing support given to farm producers is being replaced by new policy measures, designed to encourage rural development through the improvement of infrastructure and economic diversification (Pierce, 1993; Winter, 1996; Baldock et al., 2001). The ensuing outcomes of these developments include, among others, the penetration of industrial, commercial and service sector enterprises into rural communities on the one hand, and an increase in commuting to urban centres of

employment on the other hand (Gasson, 1988; Ilbery, 1991; Eikeland and Lie, 1999; Robinson, 2004). The overall result is a multifunctional space, exhibiting a diversified landscape and a mixture of demographic and occupational profiles of rural dwellers. The goods and services produced in this space support broader local and national goals beyond food security and rural development (McCarthy, 2005).

Under the engulfing process of restructuring of rural land and labour resources, and their own inability to make a living from agriculture alone, farming households face three possible strategies of survival (Bryden and Bollman, 2000; Sofer and Applebaum, 2006): increasing the scale of the farming enterprise; diversifying their employment and income sources; or shifting out from agriculture. In fact, a significant percentage of farmers choose to diversify, either by developing new activities within the farm, or by combining farm-based and external sources of income. Both patterns represent the emergence of pluriactivity as a common strategy for farmers who wish to retain their farms as a running business, but at the same time to reduce their reliance on agricultural production as the major source of income. The features of pluriactivity and the reasons for its choice as an adjustment strategy have been analysed extensively in the literature (Brun and Fuller, 1991; Ilbery, 1998; Eikeland and Lie, 1999; Bryden and Bollman, 2000; Hoggart and Paniagua, 2001; Sofer, 2001) and will not be reiterated here.

A significant group of farm-holders choose as their strategy of pluriactivity to establish a business enterprise on the farm. In this choice they often have several goals, such as maintaining the farm active in agriculture, increasing household income and profits, getting involved in new economic ventures, and self-fulfilment (Kelly and Ilbery, 1995; Barbieri and Mahoney, 2009). In many cases diversification of the farm economy means adding value also to agricultural products (Gillmor, 2003; Barbieri and Mahoney, 2009). Already by the 1990s there were several surveys reporting on a growing number of farms diversifying their income sources through on-farm ventures (Bryden et al., 1992, Gasson et al., 1988). For instance, 60% and more of farmers in Cambridgeshire, England, operated non-agricultural enterprises on the farm (Carter, 1998), and about 50% in Norway (Eikeland and Lie, 1999).

Generally, it is possible to discern three major types of on-farm businesses: farm dependent businesses, farm tourism and community services (Ilbery, 1991; Robinson, 2004; Jongeneel et al., 2005; Sofer and Applebaum, 2008). Yet, the nature of farm business enterprise varies from one place to another and among different farms, in line with the local and regional conditions, the characteristics of farming activities and of household members, the type of resources available to the entrepreneurs, such as land and farm premises (Gillmor, 2003), the nature of demand for specific goods and services and government regula-

tions (Kelly and Ilbery, 1995; Daalhuizen et al., 2003). The transformation of the family farm economy has resulted in patterns of differential development and increasing heterogeneity, reflected in inter-regional and intra-regional inequalities in welfare and socio-political status, in access to economic opportunities and in economic performance of farm families (Marsden et al., 1987; Beteille, 1994; Hoggart et. al., 1995; Banski, 2003; Terluin, 2003).

Spatially, the appearance of on-farm ventures is far more remarkable in the rural-urban fringe (Praestholm and Kristensen, 2007), and is accompanied by an intense competition between agricultural and non-agricultural land uses (Bunce and Walker, 1992; Bryant and Joseph, 2001; Robinson, 2004). The proximity of the urban environment attracts a wide range of economic activities, including advanced sectors and wealthy populations, which affect the pattern and level of demand for goods and services. While remote regions also gain from the process of rural restructuring, the impact is weaker and is seen mainly in a small number of domains, often those that are identified with the rural space, such as farm tourism.

The production activities of the farmers-entrepreneurs reflect on both the form of regional development and the farmers' contribution to local development. In defining local development (whether urban or rural), Moseley (2002) suggests that it is 'the pursuit of development at a local scale with the aim of addressing local concerns, adding value to local resources – whether material, human or symbolic – and mobilizing local actors – whether people, groups or agencies'. Accordingly, local entrepreneurship and the mobilisation of human capital seem to be important for the generation of local development. This was portrayed in a four stages model by Coffey and Polese (1984): the emergence of local entrepreneurship, followed by the take-off of local enterprises, the expansion of these enterprises beyond the local region, and finally, the achievement of a regional economic structure based on local initiatives and locally created comparative advantages.

The benefits derived from local initiatives involve the use of local knowledge and local resources in order to achieve individual and community-determined goals (Bryant, 1989). Such initiatives contribute, among others, to supplementing the farm income, to job creation, to improved access to services, to economic exploitation of unused resources (Damianos and Skuras, 1996; Carter, 1999; Sofer and Applebaum, 2008), and to the provision of inputs and outlets to local and external firms (Carter, 1998). In other words, employment creation and economic regeneration are major components of local development objectives, and local entrepreneurship is a major mechanism to achieve them (Syrett, 1995), particularly in peripheral areas (North and Smallbone, 2006). It should be kept in mind that from the community and regional perspectives, entrepreneurship is not so much a process of making some farmers wealthy, as it is to

enable the community, and the region in which it is located, to enjoy the benefits of successful and compatible entrepreneurial development. Altogether, the topic of local development is implied in the expansion of entrepreneurial activities in the rural space by farm-holders, yet the discussion on the contribution of on-farm enterprises to local development is still embryonic, and this paper makes an attempt to draw attention to some of its major issues.

The Israeli setting

Pluriactivity has been common in family farms in Israel for quite some time. However, its main form until recent years has been the combination of farming and off-farm employment. On-farm entrepreneurship was in fact impermissible and regarded as illegal. For many years the rural space in Israel was treated mainly as an agricultural space, and agriculture was considered to be the mainstay of the rural economy. But as happened in many advanced economies, the importance of agriculture in both the national and the rural economy has been declining for several decades. Technological progress brought in its wake a reduction in farm labour requirements, spiralling growth in supply, decrease in real prices of agricultural output, deteriorating terms of trade, and a significant drop in profitability of the farm sector and of individual farming households (Kimhi, 2004; Sofer and Applebaum, 2006). However, for a long time the impact of these trends on the economic base of rural areas and rural households was toned down due to the special institutional system and government protection of the rural sector in Israel. The situation began to change only by the mid-1980s, when the government began to revise its rural policies.

The institutional framework of rural communities in Israel

The rural space in Israel is to a large extent a planned space, and about 80% of existing villages were established within a national settlement program, which was initiated nearly a hundred years ago and continued throughout most of the 20th century. All the planned villages are registered legally as cooperative societies of various types and the land is registered under the name of the cooperative. The Settlement Authority provided the initial settlers with all the necessary resources, and in return the settlers were obliged by the lease contract to use the land only for farming. The authority continued to support the settlers until they were able to handle their affairs independently (Weitz and Rokach, 1968), but the farm sector in particular, and the rural sector in general, continued to benefit for many years from the support and protection of the government, delivered through various measures, such as farm subsidies and legal protection of agricul-

tural land and cooperative frameworks. This protection provided a measure of stability to the farming communities, but at the same time prevented them from recognizing in time the need to adjust, when the economic environment changed (Schwartz, 1999; Lapidot et al., 2006).

This paper is concerned with farmers, who are members of the most prevalent type of village, the *moshav*, which comprises about 35% of all rural settlements in Israel. The *moshav* contains on the average between 60 and 100 family farm holdings. The sizes of holdings differ among regions and localities according to their agricultural potential, varying between 3 and 15 hectares, but are equal within each *moshav*. This equality is rooted in an ideological concept that every settler is entitled to receive an equal share of the distributed public resources. The size and structure of the farm were determined on the basis of its capacity to provide a family that works full-time on the farm with an average income which is comparable to that of a working urban household. Accordingly, the contract with the settlers specified that the holding could not be divided or amalgamated, and could be transferred to heirs or other potential settlers only as one unit in its entirety. In the long run, this stipulation circumscribed the ability of farmers to expand their land holding in response to the changing economic conditions.

The restructuring of the rural economy and the move to a multi-functional space

In the mid-1980s a severe national financial crisis took place in Israel, and the government decided, as part of an anti-inflation effort, to withdraw its long-time financial and legal protection of the farm sector in particular, and the rural space in general. At first it refused to bail out indebted farmers and cooperative societies, and later on it relaxed its restrictions on alternative uses of farmland and allowed its re-designation for other, mostly urban, uses. This latter decision opened the way for an increasing rural in-migration of non-farming population, as well as for new interest groups that started to compete with the long-time residents over the use of rural resources. These trends accelerated the processes of change which had been contained for a long time, leading to a rapid restructuring of the rural space from an agricultural space to a multi-functional space.

The most noticeable change during that period was the restructuring of agriculture, as indicated in the following data. In 1960 about 84% of the rural labour force was engaged in agriculture, as compared with 34% in 1980 and only 9.5% in 2007. Between 1980 and 2007 employment in agriculture dropped by about 30%, and the number of self-employed dropped dramatically by nearly 80%, indicating their gradual replacement by wage labour, mostly low-

-paid foreign workers (Ministry of Agriculture, 2008). This trend contributed to a decrease in production costs on the one hand, and released household members to engage in more profitable non-agricultural occupations on the other hand. In fact, the major source of rural employment at present is the public sector (42% of the economically active population – Figure 1).

These macro trends are reflected at the micro level in the adjustment strategies of individual farm households, seeking to increase and diversify their income sources (Kimhi, 1994; Sofer, 2001; 2005). In general, it is possible to discern three strategic directions: A relatively small group of farmers has chosen to expand their scale of operation through subleasing of land from other farm holders, and/or shift towards more capital intensive enterprises. These relatively large-scale farmers, who cultivate 10 hectares and more, derive more than 90% of their income from agricultural production (Sofer, 2005). Other farmers have opted out of agriculture altogether, renting their farm assets to either full-time farmers, or to commercial and industrial entrepreneurs. But the most common strategy adopted by farmers is pluriactivity, i.e. combining agriculture with other off- or on-farm activities, including wage employment, self-employment and on-farm business operation (Haruvi, 1989; Kimhi, 1994; Sofer, 2001).

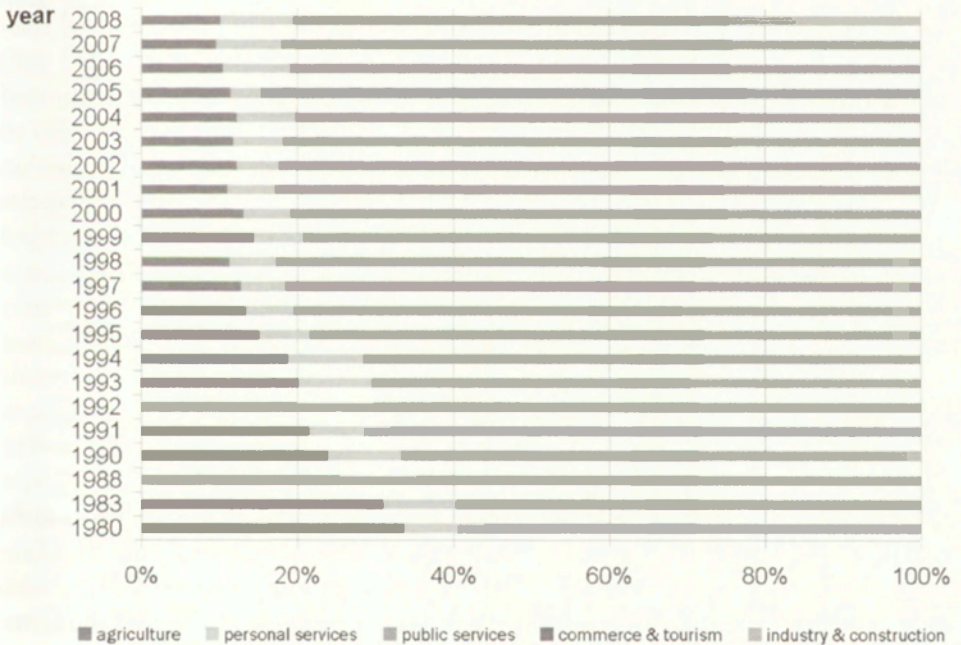


Figure 1. Changes in the employment structure in rural settlements in Israel: 1980–2008

Unfortunately, there are no updated statistics on the share of these groups in the total farm population, or on the relative importance of different types of pluriactivity, practiced by family farmers, in the household employment and income. There is earlier evidence indicating that wage employment of farm household members has been common for a long time as an income-augmenting strategy, while the development of non-agricultural activity on the farm itself is a more recent phenomenon. This difference in timing can be attributed to the legal restrictions on the use of land on family farms for non-farming purposes (Applebaum and Sofer, 2004). While these restrictions still apply, the financial crisis on the one hand, and the change in institutional regulations concerning the re-designation of farmland on the other hand, facilitated the development of on-farm enterprises as a new and growing component of the survival strategy of *moshav* households. Between 1995 and 2002 (the last year for which data are available) the number of holdings having at least one on-farm enterprise and the number of non-farming enterprises nearly tripled, from 3,790 to 10,656, and from 4,374 to 13,214 respectively. About a third of farm households rent premises to external entrepreneurs or to local residents (Ministry of Agriculture, 2003). Despite this rapid growth the establishment of on-farm enterprises is still regarded as illegitimate since the land they occupy is designated only for agriculture.

Earlier studies of this phenomenon concentrated mainly on the impact of enterprises located on farm holdings on the environment and on the social relations in the community (Sherman and Keidar, 1993; Sofer and Gal, 1996; Boyarsky, 2004). Almost no attention was given to the impact on the farm itself and on the local economy. The present study has therefore sought to find out to what extent the farmer's decision to establish self-owned business ventures on the farm indicates a desire to maintain the farm as an on-going enterprise and/or to utilize its resources to expand his economic activity. Another question concerns the impact of this activity on the local and regional economy.

The farmers and their businesses

Who are the farmers-entrepreneurs?

The majority of farmers-entrepreneurs in the study belong to established farm families. Over 40% have acquired their farms before 1960 and only 13% are relative newcomers. About 20% are original first generation settlers who received their farms from the settlement authority and 44% inherited the farm. The remaining 35% bought the farm from previous owners. Nevertheless, more than 80% of all farmers (including buyers) have been living on their farms for

more than 25 years and slightly over 50% for more than 40 years. At the same time about two-thirds of the on-farm businesses were launched only from 1996 onwards, indicating an endogenous entrepreneurship by long-established farmers.

Almost all the interviewed farmers expressed an unequivocal intention to maintain the farm as an on-going operation, although not necessarily as their main occupation. However, nearly 60% of them are over 55 years old and only 10% are 35 years old or younger. At the present stage it appears that the prospect of inter-generational transfer on many of the farms is uncertain. Only about one third have at least one potential heir living on the farm, and the majority of these younger family members show greater interest in the business ventures than in the farm itself. In fact, quite a few of them have actually started these ventures and are acting as their managers. From several face-to-face open ended interviews conducted with some of the farmers it appears that since most farms can no longer support even one family without additional sources of income, the opportunity to develop a non-farming business venture enabled the younger generation members to remain on or return to the farm. In this sense, the non-farming enterprise facilitates the continuation of the farming activities by the family and contributes to the rejuvenation of the rural community.

The economic activities of the farm households

The farm holding. The most frequent size of a farm holding in the study (48%) is 3 hectares. About 16% of the holdings are smaller and 35% are larger. In addition to operating a non-farming business, most farmers-entrepreneurs cultivate larger tracts of land than the land they own, and about 40% cultivate more than 5 hectares. Some of them rent the additional land from neighbouring farmers, but the larger tracts are often worked in partnerships. There is also a smaller group of farmers who cultivate only a part of their holding, concentrating on the business as the major source of income. According to the information supplied by the farmers, the average number of workers on the farm is three, including one family member. About 25% of all farmers have recently expanded their farm operations, either by introducing new agricultural enterprises or by technological innovations. Nevertheless, even these farmers reported that they could not make a living from agriculture alone and therefore they developed also non-farming enterprises as additional sources of income.

The on-farm business enterprise. The types of non-farm business ventures developed by the Israeli farmers reflect their ability to recognize the specific attributes and resources of the rural space in general and their specific location in particular and exploit them for their economic benefit. The on-farm ventures identified in this study may be divided into four categories: farming-dependent

enterprises (33%), farm tourism and recreation (28%), community services (15%) and other businesses, mostly footloose activities (24%). Most tourism businesses are located in the scenic north of the country, while the farming-dependent businesses are found mostly in the major farming areas – the inner valleys and the coastal plain.

The majority of the businesses, except those that are farming-dependent, are relatively small in terms of both floor space and number of workers (Table 1). About 75% of all businesses occupy less than 150 square meters per unit, employ less than 3 workers, and are defined legally as registered business. Only 20% are registered as companies. Farming-dependent enterprises are not only much larger in size than the other types of enterprises, but their owners also cultivate larger tracts of land – 10 hectares on average, as compared with only 2.1 hectares for owners of community service ventures.

Table 1. Average size of business enterprises by floor space and number of employees

Type of enterprise	Floor space (m ²)		Number of employees	
	no.	average	no.	average
Farming-dependent	19	1477.7	6	6.5
Tourism and recreation	18	265.6	22	1.7
Community services	11	128.6	12	3.5
Other	17	124.4	19	4.8
Total	65*	560.8	79	4.3

*14 farmers did not provide information on the floor space of their business.

The economic link between farm and business. The study revealed a strong link between the farm and on-farm business activities. Most of the farmers-entrepreneurs have been utilizing the farm resources, including land, premises, capital, labour and farm products, in the building of their business. At the same time, nearly 60% of the farmers invest part of the income derived from the business ventures back into the farm enterprise. In certain cases they draw added value from farm activities by retaining a larger share of the revenue derived from agricultural production. In other words the business enables the farmer not only to keep his farm going but often also to develop and expand his farming activities and increase his income from the farm. Additionally, the existence of a group of farmers-entrepreneurs can provide a strong economic core to the rural community, and creates a demand for additional activities by non-farmers living in the village. The development of farm tourism is a case in point, generating a demand for additional services for visiting tourists.

The strength of farm-business links varies with the type of business (Table 2). The strongest link appears in farm-dependent businesses, such as wineries, dairies, on-farm sale of farm products etc., and the weakest in other businesses, unrelated to the farm or to the community. In the latter case only 40% of entrepreneurs use money earned in the business to invest in the farm or vice versa, while close to 60% of owners of farm-dependent businesses do so. These farmers also tend more than others to register the farm and the business as a legally joint business enterprise.

Table 2. Percentage of farmers specifying the existence of economic links between farm and business by type of business and type of link

Type of business	Type of link			
	products derived from farming	a large share of farm income remains in the farm household	part of the income from farming is invested in the business	part of the income from the business is invested in the farm
% of farmers				
Farming-dependent	96	79	58	63
Tourism and recreation	48	57	52	67
Community services	8	58	17	58
Other	22	44	39	39

Factors promoting and obstructing on-farm business activity

The farmers were asked to state their main reasons for setting up a business on the farm by degree of importance of each reason on a scale from 1 to 3 (Table 3). Generally, three groups of reasons may be discerned. The first group includes the economic considerations relating to the need of additional income in view of the decline of income from agriculture, which almost all the interviewees pointed out as the most important reason for setting-up a business. The second group indicates a wish to exploit a variety of resources available to the household – from acquired knowledge (the most important resource in this group), through unused farm premises, to labour and capital resources (although the latter is ranked relatively low on the scale of importance). In fact, the availability of these resources is often the trigger to on-farm entrepreneurship (see also Sofer, 2005). The third group represents entrepreneurial motives, such as the wish to exploit promising business ideas or new market demands, and personal motives such as a search for self-fulfilment. In general, reasons stated by a relatively large number of respondents showed also a propensity for a relatively higher degree of importance.

Table 3. Reasons for setting up a business on the farm

Reasons for setting up an on-farm business	No.	% of all respondents	Degree of importance
To create an additional source of income	68	88.31	2.85
To exploit acquired professional knowledge	43	55.84	2.69
To take advantage of a newly identified demand for goods or services	62	80.52	2.67
To realize a business idea that sounds promising	50	64.94	2.57
To make use of redundant farm buildings	42	54.55	2.54
To exploit available household labour resources	36	46.76	2.54
A form of self-fulfilment	46	59.74	2.44
To exploit available capital resources	16	20.78	2.20
To find an alternative to income from agriculture	26	33.77	2.16
All respondents	77	100.0	-

The high degree of importance assigned to income considerations raised the question why do these farmers prefer the establishment of a business on the farm over employment outside the *moshav*. The most frequent explanations given by farmers are the wish to take advantage of the proximity to the house and to the farm (86%), the wish to be self-employed (85%) and the desire for self-fulfilment in work (80%). Slightly over 60% explained that the on-farm business facilitates the continuation of the farming operations. These answers imply that these farmers-entrepreneurs wish to continue their way of life as independent producers in a rural setting. This also indicates the potential for local development, inherent in family farmers, due to their experience as farm business entrepreneurs on the one hand, and the underutilized resources at their disposal on the other hand.

Moreover, one should remember that the availability of land and premises, and the proximity of the work place to the farm and to the home are important factors, which can promote and support the development of on-farm enterprises. Besides, farmers indicated locational advantages relating to the rural environment and proximity of customers as important factors. On the contrary, it was found that the two most important obstacles cited are the shortage of capital resources, and institutional constraints and bureaucracy. The latter is easily explained, since according to the present legal status farmers are not allowed to use their land for any purpose other than farming, and therefore they can at best obtain a temporary permit for establishing a business. More often they do so without planning permits, and consequently are unable to obtain other permits, which are necessary for the legal operation of the business.

According to the entrepreneurs' responses, the Israel Land Authority and the Ministry of Agriculture and Rural Development are perceived as the two main institutions posing obstacles to enterprise development. This is understandable in view of the regulative authority held by these two institutions with respect to agricultural land and farming activities. Other institutions mentioned are the Regional Council (the municipal authority of rural areas in Israel) and the Ministry of Health. At the same time the Ministry of Agriculture is cited by other farmers also as highly supportive institution. The reason for this difference of opinion probably derives from the type of enterprise, since the Ministry provides support in particular for tourism and recreation enterprises, and much less support, if at all, for other activities. Only a small number of entrepreneurs acknowledged support from other organizations such as the Ministry of Tourism and the Regional Council.

On the whole, it appears that in spite of considerable institutional and financial constraints, farmers-entrepreneurs included in this study have succeeded in developing new business ventures on their farms. In this effort they have been using both the human capital and the material assets at their disposal, creating economic benefit for their own welfare as well as for their communities.

Levels of local and regional embeddedness

Each business has its own specific networking characteristics, which are largely related to the economic branch it belongs to. The term 'networking' refers to all types of linkages that the business has, those related to suppliers and customers, as well as to information and knowledge acquisition. The networking developed by the entrepreneur is a major asset of his social capital and thus plays a major role in the business survival and expansion. Local linkages indicate a high level of integration into the local economy and are considered a prerequisite for a vibrant and successful local economy. The *moshav* entrepreneurs are linked to both local and external networks and markets (Table 4). About half of their cus-

Table 4. The percentage distribution of customers and suppliers by location

Location	Average share of customers (%)	Average share of suppliers (%)
The <i>moshav</i>	13.1	6.4
Nearby settlements	37.3	29.2
Tel-Aviv Metropolitan Area	11.2	15.5
Rest of the country	33.7	40.9
Abroad	1.9	7.2

The values do not sum up to 100 because the number of respondents varies by answer.

tomers are locals – from the *moshav* itself and the surrounding region. The share of local suppliers is lower – just above one third.

The *moshav* entrepreneurs also use local advertising channels. Although the main advertising venue is the internet, used by almost sixty percent of the respondents, frequent use is also made of billboards posted in the *moshav* and throughout the region (46%), and of the local press (26%). This means that the entrepreneurs are looking first of all for local customers, either residents of their settlement and the close-by region, or passerby customers – tourists and travellers.

Contribution to household, local and regional growth and quality of life

As may be concluded from the analysis of data, the on-farm businesses play a major role in both household welfare and local economic development. Table 5 shows that on the average the major source of income for the farmers-entrepreneurs is the on-farm business, followed by the farm itself, while other potential sources are relatively negligent. This finding is expected, as it reflects the initial choice of the group under scrutiny. Moreover, the mutual relationships between the business and the farm, as expressed by the data in Table 2 above, suggest high internal dependency between these two major sources of income. This dependency reflects on the survival strategy of the farming household and thus expresses the fact that the persistence of agricultural production and its related activities depends to a large extent on the existence of sustainable non-agricultural activities on the farm.

The implications for local development are emphasised by the farmer-entrepreneurs own responses to the question regarding their conception of the main contribution of on-farm enterprises to local development. About ninety-five

Table 5. Percentage of households by the relative share of different sources of income

Share of income (%)	Farming households by the sources of income				
	farming	on-farm business	salaried job	off-farm business	renting out land and premises
	% of households				
0	16.2	8.1	64.9	91.9	78.4
<40	48.6	41.9	21.6	5.4	17.6
40–70	27.0	35.1	9.5	1.4	4.1
71–100	8.1	14.7	4.1	1.4	0
Total (74)	100.0	100.0	100.0	100.0	100.0
Average	32.3	43.4	14.3	3.2	5.1

percent of the respondents specified the creation of new work places as the major contribution, followed by the expansion and diversification of local community services (75%). Another stated contribution is the improvement of the general welfare of rural inhabitants (71%). At the same time the respondents cited also non-positive implications, such as the increasing conflicts between neighbours within the settlements (65%), and between the farmers and the regulatory institutions (65%). Nonetheless, the positive implications have a superior weight by far.

Conclusions

The distinctive feature of the particular group of farmers under consideration in this study is their choice of a livelihood strategy based on a combination of agriculture and self-owned small business activity on their farms. The major reasons for this choice are economic, reflecting the significant changes, which took place in the economic environment and in government policy, which forced the farm households to seek alternative sources of employment and income. The majority of farmers in this study, who come mostly from old-established farming families, decided to make use of the various physical, human and financial resources at their disposal to establish new business ventures, which would not only provide the necessary additional income, but would also support the continuance of farming and satisfy individual entrepreneurial aspirations. Many of the businesses established by these farmers are connected in one way or another to the farming activity and there is a two-way transfer of resources between the two economic activities.

It has been suggested that the choice of pluriactivity based on agriculture and on-farm enterprise may be only a temporary strategy, adopted by some of the farming households. We would argue that at present, for the majority of those households that operate small farms that can no longer provide sufficient income, pluriactivity is also aimed at helping to sustain the agricultural activity. In such cases, farmers may utilise the resources acquired from the business for investment in the farm. Quite often the businesses, which they establish, are adding value to the agricultural products, resulting in higher farm incomes. Moreover, with the increasing dependence of the rural economy on non-farming enterprises, the existence of on-farm enterprises provides a measure of stability, particularly at times of crisis in the agricultural sector. This dependency suggests that a more structured planning policy should be adopted in order to create a thriving non-agricultural economy as a support system for farmers.

The decline in the share of agricultural producers in the *moshav* communities, combined with the in-migration of non-farming residents, lends particular

importance to the emergence of pluriactive farmers who develop on-farm enterprises. On the one hand, they help to maintain the land under cultivation and protect the open rural space. On the other hand, they contribute to the rural economy by creating new job opportunities and new demand for inputs and services in their own locality and the surrounding region. Another contribution, often made by the women in the farm households, is the provision of community services, which improves the accessibility of local people to service outlets and thus increases their welfare.

It should also be pointed out that there is an abundance of human and social capital in the Israeli rural space, waiting to be exploited. Unfortunately, the recognition that this concentration of skills, experience and cooperative tradition could be mobilized into local development activities has yet to infiltrate into the policy making system, mainly at the national level. This group of potential entrepreneurs could be the avant-garde of local and regional development, particularly in peripheral areas, where external private capital is scarce and local capital, with suitable public support, can move the economy forward.

Although the economic implications prove to be positive, so far the government policies turned out to be the greatest obstacle to local entrepreneurship on farm holdings. It is essential that government agencies should change their attitude, remove existing obstacles and encourage entrepreneurial diversification through integrated policies, incentives, and support programs that will enable entrepreneurial farmers to realize their potential for their own benefit and for the benefit of their localities. Promoting diversification that fits the character of rural areas and supports the agricultural systems will sustain and strengthen rural communities, their cultural diversity, and the rural way of life.

Based on a preliminary study, the present paper focused on a limited number of issues concerning self-owned on-farm enterprises and their role in local development. Future research should, however, expand into additional issues related to the performance of these businesses in maintaining long-term sustainable and vibrant rural communities. This is of particular relevance to policy-makers who are concerned with the need to regenerate and revitalize lagging rural communities.

References

- Applebaum L., Sofer M., 2004, *The moshav – current changes and future trends*, Horizons in Geography, 59, 36–60 (in Hebrew).
- Baldock D., Dwyer J., Lowe P., Petersen J.E., Ward N., 2001, *The nature of rural development: towards a sustainable integrated rural policy in Europe. Synthesis report*, Ten-Nation Scoping Study for WWF and the GB Countryside Agencies.

- Banski J., 2003, *Selected aspects of present-day changes in Polish rural space*, *Geographia Polonica*, 76(1), 73–96.
- Barbieri C., Mahoney E., 2009, *Why is diversification an attractive farm adjustment strategy? Insights from Texas farmers and ranchers*, *Journal of Rural Studies*, 25(1), 58–66.
- Beteille R., 1994, *La Crise Rurale*, Press Universitaires de France, Paris.
- Boyarsky E., 2004, *Residents' perception of environmental and socioeconomic impacts of non-farming enterprises in the Moshav*, *Horizons in Geography*, 59, 78–94 (in Hebrew).
- Brun A.H., Fuller A.M., 1991, *Farm family pluriactivity in Western Europe*, Arkleton Trust (Research) Ltd and the French Ministry of Agriculture and Forestry.
- Bryant C., 1989, *Entrepreneurs in the rural environment*, *Journal of Rural Studies*, 5(4), 337–348.
- Bryant C., Joseph A., 2001, *Canada's rural population: trends in space and implications in place*, *Canadian Geographer*, 45, 132–137.
- Bryden J. M., Bell C., Gilliatt J., Hawkins E., MacKinnon N., 1992, *Farm household adjustment in Western Europe 1987–1991*, Vols. 1 and 2, Arkleton Trust (Research) Ltd., Nethy Bridge.
- Bryden J., Bollman R., 2000, *Rural employment in industrialised countries*, *Agricultural Economics*, 22, 185–197.
- Bunce M., Walker G., 1992, *The transformation of rural life: the case of Toronto's countryside*, [in:] I. R. Bowler, C. Bryant, D. Nellis (eds.), *Contemporary rural systems in transition: agriculture and environment*, U.K., CAB International, Wallingford, 29–48.
- Carter S., 1998, *Portfolio entrepreneurship in the farm sector: indigenous growth in rural areas?* *Entrepreneurship and Regional Development*, 10(1), 17–32.
- Carter S., 1999, *Multiple business ownership in the Farm Sector: Assessing the Enterprise and Employment Contributions of Farmers in Cambridgeshire*, *Journal of Rural Studies*, 15, 417–429.
- Coffey W.J., Polese M., 1984, *The Concept of local development: A stages model of endogenous regional growth*, *Papers in Regional Science*, 55(1), 1–12.
- Daalhuizen F., van Dam F., Goetgeluk R., 2003, *New firms in former farms: a process with two faces*, *Tijdschrift voor Economische en Sociale Geografie*, 94(5), 606–615.
- Damianos D., Skuras D., 1996, *Farm business and the development of alternative farm enterprises: an empirical analysis in Greece*, *Journal of Rural Studies*, 12(3), 273–283.
- Eikeland S., Lie I., 1999, *Pluriactivity in rural Norway*, *Journal of Rural Studies*, 15(4), 405–415.
- Gasson R., 1988, *Farm diversification and rural development*, *Journal of Agricultural Economics*, 39, 175–182.
- Gasson R., Crow G., Errington A., Hutson J., Marsden T., Winter D.M., 1988, *The farm as a family business: a review*, *Journal of Agricultural Economics*, 39, 1–41.
- Gillmor D.A., 2003, *Change in rural Europe*, *Geographia Polonica*, 76(1), 3–12.

- Haruvi N., 1989, *Trends in the structure of agriculture and employment in family farms*, Horizons in Geography 27, 25–37 (in Hebrew).
- Hoggart K., Buller H., Black R., 1995, *Rural Europe: identity and change*, London, Edward Arnold.
- Hoggart K., Paniagua A., 2001, *What rural restructuring?* Journal of Rural Studies, 17(1), 63–80.
- Ilbery W.B., 1991, *Farm diversification as an adjustment strategy on the urban fringe of the West Midlands*, Journal of Rural Studies, 7, 207–218.
- Ilbery W.B., 1998, *Conclusions*, [in:] B. Ilbery (ed.), *The geography of rural change*, Longman, London, 257–260.
- Jongeneel R., Polman N., Slangen L., 2005, *Why are farmers going multifunctional?*, [in:] *The future of rural Europe in the global Agri-Food System*, XIth International Congress of the European Association of Agricultural Economists, 24-27 August, Copenhagen.
- Kelly C.E., Ilbery W.B. 1995, *Defining and examining rural diversification: a framework for analysis*, Tijdschrift voor Economische en Sociale Geografie, 85(2), 17–185.
- Kimhi A., 1994, *Participation of farm owners in farm and off-farm work including the option of full-time off-farm work*, Journal of Agricultural Economics, 45 (2), 232–239.
- Kimhi A., 2004, *The rise and fall of Israeli agriculture: technology, markets and policy* (a paper prepared for presentation at Sung Kyun Kwan University, Department of Agriculture Economics and Management, The Hebrew University), Rehovot.
- Lapidot A., Applebaum L., Yehudai M., 2006, *The Kibbutz in a changing environment: between survival and the preservation of values*, Horizons in Geography, 66, 7–27 (in Hebrew).
- Marsden T., Whatmore S., Munton, R., 1987, *Uneven development and the restructuring process in British agriculture: A preliminary exploration*, Journal of Rural Studies, 3(4), 297–308.
- McCarthy J., 2005, *Rural geography: multifunctional rural geographies – reactionary or radical?* Progress in Human Geography, 29(6), 773–782.
- Ministry of Agriculture, Rural Planning and Development Authority, 2003, *Non-agricultural activities, organizational and municipal activity in the moshav sector in 2002*, Beit Dagan (in Hebrew).
- Ministry of Agriculture, Rural Planning and Development Authority, 2008, *Economic report on the state of agriculture and the rural sector 2007* (in Hebrew).
- Moseley M.J., 2002, *Local rural development. Principles and practice*, Sage Publications, London.
- North D., Smallbone D., 2006, *Developing entrepreneurship and enterprise in Europe's peripheral rural areas: some issues facing policy-makers*, European Planning Studies, 14 (1), 41–60.
- Pierce J.T., 1993, *Agriculture. sustainability and the imperatives of policy reform*, Geoforum, 24(4), 381–396.

- Praestholm S., Kristensen S.P., 2007, *Farmers as initiators and farms as attractors for non-agricultural economic activities in peri-urban areas in Denmark*, *Geografisk Tidsskrift, Danish Journal of Geography*, 107(2), 13–27, 2007.
- Robinson G., 2004, *Geographies of agriculture: globalisation, restructuring and sustainability*, Pearson, Harlow.
- Schwartz M., 1999, *The rise and decline of the Israeli moshav cooperative: a historical overview*, *Journal of Rural Cooperation*, 27(2), 129–166.
- Sherman N., Keidar F., 1993, *Non-agricultural businesses in moshav type planned agricultural settlements*, Development Study Centre, Rehovot (in Hebrew).
- Sofer M., 2001, *Pluriactivity in the Moshav: Family Farming in Israel*, *Journal of Rural Studies*, 17, 363–375.
- Sofer M., 2005, *The Future of Family Farming in Israel: The Second Generation in the Moshav*, *The Geographical Journal*, 171, 357–368.
- Sofer M., Applebaum L. 2006, *The rural space in Israel in search of renewed identity: The case of the moshav*, *Journal of Rural Studies*, 22, 323–336.
- Sofer M., Applebaum L., 2008, *Self-owned non-farming enterprises on family farms and their contribution to agriculture and the rural settlement. Research Report*, Chief Scientist, The Ministry of Agriculture and Rural Development, Israel.
- Sofer M., Gal R., 1996, *Enterprises in village Israel and their environmental impacts*, *Geography*, 81(3), 235–245.
- Syrett S., 1995, *Local development: restructuring, locality and economic initiative in Portugal*, Aldershot, Avebury.
- Terluin I.J., 2003, *Differences in economic development in rural regions of advanced countries: an overview and critical analysis of theories*, *Journal of Rural Studies*, 19(3), 327–344.
- Weitz R., Rokach A., 1968, *Agricultural development – planning and implementation (Israel Case Study)*, Reidel, Dordrecht, Holland.
- Winter M., 1996, *The crisis of the Common Agricultural Policy. Chapter 6*, [in:] *Rural Politics: Policies for Agriculture, Forestry and the Environment*, London, Routledge, 129–166.

Suman SAO
Department of Geography and Applied Geography
University of North Bengal, District Darjeeling, West Bengal, India
sumansao1@yahoo.co.in
Ersad ALI
Baluachara H.S. School, District Malda, West Bengal, India
ersadali1969@yahoo.co.in

Strategies for the development of sericulture for rural development. Case study of Malda District of West Bengal, India

Abstract. Generation of productive employment has become the central task of economic planning in India. Sericulture in some areas of rural India is a productive occupation for small and marginal farmers. It plays a vital role in the economy of Malda district, accounting for 60% of national share and for 75% of state share of raw silk production. The present study furnishes a detailed account on the problems of mulberry cultivation and silkworm rearing. Attempt has been made to formulate constructive guidelines for the eradication of inherent problems of the said sector so that it attains viable development at a sectoral, as well as spatial level.

Key words: sericulture, silkworm rearing, mulberry cocoon production, India

Introduction

Generation of productive employment has become the central task of economic planning in India today. The employment opportunities created must be productive enough in assuring minimum income and standard of living to the poor. Sericulture, being an important activity in some areas of rural India, is most suitable and productive occupation. Sericulture related activities comprise mulberry cultivation, silkworm rearing, cocoon reeling, twisting, weaving and finishing of fabric. These can be broadly grouped as pre-cocoon activities, which are agriculture based, including mulberry cultivation and silkworm rearing, and the rest are post cocoon activities included in the industrial sector. The result of the pre-cocoon activities is the production of cocoons and that of post cocoon is the finished fabric. India is the second largest producer of total raw

silk and mulberry raw silk in the world after China. India produced 16,319 MT of total raw silk and 14,617 MT of mulberry raw silk in 2002 which was 17% and 16.3% of the world production, respectively. Besides, it is the only country which produces all the four types of silk (Mulberry, Tasar, Eri and Muga) of commercial importance. However, the bulk of the commercial silk produced comes from mulberry silk variety which is obtained from the silkworm (*Bombyx mori*) which solely feeds on the leaves of *Morus alba*. These silkworms are completely domesticated and reared indoors. Karnataka, Andhra Pradesh, West Bengal, Tamil Nadu and Jammu & Kashmir together accounted for 86% of the country's total mulberry cultivated area and 99% of the country's total mulberry raw silk production (Fig. 1) in the year 2002–2003. West Bengal

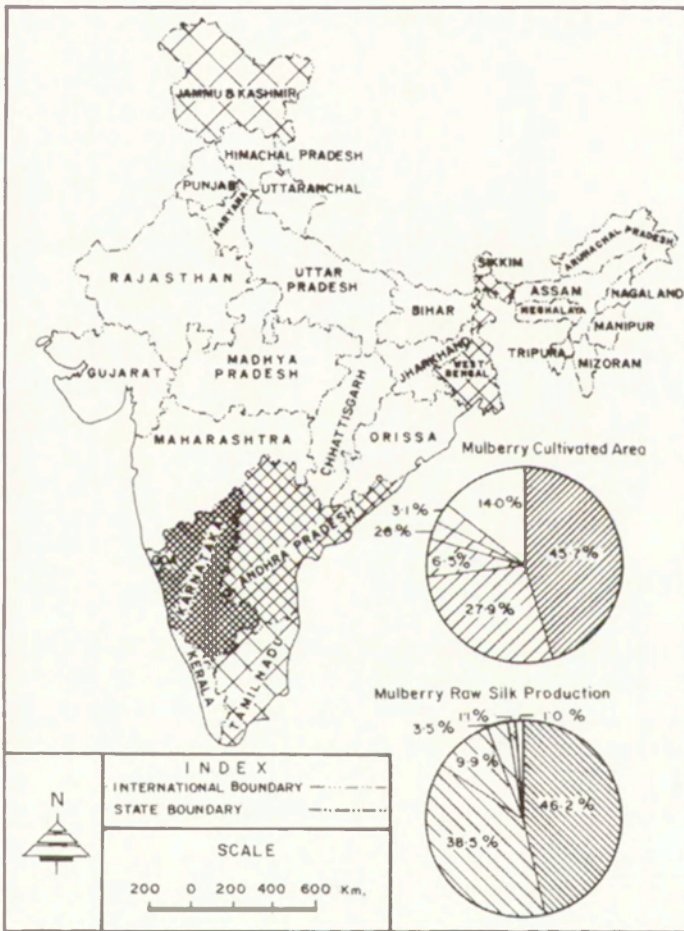


Figure 1. State wise distribution of mulberry cultivated area and mulberry raw silk production in India (2002–2003)

ranks third in silk production in India. Sericulture plays a vital role in the economy of Malda district of West Bengal. The said district accounts for 60% of national and 75% of state raw silk production. Three species of silkworm are reared in Malda namely *Bombyx Textor*, *Bombyx Totunatus* and *Bombyx Cracsi*. The fibre obtained from *Bombyx Textor* is superior in both quality and quantity, followed by *Bombyx Cracsi* and *Bombyx Totunatus*. Depending on the prevailing climatic conditions in Malda district, the crop harvesting can be done in five seasons which are Chaitra¹, Baisakhi², Jaistha³, Shrabani⁴/Bhaduri⁵ and Aghrani⁶. However, farmers usually opt to harvest in four seasons only (Chaitra, Baisakhi, Bhaduri and Aghrani). *Bombyx Textor* furnishes the maximum production during Chaitra and Aghrani season. *Bombyx Totunatus* and *Bombyx Cracsi* are usually harvested during the remaining seasons.

Keeping in view the need for revitalising the sericulture sector of Malda district in order to give an impetus to the rural economy, the prime objective of this study is to derive a set of policy measures to achieve the social and economic goals of developing mulberry cultivation and silkworm rearing. Hence, an in-depth analysis of the basic economic characteristics and estimation of productivity and income generation with relevant explanatory variables has been done to reveal the problems and identify the factors inhibiting the growth of the sector.

Spatial distribution of Mulberry Cultivation (MC) and Silkworm Rearing (SWR)

Malda district alone accounts for 47% of the mulberry cultivated area of West Bengal. Then the districts of Malda, Murshidabad and Birbhum together account for 72% of the total mulberry cultivated area of West Bengal (Fig. 2). Figure 3 shows the area brought under MC in Malda district from 1976–1977 to 2004–2005. The average rate of increase per annum during this period is only 119.7 hectare. In fact, there has been a decreasing tendency in mulberry cultivated area of Malda district from 2003 onwards, as land under MC is being transferred to other cash crops, mainly mango.

Figure 4 exhibits the number of rearers having moved to SWR in Malda from 1976–1977 to 2004–2005. The average annual rate of increase of the number of rearers during this period is only 1560. Involvement of workers in SWR is not the same over different years; the number remained more or less same from 1976–1977 to 1987–1988. It started increasing from 1990–1991 and reached a maximum in the period 1994–1995, but then again started decreasing from 1994–1995 onwards, due to the fact that some of the rearers now engage themselves in mango orchards. Figure 5 depicts block⁷ wise data

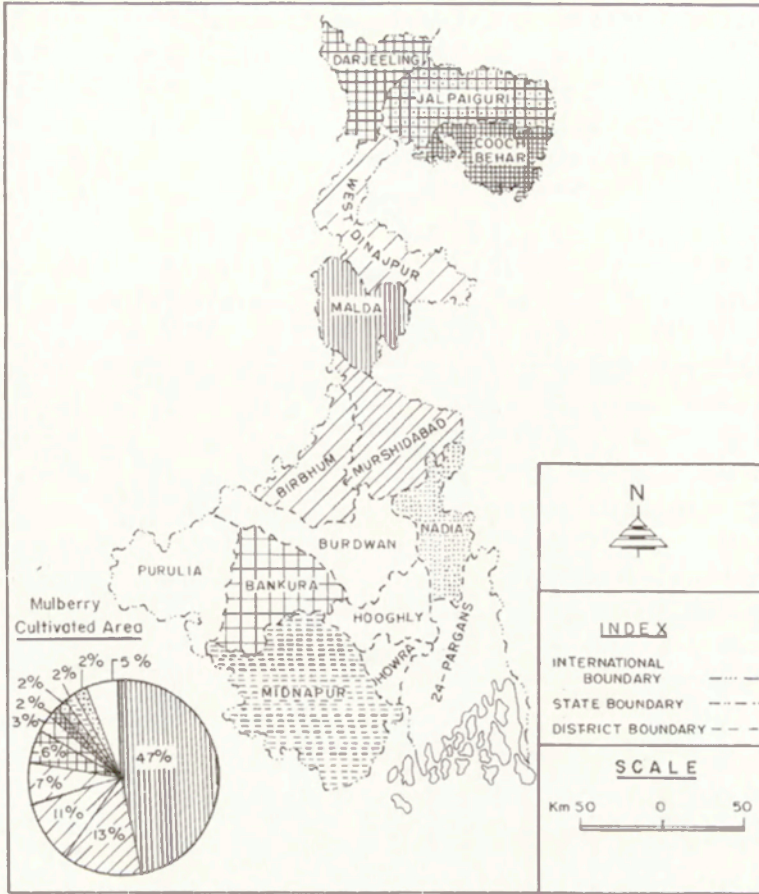


Figure 2. District wise distribution of mulberry cultivated area in the state of West Bengal (2002-2003)

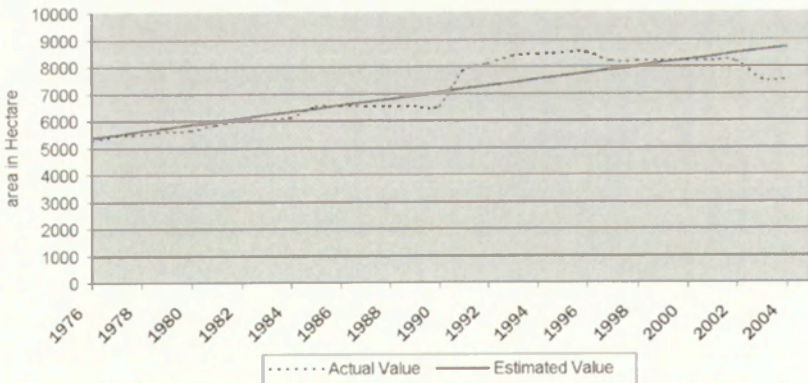


Figure 3. Area under mulberry cultivation in Malda District

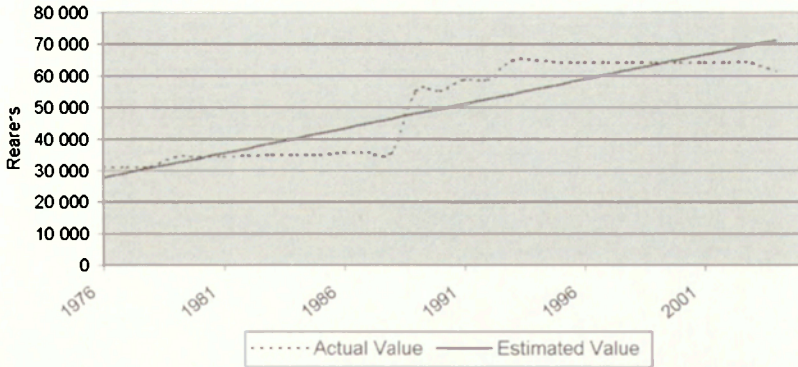


Figure 4. Silk worm rearers of Malda District

related to mulberry cultivated area and number of silkworm rearers of Malda district. As much as 96.7% of the mulberry cultivated area of Malda district is concentrated in Kaliachak I, II, III and English Bazar Blocks. Kaliachak block I has the lions' share (61.6%) of the total mulberry cultivated land of Malda district; 1/4th of the total mulberry cultivated area of the district is in Kaliachak block II, which occupies second position in the district in this respect; 68.6% of the villages involved in sericulture in Malda district fall in four blocks, Kaliachak I, II, III and English Bazar. Kaliachak block I, with 62.7% of the total number of silkworm rearers of Malda district occupied 1st position, followed by Kaliachak II block with 23.5% of rearers of Malda. Kaliachak III Block has nearly 4% of rearers, while English Bazar – 7.1%.

Quality cocoons are the basic raw material for the silk reeling sector, which is the backbone of the silk weaving industry. In Malda district the total production of reeling cocoons was 8489 MT in 2000–2001, 10,257 MT in 2001–2002, 10,546 MT in 2002–2003, 10,598 MT in 2003–2004 and 11,559 MT in 2004–2005, totalling the increase of 3070 MT from 2000–2001 to 2004–2005 (Directorate of Sericulture, Malda).

Sampling scheme

The present study is based on a primary survey, designed to collect data on the general and economic performance of the farm sectors. 120 sample units have been selected from four blocks (Kaliachak block I, II, III and English Bazar) of Malda district on the basis of proportional distribution. The silkworm rearers in the sericulture villages are almost homogenous in character; therefore the samples of silkworm rearers are selected with simple random sampling method without replacement. The sampling has been done with the help of random number table (Random Sampling Number arranged by Tippett).



Figure 5. Block wise distribution of mulberry cultivated area and silk worm rearers of Malda District

Basic economic characteristics of MC and SWR

Table 1 presents the averages and the coefficients of variation (C.V.) for relevant variables depicting basic economic characteristics of MC and SWR. All of the silkworm rearers also participate in MC. Average size of land under MC per unit is very small. 76% of the units have land up to 0.4 hectare under MC, meaning that majority of the units are small. Average land under HYV (high

yield varieties) per unit is even smaller: 34.2% of the surveyed units have no land under HYV. Average irrigated land per unit under MC is very low, but high value of C.V. indicates high variation among units. It is striking to note that 61.7% of the surveyed units have not irrigated their land. Because of small size of the plots, cost of irrigation is high, hence many rearers depend on rain for mulberry cultivation. Another significant point is that 54.2% of the units have low productive asset value, i.e. up to Rs.⁸ 25,000, indicating that these units are small in size and the room used for SWR is made of mud wall with tali⁹ roof. In general, the value of building, tools and mulberry garden is low. Only 10.8% of the surveyed units have this value above Rs. 75,000, meaning that these units have an appropriate building and possess some modern equipment.

The MC and SWR are labour intensive activities, but because of low wage rate, prevalent in the region, expenditure on labour seems low, and the average annual cost of hired labour in MC is low. However, variability among the units is moderately high as 23% of the surveyed units do not employ hired labour. Cultivation is restricted to self-employed labour in small units. In MC only male labours work. In 45% of the surveyed units, which are large in size, owners and family members have not worked in the mulberry farm. Average hired labour cost in SWR is very low because majority of rearers produce green cocoon with the help of family members; 45% of the surveyed units have not hired any labour for SWR, and so the average self-employed labour cost per annum in SWR is moderate and variability among units is very low. About half of the surveyed units have self-employed labour cost just below average. Average number of self employed standard man-days per 100 DFLs (Disease Free Layings) is low with low variability exhibited among units. Nearly 31% of the surveyed units have used up to 300 self employed standard man-days.

Fertilizer use plays a vital role in MC. Rearers generally use fertilizers during Chaitra and Aghrani seasons, but economically strong farms use chemical fertilizer or manure in every season. Average cost of fertilizers per hectare is moderate and variability among units is low. Use of irrigation facilities is insignificant in MC in Malda district, as reflected by the fact that 62% of the surveyed units cultivate without irrigation facilities. The average cost of irrigation per hectare per annum, as seen from the survey, is very low. Yet, very high variability has been exhibited among units as 28% of them have borne high irrigation cost, i.e. above Rs. 988.4 per hectare per annum, on the land where HYV mulberry plants are usually cultivated.

The average depreciation charge per hectare of mulberry-cultivated land is low. This is because of use of the traditional mulberry cuttings. 89% of the surveyed units own the mulberry cultivated land. Rests of the units have obtained the land on lease. The average rent per unit in a harvest year is very low. How-

Table 1. Variables presenting basic economic characteristics of MC and SWR in Malda District

Sl. No.	Variables related to MC and SWR	Average	C.V. %
1	Size of the mulberry-cultivated land per unit (Hectare)	0.312	86.16
2	Land under HYV per unit (Hectare)	0.308	86.25
3	Irrigated land under MC per unit (Hectare)	0.154	173.70
4	Annual investment on building, tools and mulberry garden (Rs.)	34522.00	95.52
5	Annual cost of hired labour in MC (Rs.)	2359.50	121.50
6	Annual cost of hired labour per hectare in MC (Rs.)	6978.01	110.37
7	Annual cost of hired labour in SWR (Rs.)	897.88	186.49
8	Annual cost of self-employed labour in SWR (Rs.)	5618.20	52.00
9	Self employed labour per 100 DFLs (standard mandays)	394.80	47.22
10	Annual cost of fertilizers per hectare (Rs.)	8525.62	56.52
11	Annual cost of irrigation per hectare (Rs.)	716.26	245.39
12	Depreciation charge per hectare of mulberry-cultivated land (Rs.)	726.74	100.72
13	Annual land rent per unit (Rs.)	94.59	348.47
14	Annual cost of maintenance of farm building (Rs.)	798.17	69.00
15	Annual cost of maintenance of tools (Rs.)	846.48	85.29
16	No. of DFLs used per unit in a harvest year	1658	61.54
17	Cost of 100 DFLs in a harvest year (Rs.)	69.08	33.51
18	Annual cost of mulberry leaves purchased per 100 DFLs (Rs.)	209.19	112.43
19	Annual production of green cocoon (Kgs.)	244.65	75.73
20	Annual production of green cocoon (Rs.)	16805.64	82.97
21	Annual production of green cocoon per 100 DFLs (Kgs.)	14.68	46.52
22	Annual gross output per unit (Rs.)	19342.56	77.81
23	Annual gross output per 100 DFLs (Rs.)	1171.53	49.24
24	Annual net income per unit (Rs.)	6794.00	127.05
25	Net income per unit in Chaitra season (Rs.)	2045.00	150.90
26	Net income per unit in Baisakhi season (Rs.)	1381.72	248.83
27	Net income per unit in Bhaduri season (Rs.)	460.73	357.63
28	Net income per unit in Aghrani season (Rs.)	2905.00	55.95

C.V. – coefficient of variation (ratio of standard deviation to the average, here in per cent)

Source: field survey.

ever, very high C.V. indicates very high variation in the rate of rent paid on land. Majority of the rearers have no separate silkworm rearing room. The rearers of this region try to keep SWR room germ free by using reagents like bleaching powder, formalin etc. Some of the rearers also try to control temperature and humidity within the room by using appropriate equipments. The average

annual maintenance cost of farm building in SWR is low, with low variability among units. However, low cost of maintenance indicates that owners of these units are not conscious about the quality of production. It is customary for all the rearers to repair and wash their tools and implements before the initiation of a season. They use formalin, cow dung and other means to maintain their equipments in proper condition. Average annual maintenance cost of tools is also low with moderate variability exhibited among units. Nearly 60% of the surveyed units have incurred maintenance cost below the average. These units are small in size and possess lackadaisical attitude.

In a harvest year 1658 DFLs are used per unit on average. The average cost of 100 DFLs in a harvest year is low, and very low C.V. indicates that majority of the units mainly purchase Bombyx Cracsi type of DFLs, which is usually priced low and readily available locally; 84% of the surveyed units of SWR sector of Malda are found to purchase mulberry leaves from market, even though every rearer has a mulberry cultivated land. Average cost of purchased mulberry leaves per 100 DFLs used as seed is not very high, but variability exhibited among the units is moderately high.

It can be observed from Table 2 that the cost of hired labour for MC gradually increases with the increase of land per unit. The cost of hired labour per hectare is high in large sized farms because the majority of the work is done by hired labour and contribution of self-employed labour is negligible. The consumption of fertilizer per hectare of cultivated land is high in farms, which occupy land below 0.4 hectare. The quantity of fertilizers consumed in large farms is comparatively low. Hence, production of mulberry leaves per hectare is also low. The irrigation cost generally increases with the increase in the size of the farm. Usually, small units have no irrigation facilities. Irrigation cost per hectare is as low as Rs. 550.4 in the 50 units which fall in the class group of 0.2–0.4 hectare. Cost of depreciation of mulberry cultivation shows that nearly 76% of the units have low cost per hectare because their size is below 0.4 hectare, whereas depreciation cost for establishing mulberry garden is high in larger units, which occupy more than 0.6 hectare of land. This indicates that numerous units, small in size, cultivate traditional local varieties of mulberry saplings. Only 11% of units, which are large in size, have registered high cost in this respect. Cost of leased land is found in small units only. The average rent paid on leased land gradually decreases with the increase in size of the holding.

Another important characteristic, which can be noted from the table is that the self-labour contribution in SWR is high in smaller units i.e. which have less land than 0.4 hectare. Nearly $\frac{3}{4}$ of units have high self-labour contribution in production, while in larger units, occupying more than 0.8 hectare, self-labour costs are low. Cost on DFLs decreases as the size increases because larger units usually pay in cash.

Table 2. Composition of cost per hectare in SWR in different size class of land

Land in Hectare	Up to 0.2	0.2-0.4	0.4-0.6	0.6-0.8	Above 0.8
Cost					
Hired labour in MC (Rs.)	5879.82 (5.54)	6790.07 (10.98)	8153.93 (15.95)	8262.95 (17.60)	9511.46 (27.46)
Fertilizer in MC (Rs.)	8840.96 (8.33)	9102.90 (14.72)	7121.27 (13.93)	7563.42 (16.11)	7384.72 (21.32)
Irrigation in MC (Rs.)	838.46 (0.79)	550.38 (0.89)	935.53 (1.83)	1075.12 (2.29)	1080.69 (3.12)
Depreciation cost for establishment of m. garden	541.28 (0.51)	742.08 (1.20)	633.91 (1.24)	938.97 (2.00)	952.53 (2.75)
Rent paid on leased land	1093.18 (1.03)	321.57 (0.52)	00.00 (00.00)	328.64 (0.70)	00.00 (00.00)
Self labour for MC & SWR	41445.30 (39.05)	21526.63 (34.81)	16348.76 (31.98)	15779.43 (33.61)	5850.28 (16.89)
DFLs	5858.59 (5.52)	3877.39 (6.27)	3527.41 (6.90)	3023.49 (6.44)	2542.39 (7.34)
Hired labour for SWR	5380.99 (5.07)	1947.97 (3.15)	2464.07 (4.82)	2610.34 (5.56)	4017.95 (11.60)
Extra mulberry leaves	27987.52 (26.37)	11248.76 (18.19)	7049.70 (13.79)	2394.38 (5.10)	90.06 (0.26)
Maintenance of tools and rearing room	8235.99 (7.76)	5720.23 (9.25)	4836.12 (9.46)	4906.13 (10.45)	3006.54 (8.68)
Interest on working capital	31.84 (0.03)	12.37 (0.02)	51.12 (0.10)	65.73 (0.14)	200.90 (0.58)
Total cost	106133.93 (100.00)	61840.38 (100.00)	51121.82 (100.00)	46948.60 (100.00)	34637.51 (100.00)
No. of units	41 (34.17)	50 (41.67)	16 (13.33)	9 (7.50)	4 (3.33)

Figures in parentheses are in per cent

Source: field survey.

From the above discussion it can be noted that smaller units harvest more than three crops because they are fully dependent on SWR. They usually buy from local grainage on credit, generally paying high price for low quality DFLs. The cost of hired labour for SWR for nearly 34% of units having below 0.2 hectare of land is Rs. 5381.8 per hectare of cultivated land. Then, about 42% of the surveyed units from the group of 0.2-0.4 hectare have low average hired labour cost (only 3% of the total cost) and this cost increases with the increase in the holding size.

The cost of extra mulberry leaves purchased from the market for nearly 34% of the units, which have farm land below 0.2 hectare, was high, i.e. Rs.

27,988.6 in a year per hectare of land. These units have not enough of cultivated land and always depend on market for mulberry leaves. Cost of extra mulberry leaves is inversely proportional to the size of the farm. Maintenance cost of tools and room is also higher in smaller units (Rs. 8236) compared to the larger units. It generally decreases with the increase in the size of the farm. Interest on working capital is moderately high in the farms below 0.2 hectare. It is lowest in the size group 0.2–0.4 hectare. However, interest on working capital generally increases with the increase in farm size. Highest total cost of cocoon production per hectare of cultivated land is Rs. 106,133.9 in a year. This is because high cost is incurred on self labour and purchase of extra leaves. Nearly 34% of units having farm land below 0.2 hectare have borne such a cost. The total cost decreases with the increase of farm size signifying economy of scale (see Husain, 1976; Dandin et al., 2003). It can altogether be said that 66% of units with more land than 0.2 hectare are suitable for SWR in Malda district.

Average production of green cocoon per unit in physical terms in a harvest year is not very high, with moderate variability among units. Nearly 60% of the surveyed units have production below average. Average production per unit in a harvest year in monetary terms is also not very high, with moderate variability among units. Average production of green cocoon per 100 DFLs in physical terms is very low, with moderately low variability among units. This indicates that productivity is uniformly low in Malda district. Nearly 56% of the surveyed units produce only up to 15 kgs. of green cocoon per 100 DFLs in a harvest year, meaning that these units purchase low quality DFLs from local grainage. The gross output of SWR sector includes green cocoon, cocoon waste, fuel and manure. Average gross output per unit is moderate in a harvest year and variability among units is also moderate. Average gross output per 100 DFLs in a harvest year is moderate and variability among units is low (40% of the surveyed units have low gross output). Average annual net income per unit is moderate with high variability among units. Nearly 85% of the surveyed units make low profit, up to Rs. 45,763 and 10% of units have shown loss up to Rs. 13,702. Income pattern is an effective indicator for understanding economic productivity, as well as social condition. It indicates the extent of the problems that can occur due to low productivity. The average land under MC is 0.3 hectare and the average income in sericulture is Rs. 6794. So, one hectare of mulberry cultivated land brings a profit of Rs. 21,775.6 in a harvest year.

Table 3 presents income per season in SWR. It is evident from the table that Chaitra season in Malda district is an effective season, in which 75% of the surveyed units have income up to Rs. 14,281, although 25% of the rearers have registered loss of up to Rs. 3109. The average income per unit in this season is only next to that in Aghrani season, but variation among units is high. The average income per unit in Baisakhi season is lower than in Chaitra season and

variability among units is very high. Yet, 64% of the surveyed rearers have positive income of up to Rs. 16,295, while 36% of units have negative income of up to Rs. 6,355. Bhaduri season is least effective in income generation, because of excessive rainfall during this period. The average income per unit in this season is the lowest and variation among units is exceptionally high. The average income per unit is the highest in Aghrani season. Nearly 82% of the surveyed units have obtained positive income up to Rs. 34,692. Only 18% of the surveyed units have shown loss of up to Rs. 4848. Production in this season is most consistent, due to favourable weather that prevails then.

Table 3. Income per unit (season-wise)

Income in the range (Rs.'000)	Name of the crop season			
	Chaitra	Baishakhi	Bhaduri	Aghrani
	No. of units	No. of units	No. of units	No. of units
Below -4	0 (00.00)	4 (3.33)	2 (1.67)	2 (1.67)
-3 to -4	1 (0.83)	4 (3.33)	2 (1.67)	1 (0.83)
-2 to -3	6 (5.00)	5 (4.17)	3 (2.50)	0 (00.00)
-1 to -2	3 (2.50)	8 (6.67)	9 (7.50)	3 (2.50)
0 to -1	20 (16.68)	23 (19.17)	26 (21.66)	15 (12.50)
Up to 1	22 (18.33)	17 (14.16)	37 (30.83)	21 (17.50)
1 to 2	18 (15.00)	18 (15.00)	27 (22.50)	24 (20.00)
2 to 3	22 (18.33)	13 (10.83)	8 (6.67)	15 (12.50)
3 to 4	4 (3.33)	8 (6.67)	3 (2.50)	10 (8.33)
Above 4	24 (20.00)	20 (16.67)	3 (2.50)	29 (24.17)
Total	120 (100.00)	120 (100.00)	120 (100.00)	120 (100.00)
C.V. (%)	150.91	248.83	357.63	55.95
Avg. (Rs.)	2045.93	1381.77	460.73	2905.97

Figures in parentheses are in per cent
Source: field survey.

Problems related to MC

The area of the mulberry cultivated land is gradually decreasing due to pressure on land. Besides, fragmentation of land is also an acute problem. The cost of operation is relatively higher for smaller and fragmented plots. These plots are now being converted to mango orchards, also leading to decrease in mulberry cultivated land and so lower production of mulberry leaves. Nearness of most of the mulberry fields to the residential area (within 0–2 kms.) of the village increases maintenance cost, because protection of mulberry fields from domestic cattle is necessary. Besides, mulberry plots, which are close to mango orchards, suffer from the negative impacts of use of pesticides in the latter. Land is usually offered to small farmers on lease for only one year. Farmers cannot afford investing money for new plantation or replacement of old plants for just one year. Besides, insufficient use of manure and fertilizers is another cause of low productivity (Chowdhary et al., 2003). Nearly 60% of the mulberry cultivated lands lie in flood affected areas. Stagnation of water for some days is harmful to the growth of mulberry cuttings. During Chaitra, Aghrani, and Baisakhi seasons demand of mulberry leaves is high, but production remains low, due to erratic onset of monsoon and paucity of irrigational facilities. This further escalates the price of mulberry leaves.

Leaf productivity is gradually decreasing due to knot nematode disease of the roots. Sericulture pockets e.g. Mohhabbatpur, Mothabari, Panchanandapur, Pataldanga, Bahadurpur, Chotomohidipur, Silampur, Sripur, Khanpara and Alinagar are severely affected by this disease (see Gupta et al., 1997). The local variety is more susceptible to the disease as compared to the improved S₁ strain (Sikdar and Sheno, 1980). Majority of the mulberry cultivated land in Malda is under local variety of cuttings. Improved cuttings of S₁ variety are not easily available. Besides, the rearers do not have enough savings to invest in the improved S₁ cuttings. Labour requirement in mulberry cultivation is seasonal. Hence, labour shortage during peak days of Chaitra and Aghrani seasons, when demand for hired labour is particularly high, is a common phenomenon. This increases the wage rate and consequently production cost also becomes high. Nearly 65% of the farmers are illiterate and show little interest in adopting modern techniques of cultivation.

Problems related to SWR

Problems related to DFLs. Negligible supply of DFLs from the Governmental sector compels the rearers to depend on the local grainage (licensed or non-licensed) for procurement of seed. It is a source of risk, inadequacy and insta-

bility. The absence of quality in the supply of DFLs exposes the sericulturists to economic risk of fluctuation in production of cocoon and under-utilisation of garden leaf and makes sericulture less profitable or even unprofitable, depending on the circumstances. In Chaitra and Aghrani seasons some rearers are willing to use bivoltine DFLs. But pure bivoltine layings are of short supply. Besides, inadequate and irregular supply, and high prices of the DFLs are a serious problem to the sericulturists. Having low savings, small rearers cannot buy high priced DFLs from licensed grainage on cash. They are compelled to buy DFLs from non-licensed grainage, who usually supply on credit. The bargain may look lucrative at that moment, but may lead to crop failure many a time.

Problems related to rearing house and tools. Most of the rearing houses are not suitable for rearing. Only 5% of surveyed units have partly modern rearing building and modern equipments. It is also noted that almost all the rearers use traditional type of tools.

Problems of labour. Majority of the sericulturists have received informal training from older generation. They stick to the old methods of keeping the room and tools free from diseases and are practically ignorant of the modern techniques. Sericulture sector provides seasonal and intermittent employment to hired labour and payments is done on daily basis. Hence, labourers are not interested in continued employment in this sector. They are mostly switching to other non-formal sectors for employment. Thus, there is dearth of labourers during peak period in large units, mostly depending on hired labour. Besides, skilled labourers in sericulture are dwindling in numbers as younger generation of labourers switch to indigenous-cigarette making in the study area, which provides them with regular employment (Dandin et al., 2003).

Problems of silk worm diseases. The greatest natural obstacle to sericulture are the diseases of silk worms, which are many, viz.; Pebrine, Muscardine, Flypest, Flacherie, Gatine, Grasserie, Court and the Dermestes Valpines. The cocoon rearers are aware of these diseases and are fighting to keep them at bay (Rahmathulla et al., 2002).

Paucity of working capital. Paucity of finance is actually the principal economic problem and many other problems are just a corollary to it. Because of lack of working capital, rearers are neither in a position to buy high quality DFLs, nor mulberry leaves of required amount and quality. Due to the shortage of working capital many rearers either remain idle or opt to produce below capacity.

Problem associated with marketing of the cocoon. Marketing of mulberry silk cocoon is officially regulated in all major silk producing States of the country except in West Bengal. Normally, the cocoons are sold and reeled within 10 days before the moth emerges and breaks the filaments. The sericulturists usually go for wholesale locally, mainly to private agencies (middlemen and

money lenders), who exercise their monopoly and pocket the lion's share of profit.

Absence of minimum economic price and high price fluctuations. There is a wide fluctuation in the price of cocoon, due to instability of cocoon crops, variations in the quality of cocoons harvested, absence of standardisation & quality control and poor marketing facilities. The price of cocoon remains high in Aghrani season but is particularly low in Bhaduri season.

Drudgery in SWR. Silkworms need careful handling, patience and perseverance. Most of the farmers feel that feeding silkworms in the late hours of the night involves drudgery and makes the farming families tired. Hence, drudgery constitutes one of the obstacles for the speedy growth of sericulture (Ramana, 1987).

Climatic hazard. Cool and equable weather throughout the year is quite conducive for SWR, cocoon production and high profits. Hot tropical climate, especially summer, adversely affects the quality and yield of cocoons, thereby reducing income per hectare under sericulture. It adds to the drudgery, involving greater care and attention on the part of the sericulturists. Due to climatic hazard, the commercial crops of Baisakhi and Bhaduri do not yield high profits (Benjamin, 1995).

Lack of extension and innovation. Sericulturists need a lot of scientific information and skill in SWR. If they fail to utilise the extension services properly in introducing innovation, they may get discouraged in their enterprise. Their failure, partial or full, may discourage others and upset the process of innovation. Speedy growth of sericulture postulates intensive and effective extension services to facilitate healthy innovation. The survey conducted revealed that 98% of sericulturists of Malda could not get any access to departmental extension services.

Structural relationships between objective and explanatory variables

An attempt has been made to estimate the relevant structural equations and to interpret the coefficients associated with explanatory variables in the broad framework of income generation mechanism in various sectors of sericulture (Gomez and Gomez, 1983; Rao, 1965). Structural equations, explaining several policy variables are obtained from regression analysis using least squares method. Results of the analysis for yearly data are shown in Figure 6. Impact of all the explanatory variables, except for *Cost of disinfectants for tools*, on production in physical terms is positive and thus in conformity with the hypothesis. Costs borne for disinfectants for maintenance of tools have a negative influence

on production of green cocoon. It has been observed during field survey that disinfectants like formalin, bleaching powder, cow dung are not properly used. Through traditional experience, the rearers have learnt that the disinfectants, mentioned above, are likely to control pests and diseases and will give quality production, but due to lack of proper training in most cases, disinfectants are not administered in the right proportion and at right time. Therefore, the results are not always beneficial. Good housing conditions and proper maintenance have great importance for total production, as the worms are highly susceptible to adverse weather conditions. At times, the whole crop of a season is lost due to lack of proper safeguard from rough weather. However, cost of DFLs has an even higher impact on output and productivity as good quality DFLs are the key factor for quality output; which will ultimately gain better prices in the market. The explanatory variable *Percentage of land under HYV of mulberry* has positive influence on production of mulberry leaves and the magnitude of the impact is very high, as the area is particularly suited to HYV crops.

Results of regression analysis for four crop seasons are shown in Figure 7. Explanatory variable *Cost of hired labour*, has high impact on output and productivity in Baisakhi season, as weather being adverse, crop needs greater care. This is in conformity with the hypothesis. However, the impact of this variable

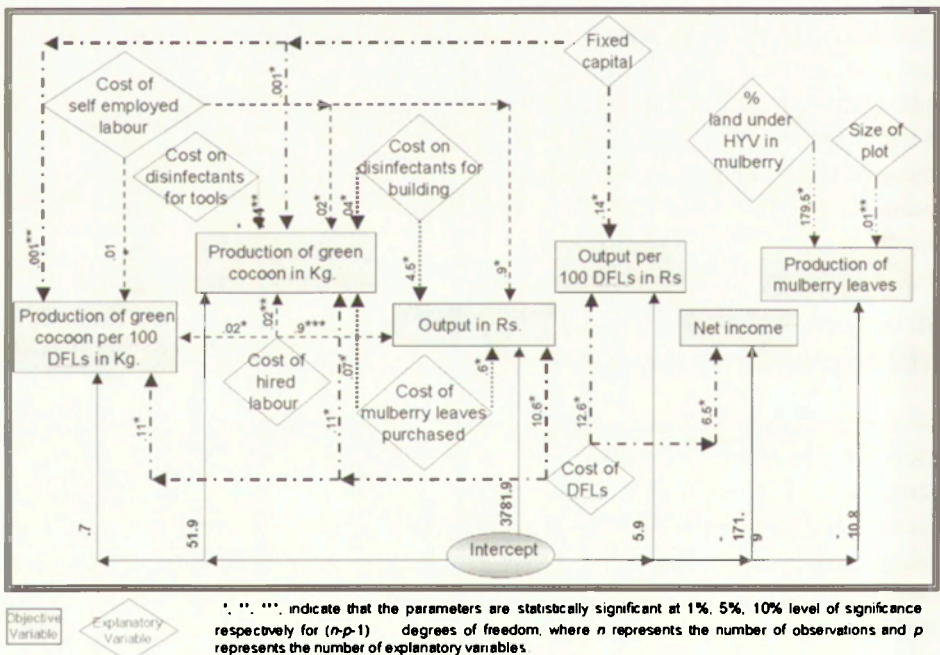


Figure 6. Impact of explanatory variables on objective variables for annual term in SWR

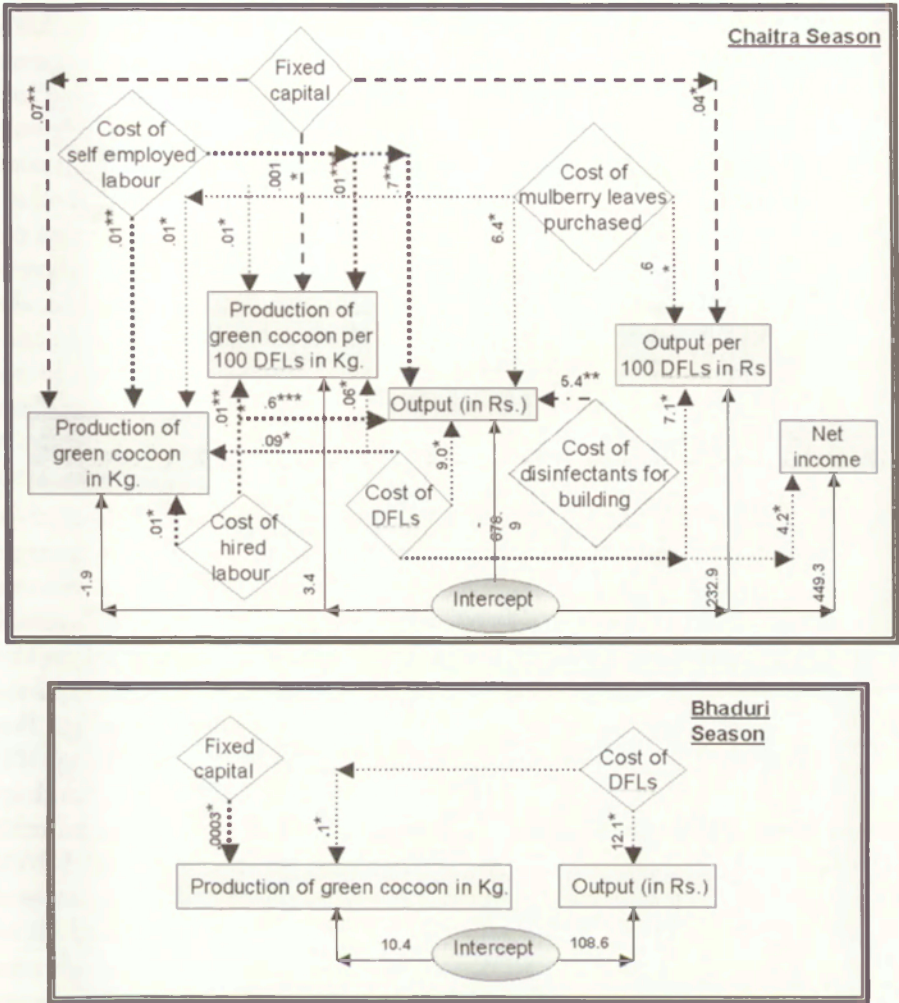


Figure 7. Impact of explanatory variables on objective variables for different seasons in SWR

on productivity in Aghrani season is negative, because the wage rate is usually very high during this season, offsetting the beneficial impact. *Cost of self employed labour* has positive impact on output in Chaitra and Baisakhi seasons, but on productivity in Baisakhi season only. These are in conformity with the hypothesis. *Cost of disinfectants for maintenance of tools* has a negative impact on output in Baisakhi season because weather is adverse during this season and disinfectants are not used judiciously. *Cost of disinfectants for maintenance of building* has high positive impact on output in all the seasons except for Bhaduri, because disinfectants for maintenance of building in this adverse season do not

ensure expected influence. *Investments into fixed capital*, even though having positive impact on objective variables in all the crop seasons, but the magnitude of the impact is very low because these investments are on average low. *Cost of DFLs* has high positive impact on output in all the seasons except for Baisakhi and on productivity in Chaitra, Baisakhi and Aghrani seasons. Its particularly high influence on output and productivity is in conformity with the hypothesis. The variable of *Cost of mulberry leaves purchased* also has a positive impact on output and productivity in Chaitra and on output in Aghrani crop season. In the said seasons rainfall is negligible, hence leaf production is low, and so, rearers who invest into purchase of extra leaves get better output.

Policy recommendations for the development of MC

Government should supply improved mulberry cuttings like S-1, S-13, S-34, S-799, S-1635 and K-2. The present supply of improved mulberry cuttings is very low, satisfying only about 1% of needs. There should be provision of 100% supply of the improved mulberry cuttings to replace all the local varieties. Mulberry sapling nurseries should be established in order to supply the required numbers to the units for planting. Besides, for widespread propagation of sericulture, the farmers should be trained in preparation of mulberry saplings. State Sericulture Department at reasonable rates should purchase these saplings. This would ensure additional income for the sericulturists on the one hand and would provide immediate supply of the saplings to the farmers on the other. Government should take initiative to plant mulberry trees (S-34 and S-1635) along roads/rivers banks/ fallow lands so that these marginal lands are made productive (Datta, 2000).

There is a need to generate information on the seasonal incidence of variety of pests in different agro-climatic conditions, and to work on the pest status, economic damage levels, period of occurrence and extent of physical loss. In view of development of many highly productive mulberry varieties, there is a necessity of screening the varieties for their susceptibility, tolerance or resistance parameters / characters. There is an urgent need to develop an IPM (Integrated Pest Management) package in order to manage, particularly the serious pests, with eco-friendly practices (Samson, 2000).

The nematode population is high in sick soils, when fertility of the soil has reached the lowest ebb. To prevent the nematode attack the following methods may be adopted for proper growth of the mulberry plants. The topsoil may be burnt down before taking up new plantation. Heat sterilization technique i.e., deep plough of the soil and sterilisation by solar heat may be adopted. Use of dry grass, paddy straw, avena or wheat straw was found to improve the fertility

level of the soil as well as suppress the nematode population in the field. Use of green manures, e.g. sesbania, sun hemp or utilized cabbage or cauliflower leaves, pineapple or eichornia leaves reduce the root knot disease by incorporating the green plant material in the soil. Enrichment of soil by the use of oil cakes like neem, castor, soybean or cotton seed have been found to improve the fertility status of sick soil and simultaneously reduce the nematode population in the affected fields. Biological control of nematodes in tired soils may be adopted through increasing population of parasites and predators of nematodes in the soils. Oostenbrink and associates effectively suppressed the population of some plant parasitic nematodes by the use of trap crops (Das et al., 1994). Introduction of resistant varieties is perhaps the best measure against nematodes. The development of resistant character in the mulberry through breeding is still in its infant stages. Efforts are being made to locate the source of resistance in mulberry, which is still under investigation.

Vermitech should be introduced for soil quality improvement. Diseases were recognized quite late as one of the major constraints in mulberry leaf production. In this context, following areas have been suggested for future research. Disease forecasting and forewarning systems have to be developed for major mulberry diseases of field importance. Disease maps depicting seasonal occurrence, pathogens, symptoms and their control measures have to be prepared for each region. Preference should be given to pictorial representation so as to aid even the illiterate sericulturists. A detailed survey on the occurrence of different types of diseases should be conducted as top priority, and the actual loss in yield from disease should be estimated in each agro-climatic region. Several cultural practices such as spacing height of pruning, date of pruning, and selection of varieties have a significant role in minimizing the disease effects. Such practices should be identified as an important means of non chemical methods of disease control. Integrated approach to disease management has to be developed and popularized with major emphasis on biological and cultural methods. Mulberry diseases, whether minor or major in nature, are to be studied in detail and strategies for their control should be kept ready in case of sudden outbreak of a disease. Economic threshold levels for each disease have to be worked out in order to initiate control measures at appropriate time (Sukumar et al., 1949).

Co-operative movement in mulberry cultivation can play a vital role in the development of sericulture. Due to the divisions by inheritance cultivated land plots become very small and fragmented. So, if cultivation is done jointly, production will be higher and costs of production will also be minimized. Fragmentation of mulberry cultivated land below 0.25 hectare should not be allowed, since plots of that size will not be cost effective. Government should encourage landless silkworm rearers to plant mulberry trees along marginal lands under Public Works Department and Central Government in Malda

under community basis. Long term soft loan to replace the old traditional variety of Mulberry sapling with the new improved mulberry varieties should be arranged either through cooperatives or banks.

The plantation of mulberry, which is a perennial foliage crop, provides an ideal condition for intercropping. The intercropping of mulberry with seasonal vegetables (preferably leguminous, such as lentil), sold for good price, should be stressed upon to generate additional income from the land and to keep balance in nutrient content of the soil.

Proper irrigation facility should be provided to cover mulberry cultivated land. As a sizeable proportion of the mulberry cultivated plots are small and scattered, tube wells and pump sets are more effective as measure of irrigation which could provide water throughout the year. A major project is needed in established sericulture zones to ensure requisite infrastructure and impart technical knowledge to the farmers either free of cost or at subsidized rates. Arrangements should be made with the banks for long-term soft loans.

Pruning schedule should be modified replacing traditional bottom pruning in November by top clipping in high altitudes or bottom pruning in low altitude in June and middle pruning in December, since the period of natural precipitation is longer (May to September). The mass pruning programme at farmer's level as per pruning schedule should be carried out to obtain quality foliage for silkworm rearing as it has an impact on quality and quantity of cocoon. Organization of regular awareness programmes and intensive farmer training, with the use of modern technologies and assistance of NGOs should be ensured (Sengupta and Tikader, 1992).

There are many varieties with ornamental values, but mulberry has not gained popularity in India as an ornamental plant. So, there is a room for screening and evolving mulberry variants for ornamental use (Dandin, 1989).

Policy recommendation for the development of SWR

Policy recommendation for modernisation of SWR building. The model rearing houses should be provided to all farmers through development schemes in a phased manner. The simplest method of preventing the walls from getting heated up is to keep at least 183 cm wide veranda all around the rearing room. The CSRTI (Central Sericulture Research and Training Institute) in Mysore has recommended a 10 cm gap between the outer burnt brick layer and inner raw brick layer of the wall to keep the room cooler. Planting trees all around the rearing room is a long-range remedy against heat. The arrangements should be made to cool the air inside the rearing rooms to bring down the excess temperature. The simplest way is to hang wet curtains of either gunny cloth or any

other course cloth, so that moist and cool air enters the SWR room. The curtain should always be kept wet. Depending on the size and the location of the SWR room one or more exhaust fans are required. Traditional SWR buildings, made of mud wall and tali roof; are also more effective than pucca buildings in the district. So, rearers of Malda may construct separate SWR buildings with low cost where the plinth should be made of burnt bricks, the wall should be made of mud, the roof of tali, and ceiling of bamboo with mud layer (Benjamin et al., 1987).

Policy recommendation for the improvement of tools and technique. The SWR technology practised by the rearers has to be modernised with time. The goal should be to introduce the innovation of the techniques, by which the cost of rearing could be reduced and, at the same time, cocoon crop yield enhanced. The common mountings, used at present in Malda have common spinning spaces, providing room for the formation of double cocoons as well as more deformed cocoons. The rotary cardboard mountings are more suitable for production of high quality cocoons as its partitioned frame eliminates formation of double cocoons, entailing production of uniform cocoons, preventing soiling of cocoons by dead larvae and being easy to harvest. In Malda, numerous rearers cannot afford buying good mountings. Quite often they borrow bamboo mountings during harvest time and are compelled to harvest early. Therefore, cocoons do not get the required 20 days time to spin, resulting in immature spinning. The rearers should be supplied with requisite number of good quality bamboo equipment. Proper utilization of equipment used in SWR is necessary. The gap between two bamboo trays should be 25 to 30 cm. The gap between bamboo tray and room wall should not be less than 6 cm. Use of mud and cow dung for washing of bamboo trays is not effective. The use of phenyl and 5% to 7% of bleaching powder in mud is very effective for the bamboo tray. All the tools should be disinfected by solar heat for three to four days.

Policy recommendation for skill formation and labour management. SWR is handled completely by manual labour force. Thus, preparation of a labour calendar to know approximately the total labour requirement of particular crop during various seasons in the respective farm units; arrangement for the employment of hired and family labour during the peak period; planning of works for rainy days to employ the hired labour on indoor jobs like oil cake crushing, fertilizer mixing, bamboo trays and mountings repairing are essential for systematic and effective labour management to ensure optimum utilisation of manpower for a successful cocoon production (Verma et al., 1999). Training programs for labourers engaged in SWR activities should be organised regularly. Training centres should be well distributed over space and should impart both basic and advanced courses. The stipends paid to the trainees should be suitably enhanced, since the stipends paid at present are low and not attractive.

Policy recommendation for appropriate marketing of cocoon. Establishment of viable regulated market is of prime importance for appropriate marketing of cocoons. Besides, governmental agencies also could come forward with better scope, facilities and services like transportation, grading, storing, weighting etc. for dealing with cocoons by the primary growers to keep sericulture as a sustainable remunerative cash crop for small and marginal farmers of this area. Raw material bank or cocoon bank and co-operatives should be established at block level, particular for Kaliachak I, Kaliachak II and English Bazar blocks. Establishment of cocoon markets by notification under an act of legislation will help rearers to be free from the exploitation of middlemen and to get competitive price for and grading of cocoons; to receive payment on the day of the sale; to have the benefit of seeing good quality cocoons and to have discussions with respective rearers, to be able to adopt better practices in rearing management.

Policy recommendation for availability of good quality DFLs. Regular supply of sufficient quantity and quality of DFLs should be done through seed organisations, which should be under the strict control of government. In Malda, 400 grainages having capacity up to 100,000 DFLs in a year should be organised to meet the demand for DFLs. These grainages will purchase their required basic seed from state or central basic seed producers or research institutes and will sell their produce after being checked by the government agencies or experts.

Policy recommendation for eradication of silkworm diseases. Disease tolerant silkworm races and mulberry varieties, specific to the region and the climate are to be developed. During Chaitra and Aghrani seasons Multivoltine races, like pure Mysore or Bombyx Cracsi with different bivoltine races or a good number of hybrid lines like MBD4, 0(y), D146 should be used and during rest of the seasons Pure Bombyx Cracsi should be used. Disease tolerant races of silk worm like KAXNAB4D2, NB7xNB4D2 should be specifically introduced to the sericultural pockets of Mahabbatpur, Mothabari, Panchanandapur, Pataldanga, Michutola, Bahadurpur, Chotomohidipur, Silampur, Sripur, Khanpara and Alinagar, as the areas are seriously affected by the diseases. After each cocoon harvest the rearing houses and their surroundings should be disinfected. Calcium hypochlorite (Xiatolin) with soap solution is suitable for disinfecting of rearing houses and bleaching powder for disinfection of floor, surroundings and appliances (Chakravarthy et al., 1997). Calhydrochlorite does not require any airtight condition to kill the germs. So, use of calhydrochlorite should be popularised in this district. Besides, the rearing appliances are to be exposed to sunlight for two to three days. This will help to kill the germs, which are sensitive to sunlight and high temperature and ensure sufficient disinfection of rearing houses, appliances and surroundings. Mass disinfection after completion of each rearing season in a village is a must, as all the farmers take up the rearing at the same time.

The overlapping of rearing in a village or within a rearing house should not be allowed as it leads to cross contamination within a rearing batch. All the farmers of any village should brush the layings at one time to check cross contamination within a rearing batch. IPM involves the harmonious use of available methods of pest control in compatible manners (Samson, 2000). The successful manipulation of parasitoids is an important tool under IPM programme and in sericulture it is widely used against Uzi fly. This technology should be developed and extensively used for other pest populations as well. Various disinfectants like formalin, bleaching powder, labex, vijefa, etc. play a significant role in making a crop successful. Awareness of the farmers is required for the efficacy of these disinfectants in silkworm rearing.

Policy recommendation for extension and innovation. The sericulture department's range officers should pay frequent visits to sericulturists to guide them in work, to check the diseases, and to persuade the rearers to adopt cross-breed races of silkworm and better methods of rearing (Ramana, 1987). The CSRTI should concentrate on introduction of new races, both multivoltine and bivoltine, which are moderately disease tolerant. Many technologies have been developed by the research institutes under Central Silk Board, which ought to be transferred to field to improve productivity and product quality. First of all, the technologies suitable for the Malda district should be identified.

Policy recommendation for finance mobilisation. Along with the state Government, nationalised commercial central co-operative bank and other financial organisations should come forward to finance the silkworm rearers and SWR co-operative society with short, medium and long-term loans. Short term working capital loan for purchase of DFLs and mulberry leaves should be made available to the rearers. Cooperative society at village level may supply new, improved tools to the rearers through a centrally sponsored scheme on 50:50 basis. Long term soft loan for construction of separate rearing building should be made available from banks. Supervision of credit distribution and realization by extension staff is sincerely needed to maintain a financial discipline. With the view on expanding the product market, incentives in the form of subsidies should be given to co-operatives to organise annual exhibition of different type of cocoon in different blocks and in different towns. Exhibition cum general meeting will help the rearers to understand their problems.

General recommendation for the development of SWR sector. Generally, mulberry tree/leaves, cocoon waste and pupae are not effectively utilized, hence return from by-products is negligible. Proper utilization of waste of mulberry plant/pupae is essential. Mulberry sap wood is yellowish white and is nearly as hard as the teak. Being highly shock resistant and not liable to split, it is valued in the manufacture of sports articles like hockey sticks, cricket bat and stumps (Dandin and Ramesh, 1987). Industrialists should be encouraged to establish

manufacturing industry on sports articles in this district. The bark of mulberry branches on retting yields white fibre of quality required in textile industry. So the establishment of ancillary industry under Central or State Government may go a long way in enhancing the income of the rearers. To make the production system more effective and efficient, the infrastructural needs of the sericulture units should be fulfilled; power supply, water supply, transport and communication, etc. should be handled by the right authority. Borrowing of rearing appliances among farmers should not be permitted to control the spread of diseases. All the farmers should have sufficient appliances for rearing. Considering the risk involved in silkworm rearing, there should be a continued effort on cocoon crop protection through an integrated approach of control measures. As a precautionary measure, the survey and surveillance of the pests and disease of both mulberry and silkworm should be continued, followed by preparation of prediction models and fore-warning systems. Innovation on cost effective and easy to handle implements/appliances should be the priority. Incubation pot, loose egg box, acid treatment bath, etc. are some such cheaper innovations.

Conclusion

Sericulture, with its agricultural part of MC, and SWR, involves a long chain of highly skilled operations. Success depends on integration of all the associated activities. A glance at the sericulture activities of Malda district reveals a sordid picture of all the components. The same old traditional practice continues to exist except for a few, who adopt new technologies. The physical constraints and the poor financial status of sericulturists appear to be the impediments in their efforts to change over to modern methods of MC and SWR. The lack of efficiency in the sericulture management with respect to establishing a symbiotic relationship between the administrations of the support system is one of the basic maladies that have afflicted the growth of the industry. The practices of mulberry cultivation have practically remained unchanged in Malda district for years. Many farmers are rather incapable of uprooting the existing mulberry variety to replace it with the high yielding new varieties. Similarly, even though the farmers are aware of the proper inputs they are not in a position to provide them. This is due to several constraints. Scarcity of the underground water and uncertainty in rainfall has added new dimensions to the problem. As a result, the quantity and quality of mulberry leaves produced remains low and sub-standard. The prevailing agro-climate in major part of Malda district implies a vast margin for improvement of the yield and productivity in sericulture. This is possible by intensifying the farming practices which, however, can not be done through singular approaches, such as introduction of high yielding varieties, or

application of fertilizers, or irrigation or any other measure in isolation. Intensive farming in real sense must, therefore, consist in an integrated approach, including aspects of soil health care with application of bio-fertilisers and organic matter, balanced nutrient management, crop canopy development and micro-climate management, as well as leaf quality improvement along with suitable measure for disease and pest management. Similarly, silkworm rearing practices have not changed much in Malda district due to the absence of independent rearing houses with many farmers. In addition, the quality of silkworm eggs produced has not altered much since several years. The efforts to introduce high yielding varieties of mulberry and silkworm have met with little success. However, with the help of expansion programmes undertaken by the government agencies, the sustaining efforts of R&D establishment to upgrade the technology, will certainly yield advance towards the goal of expanding the market and penetrating the new ones by establishing mutual interaction in the long chain of interdependent activities. Then, it will be possible for the sericulture sector of Malda district to shed its image of low level production units and the producers of indifferent grades of silk, and change over to high quality final products that can be accepted by the average consumer in the international community.

Notes:

- 1 Chaitra – February-March
- 2 Baisakhi – April-May
- 3 Jaistha – June
- 4 Shrabani – July-August
- 5 Bhaduri – August-September
- 6 Aghrani – October-November
- 7 Block – Administrative unit, better known as development block
- 8 Rs. – Indian currency Rupees
- 9 Tali – Burnt clays' thin brick

References

- Benchamin K.V., 1995, *Silkworm rearing management in rainy season*, Indian Silk, 34(2), 11–13.
- Benchamin K.V., Pillai S.V., Benchamin Dai, Geethadevi R.G., 1987, *Low cost rearing houses*, Indian Silk, 26(8), 23–27.
- Chakravarthy N., Gupta S.K., Prasad B.C., Shanthakumar M.V., Sen S.K., 1997, *Use of bleaching powder solution. Field impact*, Indian Silk, 36(8, 9), 5–9.
- Chowdhary N.B., Govindaiah, Sharma, D.D., 2003, *Impact of balanced fertilizers on mulberry leaf yield*, Indian Silk, 42(3), 5–7.

- Dandin S.B., Ramesh S.R., 1987, *A Kalpa Vruksha called Mulberry*, Indian Silk, 26(6), 49–53.
- Dandin S.B., 1989, *Role of mulberry varieties in sericulture industry*, Indian Silk, 28(6), 11–19.
- Dandin S.B., Srinivasa G., Rajan R.K., 2003, *Need for women friendly technologies in sericulture*, CSRTI, 145–146.
- Dandin S.B., Kumaresan P., 2003, *An empirical analysis of cost of cocoon production*, Indian Silk, 42(2), 5–10.
- Das B.K., Ghosh P.K., Sarker J., 1994, *Management of Sick Soil*, Indian Silk, 33(2), 5–9.
- Datta R.K., 2000, *Sericulture in India and future research strategies*, Indian Silk, 39(1), 21–25.
- Gomez K.A., Gomez A.A., 1983, *Statistical procedure for agricultural research*, John Wiley and Son's, New York.
- Gupta V.P., Govindaiah, Raju H.V., 1997, *Diseases and associated pathogens of mulberry nurseries*, Indian phytopathol., 50, 402–407.
- Husain M., 1976, *Agricultural productivity of India. An explanatory analysis*, National Geographical Journal of India, 22, 36–40.
- Rahmathulla V. K., Himantharaj M.T., Sreenivasa G., Geetha Devi R.G., Bindhya G.S., 2002, *Problems and prospects of sericulture in India*, CSR&TI, Mysore, Farmer Forum, 29(1), 24–27.
- Ramana D.V., 1987, *Economics of sericulture and silk industry in India*, Deep publications, New Delhi, 9-30, 151–161.
- Rao C.H., 1965, *Agricultural production function, cost and returns in India*, Asia Publishing House, New Delhi.
- Samson M.V., 2000, *Pest and Disease Management Needs*, Indian Silk, 61–63.
- Sengupta T., Tikader A., 1992, *Training: an essential part of sericulture*, Indian Silk, 31(3), 34–36.
- Sikdar A.K., Shenoi M.M., 1980, *A note on the control of root – knot nematode disease of mulberry by soil fumigation*, Indian J. Sericulture, 19, 41–42.
- Sukumar J., Dandin S.B., Bangale U.D., 1949, *Mulberry diseases and management*, Karnataka State Sericulture Research and Development Institute, Bangalore.
- Verma R.S., Rao D.M.R., Suryanarayana N., 1999, *Sericulcultural Labour Management*, Indian Silk, 38, 35–37.

Ashley GUNTER

Geography and Environmental Science, Monash University South Africa
Roodepoort, Johannesburg, 1732, South Africa

ashley.gunter@arts.monash.edu

Lukas SCHEEPERS

Department of Geography, Environmental Management and Energy Studies
University of Johannesburg, Auckland Park, Johannesburg, 2092, South Africa
lscheepers@uj.ac.za

Informal housing and community led local economic development

Abstract. The number of slums and squatter settlements is rising globally; this is recognized as a significant problem as many of the urban poor find housing in these settlements. With the expanding slum settlements comes a serious problem for many developing nations, that of finding a mechanism to eradicate these informal developments. A possible mechanism for the eradication of informal settlements is housing ownership, which can be seen not only as a catalyst for individual wealth creation but also as a driver of Local Economic Development (LED). By creating security of tenure, residents will be more inclined to engage in local economic development initiatives and practices.

Keywords: housing, local economic development, tenure, South Africa

Introduction

Development and specifically local economic development (LED) cannot be achieved without significant community involvement (Jenkins, 2000; Gunter, 2005). The community and knowledge of their needs is essential as development needs to be about improving the lives of the poor. Improving housing security could contribute to community based development by facilitating ownership, not only of the individual house but of the community, in which residents live. With the ability to provide tenure for low cost housing by governments, communities and residents of these dwellings would be given a sense of ownership and belonging in their communities (Gilbert, 1999). This is often missing in many poor communities where lack of ownership discourages investment into the neighborhood (Cheneval, 2006). It is thus necessary to determine

whether tenure would lead to communities wanting to actively participate in LED. This could lead to a type of community-based local economic development (LED) that is not directed by government but rather led by the individual communities who actively see value in investing in themselves (Keivani and Werna, 2000). This concept favors the neoliberal principle of allowing free willing individuals to participate and develop their communities in order to reap the economic and social rewards of having a safe, clean and secure neighborhood (Narsoo, 2000; Anderson et al., 2006). In this study of informal townships of Johannesburg, there is certainly a perception that tenure would lead to more interest in the physical environment and could lead to more investment in both structures that people live in and their participation in LED. By encouraging ownership and investment, governments can minimize the fiscal inputs that they have to provide in these communities by having the community as a contributor to LED. This is not to shirk the role that government needs to play in service delivery, but can lead to the uplifting of a community without complete reliance on government (De Soto, 1989). Although this study was conducted in an urban setting, the principles and practices are easily transferable to rural settings.

The value of slums

The shortage of low cost housing stems from the lack of capital investment and low priority given to low cost housing by governments and developers (Lee, 2000; Du Plessis and Leckie, 2006). This leads to a situation where demand for housing far outstrips supply and brings about the development of slums. These residential types are only formed because of the huge demand for shelter by the urban poor, and their inability to obtain it elsewhere, while supply can be sub-standard when demand is huge. Further, in the supply/demand equation, price is often the fluctuating variable. In the case of the urban poor, there is not much leverage in price, thus quality becomes the variable and deteriorates with demand (Brian and Ranvinder, 1995). Slumlords are the economic beneficiaries of the current free market system and the demand for and supply of slums and squatter settlements is almost limitless (Ogu and Ogbuozobe, 2001).

The provision of adequate housing in slum areas is left to slumlords and poor residents. It is often expected that governments should provide housing for the urban poor, yet this is not often possible due to the limited fiscal capacity of developing countries (De Soto, 2001). It could therefore be assumed that developers would take on the role of providing low-cost housing, yet the risk of developing low cost housing is substantial as without financial guarantees from

government, many developers are reluctant to build low cost housing (Ho and Kwong, 2002; Loos, 2006).

Despite this ambiguity around development, the financial value of slums appears through the existence of the informal property market that already is in place in these areas. Although they are often controlled by unscrupulous slumlords, their presence demonstrates the ability for making profits in the slum property market (Sivam, 2003). The housing poverty of slum dwellers is a negative implication of the situation. However, with demand for low cost housing so great, there is value in that slums are a viable housing solution if they can provide for the basic needs of their inhabitants. Hence, the primary value of slums and squatter settlements is housing the urban poor, with the secondary value being the rent value extorted by slumlords.

The informal economy, which supports millions of urban citizens, incorporates an informal housing system (Renaud, 1999). Research on micro-lending has shown the ability for profit to be made in this sector and the entrepreneurial nature of many of the urban poor (Premchander, 2003). It is clear that the previous informal loan shark system in poor communities, when formalised and developed, can have significant benefits for the poor as well as provide an incentive for business to participate in the sector (Sivam, 2003). The slum housing market could be structured in a similar way, with small scale home loans being used to finance and upgrade slum housing (Durand-Lasserve and Royson, 2001). With a formalised market structure, governed by legislation and government regulation, both the urban poor and business could benefit as sustainable profits could be found in the slum real estate market.

This integration can be achieved through the recognition of untitled housing in the informal sector (De Soto, 2006; Williams, 2006). However, legislation will not necessarily lead to the mitigation of slums; the poor have multiple barriers to the alleviation of housing poverty. Most significantly, it is the lack of adequate resources both fiscal and legal, of the poor. Developing nation governments are not always capable of assisting the poor in upgrading, developing or financing their housing as they do not have the requisite financial ability.

Despite this lack of fiscal ability, slums, squatter settlements, and low cost housing do have latent value that is not used and remains untapped. It lies in the value of the land, building materials and the active use of slum housing. Although each individual house does not seem to have intrinsic value, if we look at the size of informal housing, it becomes clear that a huge amount of latent capital is present in the hands of slum dwellers (De Soto, 2001, 2006).

In the Philippines alone, the value of untitled real estate is \$133 billion, i.e. four times the value of companies listed on the stock exchange. Similarly, in Haiti, the value of untitled real estate is \$5.2 billion, in an economy with a GDP of only \$12 Billion (De Soto, 2001). This value is in the hands of the

poor, yet it cannot be used because of institutional and legal barriers that do not recognize informal housing.

With these amounts of latent capital, low cost housing takes on an entirely new and significant role in creating wealth for the urban poor. If this wealth could be harnessed, slum dwellers could have access to the formal banking sector and the entire wealth of a country could be increased. Table 1 shows the dead capital in real estate worldwide. It is important to note that the combined value of urban untitled dwellings is \$6.74 trillion (De Soto, 2001).

The large capital assets held by the poor demonstrate that they are not destitute in the sense of having nothing, the value of their fixed assets is substantial. There is, however, a need for the formal recognition of these assets by both governments and the local economic sector. The trillions of dollars available to the poor are caught up in a pool of dead capital that is inaccessible because there is no mechanism of calculating and titling this value. This is in part at least the fault of governments across the globe (Guliwe, 1997). Formal recognition of ownership for slum and squatter settlements would unlock the latent net worth of millions of people (Smart, 2003). Opening this capital, bound in the assets of the poor, into a national economy would not cost a government much money, particularly when understood in relation to the inflows it would generate. Such a process would be providing a housing subsidy for the poor without actually having to increase budget expenditure.

Table 1. Urban dead capital in real estate worldwide (adapted from De Soto 2002, p. 33)

Area	Total population (millions)	Population in informal dwellings (millions)	Population in informal dwellings %	Total dwellings (millions)	Informal dwellings (millions)	Total value of informal dwellings (trillions \$)
Asia	1,747	503	29	101	85	1.75
Africa	525	167	32	33	28	0.58
Middle East & North America	371	211	57	42	36	0.74
South America	328	256	78	51	44	0.89
Central America and the Caribbean	161	103	64	21	18	0.36
China and Eastern Europe	1,611	619	38	124	105	2.16
other developing countries	191	75	39	15	13	0.26
Total	4,934	1,934	39	387	329	6.74

Source: adapted from De Soto, 2001, p. 33.

The desire for self-help housing

The need for low cost housing is immense, the shortfall of housing in Johannesburg is 259,000 housing units. The program of social housing, provided by national and local government has thus far produced 1,200,000 housing units over 14 years (DoH, 2009). This is an impressive number, but the volume of housing needed is growing, not subsiding. Social housing programs are simply not effective in alleviating housing shortages (Gaule, 2005). The need for housing far outstrips the government's current ability to provide it.

This problem is coupled with the logistics of social housing programs: building low cost housing in already built up slum areas is difficult and making sure that building standards are not compromised during government projects can be a problem (Rahman, 1999; Loos, 2006). This increases the desire for self help housing in informal townships. With the possibility of displacement to receive government housing, there is often a reluctance to take up government housing. Cases have been reported, where owners of government housing rented out their houses and choose to stay in their original informal dwellings (Web, 2006). This provides them with rental income and does not displace them from the community, transport links and location that they are in. A survey has been conducted in informal settlements in Johannesburg, where 363 residents were questioned about their attitude and behaviors in their settlements. In the survey, 46% of respondents stated that they felt that building their own home was the best solution to the housing problem.

This could be because of the small amount of government funding available for low cost housing. Government will provide a grant of up to \$4500 (Stout, 1997; Huchzermeyer, 2001; DoH, 2009). This amount is not nearly enough to cover the cost of the housing and the beneficiaries of government low cost housing have to get additional funding to complete the transaction. This barrier to government social housing has meant that the poorest of the poor, are not able to access social housing (Gilbert, 1999). Projects such as upgrading of squatter areas in specific locations in Johannesburg have attracted middle class residents and pushed the poor away from these areas, further exasperating the housing shortage (Bloch, 2000; Dlamini, 2005).

Figure 1 clearly shows the most desirable housing type in the informal areas of Johannesburg, more than 50% of respondents thought that a self build house was the most desirable. If that is combined with the fact that 16% of respondents thought that a developer-built house was the most suitable, and 72% of respondents wanted to have their houses built at all, the government housing is not seen as something particularly desirable.

Yet, 64% of respondents felt that it was the responsibility of government to sort out the housing problem. This may be because the constitution of South

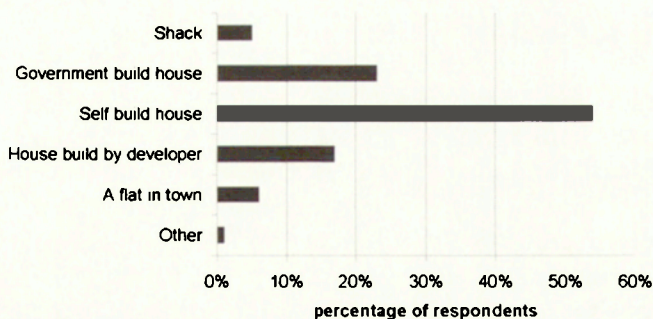


Figure 1. Most desired housing type in Johannesburg

Africa makes housing a right of all citizens (Keivani and Werna, 2000). Only 28% of respondents felt it was their responsibility to look after their housing needs. These opposing ideas could reflect the conflict between neo-liberal strategies and the market state (Nielson, 2002).

The underlying philosophy of the current government is a social democracy, where government looks after the poorest and most vulnerable of society, while the wealthy are encouraged to actively participate in the global economic system (Bremner, 2000; Marais, 2006). Thus, social grants and pensions are a policy of government, yet it is recognized that this system is simply there to help the poorest of the poor and will not eliminate poverty or eradicate the problems of poverty (Molosankwe, 2005). In the same manner, many informal housing dwellers feel that it is the responsibility of government to eradicate the poor conditions within slums, yet recognize that it is unlikely that government is capable of doing this.

This is again reflected by the housing subsidy uptake by slum residents. Although 80% of respondents stated that they knew they may be eligible for a housing subsidy from the government, only 54% had applied for one. Almost 30% of respondents had not applied for the subsidy that they may qualify for. This shows either a lack of faith in the government's ability to find a solution to the housing problem, or problems in the system for applications.

The possible solution to the housing backlog and quality in Johannesburg may be neo-liberal in nature (Nielson, 2002). Encouraging informal settlement residents to renovate and build their own dwellings, possibly with assistance, could be an effective way to improve these areas (Godsell and Maphalala, 1990; Newman and Wyly, 2006). There have been numerous cases of success of self-help housing in other counties (Marshall, 1970). In Johannesburg, the self help housing concept is already underway. Figure 2 shows how slum residents build their houses. Although not the majority, 22% of respondents build their own home.

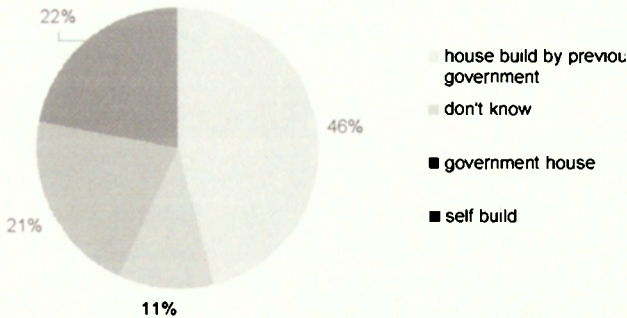


Figure 2. How slum houses were built (respondent's answers in percentage)

If this 22% share is coupled with the number of residents, who are improving their homes, there is a significant increase in self-help housing taking place, even if it is not recognized or assisted by financial systems. Then, 47.2% of respondents wanted to expand their houses. These data can be backed up with anecdotal information. The low cost building retail industry has expanded by 76% over the past 10 years. These retailers focus on supplying building material directly to the public and are often located near informal and squatter settlements, in both rural and urban areas. For example, the Squatter Settlement of Zandspruit in Johannesburg has a building retailer 'Build it' at its eastern boundary (Pilotfish, 2009).

This rapid expansion of the low cost building suppliers, coupled with the strong desire for self built housing demonstrates that there is good potential for self-help housing programs to benefit from and improve slum areas. The need for better housing is not being met by government. This is recognized by residents, who choose to build and renovate their own homes rather than waiting for government subsidies.

Community local economic development

The concept and practice of LED is a significant driving force in community development (Rukwaro and Olima, 2003). Many governments have LED programs and projects that are a major part of the drive for development and economic sustainability (Abbott, 2002). Many of these projects target poor geographical locations and aim to improve the socio-economic conditions of an area (De Soto, 1989; Goodwin, 1996). This move towards LED has been important as it has removed the task of 'doing' development from the central government and placed it in the hands of local government. Local government

in South Africa has the task of implementing LED and is the most important tier of government in LED (Gunter, 2005).

In Johannesburg, LED is a significant driving force in development of the city and many suburbs have been targeted for development projects (Bremner, 2000; Gaule, 2005). These have included informal settlements and townships. Places such as Soweto and Alexandra in Johannesburg have received significant boosts in infrastructure development (Jones, 2003). Yet, there are still many flaws in the LED process, the most significant is the fact that many LED projects push out the poor and introduce a space that is used by the middle class. A case in point is the Hector Pietersen Memorial in Soweto. The millions of dollars invested in this project brought a big investment into the area, yet the majority of users of the memorial are tourists and all signs of the LED project, such as clean streets and security are lost a few blocks past the memorial (Rogerson, 2008).

This indicates that this LED project and many similar ones do not necessarily contribute to the wellbeing of the local community, as LED projects often drive out the poor and replace them with the middle class. There are a rash of alike cases in Johannesburg, such as New Town, where squatters were evicted from Turbine hall and replaced with office workers, Ellis Park sports grounds, where local food sellers were replaced with official sellers, and the Johannesburg CBD, which has seen street traders being forced into designated areas away from pedestrian traffic. All of these activities boost the image of the city and provide an attractive environment for middle class consumers, while the poor are once again pushed to the periphery of space.

Community led local economic development

In order to have effective local economic development that benefits the inhabitants of an informal housing community, it is vital that community led LED is deployed (Goodwin, 1996). This entails having local communities participate in the development process fully and not simply in rhetoric as is often the case in current LED practices in South Africa (Gunter, 2005). The system, whereby the planning takes place, needs to be realistic and fit into the current planning paradigm, and must make sure that local communities are engaged in the process. This will ensure that the LED activity is not a once off action but rather a continual process of economic development and growth. The key here is to identify individuals in the community, who are capable and willing to facilitate the process. This often necessitates more competent government officials, who have to monitor the process, and can be more challenging than simply developing a top-down LED strategy.

In the survey referred to, 71% of participants claimed that they would be willing to participate in community based projects. This is a large percentage, particularly when measured against the fact that only 26% stated that they currently participate in this type of projects. A factor, causing the difference of 45% is that many individuals did not feel that they had ownership of their community space. Table 2 shows respondents' tenure conditions in relation to their attitude towards their community involvement.

Table 2. Attitudes towards community participation of low cost housing residents (in percentage)

Tenure	Housing	No interest	Little interest	Interested	Very interested	Active participation
		%				
No	Shack	8	4	1	2	7
No	Informal dwelling	3	1	2	3	2
No	House	6	7	5	2	6
Yes	House	3	1	23	3	11
Total		20	13	31	10	26

It is clear from Table 2 that there is an interest in community participation, particularly from those residents who have security of tenure, the most unlikely to participate are the individuals who have no tenure and thus do not have any particular reason to develop the community. If these individuals can be evicted at any time (as they have no tenure), there is little incentive for them to participate in community based LED. What is interesting is that 41% of all respondents are interested or very interested in community participation. The catalyst to encourage this is by facilitating property ownership. This would encourage communities to want an improvement for their environment, not just for the social benefits but, equally, for the economic benefits and capital accumulation. It must also be noted that the most active members of the community in terms of community participation were those individuals who owned their own property and had security of tenure.

The results from Table 2 do not include tenants, only individuals who owned their own dwelling with or without tenure. However, this does not imply that having tenants will reduce the likelihood of participation. Landlords are likely to be engaged in LED if they have the prospects of increased returns from better rental stock. The possibility of community based LED is enhanced when communities have the opportunity to actively improve their environments without the fear and uncertainty of losing their investment.

Conclusion

The role of housing in improving the livelihoods and standard of living of the poor is obvious (Ho and Kwong, 2002; Du Plessis and Leckie, 2006). In order for the poor to feel that they are co-sovereigns of their community it is important for them to feel that they have ownership of their township (De Soto and Cheneval, 2006). This ownership can lead to the community led LED, encouraging poor communities to not only participate in respective initiatives, but also to actively formulate LED strategies (Mackinnon, 2000). There is already a need and desire to give communities more of a role in creating their development (Godsell and Maphalala, 1990). However, in order to facilitate this process, a catalyst is needed to stimulate participation. Providing housing security through the provision of tenure to informal dwellings and slum dwellings will not only formalize the township but could trigger community led LED participation by poor communities. This process could be the catalyst for wealth creation and the engineering of a new asset base for poor communities in both urban and rural settings.

References

- Abbott J. 2002, *A method based planning framework for informal settlement upgrading*, Habitat International, 26(3), 317–333.
- Anderson K., Martin W. and van der Mensbrugge D., 2006, *Distortions to World Trade: Impacts on Agricultural Markets and Farm Incomes*, Review of Agricultural Economics, 28(2), 168–194.
- Bloch R., 2000, *Sub-national economic development in present day South Africa. retrospect and perspective*, Urban Forum, 11, 227–271.
- Brian A., Ranvinder S., 1995, *The global context of housing poverty*, [in:] A. Crian, S. Ranvinder (eds.), *Housing the Urban Poor*, Zed, London.
- Bremner L., 2000, *Post-apartheid urban geography: a case study of Greater Johannesburg's rapid land release programme*, Development Southern Africa, 17(1), 87–104.
- Cheneval F., 2006, *Property rights as human rights*, [in:] H. De Soto, F. Cheneval (eds.), *Realizing Property Rights*, Ruffer & Rub, Zurich, 11–18.
- De Soto H., 1989, *The Other Path: The economic alternative to terrorism*, Basic Books, New York.
- De Soto H., 2001, *The mystery of capital. Why capitalism triumphs in the Wes and fails everywhere else*, Black Swan, London.
- De Soto H., 2006, *What if you couldn't prove you had a house?*, *Herald Tribut*, Jan. 21, <http://www.iht.com/articles/2006/01/20/opinion/edsoto.php?rss>, 12 Novembr 2006.

- De Soto H., Cheneval F., 2006, *Realizing Property Rights*, Ruffer & Rub, Zurich.
- Department of Housing, 2009, *2007-2008 Annual Report*, RSA Print, Pretoria.
- Dlaminani N., 2005, *Roll out for brick fields flats*, Joburg News, http://joburgnews.co.za/2005/jan/jan26_flats.stm, 26 April 2006
- Du Plessis J., Leckie S., 2006, Property rights and the need for more inclusive concepts, laws, policies and practice, [in:] H. De Soto, F. Cheneval (eds.), *Realizing Property Rights*, Ruffer & Rub, Zurich, 194–204.
- Durand-Lasserve A., Royson L., 2001, *Holding their ground: secure land tenure for the urban poor in Developing Countries*, Earthscan Publications, London.
- Gaule S., 2005, *Alternating currents of power: from colonial to post-apartheid spatial patterns in Newtown, Johannesburg*, *Urban Studies*, 42(13), 2335–2361.
- Gilbert A., 1999, *A home is forever? Residential mobility and homeownership in self-help settlements*, *Environment and Planning*, 31(6), 1073–1086.
- Godsell B., Maphalala J., 1990, *Unemployment and the informal sector*, [in:] R. Mc Gregor (ed.), *Economic Alternatives*, Juta & Co., Cape Town, 3–12.
- Goodwin M., 1996, *Local Governance, the crisis of fordism and the changing geographies of regulation*, *Transactions of the Institute of British Geographers*, 21, 635–348.
- Guliwe A., 1997, *Down but not out: cuts in the Housing budget neither surprising nor satisfying*. *Housing in Southern Africa*, 21(32), 9–21.
- Gunter A., 2005, *Integrated Development Plans and Local Economic Development: The case of Mpumalanga Province, South Africa*, *African Insight*, 35 (4), 162–173.
- Ho M., Kwong T., 2002, *Speculation and property price: chicken and egg paradox*, *Habitat International*, 26, 347–361.
- Huchzermeyer M., 2001, *Housing the poor? Negotiated housing policy in South Africa*. *Habitat International*, 25, 303–331.
- Jenkins P., 2000, *Urban Management, urban poverty and urban governance: planning and land management in Maputo*, *Environment and Urbanization*, 12(1), 137–152.
- Jones R., 2003, *Alex upgrade picks up the pace*, *Joburg News*, 2006(7).
- Keivani R., Werna E., 2000, *Refocusing the housing debate in developing countries from pluralist perspective*, *Habitat International*, 25, 191–208.
- Lee R., 2000, *Radical and postmodern? Power, social relations, and regimes of truth in the social construction of alternative economic geographies*, *Environment and Planning A*, 32, 991–1009.
- Loos J., 2006, *Soweto – what's the big deal*, *FNB Property Markets*, 5, 1–5.
- Mackinnon D., 2000, *Managerialism, governmentality and the state: a neo-foucauldian approach to local economic governance*, *Political geography*, 19, 293–314.
- Marais L., 2006, *Towards a policy framework for post apartheid housing investment in former homeland areas*, *South African Geographical Journal*, 83, 183–198.

- Marshall C., 1970, *Slums and Community Development, experiments in self-help*, Free Press, New York.
- Molosankwe B., 01-11-2005, *Land for low-cost housing a priority, says minister*, The Star, November 1.
- Narsoo M., 2000, *Critical Policy issues in the emerging housing debate (paper presented at the urban future conference WITS University)*, www.wits.ac.za/urbanfutures/papers/narsoo.htm, 21 August 2002
- Newman K., Wylie E., 2006, *The right to stay put, revisited: gentrification and Resistance to Displacement in New York City*, *Urban Studies*, 43(1), 23–57.
- Nielson K., 2002, *The mixed economy, the neoliberal challenge, and the negotiated economy*, *Journal of Socio-Economics*, 21(4), 325–351.
- Ogu V., Ogbuozobe J., 2001, *Housing policy in Nigeria: towards enablement of private housing*, *Habitat International*, 25, 473–492.
- Pilotfish., 2009, *Making Home Building Simple*, Pilotfish Digital, 19 Feb., <<http://www.buildit.co.za/FindAStore.aspx>>
- Premchander S., 2003, *NGOs and local MFIs - how to increase poverty reduction through women's small and micro-enterprise*, *Futures*, 35, 361–378.
- Rahman A., 1999, *Micro-credit initiatives for equitable and sustainable development: Who pays?*, *World Development*, 27(1), 67–82.
- Renaud B., 1999, *The financing of social housing in integrating financial markets aview from developing countries*, *Urban Studies*, 36(4), 755–773.
- Rogerson C., 2008, *Shared growth in tourism: evidence from Soweto South Africa*, *Urban Forum*, 19, 395–411.
- Rukwaro R., Olima W., 2003, *Developer profits undermine residents satisfaction in Nairobi's residential neighbourhood: implications for local government in Kenya*, *Hahtat International*, 27, 143–157.
- Sivam A., 2003, *Housing supply in Delhi*, *Cities*, 20(2), 135–141.
- Smart A., 2003, *Impeded self-help: toleration and the proscription of housing consolidation in Hong Kong's squatter areas*, *Habitat International*, 27, 205–225.
- Stout H., 1997, *Filling the funding gap*, *Housing in Southern Africa*, 4, 21–32.
- Web B., 2006, *Manual slams dodgy housing figures*, *Cape Times*, 10.
- Williams J., 2006, *Human rights, property rights, and human security*, [in:] H. De Soto, F. Cheneval (eds.), *Realizing Property Rights*, Ruffer & Rub, Zurich, 166–175.

Jesús Abraham NAVARRO MORENO
National Autonomous University of Mexico
Facultad de Filosofía y Letras
Av. Insurgentes Sur (s/n), Ciudad Universitaria
Col. Copilco Universidad. Del. Coyoacán. CP. 04360. México D.F., México
janm25@hotmail.com

Agricultural conditions and local development in Michoacán, Mexico

Abstract. The aim of this paper is to describe certain productive projects that arose as local development alternatives in Michoacán, Mexico. The paper draws attention to the particular agricultural conditions of Michoacán, as based on its productive context and natural potentialities. In addition, socio-economic characteristics are evaluated in order to determine the degree of agricultural development of the municipalities and problematic areas. It is worth noting that Michoacán also suffers from problems associated with emigration and drug trafficking, which not only affect agriculture, but also local rural development processes more generally. In response to these processes, several government projects have recently been launched in rural areas, aiming to re-evaluate the population's agricultural, livestock and forestry activities.

Key words: agriculture, natural conditions, local development, Michoacán, Mexico

Introduction

In the Latin American context, the concept of *local development* has emerged in response to the need for horizontal economic regulation over time through centre-periphery territorial organization (Boisier, 1999). The major transformations resulting from the capital accumulation model in Latin America, present regulatory problems such as labour market organization, or the adaptation and dissemination of modern technology. In addition, the efficacy of state intervention instruments has decreased in relation to general economic regulations, which produces an imbalance in the socio-institutional framework (Boisier, *op. cit*). In response to this process, over the past decade most Latin American governments have promoted restructuring through encouraging new forms of

public management, including local development policy, whereas communities had previously attempted to resolve their problems through endogenous adjustment of local production systems.

This, therefore, is the context for the trend towards local development in Mexico. The various governmental bodies in Mexico (Federal, State, Municipal) frequently offer programs to provide training and economic support to start productive projects, including those directed specifically at rural spaces, which tend to aim at strengthening agricultural, livestock and forestry activities. These programs often make reference to sustainable technological production practices.

Broadly speaking, in Mexico, the local level could be associated with the municipal sphere, which forms the basis of territorial, political and administrative organization. As a legal structure, it is free in the sense that it is not subordinate to the State, to which it belongs. Operating at municipal level allows local problems to be efficiently assessed, makes citizen participation meaningful in terms of shaping territorial planning, and contributing to economic and social recovery (Yarmuch, 1997).

The advantages of the municipality in a local development context come from its close relationship with local society, this fact offering greater possibilities of identifying collective demands and complying with functions relating to basic issues of community life. The municipality also offers those sectors of the community that lack representation and political power the chance to participate politically (Herzer and Pires, 1993, cited by Castillo, 2006). To specify further, it can be said that the municipality is made up of two territorial structures: the *ejidos*¹ (communal lands), and the localities (towns). These structures are the reference point for local space in Mexico, and in practice, they are where local development begins. As residents of the locality, or as owners of the *ejido*, still protected by the municipality, people may propose and carry out a range of projects within the framework of national or state programs.

Agricultural activity in Michoacán

Michoacán State is one of Mexico's most important areas of agricultural production. In 2007, it had the second highest productivity after Sinaloa State. It is

¹ The *ejido* is a rural property of collective use, which played a very significant role in the country's agricultural life. The *ejido* in Mexico has three bodies: the Assembly, which is the supreme body of the *ejido*, in which all the *ejidarios* (owners) take part without mediation; the Commissary, in charge of executing the rulings of the Assembly, and the legal representation of the *ejido*; and the Supervision Council, which is the auditing body responsible for scrutinizing the actions of the Commissary, ensuring that agrarian laws are obeyed.

a territory of diverse physical-geographical conditions, which inhibits homogeneous crop production, so that diverse production predominates. For example, in 2007, as many as 116 different crops were grown in Michoacán (*Anuario Estadístico de la Producción Agrícola*, 2007). In this context, regionalization of agriculture in Michoacán becomes important, in order to distinguish the spatial contiguities of these particularities. The different approaches to regionalization put forward by González (1990), Escobar (1996) and Ramírez (2003), can be used as references in this regard. González designed his study based on economic-productive conditions, derived from the application of a municipal agricultural typology, while Ramírez distinguished areas with the potential to grow certain crops through assessing a combination of environmental conditions (relief, climate and soil). The approach to agricultural regionalization, proposed by Escobar, however, was the one most widely accepted among researchers in Michoacán, since it combined physical-geographical elements with socio-cultural characteristics in different municipalities of Michoacán (Fig. 1).

Michoacán is particularly important in terms of fruit production, and is the country's primary producer of fruit crops. During 2007 the value of fruit output accounted for over 60 percent of total output value in Michoacán. The respective data are strongly influenced by the extremely significant role of avocado production, which is the main crop of Michoacán, and a traditional product of the municipalities of Tancítaro, Uruapan, Peribán, Ario de Rosales, Tacámbaro, Nuevo Parangaricutiro, and Salvador Escalante. In the same year, avocado cultivation constituted almost 50 percent of all agricultural production in Michoacán. Commonly, 70 percent of total production is for the national market, and the remaining 30 percent is exported to countries such as, in particular, the United States, Canada, El Salvador, Honduras, Guatemala, Costa Rica, France, Switzerland, Spain, Holland, Germany, England, Belgium, Japan and Hong Kong (*La producción del aguacate en Michoacán*, 2008).

Michoacán is also Mexico's main producer of blackberry, strawberry and guava, and is also the second largest producer of limes, all of which are important fruit crops. Also significant are sorghum, tomato, wheat and sugar cane production. Regarding maize, which is the only crop to extend across all the 113 municipalities, Michoacán is one of the most important production areas, and is currently the country's fourth largest producer.

Natural conditions for agricultural development in Michoacán

It is the natural conditions of Michoacán that allow for the favourable statistics, mentioned previously, to arise. Although it is difficult to estimate these condi-



Figure 1. Municipalities of Michoacán and agricultural regionalization
Source: based on Escobar, 1996.

tions using mathematical methods alone, a numerically expressed qualitative assessment is possible. This section evaluates the natural landscapes and soils of the territory, which are characteristics that sum up its physical-geographical conditions.

Landscape is a real, complex and dynamic fact. Landscape is seen as independent of the meaning attached to it by humans, and in this sense, it is not only an image, which is perceived and valued from a subjective point of view, but rather it is a synthetic term that contains complex images, in which it is possible to identify environmental elements as manifested in the territory. De Bolós (1992) and García and Muñoz (2002) agree that landscape is made up of physical and human elements, which interact in distinct ways in different times and spaces. Studies of landscape rest on General Systems Theory, which has allowed its methodological and conceptual development through the deployment of models that explore the structure and functionality of the territory (García and Muñoz, *op. cit.*). The evaluation of natural landscapes in the present methodology applies the III scale of analysis of the Callexiux-Tricart scale, which corresponds to what Bertrand (cited by García and Muñoz, *op. cit.*) called Natural Region². At this scale of analysis, the macro-structural components, such as morphological structures and climates, define the boundaries of landscapes. On this basis, and using descriptions offered by Escobar (1996), landscapes were evaluated according to their potential plant cultivation, be this associated with forestry or agricultural activities (Tab. 1).

Table 1. Assessment of natural conditions of landscapes in Michoacán

Natural Condition	Description
Favourable	Landscape units with plains and valleys, without regard to the prevailing climate but with irrigation possibilities. Landscape units with semi-warm climates, not regarding relief variations, being plains or valleys, hills, tablelands or even mountain ranges.
Average	Landscape units with semi-warm climates, not regarding the relief conditions, but lacking irrigation conditions. Coastal plains.
Unfavourable	Warm and dry mountain ranges and hills. Badlands.

Source: based on Escobar, 1996.

Soil analysis is also taken into account in landscape studies, in which meso-structural components are considered, reflecting another process of territorial synthesis. Therefore, soils are at a second level of integration, and soils are considered as one expression of the synthesis of biotic and abiotic processes on the

² While human elements are recognized as part of landscape, at this scale of analysis they still do not constitute an important factor in the demarcation of landscapes. In this context, this scale of analysis applied to the territory of Michoacán is especially useful for distinguishing natural agricultural potentialities of the territory. Social and economic factors influencing agricultural characteristics are evaluated later.

earth's surface. The conditions of agricultural soils in Michoacán were also evaluated based on the descriptions made by García (2005) (Tab. 2).

Table 2. Assessment of natural conditions of soils in Michoacán

Natural condition of the soil	Description
Favourable	Vertisols, luvisols, phaeozems and cambisols.
Average	Andosols and regosols, and some vertisols, luvisols, phaeozems and cambisols with lithic, stony or saline-sodium phases reducing their potential.
Unfavourable	Lithosols, planosols, rendzines, solonchaks and regosols in lithic phases.

Source: based on García, 2005.

Macrostructural components of landscape and soil characteristics were evaluated separately. Theoretically, a municipality with the best conditions could obtain a 6 point maximum in assessed natural condition, bearing in mind percentage variations between good and regular conditions (Tab. 3). Thus, each municipality was assessed twice and, in accordance with the methodological criteria, the maximum value is 12 points. On this basis, certain spatial behaviours can be identified (Fig. 2).

The agricultural regions of the Mountain Ranges and Plains of Los Reyes-Cotija and Chapala Swamp – Zamora Valley feature the best physical-geographical characteristics. Other municipalities with good agricultural conditions are located in the northwestern part of the Mountain Ranges and Lowlands of Michoacán. Essentially, satisfactory conditions are linked to the irrigation, facilitated by the Lerma River.

Table 3. Assessment of the natural conditions for agricultural production

Assigned Score	Surface area of the municipality with good conditions (%)		Assigned Score	Surface area of the municipality with average conditions (%)
6	> 95		3	> 95
5	80–95		2.5	80–95
4	60–80	+	2	60–80
3	40–60		1.5	40–60
2	20–40		1	20–40
1	5–20		0.5	5–20
0	< 5		0	< 5

Source: author's own criteria based on García, 2005 and Escobar, 1996.

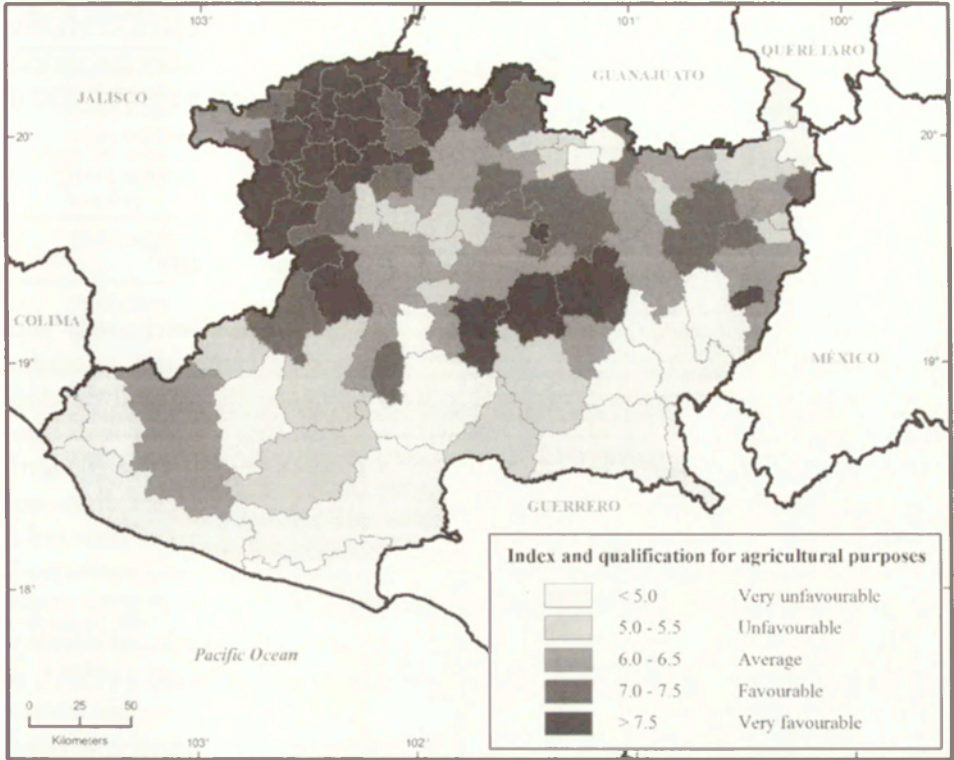


Figure 2. Evaluation of natural conditions of municipalities in Michoacán
Source: based on García, 2005 and Escobar, 1996.

On the other hand, areas with natural limitations are concentrated in the Coast of Michoacán, Medio Balsas and Valle de Tepalcatepec³. These regions are characterized by warm, dry climates, and some municipalities also have rugged terrain. Of all the municipalities in these three regions, only Buenavista has favourable conditions, due to its relief of plains and valleys, and the presence of the Grande-Tepalcatepec River, allowing for irrigation.

Another area with physical limitations is located in the upper parts of the Sierra Purépecha region, and consists of municipalities such as Paracho, Nahuatzen, Erongarícuaro, Tingambato and Charapan. Here, the climate is temperate-cold, the agricultural system is rain-fed farming, its soils are essentially andosol, but in lithic phases, which means they are not very developed. There are some other municipalities in a similar situation in the West of the Mil Cumbres region, such as Ocampo and Angangueo. In this same region, but in

³ These three regions are often referred to under the name *Tierra Caliente*, a name which is recognized by the inhabitants themselves.

the North, in the municipalities of Maravatío, Contepec and Epitacio Huerta, the planosols are the main limiting factor, due to their unsuitability for agricultural activity. Other soils in this area have lost agricultural potential due to being in lithic and stony phases.

Degree of agricultural development in Michoacán

Agricultural conditions in Michoacán ought not to be linked exclusively with the physical-geographic environment. There are other characteristics, associated with the socio-economic situation, which also influence agricultural development in the state. The methodological purpose of this measurement is to identify areas, which are lagging behind in agricultural development across the territory. Agricultural development is determined on the basis of selected diagnostic features, and it is assumed that they all have equal weight in terms of their influence on the degree of agricultural development. Its quantitative measurement is expressed through the formulation of an index.

The characteristics selected to distinguish the degree of agricultural development (Tab. 4) are based on the methodology proposed by Bański (1999)⁴, to identify areas of low agricultural development.

Table 5 establishes the methodological procedure, through which it is possible to synthesize diverse measurements used. Each indicator proposed was categorized into 5 ranges, in order to establish a six-digit typology code. An initial standardization step was applied to indicators B, E and F using the same method, since they measure various characteristics internally⁵.

In Figure 3, three clear zones of good agricultural development can be seen: the northwestern part of the state, which corresponds to the central part of the Chapala Swamp – Zamora Valley region, especially the municipalities of Tangancícuaro, Zamora, Jacona, Ixtlán, Ecuandureo, Yurécuaro, Tanhuato and Vistahermosa. The second area of good agricultural development is located in

⁴ Even though the methodology seeks to analyze agricultural development in the different territories, it is not a measurement that would exclude other processes taking place in rural spaces. This tendency to include rural measures corresponds to a conceptualization of agriculture as an activity that falls within the framework of the rural context, as a result of the criticisms of the division between rural and agricultural geography towards the end of the 1970s.

⁵ The general value of the first typological code (internal indicator code) was later reclassified into the standardization intervals of the general indicators. For indicators B and F, the general value was the summation of the typological code, while for indicator E, the general value was the average, due to the missing technical assistance surface information in some municipalities. Nevertheless, on balance it was decided that the measurement of this indicator be kept, after assessing its importance relative to the problem of missing information.

Table 4. Indicators used to evaluate the level of agricultural development in Michoacán

Indicator	Description	
A	Level of education among the rural population	Based on the number of agricultural workers with complete primary education, in relation to total agricultural workers.
B	Basic services for rural housing	Rural housing quality evaluation according to the presence of five characteristics: sanitation, water, telephone, gas and movable goods.
C	Size of agricultural property	Based on the share of properties of less than 5 ha in relation to the total number of agricultural properties.
D	Production of commercial crops	Based on the value of total output, with an index of the maximum value data. The number of crops with a value of total output over \$5,000,000 (five million Mexican pesos) is also accounted for.
E	Operational agricultural conditions	Based on the fertilized, mechanized, irrigated and technically assisted land, all in relation to the cultivated surface area per municipality.
F	Yield of four characteristic crops per agricultural region	Based on the yields of main crops. In view of regional diversity of crops in Michoacán, the four most important products per agricultural region were considered, in terms of their production value. Values were standardized by means of the "Medium Index Value" to make them comparable.

Source: based on *Anuario Estadístico de la Producción Agrícola, 2007*, *Anuario estadístico del estado de Michoacán, 2007*, *XII Censo general de población y vivienda, 2000* and Bański, 1999.

Table 5. Methodological criteria for the standardization of selected characteristics

	1	2	3	4	5	Observation
A	< 35.00	35.01–38.50	38.51–42.00	42.01–45.50	> 45.50	Percentage
B	5 to 8	9 to 12	13 to 16	17 to 20	21 to 25	Points (sum of the internal typological code)
C	< 20.00	20.01–40.00	40.01–60.00	60.01–80.00	> 80.00	Percentage. Inverse indicator
D	< 0.050	0.051–0.100	0.101–0.200	0.201–0.300	> 0.300	Index
E	< 2.00	2.00–2.50	2.51–3.25	3.26–4.00	4.00	Points (average of the internal typological code)
F	4 to 5	6 to 7	8 to 9	10 to 11	12 to 20	Points (sum of the internal typological code)

Source: author's own criteria based on *Anuario Estadístico de la Producción Agrícola, 2007*, *Anuario estadístico del estado de Michoacán, 2007*, *XII Censo general de población y vivienda, 2000* and Bański, 1999.

the central-western part of the state, particularly Buenavista, Tepalcatepec, Periban and Nuevo Parangaricutiro municipalities. The third zone with good development is situated in the North of Michoacán, including, in particular, the municipalities of Huandacareo, Copándaro, Tarímbaro, Alvaro Obregón, Indaparapeo and Zinapécuaro. In addition, there are poles of high levels of agricultural development that do not fit into their microregional context, such as

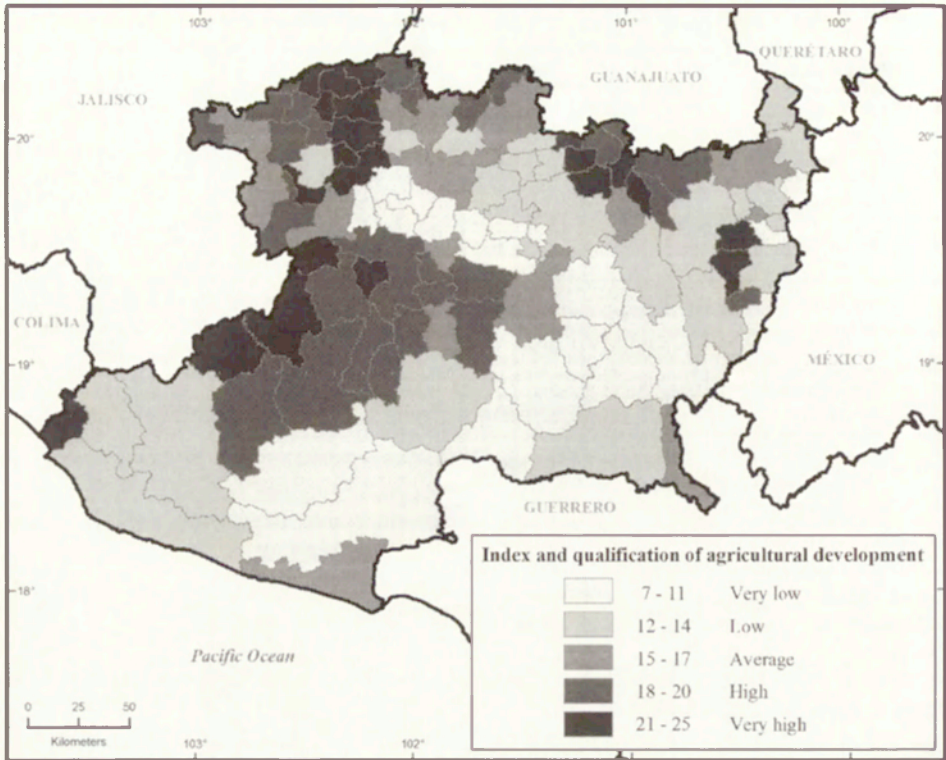


Figure 3. Types of agricultural development of municipalities in Michoacán

Source: based on *Anuario Estadístico de la Producción Agrícola, 2007*; *Anuario estadístico del estado de Michoacán, 2007* and *XII Censo general de población y vivienda, 2000*.

Coahuayana in the Michoacán Coast, or the municipalities of Tuxpan, Jungapeo and Juárez in the Mil Cumbres region.

Municipalities with very low agricultural development levels are located in two main zones: in the North of the Sierra Purépecha, and a line of municipalities comprising those located in the East of the Michoacán Coast, as well as most of Medio Balsas. Yet, if municipalities with low agricultural development levels are also taken into account, the vast majority of municipalities in the East are seen to fare poorly as to agricultural development, which therefore represents a generalized problem in this part of Michoacán.

Figure 4 also shows the distribution of the municipalities with problematic agricultural development, but with slight variation. This map shows municipalities with low development levels, not only by the summation of the typology code, but also due to its internal structure. Thus, territories with three or more low values (number 1 in the typology code) are defined as pathological areas, meaning that they show a significant number of negative factors that impede

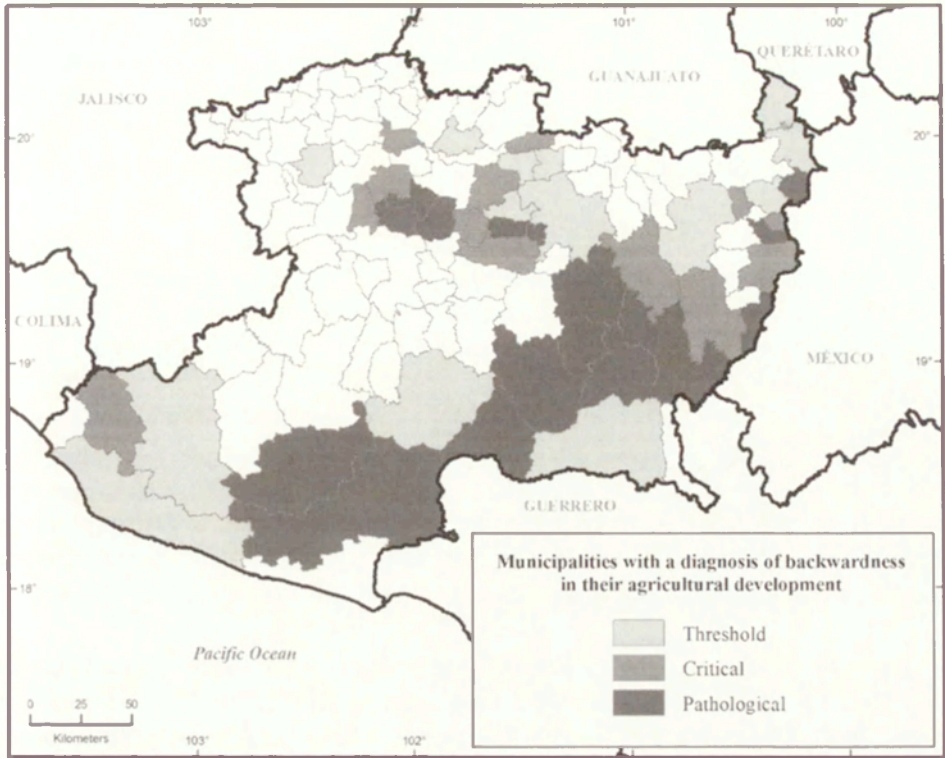


Figure 4. Agricultural development problem areas

Source: based on *Anuario Estadístico de la Producción Agrícola, 2007*; *Anuario estadístico del estado de Michoacán, 2007* and *XII Censo general de población y vivienda, 2000*.

agricultural development. In addition, there are the municipalities considered as threshold areas, which do not register very low values in their typological code. Between these groups are the municipalities with one or two very low values, which constitute critical areas for agricultural development.

Emigration and drug trafficking, other problems in rural areas

In analyzing the problems of rural areas in Michoacán, two processes cannot be ignored: emigration and drug trafficking.

Emigration is important in rural areas in Mexico, due to the changes it provokes in the population structure. Traditionally, men of productive age tend to be those who migrate from Mexico, meaning that in areas with high outmigration, the population has a higher proportion of women, elderly, and

children. Of these three groups, two can be considered as being in situations of dependence, such that women, traditionally associated with domestic work, are those who take charge of rural work. Nevertheless, given the strength needed for this type of work, they sometimes opt for work such as producing handicrafts, or other types of work in urban or sub-urban contexts, which may also lead to a change of their place of residence. In addition to these economic factors, women also migrate currently for emotional reasons, which means that community and family ties are strengthened, especially in the United States.

In 2000, the international migration rate stood at -6.35 per 100,000 inhabitants, and this rate has remained constant since then, with the most recent studies in 2008 showing a rate of -5.23 , meaning that approximately 558,000 people left the country that year. Michoacán is on the negative side of that indicator, with the rate of -15.99 , corresponding to departure of 64,000 individuals. In fact, migration flows are so marked that the negative population growth of the state is attributed to this process. Michoacán has the lowest population growth rate of any state, at -0.34 per 100 inhabitants, which in absolute figures is equivalent to 13,000 fewer individuals per annum (Villagómez and Bistraín, 2008).

A recent methodology, developed by the National Population Council (*Índice de Intensidad Migratoria México-Estados Unidos 2000, 2002*) to measure the migratory process, emphasises the observation of domestic units (households)⁶. Households are the spaces in which individuals initiate, develop and broaden the spaces of their capacities, and which in many ways underlie the reasons or motivations behind much of their behaviour. According to this methodology, in Michoacán there are no municipalities without intense emigration. Some, like Morelia and the northeast of Mil Cumbres have low intensity, but in general the centre-east of the state is characterized by high levels of migration, and the North of the state by very high levels.

The implications of emigration cannot be evaluated alone to determine agricultural development, but it is clearly a social problem experienced in rural areas of Michoacán, whereby significant emigration goes against the idea of the local development of rural areas. González (2005) warned that emigration from rural areas in Michoacán has emerged as an alternative to the lack of formal (official) financing for production under the argument of low productive potential.

In addition, drug trafficking is identified as a problem of territorial conflict within the agricultural and rural spaces of Michoacán. The geographical and orographical characteristics of this territory are unbeatable for purposes of drug

⁶ It is worth mentioning that this distinction does not diverge from its predecessor, which tends to evaluate migration on an individual basis. In general, the second option arises from the recognition that the migration process is explained through a wide range of individual behaviors.

growing and trafficking. The altitude in different zones allows thousands of hectares of marijuana and poppy to be cultivated.

The worsening of the economic situation and rising unemployment translate, undoubtedly, into higher rates of delinquency, however these are measured. Certainly, crime results from a combination of circumstances in which individuals are denied the means to achieve their objectives through legitimate means and that, therefore, push them towards criminal activities (Resa, 2001). Moreover, employment is often not permanent, but in fact sporadic, being interspersed with periods of inactivity, and many jobs are low paid, working conditions are often poor, and employment highly unstable. Agricultural work in Michoacán, and in Mexico in general, falls under those conditions: it is temporary, although sometimes agricultural day-workers migrate internally according to the harvest cycles; it is low paid, and unstable due to the increase of the numbers of dispossessed *ejido* owners. Therefore, in the face of a lack of support and necessary measures to increase an economically healthy agricultural production, many rural workers opt to cultivate illegal crops.

There are two main rural areas that face the problem of drug trafficking in Michoacán: the extreme South of the state, corresponding to the Michoacán Coast and some municipalities of the Tepalcatepec Valley, and another group of municipalities comprising different parts of the Sierra Purépecha, the mountains and lowlands of Michoacán and the Medio Balsas. In both groups of municipalities, access routes are limited, and most have low levels of agricultural development. Of all the municipalities in Michoacán which stand out in terms of drug production at a national level, only three have high or very high levels of agricultural development, which are Tepalcatepec, Aguililla and Apatzingán. The remaining ones feature medium to very low agricultural development, but particularly notable in a negative sense are Madero, Turicato, Nocupetaro, Carácuaro, Tiquicheo, Tumbiscatío, Arteaga, Tzitzio, Coalcomán and Aguila. Thus, it may be said that there is a relationship between agricultural development and the trend towards increased drug cultivation.

Nevertheless, rural areas of Michoacán do not only experience the problems of the replacement of traditional crops, but also that of the rent of *ejidos* for the construction of laboratories for the production of synthetic drugs, particularly crystal (Montana, 13-05-2009). This is a business of triple convenience for the *ejido* owners: the peasants can work manufacturing synthetic drugs; they gain greater income than they would get for traditional crops, and finally, they do not lose the *ejido* property, but rather rent it out. This relatively recent process implies a change of peasant traditions, and also in a spatial sense, it has meant new land use configurations emerging. In addition, the process brings serious consequences in terms of environmental pollution, especially of the soil.

In terms of Michoacán as a drugs shipment point, military and civil authorities agree that Michoacán is a nerve centre for drug trafficking. Cocaine from South America and pseudo-ephedrine from China (used to produce crystal), arrive at the port of Lázaro Cárdenas. Coahuayana receives shipments of drugs via sea and light aircraft from Central and South America, while Nueva Italia, in the municipality of Múgica, is in charge of buying, receiving, transporting and trading drugs to the United States (García, 01-06-2009 and Ordaz, 23-06-2009).

The two rural problems analyzed in this section are both routes that the rural population in Michoacán have considered as a means of solving their economic problems. Both paths are unwise in terms of the ideals of local development, and there needs to be a substantial strategic effort made in order to curb these escalating processes.

Recent projects to drive local development in rural areas in Michoacán

As previously mentioned, local development in Mexico is promoted as a policy of the different government bodies (Federal, State and Municipal). The Federal Government carries out national programs by means of its Ministries, and the resources assigned to them. Those programs, linked with local development, are aimed at strengthening the economy and improving competitiveness. Each state in Mexico also has its State Ministries, and own local development programs.

Thus, in the context of these two federal and state entities, citizens are responsible for enrolling, individually or collectively, in the different programs in order to receive economic support or training, through which to improve productivity. In rural areas in Michoacán, citizens tend to carry out projects that incorporate their ancestral agricultural, livestock and forestry activities. Nevertheless, the projects also increase competitiveness, and in general they promote the ideas of sustainable development. Figure 5, aiming to create a spatial reconstruction through bibliographic and newspaper sources, points out some local development projects in rural areas of Michoacán⁷.

In terms of agriculture, there are some very important projects related to the cultivation of organic products. The crops from Michoacán that have advanced

⁷ Other projects for rural areas in Michoacán can be found on the Fundación Produce Michoacán website, where different agricultural projects, directed at increasing avocado, guava, mango and maize cultivation are mentioned. Likewise, livestock projects in Tierra Caliente, an aquaculture project in Coahuayana and several crosswise projects aimed at the use and management of water for irrigation, technological exchange, and integral communication strategies, are also described.

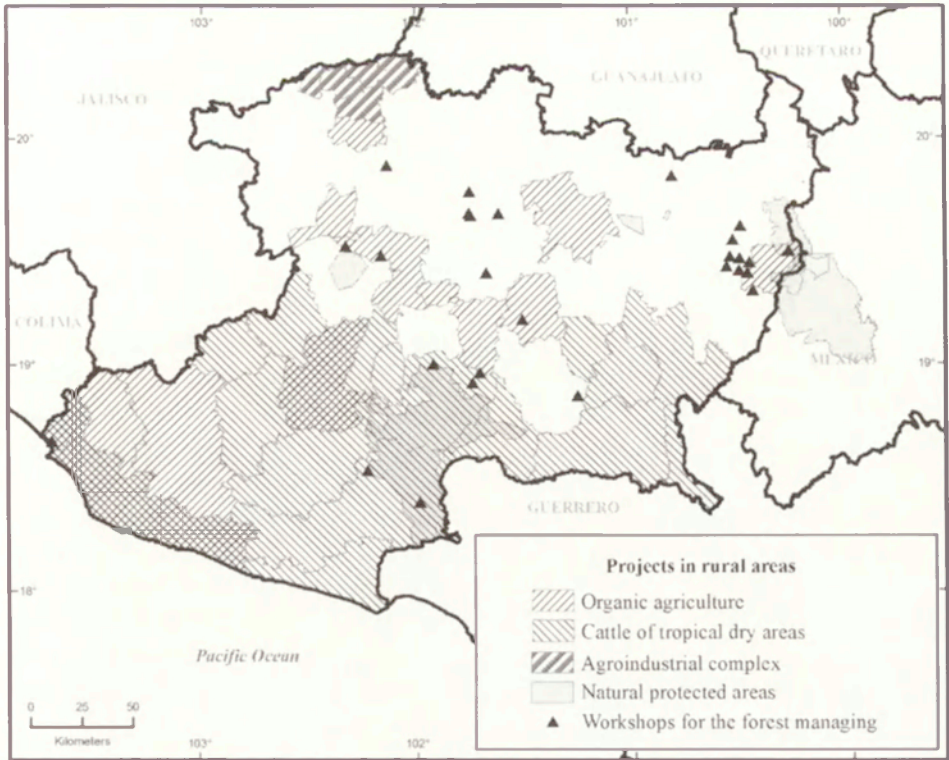


Figure 5. Local development activities for rural areas in the municipalities of Michoacán
 Source: based on Pimentel, 11-04-2009; Ruiz, 15-05-2009; *Programa especial para el desarrollo de los sistemas silvopastoriles como alternativa alimenticia de la ganadería sustentable del trópico Michoacano*, 2009 and *Programa de desarrollo forestal comunitario*, 2008.

most fully in this direction are coconut, banana, mango, avocado, lime, grapefruit, guava and tamarind.

The massive drive of the municipalities of Tierra Caliente towards improving agricultural conditions ought to be noted. In exactly this area the municipalities have made extraordinary developments in organic agriculture and are currently instigating the introduction of 100,000 hectares of *jatropha curtus*, through which Michoacán is becoming one of the main territories in Mexico to promote the cultivation of this plant for the generation of alternative energy. It is anticipated that this project will include 22 municipalities of the Tierra Caliente belt (Pimentel, 11-04-2009), through which it not only becomes a local development project, but also a micro-regional one.

With reference to the other micro-regional projects, particularly noteworthy is the installation of the Agroindustrial Park in the Northeast of the state. While, as mentioned above, the state occupies first place in fruit production, it is 18th in agroindustrial production, so it is crucial to exploit the capacity within

the state to give value-added to products with greatest commercial potential in international markets. It is anticipated that the sphere of influence would extend over 30 different rural localities, in the municipalities of Yurécuaro, Tanhuato, Vista Hermosa, La Piedad and Ecuándureo (Ruiz, 15-05-2009).

Livestock projects are directed towards planting improved pastures and genetic enhancement of the livestock. Again, these projects are focused on the Tierra Caliente region, which is the area with highest livestock capability. In this area, projects currently running include infrastructure, grasslands and livestock projects, aimed at creating a centre of technological innovation in sustainable livestock farming for the dry tropics, which would increase productive potential and have a social impact, involving various municipalities (*Programa especial para el desarrollo de los sistemas silvopastoriles como alternativa alimenticia de la ganadería sustentable del trópico Michoacáno*, 2009). Again, it can be seen that there is a tendency to attain micro-regional development through local development.

Forestry projects, on the other hand, are more precise and tend to be concentrated in the pin-oak vegetation areas such as the central part of Mil Cumbres. Forestry projects are usually registered under the Community Forestry Development Program, of the National Forestry Commission. The *ejidos* and towns approved by the program are enrolled onto training workshops, where the traditional management of natural resources and collective property is promoted (*Programa de desarrollo forestal comunitario*, 2008).

Finally, the impact of the national Protected Natural Areas project on local areas in Michoacán ought to be considered. Such areas have experienced a slight increase in labour diversity, as more and more people are employed in activities relating to services such as control of forest fires, and more commonly in tourist services such as guides, leisure activities, food and board. This process also implies a change in land use for the *ejidos*.

Conclusions

Altogether, while Protected Natural Areas contribute to the diversification of activities, as a factor driving local development of rural areas, Chaplin, Davidova and Gorton (2006) warn that this is still not a constant process in Michoacán. Many rural areas are not close to large urban areas, which might be a basis for supporting alternative revenue sources, and the process of migration has not been halted, be it rural-urban or international. Likewise, low education levels persist, as does a lack of credit or capital, both factors which contribute to the population's lack of options to diversify their income generating strategies. Thus, the most successful local development projects in Michoacán are aimed at

revaluing work linked to primary activities, or work commonly associated with the rural population, activities that are traditional for the local population. Nevertheless, in the face of a rising trend towards agricultural specialization, and the concentration of primary activities in the hands of a small number of property owners, diversification of activities which drives local development for the rest of the population in rural areas, appears to be a medium-term challenge.

Yet, local development in Michoacán ought also to be seen in terms of (complementary) general state development. It has been seen that in a micro-regional context, projects seek to have an impact on localities in different municipalities, such that the extension of this impact to other spatial scales (regional and state) can be anticipated. As Borja and Castells (1997) show, from a broader perspective, the global and the local are complementary, joint creators of social and economic synergy.

References

- Anuario Estadístico de la Producción Agrícola*, 2007, Sistema Nacional de Información para el Desarrollo Rural (OEIDRUS-Michoacán), Secretaría de Desarrollo Rural – Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación, México.
- Anuario estadístico del estado de Michoacán*, 2007, Instituto Nacional de Estadística y Geografía (Inegi), México.
- Bański J., 1999, *Problem areas in Poland's agriculture*, *Geographia Polonica*, 74 (1), 47–63.
- Boisier S., 1999, *Desarrollo (local): de qué estamos hablando?*, Centro de Estudios Desarrollo y Territorio, Santiago de Chile.
- Borja J., Castells M., 1997, *Local y Global. La gestión de las ciudades en la era de la información*, Taurus, España.
- Castillo P., 2006, *El desarrollo local en la gestión municipal*, Universidad de Viña del Mar, Viña del Mar.
- Chaplin H., Davidova S., Gorton M., 2006, *Non-agricultural farm diversification and its potential contribution to rural development*, [in:] S. Davidova, K. Bauer, M. Cuddy (eds.), *Integrated development of agricultural and rural areas in Central European Countries*, Lexington Books, Laham, MD, 83–119.
- De Bolós M., 1992, *Manual de la ciencia del paisaje. Teoría, métodos y aplicaciones*, Masson, Barcelona.
- El Reto del Desarrollo Local*, 2008, Secretaría de Planeación y Desarrollo Estatal, Gobierno del Estado de Michoacán, México.
- Escobar D., 1996, *Regiones agrícolas de Michoacán*, Universidad Autónoma Chapingo, México.

- Estébanez J., 1986, *Tendencias en Geografía Rural*, [in:] A. García (ed.), *Teoría y Práctica de la Geografía*, Alhambra, Madrid, 225–258.
- García A., 2005, *Base mundial de referencia para los recursos edáficos*, Departamento de Biología y Producción de los Vegetales-Área de Edafología y Química Agrícola, Universidad de Extremadura, Extremadura.
- García A., Muñoz J., 2002, *El paisaje en el ámbito de la Geografía*, Instituto de Geografía, UNAM, México.
- González A., 1990, *Los tipos de agricultura y las regiones agrícolas de México*, Universidad Autónoma Chapingo-Colegio de Postgraduados, México.
- González O., 2005, *Construyendo el desarrollo local. La organización del espacio agrícola en Rincón Grande, Michoacán (1930–2000)*, El Colegio de Michoacán-Centro Universitario de ciencias Sociales y Humanidades, Universidad de Guadalajara, Guadalajara.
- Índice de Intensidad migratoria México-Estados Unidos 2000*, 2002, Consejo Nacional de Población (Conapo), México.
- La producción del aguacate en Michoacán*, 2008, Asociación Agrícola Local de Productores de Aguacate en Uruapan – Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias (Inifap), Uruapan, Michoacán.
- Programa de desarrollo forestal comunitario*, 2008, Comisión Nacional Forestal - Coordinación General de Producción y Productividad, Gerencia de Silvicultura Comunitaria, Secretaría de Ambiente y Recursos Naturales, México.
- Programa especial para el desarrollo de los sistemas silvopastoriles como alternativa alimenticia de la ganadería sustentable del trópico Michoacano*, 2009, Fundación Produce Michoacán. Michoacán.
- Ramírez C., 2003, *Producción agrícola*, [in:] G. Correa (ed.), *Atlas geográfico del estado de Michoacán. Michoacán, México*, Secretaría de Educación en el Estado de Michoacán, Universidad Michoacana de San Nicolás de Hidalgo, Editora y Distribuidora EDDISA, S.A. de C.V., 143–146.
- Resa C., 2001, *Empleo y delincuencia: la historia una relación contradictoria*, Universidad Autónoma de Madrid, Madrid.
- Villagómez P., Bistraín C., 2008, *Situación Demográfica Nacional*, Consejo Nacional de Población México.
- XII Censo general de población y vivienda*, 2000, Dirección General de Geografía, Instituto Nacional de Estadística y Geografía (Inegi), México.
- Yarmuch J., 1997, *Municipio y Desarrollo Local Rural. Dirección de Desarrollo y Gestión Local*, ILPES.

Newspaper References

- García F., 01-06-2009, *Michoacán: quién es quién en 'la familia' política*, Agencia Mexicana de Información y Análisis, Morelia, Michoacán, México.

- Montana B., 13-05-2009, *Se han 'reventado' en Michoacán los 2 narcolaboratorios más grandes del país*, Agencia Mexicana de Información y Análisis, Morelia Michoacán, México.
- Ordaz P., 23-06-2009, *En las entrañas de la mafia mexicana*. *El País*, El Espectador, México.
- Pimentel E., 11-04-2009, *Proyectan a Michoacán como líder a nivel nacional en la producción de biodiesel*, Reporte digital, Agencia de noticias de Michoacán, México.
- Ruiz E., 15-05-2009, *Planean megaproyecto en zona agroindustrial de alto nivel*. *La voz de Michoacán*, Inforural, México.

In September 2009, the conference of the Commission on Local Development International Geographical Union, entitled: Socio-economic disparities and the role of local development, was held in Warsaw. The Commission on Local Development IGU provides an international forum for the study of issues related to matters such as: local and regional development, reorganization of space and the role of both institutions and agencies in developing and reshaping the local space.

In the Warsaw conference, representatives of various academic centers from five continents took part. As a result of that event, several papers were prepared, and some of these are presented in the current publication. This volume extends our knowledge regarding directions of local development in the countries located in different geographical zones as well as ways of solving the problems resulting from the socio-economic spatial disparities occurring in those countries.

The recent volumes of *Rural Studies*:

Volume 12 Stanisław Grykień i Władysław Hasiński (eds.), 2007

*Przyrodnicze uwarunkowania rozwoju obszarów wiejskich
(Environmental conditioning of rural areas development)*, in Polish

Volume 13 Wiesława Gierańczyk i Mieczysław Kluba (eds.), 2008

*Problemy i metody oceny kontinuum miejsko-wiejskiego w Polsce
(Evaluation of the rural-urban continuum in Poland problems and methods)*, in Polish

Volume 14 Jerzy Bański, 2008

*Wiejskie obszary sukcesu gospodarczego
(Economically successful rural areas)*, in Polish

Volume 15 Jerzy Bański and Maria Bednarek (eds.), 2008

Contemporary changes of agriculture in East-Central Europe

Volume 16 Jerzy Bański (ed.), 2009

*Analiza zróżnicowania i perspektyw rozwoju obszarów wiejskich w Polsce do 2015 roku
(Analysis of diversity and of the development perspective for Polish rural areas until 2015)*, in Polish

Volume 17 Eugeniusz Rydz i Roman Rudnicki (eds.), 2009

*Procesy przekształceń przestrzeni wiejskiej
(Processes of rural space transformation)*, in Polish

Volume 18 Tomasz Komornicki i Roman Kulikowski (eds.), 2009

*Miejsce obszarów wiejskich w zagospodarowaniu przestrzennym
(Rural areas in spatial planning)*, in Polish

Volume 19 Jerzy Bański, Maria Bednarek-Szczepańska, Konrad Czapiewski, 2009

*Miejsce obszarów wiejskich w aktualnych strategiach rozwoju województw –
kierunki i cele rozwoju a rzeczywistość
(The place of rural areas in the current policies of voivodeship development – directions
and goals of development versus reality)*, in Polish

Socio-economic disparities and the role of local development

<http://rcin.org.pl>

Rural Studies - vol. 20