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Original Paper

Impact of Solid Waste Management on Rural Development in Lebanon Advantages and Disadvantages Case Study: Ain Baal Project (Tyre caza)

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Abstract

Solid waste is a global, regional and national problem. Lebanon is not isolated and far away from this problem. Lebanese state since the beginning did not work to find a scientific effective permanent lasting solution to this problem. Every day all media broadcast about solid waste problems, especially in the region of Sidon and Tyre caza. The file of solid waste management (collecting-transporting-disposal) is exhausting municipalities' financial resources instead of investing these funds in implementing rural development programs, which TYRE caza fiercely needs. Development represents the most challenging aspect for all countries of the world, whether they are developed or developing countries. In addition, development in its concept and application, whether it was sustainable development, local, rural, urban, became the focal attention of states governments alike, whether those countries are developed or developing countries. For that purpose, those countries have established ministries and research centers to take care of development and even to add university degree related to development.

Lebanon has not follow this track, neither in the formulation of designed ministry for development nor in the adding of university specialized degree, also the academic literature, who deals in the subject of development. "Limited number of institutions involved in rural development such as , the establishment of kafalat cooperation, a new investment law that establish the autonomous investment development authority of Lebanon (IDAL), the provision of subsidized credit through a central bank facility, signing trade agreements to expand and liberalize trade with Lebanon's partners" E/ESCWA/2007/WG.5 26OCTOBER 2007.

The research will focus on the concepts of rural development, rural area, analyze the impact of expenditure on solid waste on rural development in TYRE caza.

Keywords

solid waste management, Union of Tyre region Municipalities, integrated solid waste management, Administrative Reform and Development, The Young Men's Christian Association Tyre, Lebanon

1. Introduction and Problem Statement

1.1 Introduction

Development generally means the improvement of people's lifestyles through improved education, incomes, skills development and employment. Development also means that people should have decent housing, and that they should have security within those houses. Development means too, that people should be able to read and write; in order to develop or have better lives people must get a good education.

Because illiterate people do not develop as much as educated people do, it is therefore important that people should get themselves a good education, or send their children to school to get that education.

Sustainable development is defined as "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (Sharhan, 2000, p. 44).

Rural development is an important tool for sustainable development of rural areas. The objective of sustainable rural development is to raise the level of economic performance in all sectors of the rural economy, to shape viable rural communities, to maintain indigenous cultures, to protect the environment and to conserve natural resources

Sustainable development is a core challenge in both developed and developing countries. Due to the important changes in developing and transition countries, rural areas suffer from insecurity of property rights, missing markets, deteriorated infrastructure, unemployment, lack of formal systems of social security, resource degradation and other problems. Also in developed regions, rural development faces important challenges concerning economic, social and environmental viability.

Sustainable rural development is based on strong links with the whole society. Therefore, the implementation of this new approach of rural development requires trained people with specific and multi-disciplinary skills for designing, deciding and managing rural development policies, programs and projects. In much of the world, rural landscapes are undergoing an intensification of human land use. The goods and services provided by these lands, including agricultural products, wildlife habitat, and the preservation of soil and water quality, are vital for humans as well as for the conservation of biodiversity. Globally, growth in the number of households has out-paced population growth (Liu et al., 2003).

Such is the case in the Lebanon, where rural lands are being rapidly converted to home sites. To meet the challenges and consequences the rural development is facing, adequate strategies and policies

involving both the private and public sector should be in place. Over the last two decades, in Lebanon, likewise the rest of the world, due to the rapid growth in the population and technology pace, the rural areas have been hugely affected in terms of availability and habitat quality.

2. Definitions

2.1 What is Rural Development?

The concept of rural development has changed significantly during the last 3decades. How did the concept of "rural development" evolve over time in the past 3 decades? What does "inclusive rural development" mean? Addressing these two basic interrelated questions is important to put the issues relating to inclusive rural development in perspective. Until the 1970s, rural development was synonymous with agricultural development and, hence, focused on increasing agricultural production. This focus seems to have been driven primarily by the interests of industrialization to extract surpluses from the agriculture sector to reinforce industrialization.7 with the focus on increasing agricultural production, the stated objective of most countries was to promote smallholder agriculture. Over time, this smallholder agriculture-centric concept of rural development underwent changes.

By the early 1980s, according to Harris, 8the World Bank defined it as "…a strategy designed to improve and social life of a specific group of people—the rural poor."

Four major factors appear to have influenced the change: increased concerns about the persistent and deepening of rural poverty; changing views on the meaning of the concept of development itself; emergence of a more diversified rural economy in which rural non-farm enterprises play an increasingly important role; and increased recognition of the importance of reducing the non-income dimensions of poverty to achieve sustainable improvements in the socioeconomic well-being of the poor. The establishment of the Millennium Development Goals has significantly reinforced the concerns about non-income poverty. With the paradigm shifts in economic development from growth to broadly defined" development," the concept of rural development has begun to be used in abroader sense. It is also more specific, as Harris9 noted "in the sense that it focuses (in its rhetoric and in principle) particularly on poverty and inequality.

"In more recent years, increased concerns on the environmental aspects of economic growth have also influenced the changes. Today's concept of rural development is fundamentally different from that used about 3 or 4 decades ago. The concept now encompasses "concerns that go well beyond improvements in growth, income, and output.

The concerns include an assessment of changes in the quality of life, broadly defined to include improvement in Health and nutrition, education, environmentally safe living conditions, and reduction in gender and income inequalities." Today there seems to be a universal consensus that the ultimate objective of rural development is to improve the quality of life of rural people.

This makes it essential to go beyond the income-related factors such as prices, production, and productivity to a range of non-income factors that influence quality of life and hence inclusiveness of

rural development.

Inclusive rural development is a more specific concept than the concept of rural development. In broad terms, inclusive rural development is about improving the quality of life of all members of rural society. More specifically, inclusive rural development covers three different but interrelated dimensions. The first is the economic dimension that encompasses providing both capacity and opportunities for the poor and low-income rural households in particular to benefit from the economic growth process in such a way that their average incomes grow at a higher rate than the growth of average incomes in the sector as a whole. The economic dimension also includes measures to reduce intra- and inter-sect oral income inequalities to reasonable levels. Second is the social dimension of supporting social development of poor and low-income households and disadvantaged groups, eliminating inequalities in social indicators, promoting gender equality and women's empowerment, and providing social safety nets for vulnerable groups. Third, is the political dimension of improving opportunities for the poor and low-income people in rural areas, including women and ethnic minorities, to effectively and equally participate in the political processes at the village level and beyond compared with any other categories of the population within and outside rural areas?

"Also M.C. Donagh (1998) outlines three dimensions of rural development. The first dimension relates to an integrated approach, which suggests that policies should encourage community development at local level and build the human capacity of rural areas to self-develop. The second dimension of rural development highlights the need to allow local community groups for example, make decisions regarding the development of their own areas. The third dimension refers to a call for more partnership agreements between the state and local community groups to achieve greater control over rural communities." early.childhood@spd.dcu.ie

The definition of rural development has evolved through time because of changes in the perceived mechanisms and / or goals of development.

A reasonable definition of rural development would be development that benefits rural populations; where development is understood as the sustained improvement of the population's standards of living or welfare (www.fao.org/es/esa).

According to the South African Rural Development Framework/SARDF (1997:9), rural development can be defined as:

"Helping rural people set the priorities in their own communities through effective and democratic bodies, by providing the local capacity; investment in basic infrastructure and social services. Justice, equity and security; dealing with the injustices of the past and ensuring safety and security of the rural population, especially that of women".

Rural development in general is used to denote the actions and initiatives taken to improve the standard of living in non-Urban neighborhoods, countryside, and remote villages. These communities can be exemplified with a low ratio of inhabitants to open space.

Agricultural activities may be prominent in this case whereas economic activities would relate to the

primary sector, production of foodstuffs and raw materials. Rural development is the conversion of land outside of all urban growth boundaries to a more intensive non-resource oriented use such as residential structures. It also includes the division of land into parcels for the purpose of accommodating non-resource uses, such as subdivision development. Rural development is about bringing about positive change in the economic, social, environmental, and cultural conditions of rural areas.

Another more specific definition for rural development is the "development of the countryside which addresses the needs of all groups and individuals within a given rural population (women, youth, farmers, second-home owners, retirees) and aims at increasing the quality of their lives and their natural environment" (FAO, 2011).

"Rural development is essentially a part of structural transformation characterized by diversification of the economy away from agriculture.

This process is facilitated by rapid agricultural growth, at least initially, but leads ultimately to a significant decline in the share of agriculture to total employment and output and in the proportion of rural population to total population. (Johnston, 1970)".

The definition of ALI EZZEDDINE C.E.O of A.D.R for rural development: "is the interaction between human resources and natural resources ".

For the human resources we are working to increase their productivity through training and the delivery of knowledge and information and the granting of loans to strengthen the financial capacity and sustainability of the work in one condition which is preservation of the environment and natural resources and prevent the overuse of those resources".

2.2 What is Rural?

"Defining 'rural' is problematic for several reasons, but most notably because the term is used as a physical, social and cultural concept and therefore has a range of meanings ascribed to it. As well as a lack of conclusiveness on how to actually define the term 'rural' there has in the past been a tendency to treat all rural areas in the same way despite the differential characteristics and problems they may exhibit" early.childhood@spd.dcu.ie

"Rural" areas have been analyzed in many countries for decades; there is no single commonly internationally accepted definition.

The main reasons are as follows:

The various perceptions of what is (and what is not) rural and of the elements characterizing "Rurality" (natural, economic, cultural, etc.), The inherent need to have a tailor-made definition according to the "object" analyzed or policy concerned, The difficulty to collect relevant data at the level of basic geographical units (Administrative unit, grid cell, plots, etc.). Unfortunately there does not exist a single methodology, much less a single definition of what constitutes rural.

In practice, there are two main methodologies to define rural. The first methodology is to use a geopolitical definition. First, urban is defined by law as all of the state, region, and district capitals (centers), and by exclusion all, the rest is defined as rural.

The other popular methodology is to use observed population agglomeration to define Urban. In this case, populations that live within an area where contiguous households form Populations larger than, say 2,000 inhabitants are considered urban, while by exclusion the rest is defined as rural. This methodology seems more attractive because it establishes a clear threshold; unfortunately, this threshold varies widely around the world. (www.fao.org/es/esa).

2.3 Rural Areas in Lebanon

Rural space can be divided into two regions:

Rural areas those are closer to the cities and more developed in terms of access to basic infrastructure and services. Remote rural areas in the periphery that suffer from an array of social economic problems and constraints acting against their development. Common Features that Shape Rural Space in Lebanon:

-Absence of well-developed infrastructure and public services such as SWSL, WWM.

-A fragile production base.

-Limited employment and economic opportunities.

-Low income levels (agriculture being the main profession).

-Social structure and demographic characteristics.

-High migration, mostly among the young in quest of education and employment opportunities.

-Most of these features and characteristics apply to the Union of Tyre Caza.

3. Literature Review

3.1 Rural Development: Background Information

3.1.1 Historical Changes in Rural Development Concepts During Last 3 Decades

The concept of rural development has changed significantly during the last 3 Decades. How did the concept of "rural development" evolve over time in the past 3 decades? What does "inclusive rural development" mean? Addressing these two basic interrelated questions is important to put the issues relating to inclusive rural development in perspective. Until the 1970s, rural development was synonymous with agricultural development and, hence, focused on increasing agricultural production. This focus seems to have been driven primarily by the interests of industrialization to extract surpluses from the agriculture sector to reinforce industrialization.

With the focus on increasing agricultural production, the stated objective of most countries was to promote smallholder agriculture.

Over time, this smallholder agriculture-centric concept of rural development underwent changes.

By the early 1980s, according to Harris, 8the World Bank defined it as "…a strategy designed to improve and social life of a specific group of people—the rural poor."

Four major factors appear to have influenced the change: increased concerns about the persistent and deepening of rural poverty; changing views on the meaning of the concept of development itself; emergence of a more diversified rural economy in which rural non-farm enterprises play an

increasingly important role; and increased recognition of The importance of reducing the non-income dimensions of poverty to achieve sustainable improvements in the socioeconomic well-being of the poor. The establishment of the Millennium Development Goals has significantly reinforced the concerns about non-income poverty. With the paradigm shifts in economic development from growth to broadly defined "development," the concept of rural development has begun to be used in a broader sense. It is also more specific, as Harris9 noted "in the sense that it focuses (in its rhetoric and in principle) particularly on poverty and inequality.

"In more recent years, increased concerns on the environmental aspects of economic growth have also influenced the changes. Today's concept of rural development is fundamentally different from that used about 3 or 4 decades ago. The concept now encompasses "concerns that go well beyond improvements in growth, income, and output. The concerns include an assessment of changes in the quality of life, broadly defined to include improvement in health and nutrition, education, environmentally safe living conditions, and reduction in gender and income inequalities." Today there seems to be a universal consensus that the ultimate objective of rural development is to improve the quality of life of rural people.

This makes it essential to go beyond the income-related factors such as prices, production, and productivity to a range of non-income factors that influence quality of life and hence inclusiveness of rural development.

Inclusive rural development is a more specific concept than the concept of rural development. In broad terms, inclusive rural development is about improving the quality of life of all members of rural society. More specifically, inclusive rural development covers three different but interrelated dimensions.

The first is the economic dimension that encompasses providing both capacity and opportunities for the poor and low-income rural households in particular to benefit from the economic growth process in such a way that their average incomes grow at a higher rate than the growth of average incomes in the sector as a whole.

The economic dimension also includes measures to reduce intra- and inter-sect oral income inequalities to reasonable levels.

Second is the social dimension of supporting social development of poor and low- income households and disadvantaged groups, eliminating inequalities in social indicators, promoting gender equality and women's empowerment, and providing social safety nets for vulnerable groups.

Third is the political dimension of improving opportunities for the poor and low- income people in rural areas, including women and ethnic minorities, to effectively and equally participate in the political processes at the village level and beyond compared with any other categories of the population within and outside rural areas.

3.2 Strategies for Rural Development

Over the last two decades, rural development has been a primary concern to many local or regional authorities and to national governments or international development organizations. There is a growing consensus today that the rural sector has a crucial role to play in the goals of reducing poverty, assuring food security and improving natural Resource management. It is also recognized that decentralization can improve the performance of actions aimed at development of this sector.

Decentralization and rural development have thus become one of the main strategies of international organizations.

Many strategies have been developed and proposed by policy makers across the world. While the policies and models used can be different, the objectives that different policies strive for are the same, which is the enhancement and assurance of a higher quality of life in rural areas through diversification of the economy and the development of new economic activities, which will, in long term, lead to harmonize and sustainable development. To achieve this objective, most rural development strategies include the following measures (FAO, 2011):

Alternative use of the existing resources and local development potentials, which is the only way to assure long-term sustainable development of rural areas;

Development of new products and services based on existing potentials, which do not demand large and special infrastructure.

Explores the existing diversity of small products and potentials, which is both the main characteristic and problem of rural areas.

Organizes entrepreneurial initiatives in small production units that need only small investments to start.

A UK's parliamentary commission stated that the objective of rural development is: "To introduce a sustainable and integrated rural development policy governed by a single legal instrument to ensure better coherence between rural development and the prices and market policy of the Common Agricultural Policy (CAP) and to promote all aspects of rural development by encouraging the participation of local actors. In this spirit, the new rural development policy, relating to farming and conversion to other activities, aims:

To improve agricultural holdings, To guarantee the safety and quality of foodstuffs, To ensure fair and stable incomes for farmers, To ensure environmental issues are taken into account, To develop complementary and alternative activities that generate employment, with a view to slowing the depopulation of the countryside and strengthening the economic and social fabric of rural areas, To improve living and working conditions and promote equal opportunities." (http://www.parliament.the-stationeryoffice.co.uk/pa/ld200506/ldselect/ldeucom/007/709.htm)

In a similar vein, the European Union's Rural Development Policy seeks to maintain the vitality of the countryside through the balanced development of rural areas and the action undertaken to support such a development, they use the funds to support both agricultural and non-agricultural activities, such as:

So that more Extending broadband coverage, helping small businesses, helping the food processing industry, extending childcare mothers living in rural areas can return to work

(http://ec.europa.eu/agriculture/faq/rurdev/index_en.htm).

The detailed actions and the distribution of budgets adopted to support the rural development policies depend on the priorities and economic models used in each country. In fact, for example the decentralization and distribution of power has huge effects on the process of developing new programs and budgeting to support such programs.

Rural development has always been an important issue in all discussions pertaining to economic development throughout the world. The socio-economic disparities between rural and urban areas are widening and creating tremendous pressure on the social and economic fabric of many developing Asian economies.

These factors, among many others, tend to highlight the importance of rural development. The policy makers in most of the developing economies recognize this importance and have been implementing a host of measures to tackles such issues. (http://ec.europa.eu/agriculture/faq/rurdev/index_en.htm)

The EU acknowledges that rural development not only protect and preserve the EU countryside, but also help fight climate change. Examples include preserving water quality, Sustainable land management, planting trees to prevent erosion and floods.

The rural development is a main area used to tackle the big challenges the 21st century is placing and therefore, the importance of rural development is now widely recognized and it has been brought to the centre of the development agenda. Ake (1996, p. 142), states that if people are the agents, the means and the end of development, then development has to be construed initially as rural development generally and more specifically as agricultural development. According to Chowdhury and Islam (1993), Johnston and Mellor (1961) first expounded the fundamental importance of agriculture to economic development. They argued that agriculture provided five vital contributions to the development process:

Meeting the demand for food for a growing population, as long as this was consistent with comparative advantage.

Providing a source of foreign savings or earnings.

Providing a source of savings for investment in development of other sectors, mainly industry.

Providing human resources and raw materials for other sectors.

Providing an internal market for the goods and services of other sectors (industry and services) (Chowdhury & Islam, 1993, p. 57).

Guy (1970) offers a classic statement on the importance of rural development:

“It is in the rural sector in many developing countries that indigenous resources of men and land are underused, there that nutrition can be tackled; there that success would do most to slow the immigration to major cities, to provide a market for existing and new industries and services and to give the chance for restructuring education to meet the practical needs of a prosperous and diversified rural economy. Finally, it is there that some redress of the gross inequality in income distribution can be started (Guy, 197, p. 1)”

The importance of rural development has been reiterated by the World Bank (1997). According to the Bank, sustainable rural development can make a powerful contribution to four critical goals:

Poverty reduction, widely shared growth, Household, national and global food security, Sustainable natural resource management.

The Bank further asserts that its objectives of poverty reduction, widely shared growth, food security and sustainable natural resource management cannot be met unless rural development in general and a thriving agricultural economy in particular, are nurtured and improved (World Bank, 1997 p. 1).

3.3 Rural Development: New Paradigm for the 21st Century

(http://www.regional.org.au/au/countrytowns/keynote/keller.htm)

The imperatives of rural development in the 21st Century have changed. The relationship between government and economic development began to change marked during the late 1970's and early 1980's. The beginning of the 1980's saw many less developed countries heavily borrowed and unable to service their debt. The physical plant and infrastructure fashioned in the 1950s and 1960s - often of exceptionally poor quality-created high levels of service costs that even the most developed nations could not bear. Hardest hit were the rural economies and regional settlement patterns resulting in a virtually unabated flow of resources to the metropolitan areas. The result was the beginning of the demise of the centrally planned economy and the ushering of the "Age of Austerity." The concept of integrated population and development planning had to be adjusted in light of the changes brought about by this austerity.

Many planners and development analysts regarded the goals of development under austerity as self-evident and non-problematic, seeing the only problems as concerning how to attain them. (Nussbaum & Sen, 1989).

The new paradigm recognized that both the environment and human settlement where open systems and regulated by things happening beyond local and national boundaries—the Global Economy—and greatly affected by natural and human imbalances.

In short, the urban centric view of the world was called into question, especially the prevalent notion that the purpose of rural areas was to provide food, fuel and cheap workers.

The new paradigm not only recognizes the connectivity of the urban—rural spheres, but also addresses the issue of rural vitality. For, unless rural areas are revitalized, the metropolitan centers' must ultimately provide the rescue funds and resources to support the countryside.

The solution is what we typically call economic development. In principle, the new paradigm called for self-sustaining economic growth and social policy designed to provide the requisites of existence and citizenship. While the former can help provide the fuel for the latter, we must be under no illusion that growth itself will fulfil basic needs:

Economic Diversity: The rural areas that show the most favorable growth and economic strength have their economies based on recreation and tourism. Are rural economies built around tourism and amenities sustainable? Thought on this question is decidedly mixed and generally negative. Tourism, in

one form or another is the world's second largest industry. As a whole, this activity mines and extracts wealth in the form of money and exports the final resources to metropolitan areas where the corporations and trusts reside. Tourism is dependent on wealth and increasing affluence - it is not an activity within reach of the world's poor. Thus, there is a closed cycle of events whereby tourism and amenity based economies demand ever-increasing affluence and affluence itself is associated with migration to metropolitan areas. Tourism and amenity jobs are among the lowest paying service industries in the world—or what is termed minimum or subsistence wage in most countries. The firms that service the local industries are labor intensive and built around employment in food service, lodging and accommodation, information assistance, maintenance, and service sales to the traveling public. Since most tourism is seasonal, the industry depends on high migration rates based on boom and bust seasons that in turn demand the cheapest labour available. Factors such as poor seasonal weather, higher transportation costs due to both profit taking and increasing costs for fuels can send a local economy into shambles within a short period - causing some of the highest unemployment rates in any industry.

3.4 Remoteness

Remoteness is the one characteristic that all true rural areas share in common. It is viewed as both an asset and a major liability. Many development specialists and rural sociologists take the stance that remoteness and isolation is an asset. They argue that small structure, vertical leadership, and cooperation are important strengths that contribute to ethic and social identity. Although they acknowledge that inter local cooperation with regional towns is important, they also counter that individual community ties are the most important process in local development. They imply that to dismiss the importance of local pride, concern, and problem solving capabilities would ignore much of the community's true resource base (Allen, p. 219). On the other hand, current economic development practice now strongly encouraged in rural areas promotes inter-community cooperation, assimilation with other communities, and common work towards development. This is based on the theory that small size and remoteness is the major inhibitor of development efforts. Thus, the other side of the problem is how to overcome distance factors in rural areas. In general, remoteness factors are related to four major policy choices in central planning: transportation, critical service deliver, communications, and jobs skills/training. Many to be the total planning solution for rural areas predict communications, more specifically telecommunications amounting to both advanced systems of current technologies, and emerging forms of real time delivery.

Unlike transportation outcomes, which must overcome place-to-place remoteness, telecommunications offers the hope of in-place service and need delivery.

It is attractive, if for no other reason, because it offers quick and incremental upgrade paths—often at a decreasing marginal cost—rather than enormous sunk costs experienced in transportation and regional development. The final factor to be discussed, because it serves to influence the cost of remoteness, is job skills/ training. No society or societal sector in the global world can afford to concentrate its

educational and development resources solely in metropolitan areas. Yet, decentralization of educational resources and development ranks exceptionally high on the list of major expenditures of any nation aspiring to greater sustainability and vitality.

Both public and private systems have responded throughout this century to deliver education, jobs skills, and general training to remote areas—oth in-place and through regional centers' coordinating with outlying communities.

However, it would appear that, even with local self-help and capacity-building programs, the delivery of these vital services is reaching maximum effort under present funding and technology.

3.5 Lack of Resources

A lack of basic resources to meet rural residences' needs is repeatedly shown as a major factor in a community's inability to sustain and maintain community identity and commitment. Resources are understood to mean both fiscal (material) and human and therefore most planning solutions employ a two-pronged set of policies designed to increase resource capacity.

Efforts to redirect material resources to rural areas have been ongoing throughout the 20th Century and far outnumber programs targeted towards urban areas. Worldwide, major efforts include wide-ranging programs such as education (extension), farm and price supports, direct grants-in-aid, revenue sharing, new towns, and health care—to mentioned but a few. No comprehensive assessment of the effectiveness of these programs exists, but few will venture to say that trillions of dollars poured into rural development has not made a difference in the shape of the nonmetropolitan sectors of our countries.

Many rural sociologists argue that it is the scarceness of resources, the need for austerity, and the concomitant appreciation for the assets that do exist that creates the unique blend of community and sustainability thought to be prevalent in the world's nonmetropolitan areas. On the other hand, it is also widely argued that it is the dependence of small communities on others for aid that creates a limited perspective or community vision and a clearly articulated path into the future.

Whatever blend of perspective, it is abundantly clear that the request for resources is an all-consuming factor in the life of small communities.

3.6 Work Diversity and New Rural Industries

Much of the local economic development literature promotes the development of new rural industries (RIs) as one path to a sustainable countryside (Chuta & Liedholm, 1989). There is little argument that one of the keys to attaining a vital, living countryside is increased job opportunity and quality employment. Although RIs lag behind new service enterprises as the fastest growing component of the rural economy, nevertheless, they play a critically important role in rural economic diversification. However, a minority of rural researchers point to the rise of RIs, specifically in developing regions, as a sign of distress rather than positive rural development. Tambunan (1995) and others argue that there are two quite different conditions under which rural labor might shift from traditional agriculture, fishing, forestry and extractive pursuits: (a) when labor is pulled or "attracted" out of agriculture into better

non-agricultural opportunities; or, (2) when labor is "pushed" or forced out of agriculture by declining employment opportunities into relatively worse RIs (marginal occupations) whose capacity to absorb large quantities is achieved at the cost of extremely low, and possibly declining incomes. The first type of RIs (attracted) are typically run on a more or less stable basis with a business goal of surplus generation and growth using hired labor and a certain degree of technical sophistication.

This is in contrast to the second type of RIs, which are often seasonal, run with the help of unpaid family labor, using rather primitive technology catering mainly to local markets. The argument against sustainability and a total planning solution is that a heavy presence of the second type of RIs denotes increasing poverty in the region. Some researchers note, therefore, that the presence of the second type of RIs can only be justified because of their labor intensity and not productivity or income gains.

3.7 Building Local Capacity as a Route to Sustainability

Throughout North America, much of Western Europe, Australia, and New Zealand, community generated rural revitalization (generally termed Local Economic Development - or LED) is currently a matter of considerable profile. A prominent feature of this activity is what is termed the process related dimensions of rural LED -meaning that the capacity of individual communities to bring about a better future for themselves depends in no small measure on how well they are equipped in terms of leadership and team related skills.

The root challenge of all rural communities must be the shaping of new strategies responsive to the enduring realities of rural economies and cultural life—high unemployment; persistent poverty; deteriorated social well-being; lower earnings; and diminished health care—as well as changing national and global circumstances.

Revitalizing "rural" must include the participation of small communities in search of positive change, whereby local people are encouraged to think more about their futures and to put into practice their ideas for securing those futures. Capacity building, therefore, deals mostly with the ability of local people to solve problems. These process dimension programs seek to bring about change by forging new skills within rural communities related to leadership, mediation and conflict resolution, group processes, understanding the business of government, and the articulation of a shared vision. In the simplest terms, capacity building can be defined as increasing the ability of people and institutions to do what is required of them (Newlands, 1981).

3.8 The Impact of Telecommunications

The true, large-scale impact of telecommunications on rural areas lies some distance in the future; some would say between the year 2030 and 2050 before global wireless is a truly dependable and integrated source of doing business. Reliable, real time telecommunications cannot solve, but will certainly diminish the impact of distance between more remote rural locations and their major markets and suppliers in bigger cities. Telecommunications will be a major factor in transforming, rather than reforming; the way rural communities do business and live their lives. No amount of digital information can reform the basic distinction between the urbanized and the small place given the

massive imbalance of resources.

It cannot be a total planning solution, but it can help to create a greater competitiveness in the way rural people receive their education, medical and social care, market their goods, acquire their supplies, and conduct their affairs. It is assumed that rural areas already showing signs of great vitality will be best positioned to benefit from the new technologies and more remote center's already in decline the least.

Sources of Opportunities for Entrepreneurship in Rural Areas

The debate about what drives economic development and inclusion in rural areas started long time ago and this debate has led fresh interest about the future direction of rural economies. Economic opportunities in rural areas are directly related to both their population size and their access to larger, more populous areas. It is now widely accepted that agriculture is no longer the main economic driver in rural economies and that the traditional analytical framework that saw rural areas through an agricultural perspective is out of date. Rural economies have undergone a process of uneven change over many years driven by different sets of internal and external drivers. One of the key processes of change has been demographic with a process of counter urbanization taking place. People from urban areas—often affluent and middle class—have moved to the countryside attracted by the high quality environment and way of life. In some cases, this has displaced less affluent groups in rural areas, often through competition for scarce housing.

Technological developments have also been important as have improved transport links enabling more commuting.

The business structure in rural areas has changed radically from 50 years ago when farming was the key rural industry. The mix of industrial sectors in rural areas is now very similar to that in urban areas. The growth of spending on leisure and recreation activities has significantly boosted the size and importance of the rural tourist industry. Thus, the difference between rural and urban economies has become less distinct and economies in different rural areas have developed along very different trajectories. Some clear differences between rural and urban areas remain, particularly the scarcity of population and the importance of land based industries and the environment.

These changes suggest the need for a more integrated rural policy based on a regional rather than a national basis. In turn, this indicates the requirement for a different approach to the analysis of rural economies using territorial rather than sect oral frameworks and based on regions or sub regions rather than the country as a whole.

In terms of consumption, niche markets are being created for agricultural and food products and there is demand for tourism, recreation and amenity services.

The entrepreneurial opportunities have been assisted by policy support has been important, but also policies that have developed hard infrastructure, or provided training.

The fact that an opportunity exists does not imply that it will be converted into establishing and growing a business. In rural areas, there are three significant factors that will aid or constrain the conversion process: the operation of local business networks, the ability to innovate, and the operation

of local/regional clusters. Although rural businessesare generally constrained by, factors such as size of the labor market and the distance to markets many achieve good survival rates. Business networks can facilitate the flow of products, of people, of information, of knowledge and even labor or financial resources. New firms that can connect to networks that mobilize local and non-local resources will benefit. However, highly localized networks can act as a constraint by "locking firms in", and depriving them of the benefits of wider contacts. The ability to innovate depends not only on a firm's characteristics, but also on the ability of the area to support innovative activities. This is highly varied, and the disparities between innovative and non-innovative regions are growing. The region needs to be able to create and support an environment for innovation. The association of local firms and public organizations into interest clusters, such as rural tourism, increases competitiveness by affecting the productivity and efficiency of individual businesses, stimulating innovations, and supporting entrepreneurship.

3.8.1 Rural-Urban Relationships

Economic linkages between urban and rural areas are driven in part by the industrial and demographic structure of rural economies and societies. Within this, the balance between input and output linkages is crucial. Such linkages determine both the amount of income injected into an area and the degree to which further income is generated and contained. Hypothetically, lower paid rural employment may stimulate rural-rural multipliers but in some cases may prove less significant than the income lost through higher paid employment in urban areas, driven by commuting and household consumption away from the place of residence. Initially, rural out-commuting is likely to be most prevalent in rural areas adjacent to urban centers and employment centers.

However, further improvements in infrastructure will expand the rural commuting zone and associated economic (dis)benefits into more peripheral areas.

The existence of quality rural services (both public and private) can itself present a number of opportunities for rural development.

Of course, peri-urban rural areas will benefit indirectly from their relative accessibility to good quality urban services, and similarly, the use of rural services by urban residents may help to sustain them, and in turn present further development opportunities.

The spatial distribution of services in rural areas and urban-rural interactions arising through town-hinterland relationships are also particularly significant with regard service access and provision. Business networks facilitate the flow of products (commodity networks and supply chains) especially where rural tourism is concerned. The spread of Information, knowledge, labor and financial resources between rural and urban areas are also facilitated through networks and both formal and informal business networks may connect rural areas to the urban centers. Policy efforts to support and regulate the operation of business networks have contributed to the establishment of alternative business networks while policy efforts to increase the supply of communication technologies have also assisted the spread of networks.

The presence of effective rural-urban collaboration involving the public, private and voluntary sectors has potentially great significance for rural development.

The impacts of rural-urban partnerships are likely to be highly dependent on local, and ultimately ad hoc, contextual factors. Constraints to rural development may be felt in the form of political and cultural differences on both sides.

Ultimately, all forms of rural-urban collaboration have the potential to open up rural economies and societies to new forms of knowledge, ideas, innovation and entrepreneurship, which evidence suggests can help drive rural development and performance in a positive way.

3.8.2 Rural Development: Challenges To Meet

Regardless of whether a person lives in a rural or urban area, many of the causes and effects of poverty and social exclusion are similar. These include unemployment, lone parenthood, and a lack of necessities, poor health and education outcomes.

However, strategies aiming to redress such disadvantage often need to be different to reflect the differential circumstances and lifestyles of urban and rural communities (The Children's Charity & Forum for rural children and young people, 2005).

Although rural communities differ from suburban and urban ones, as well as from each other, and although there is diversity in definitions of 'rural', rural areas usually have at least two consistent similarities; geographical isolation and limited resources. These and other factors influence all aspects of rural life, including the way children are raised and educated (Perroncel, 2000). This argument compliments Shaw's (1979) definition of rural disadvantage, which refers to resource deprivation (for example, low income and housing), opportunity deprivation (for example, the availability of services) and mobility deprivation (transport costs and inaccessibility of local services and amenities). These three contributory factors can potentially lead to a 'self-sustaining spiral of...rural disadvantage' (Shaw, 1979).

Ovey et al. (1996) agree with debates that suggest that poverty in rural areas will not decline. They argue that both national and global developments affect rural communities, suggesting that the organization of food production on a global level and its resulting factors impact on rural areas in Ireland. Changes in the political economy of food and in the organization of food on a global scale have had particular impacts on rural areas, specifically in relation to the dependency of many rural areas on multi-national companies. Their discussion also suggests that the Irish government have changed their policy towards investment since the 1980s, that regional development is increasingly influenced by prevailing market forces, with the abandonment of policies designed to manipulate investment patterns and encourage investment in rural areas.

However, disadvantage should not be defined solely in terms of spatial or physical disadvantage. Pringle (2002) argues that it is very easy to fall into the trap of thinking of certain areas as disadvantaged rather than the people who live in these areas; "Mapping poverty using the traditional. Techniques can inadvertently place too much emphasis upon areas rather than people" (Pringle, 2002).

Pringle argues that there are different spatial dimensions to deprivation. In other words, some forms of deprivation are localized and require localized solutions whilst others affect larger areas and need to be tackled on a bigger scale.

Worldwide policies to improve the economic performance of rural regions are, mostly, not working. This is increasingly the consensus among policy makers across political parties, not only in the United States but also in many other countries around the globe. Not only is the performance of rural regions lagging, but also the gap in performance levels between rural and urban areas seems to be widening. This state of affairs exists despite significant efforts to boost rural regions through a wide variety of policies with budgets of billions of dollars in the United States alone.

These policies have many costs.

First, they draw on limited government resources at a time of budget deficits and cuts in spending. With many other competing demands on public sector funds, policies that fail to generate results are increasingly hard to defend.

Second, rural counties account for 80 percent of land area and 20 percent of U.S. population. Weak performance in rural regions retards national productivity and prosperity, and fails to use the nation's resources effectively.

As the growth of the U.S. workforce slows, making all parts of the economy productive is an important priority.

Third, the inability of rural areas to achieve their potential creates an inefficient spatial distribution of economic activity: Activities that could be performed more efficiently in rural areas either migrate offshore or add to the congestion of urban centers.

Fourth, weak rural performance creates demands for interventions, such as import barriers, that threaten to erode the incentives for productive economic activity without addressing the underlying challenges that specific regions or sectors face. These broad conclusions about rural economic development are not surprising. Advances in thinking on competitiveness and regional economic development over the last decade provide an opportunity now to examine rural regions in new ways.

3.9 Rural Development: Research Findings and Recommendation for Future Policies

(http://www.isc.hbs.edu/pdf/EDA_Summer2004_CK.pdf)

The literature reveals remarkable consensus on many issues. There is agreement around the performance gap and the challenges confronting rural regions; there is widespread recognition of several important components of rural business environments that require upgrading; there is universal agreement on the lack of coordination within the institutional network supporting rural development, and among policy makers, thought leaders, and practitioners; there is a growing understanding that the central issue is competitiveness; and there is widespread agreement on the importance of cluster thinking in rural economic development.

There are also some areas in which research progress has been more limited. There is still no rich understanding of the composition and evolution of rural economies at the industry cluster level; there is

no detailed understanding of the evolution of rural development policy; aside from case studies, there is little comprehensive evidence on regional, state, and local rural initiatives; and finally, there is an overwhelming focus on the problems of rural areas, with much less attention on the opportunities.

Overall, many participants in the research debate lament the disconnect between what is advocated in the literature and current rural economic development policies.

Policy does not seem to drive rural development, but responds to special interests, and the many sensible ideas proposed by experts are not acted upon. The evidence that we have reviewed for this report confirms this view.

Without a strong conceptual foundation, it is not surprising that economic development efforts for rural regions have been particularly vulnerable to political pork battles between small but well organized interest groups, frequent institutional redesigns without lasting effect, and the reinvention of old policies under new names.

The challenge of formulating a clear strategy for rural development may also be a symptom of a larger problem. Economic development in rural regions has often been framed as a task inherently different from economic development more generally.

This has created policies and institutions that are not well integrated with regional development activities in metropolitan regions. In addition, it has tied rural regions too strongly to agriculture, both by focusing too much emphasis on this sector and by unjustifiably blaming agriculture for disappointing rural economic performance.

A study by Harvard University conducted by Professor Porter (Porter, 2004) has led to the main following conclusions:

-Rural regions should be: an integrated part of an overall approach to regional economic development, not a separated policy area: Rural regions rise or fall economically based on the same principles as other regions; treating them differently runs the risk of concentrating on peripheral issues, not fundamental drivers. Rural regions, like metropolitan regions, are a heterogeneous group. Focusing on the characteristics they share ignores many of the most important factors driving an individual region's performance. In addition, rural regions are in many cases tightly linked to nearby metropolitan regions; approaching rural regions as self-contained economies will obscure policy choices.

-The different composition of rural economies in the traded sector of the economy is an important factor in understanding rural economic performance: Rural regions have largely similar economic compositions in the local (non-traded) economy, as we would expect. Rural regions have strong positions in traditional manufacturing, though a lower base of advanced services. Across all rural regions, most clusters are growing, including services. Agriculture is, contrary to what some believe, a relatively small part of rural economies. Even in counties with the highest reliance on agriculture, this sector accounts for only a modest portion of overall employment.

-Business environments in rural regions need to be analyzed at a much more granular level: There are some common business environment weaknesses shared by many rural areas, often associated with low

population density. These areas naturally have been the overwhelming focus of policy. However, many other characteristics of business environments vary significantly among rural regions, and these collectively appear to be more important in explaining rural economic performance.

-There are emerging policy implications for economic development in rural regions. Rural economic development must focus on the unique strengths of each area, rather than concentrating on ameliorating generic weaknesses: Rural regional economies need to better advantage the potential of their clusters and of clusters located in nearby metropolitan areas. Among the economic opportunities available to many rural areas are hospitality and tourism, including second homes and retirement homes; outsourcing of services from labor-constrained urban areas; and specialty agriculture focused on serving urban markets. Overall, the growing congestion and scarcity of land in urban areas, and the demographic trends that will produce workforce shortages as the economy grows, will increase the attraction of rural regions and their workforce.

-Any new strategy for economic development will require a new policy process: The current institutional framework for rural policy is fragmented and uncoordinated, and needs to be radically restructured. Traditional rural constituencies and current institutional structures have failed to develop policies that mobilize the potential of rural regions—not because of neglect, but of the absence of a consistent strategy based on sound understanding of rural economies. Given the heterogeneity of rural areas, policy for rural areas must be set at the local and regional level, not at the state or national level. Overall, the report describes a significant opportunity to move thinking and practice in this field to a new level. There is a clear willingness to act; what seems to be missing is the unifying approach that can rally the different participants around d a common agenda. The report hopes to make a first contribution by analyzing the evidence consistent with such an approach.

3.9.1 Main Stakeholders in Rural Development

Over the last decade, the process of designing the rural development programs is becoming more open but there is still a long way to go. All representative range of stakeholders—including the national government, the regions and local administrations as well as representatives of different kinds of private organizations should be involved in the design of rural development strategies.

Many programs in Europe has been involving all stakeholders with the following means:

-Sending out a formal questionnaire: These are generally quite difficult to reply to and generate quite general responses if they are sent out before a draft.

-Sending out drafts to a selected number of stakeholders: No Ministries have involved outsiders in preparing the drafts. Some countries like Scotland and Portugal have placed the drafts on the web, so that a far wider group of stakeholders can consult them. In some countries, the only way of replying was by sending in written comments. A commonly heard criticism is that the there was insufficient time to draft considered replies and no feedback.

Bilateral discussions or negotiations with individual stakeholders.

-Conferences or seminars: but these are usually information giving events and rarely provide a space for the different actors to adopt common positions.

-Technical working parties: to make recommendations in particular areas like the LEADER method, networking in France and the thematic groups in Italy, that have been organized to support the national working group on specific topics such as “Forest and climate change”, “Water resources”, “Soil”, “Biodiversity” and “Landscape”.

4. Methodology

The aim of this study is to assess the impact of municipalities’ strategies, practices and expenditures on rural development and solid waste management. The objective of the assessment is to understand the link between municipalities’ expenditures invested in the management of domestic solid wastes and its impact on rural development. The methodology used adopts a qualitative, quantitative approaches based on the literature review, and data collection methods such as semi structured questionnaires and interviews. In order to gather the required data for such a study, a semi structured questionnaire and guidance for semi structures interviews were appropriately designed. 60 municipality mayors were selected and interviewed as participants. The mayors, who have been selected in this study, were willing to participate in a survey questionnaire that aimed to evaluate their understanding, vision and practices about rural development. The results of the survey were then processed by the statistical program SPSS. The reliability of findings and conclusions extensively depend on the quality of the research design, data collection, data management, and data analysis.

This chapter will be dedicated to the description of the methods and procedures adopted in order to collect, analyse and process the data and explain how the conclusion will be formulated.

Specifically, this chapter will cover the following: the research design and method, the respondents or subjects to be studied, the data collection instruments, and the data analysis.

In this research, a descriptive method of research will be used. The purpose of employing this method is due to its suitability to describe the nature of a situation as is at the time of the study and to explore the causes of particular interests.

4.1 Research Method

For this study, a qualitative approach was used. The qualitative method allows a flexible and iterative style for conducting the study.

4.2 Research Instrument

Semi structured questionnaires were designed for the data gathering process to get qualitative data. The primary aim of the questionnaire is to determine the practice, strategy or opinion of policy makers about the concept of rural development and expenditure on solid waste management and to understand the link between expenditures on waste management and rural development.

The questionnaire includes 17 questions:

Number (1) (2) the questions were about municipality name, number of inhabitants and municipality's total area and its categories.

Number (3) (4) the questions were about the existing most planted crops and Raising farms.

Number (5) (6) the questions were about the presence of random garbage dumping and their opinion what is the impact of the random dumping.

Number (7) (8) (9) the questions were about the impact of the random dumping, the way the municipality manage solid waste file , amount of garbage collected and transported in tons on a daily basis.

Number (10) (11) (12) the questions were about activities of sorting, awareness campaign and the percentage of expenditure on managing the household solid waste from the total municipal annual revenues budget.

Number (13) (14) (15) the questions were the total amount spent on managing the garbage file over last 3 years, drainage the financial resources of the municipality and if Should another party, such as the U.O.T.M. or the government takes care of this file (managing the household solid waste).

Number (16) (17) the questions were about the usage of the saving funds in different elements constitute the basis of rural development and the negative and the positive impact which will be resulted by opening the household solid waste sorting factory in the area of Ain Baal estate.

4.3 Respondents of the Study

The participants involved in this study are all mayors of municipalities. All selected mayors are members in the union of tyre region municipalities. This sampling method is conducted where each member has an equal opportunity to become an element of the sample. As every member has the same chance of becoming a research participant, this means that the sampling method is the most efficient procedure. In order to conduct this sampling strategy, the municipalities first were first identified, then the mayors of the municipalities were listed and then selected to make the sample. For this purpose, a survey questionnaire was distributed to the mayors to answer.

4.4 Research Instruments

For this study, a survey-questionnaire instrument was used to achieve the main objectives of the study. A semi-structured questionnaire was distributed to the selected mayors. The questionnaire given to the municipality's mayors aimed to assess their understanding and strategies about rural development and their evaluation of the expenditures on solid waste management and its impact on rural development.

4.5 Data Analysis and Presentation

The study utilized primary data, which comes from the chosen respondents (mayors) who answered the survey-questionnaires. First, the primary data are those that come from the respondents (mayors) who have been surveyed prior to the research. The study also utilized secondary data. Secondary data include raw data and published summaries, as well qualitative data. With this particular study secondary data (in the form of articles from books, journals, magazines, interviews and newspapers), that are generally focused on rural development policies and strategies, was used.

4.6 Validity

In order to test the validity of the research method in this study, the questionnaire was first tested with two respondents. These respondents' answers were not part of the actual study process and were only used for testing purposes. After the questions have been answered, the two respondents were asked about any suggestions or any necessary corrections to improve the instrument further. Based on the assessment and suggestions of the sample respondents, the content of the questionnaire was changed and improved. Some irrelevant and vague questions were excluded and difficult terminologies were converted into simpler ones to make the survey more comprehensive for the selected respondents.

4.7 Ethical Considerations

As this study utilized human participants and investigated on municipalities practices, ethical and confidential issues were taken into account. In particular, this included obtaining consent from participants, protecting data, and keeping its confidentiality.

5. Questionnaire Analysis

In this chapter, the replies to the questionnaire will be analyzed. The focus of the Analysis will be on the impact that expenditure and investments in waste Management may have on the rural development and its sustainable development in TYRE caza.

Sixty questionnaires were distributed to the 60 municipalities making part of Tyre's Union of Municipalities. 56 municipalities answered the questionnaire, making the response rate 93%.

Q1: 1-B (Population Number)

Most municipalities OF TYRE Caza (87.5%) have small population sizes compared to other countries in the world where the average inhabitant of villages varies between 1,000 and 12,500 people.

The small number of population affect significantly the possibility of planning and implementing rural development projects with reasonable amount of financial and human resources in conjunction with the training and education programs.

Table 1. Population Intervals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(1000-12500)	49	87.5	87.5	87.5
	(12500-24000)	5	8.9	8.9	96.4
	(35500-47000)	1	1.8	1.8	98.2
	(58500-70000)	1	1.8	1.8	100.0
	Total	56	100.0	100.0	

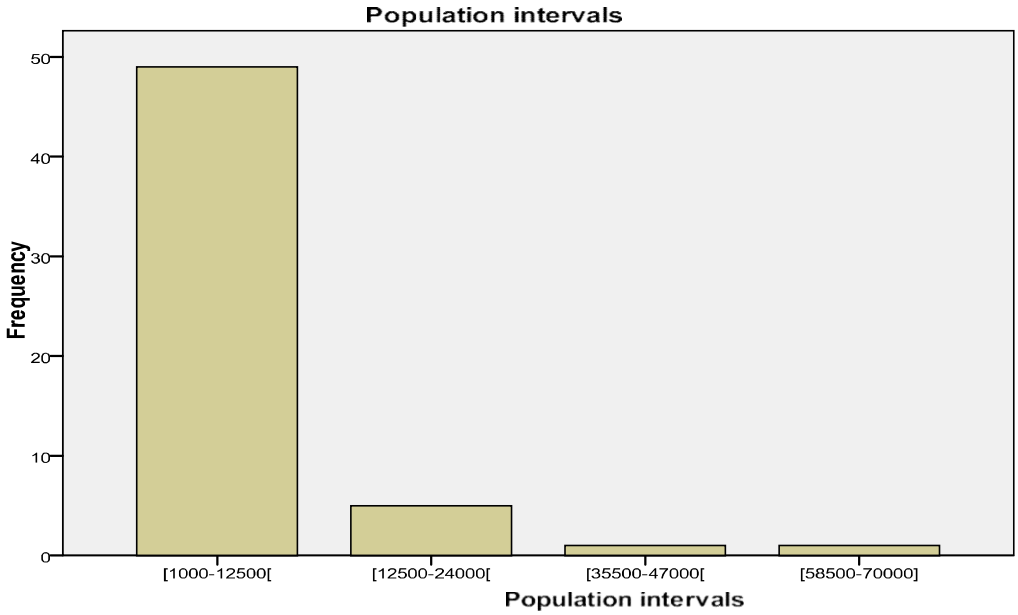


Figure 1. Population Intervals

Q2: 2-T (Total area of the municipalities)

About the area of real estate of the municipality's only fifty municipalities have answered this question with a total 381,957 dounom.

Table 2. Statistics

Statistics		
Total area		
N	Valid	50
	Missing	6
Mean		7639.14
Std.Deviation		7917.200
Range		37550
Minimum		450
Maximum		38000
Sum		381957

The majority of TYRE caza municipalities (46%) which means around 26 municipalities have a total area less than 6500dounom (small villages) and (33%) which means around 19 municipalities have a total area between 6500 dounom and 13000 dounom and the rest (9%) have more than 13000dounom.

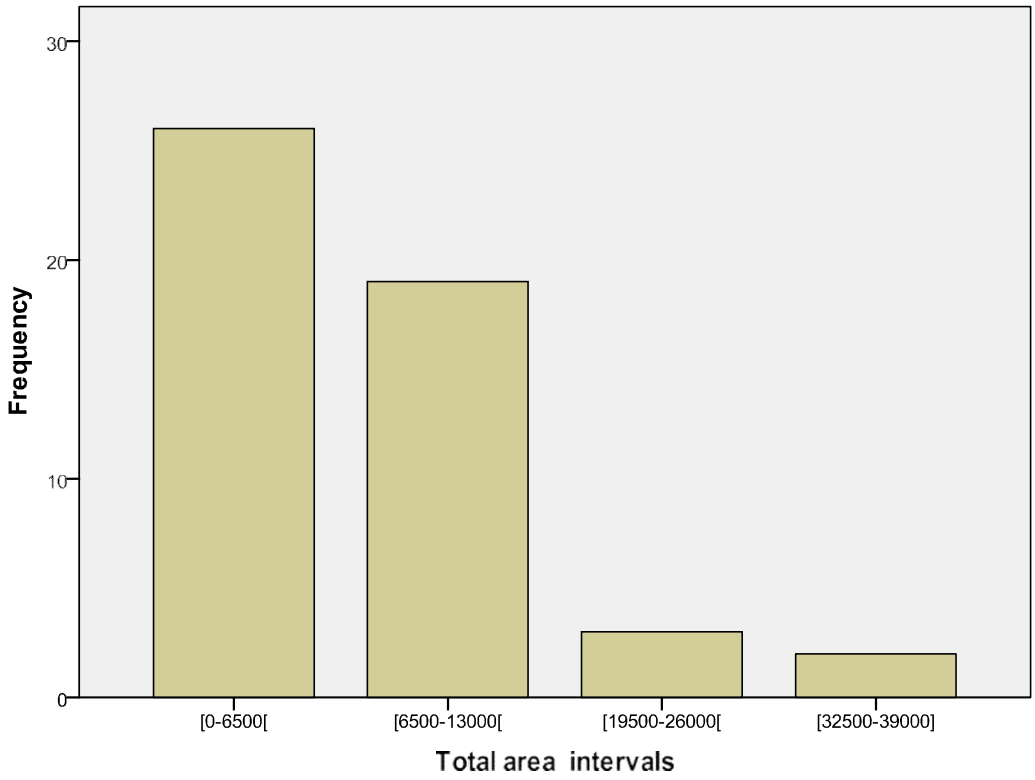


Figure 2. Total Area Intervals

This total area is distributed as follows:

- Total area of agricultural land 138902 dounom (36%) of the total area of TYRE Caza. This means that TYRE Caza is a rural area in excellence and it can be applied successful rural Development programs.
- Total area of constructed land 46833 dounom (12%) of the total area of TYRE Caza. In addition, this relatively a small area and means the possibility of implementing programs such as sanitation and municipal solid waste sorting and the realization of positive rural development.
- Total area of Municipality area land 2471 dounom (0.65 %) of the total area of TYRE caza. This area allows the establishment of municipal rural development projects and other projects that form the pillars of any successful rural development.
- Total area of state land and endowment land 22810 dounom (6%) of the total area of TYRE caza. (Largely unexploited area).

This allows the municipalities, in partnership with the State and endowments to establish a successful rural development projects.

Table 3. Statistics

		Agriculture area	Residential area	Municipality area	state area	endowment area
N	Valid	36	34	36	34	31
Missing		20	22	20	22	25
Mean		3858.39	1377.44	68.64	627.79	47.26
Std. Deviation		3101.135	1418.062	143.633	1293.519	125.125
Range		13928	5975	500	6000	700
Minimum		72	25	0	0	0
Maximum		14000	6000	500	6000	700
Sum		138902	46833	2471	21345	1465

Q3: (Planted Crops)

- Agriculture has a great importance in tyre Gaza and this is further evidence of the importance of agriculture in the district of Tyre. Agricultural Land, with an area 138902 dounom is planted with the different crops such as lemon, banana, tobacco, vegetables olive, wheat and avocat.
- Lemon, banana, widespread in coastal villages both tobacco cultivation and other plants are scattered in the inland rural areas.

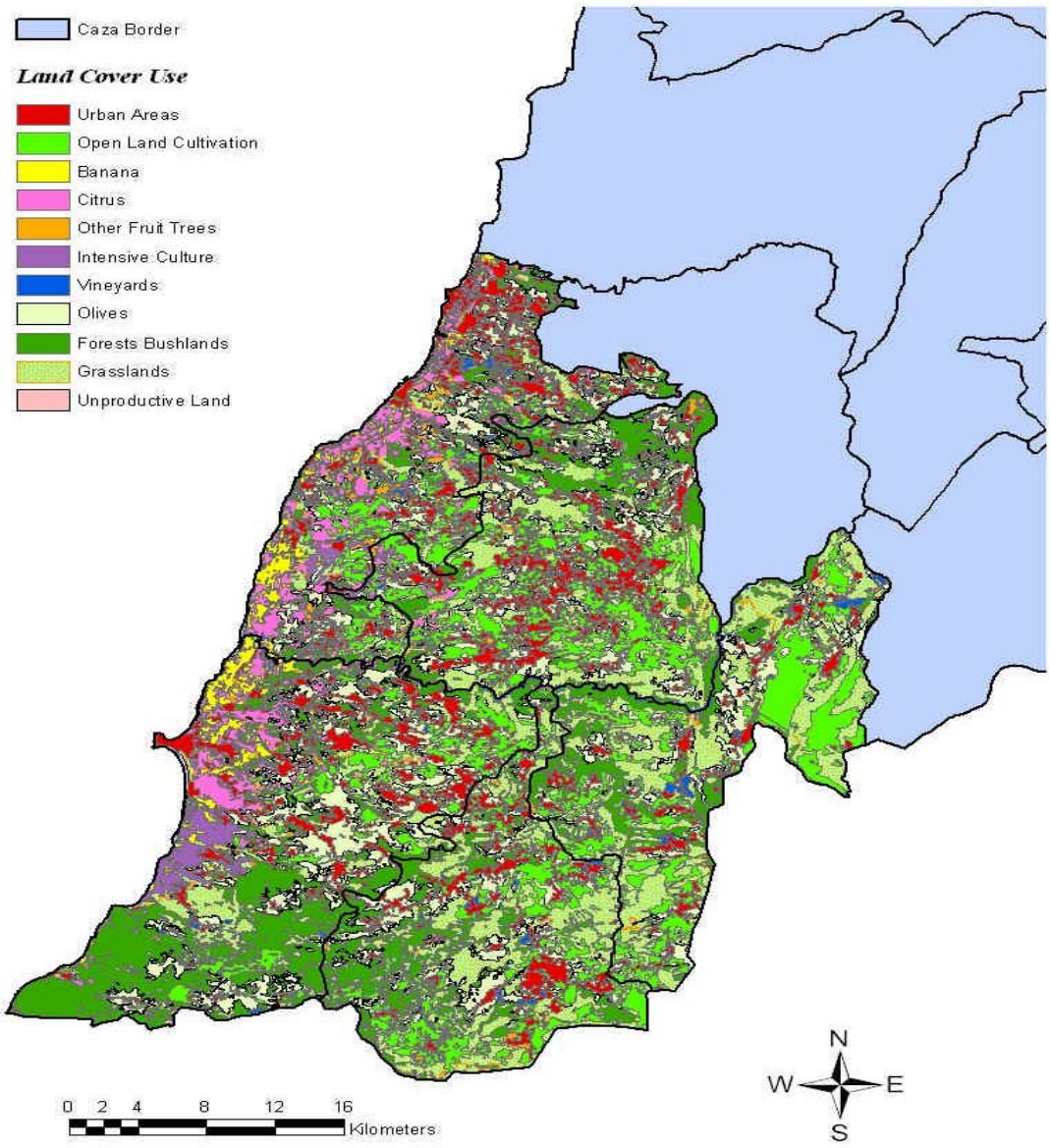


Figure 3. Land Cover/Use in the Cazas Surrounding Tyre

It is no secret to anyone the importance of tobacco cultivation in the income of southern family, consumer spending where tobacco seasons' corps used as collateral for a loan from commercial banks. This is a further evidence of the importance of agriculture in the district of Tyre, which constitutes one of the most important elements of rural development and so municipalities are forced working to support and create jobs related to agriculture directly and indirectly.

Table 4. Statistics

		Lemon	Banana	Tobacco	Vegetable	Other Agriculture
N	Valid	48	45	51	48	44
Missing		8	11	5	8	12

Q4: (Raising Farms).

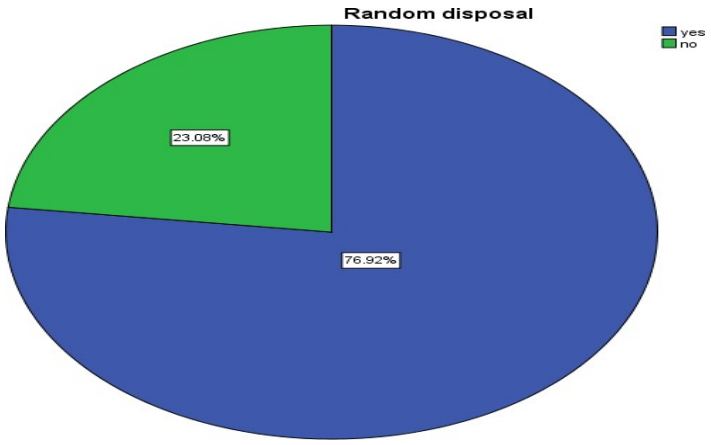
The analysis of this questionnaire form showed that there has been a significant number of farms, either chicken or beef. The municipalities and the state is urged to support these farms by providing them with modern factories, infrastructure and export capabilities. In doing so, the municipalities and the state would create job opportunities and help people stay in their rural areas.

Table 5. Statistics

		Cow Farms	Chicken Farms	Bees Cells
N	Valid	54	50	55
	Missing	2	6	1

Q5: (Random Disposal).

The analysis of this question shows that there has been a proliferation of landfills that is threatening human health and environment in 40 municipalities out of 56 municipalities (77%). This in part confirms that the decision by the Union to build a factory for sorting domestic waste solid in Ain Baal was an appropriate decision.



Random disposal

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	40	71.4	76.9	76.9
	no	12	21.4	23.1	100.0
	Total	52	92.9	100.0	
Missing	99	4	7.1		
Total		56	100.0		

Q6: (Impact of the Random Dumping).

The Heads of municipalities have unanimously reported the negative impact of Random unauthorized landfills on health, agriculture and rural development. This in part confirms that the decision by the Union to build a factory for sorting domestic waste solid in Ain Baal was an appropriate decision.

Statistics

		health effect	agriculture effect	development effect
N	Valid	56	56	55
	Missing	0	0	1

Q7: (Management and Treatment of Household Solid Waste)

The process of collecting and disposal of solid waste in TYRE caza is as follows:

12 municipalities through special contractor.

42 municipalities the municipality itself.

2 municipalities neither the municipality itself nor special contractor.

Private contractor

	Frequency	Percent	Valid Percent	Cumulative Percent
Validyes	12	21.4	21.4	21.4
no	44	78.6	78.6	100.0
Total	56	100.0	100.0	

Municipality it self

	Frequency	Percent	Valid Percent	Cumulative Percent
Validyes	42	75.0	75.0	75.0
no	14	25.0	25.0	100.0
Total	56	100.0	100.0	

Most municipalities seek to sign a contract with a special contractor because it is financially profitable even so till now the transportation is still the responsibility of the municipalities and the expected financial savings will be used to achieve rural development projects.

Q8: (number of workers)

The total number of employees working in the sector of solid waste (collecting- transporting-disposal) is 269 employees. (Area and population)

From 1-15 employees are working in small-sized villages and municipalities (area and Population).

From 15-30 employees are working in Medium-sized municipality villages and Municipalities (area and population).

From 75-90 employees are working in large-sized municipality villages and Municipalities (area and population).

Number of population= number of population served by one worker. Number of workers-solid waste

Ex1:MunicipalityofTYRE=70.000=823 large-sized

85

Ex2: Municipality of abassiye =8.000 = 666 large-sized

12

Ex3: Municipality of borj ra7al =7.000 = 1400 small-sized

5

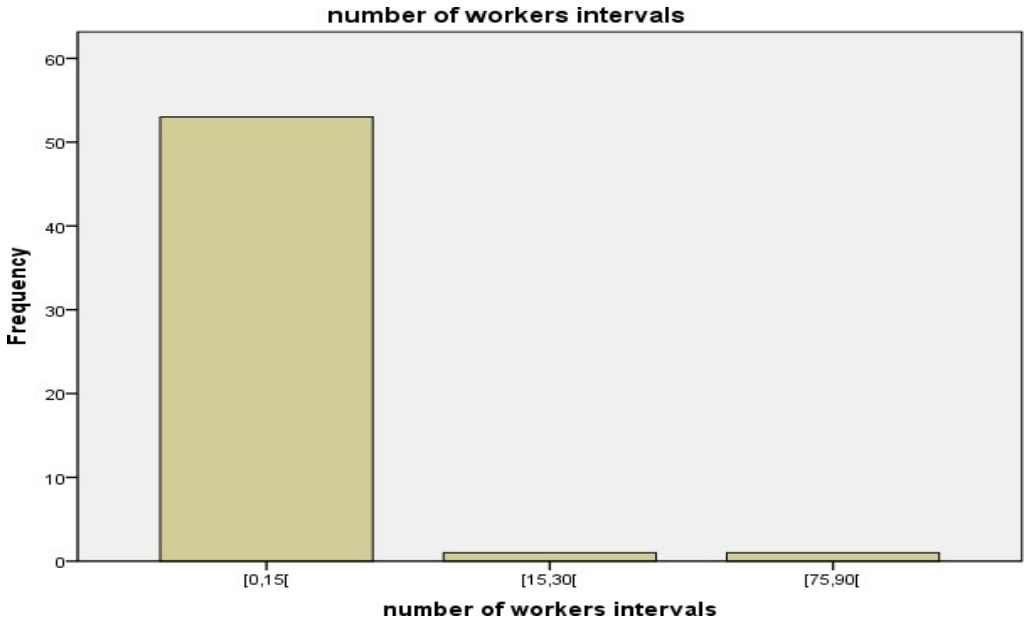
Ex4: Municipality of tayrdeba=5.900 = 1475 small-sized

4

Ex5: Municipality of elkolayle =6.400 = 1600 small-sized

4

As is noticed in the calculated ratio in the 5 examples, that in large sized municipalities one worker serves less population than in small sized municipalities and that's due to the quantity of garbage (solid waste) generated or produced in small municipalities from big municipalities also to different consuming attitudes .



Q9:(Amountof Garbage Collected and Transported in Tons)

The total quantity of garbage produced from municipalities Gaza is around 253 tons on a daily basis. A big sized municipality like TYRE municipality produces around 40 tons-daily, a small sized municipality produces around 4 tons daily, and that explains and proves the positive relation between quantity of garbage and number of employees (Q8).

Statistics		
rubbish quantity		
N	Valid	56
	Missing	0
Mean		4.52
Std. Deviation		6.987
Range		40
Sum		253

Q10: (Waste Sorting)

The answers on this question reveal approximately a total absence of any solid waste sorting activity in TYRE Gaza.

This situation pushes the union to plan an awareness campaign to create activity about the importance of sorting, because the success or failure of AIN BAAL SWSL depend on a great way on the activity of source sorting (sorting starts from home).

Rubbish Sorting		
	Valid	Cumulative

		Frequency	Percent	Percent	Percent
Valid	yes	4	7.1	7.1	7.1
	no	52	92.9	92.9	100.0
	Total	56	100.0	100.0	

Q11: (Awareness Campaign)

There are only 17 municipalities have begun an awareness campaign concerning solid waste sorting and 39 municipalities did not stat till now.

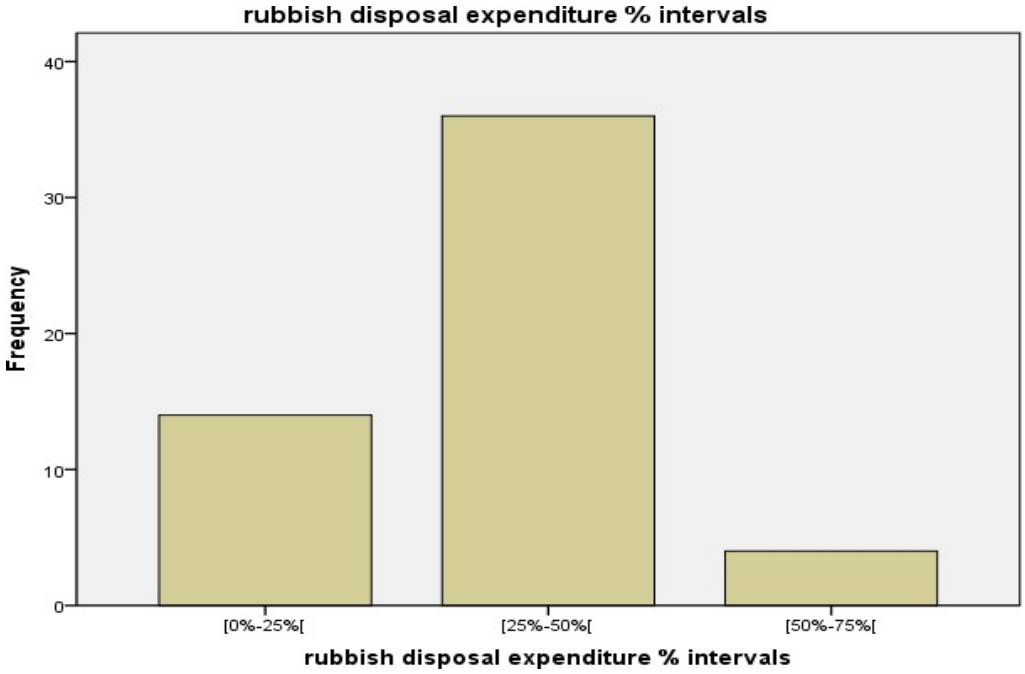
So as U.O.T.M. must work to lunch continuous awareness campaign covering all municipalities. (Same justification Q15)

Awareness campaign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	17	30.4	30.4	30.4
	no	39	69.6	69.6	100.0
	Total	56	100.0	100.0	

Q12: (Waste Disposal Expenditure)

Notes that the answer of most municipalities confirms the hypothesis of the research that the file of household solid waste consumes the bulk of the financial budget of municipalities and this in turn will reflect negatively “on the role that the municipalities should play in rural development”.



Q13: (Amount of Solid Waste Expenditure over Years)

Notes the evolution of the amount spent on solid waste over time and this confirms the depletion of this file the financial resources of municipalities Conjugated with delay of transfer of municipalities' funds from the Independent Municipal Fund, accompanied with poor collection.

Statistics

		Rubbish expenditure $ 2008	rubbish expenditure $2009	Rubbish expenditure $ 2010
N	Valid	47	47	53
Missing		9	9	3
Mean		36601.01	42417.70	47353.65
Std.Deviation		97369.609	116811.585	137650.161
Range		666667	800000	1000000
Sum		1720247	1993632	2509743

Q14: (Exhaustion of Municipality Budget+ Money Savings)

There are 39 municipalities have confirmed that the file of solid waste exhausting the municipalities' financial resources and that confirm the hypothesis of the research that the file of household solid waste consumes the bulk of the financial budget of municipalities which can be exploited in the implementation of all items that meet the Rural Development.

While only five municipalities answered with no, the municipalities that are not spent money on solid waste file.

Exhaustion of municipality budget

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	49	87.5	90.7	90.7
	no	5	8.9	9.3	100.0
	Total	54	96.4	100.0	
Missing	99	2	3.6		
Total		56	100.0		

Q15: (Another Party takes Responsibility of the Solid Waste File).

There are 52 municipalities hoped the presence of another party like U.O.T.M. take responsibility of the solid waste file because that at sure will provide us a good financial savings which can be used in achieving all elements of rural development.

In addition, that of sure will strength the municipality' authority and will help in the planning and the execution of rural development programs.

While only 3 municipalities answered with no, the municipalities that are not spent money on solid waste file.

Statistics

		savings money	authority weakness	municipality strength
N	Valid	55	43	48
	Missing	1	13	8

Q16: (Usage of Financial Savings).

This question is of great importance of this research.

We have included all elements of rural development then Municipalities were asked if they agree about the idea of the usage of the financial savings in the implementation of these items, the result was that most municipalities agree to use the financial savings in the implementation of these projects, which constitute the basis of rural development and thus endorsed the correctness of research idea.

Q17:

This is confirmed by the answers of municipalities' mayors (Same justification Q16). Except the effects on real estate prices, the answer will appear in chapter 5 where will be talking about the benefits and disadvantages of SWSL.

AIN BAAL PROJECT AS A SOLUTION

Tyre Caza

Geographic Location

Tyre Caza is located in the Southern Mohafaza of Lebanon between Saida Caza from the North and the Palestinian border. Its coastline extends from kassimieh village to Naqoura in the South extending around 50 km. The caza has a total surface area of 408 km2.

The caza is surrounded by Saida, Nabatiyeh, Marjayoun and Bent Jbeil Cazas (see Figure 1).

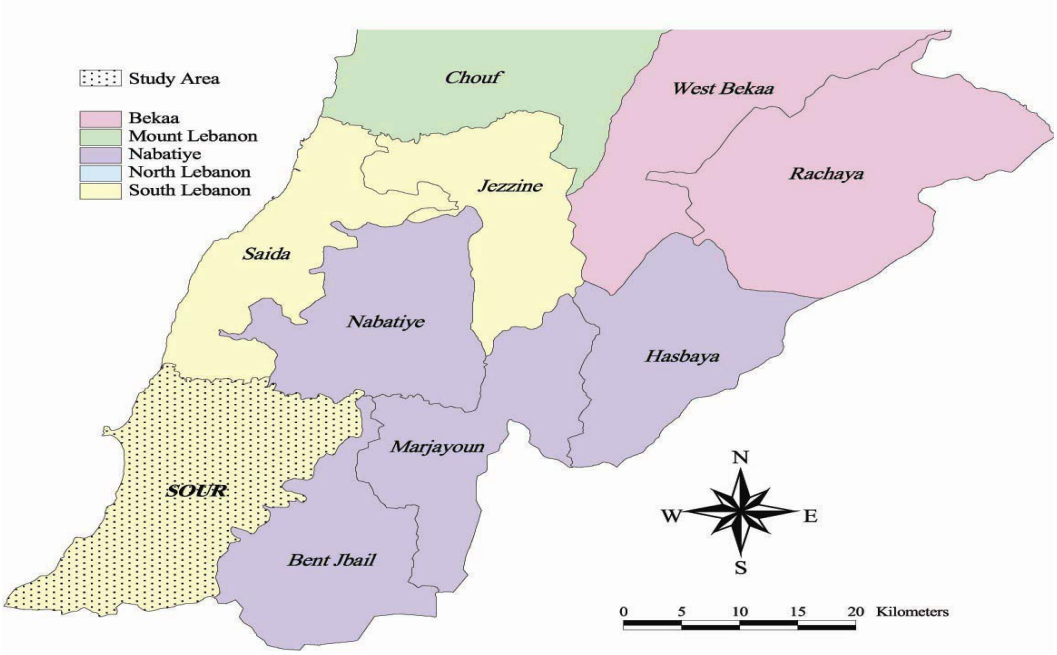


Figure 1.Geographical Location of Tyre Caza

Population

The estimated population number living in the caza during the winter (October-May) Season was estimated at around 241,000 person and around 310,000 person during the summer season (August - September).

As for the Palestinian camps within the caza, these camps are the Rachidieh Camp (4 km to the South of Tyre City) with an estimated 17,500 permanent residents, Bass Camp (within Tyre City) with 6,500 permanent residents and the Bur el Chemmaley Camp (2 km to the Northeast of Tyre City) with 11,000 permanent residents.

Socio-Economic Conditions

Demographic and Social Characteristics

The caza has some 40,386 housing units, with an average household size of 4.8 persons per household. Compared to national ratios, a young population characterizes the region, with proportions of 46% and 41% for youth under 19 years old and people aged between 20-49, respectively; the older population constitutes the remaining 13% of the population (ADR, 2000).

Economic Activities

The city of tyre is considered as a big village. Therefore, tyre city and tyre caza form a typical rural area for many reasons among them:

* The main sources of income for Tyre Caza people are agriculture, livestock breeding, fishing activity, and commerce.

* The agricultural sector employs 23.3% of the active population, with 156 km2 of cultivated lands and 20 km2 of intensive culture.

1 Breeding of poultry, cows, goats and sheep is also practiced, which explains the identification of 13 slaughterhouses (for poultry and livestock) during the economic activities survey conducted by Envirotech Team. Furthermore, there are 173 butchers in the caza.

2-Fishing activity is intensive in the caza with some 300 fishermen and 170 small boats. The principal instruments of fishing are the multi-filament net (2/3 of the fishing), and the fishing line (1/3 of the fishing) 90% of the fishing is done at night (ADR, 2000). The rest of the economically active people work in the industrial and commercial sectors. While the former is not very developed in Tyre Caza (408 workshops were identified during Envirotech Team survey), lot of people get their living from commercial activities, which are mainly concentrated in urban and semi-urban areas, e.g., 621 commercial institutions in Abbassieh, 250 in Burj el Chamaley, 200 in Chehabyeh and Jouaiya.

Union of Tyre Region Municipalities

The union of tyre region Municipalities was established officially in 11 of march 2003 under the degree 9761 .The union which is currently composed of 60 municipalities and officially approved by the Ministry of Interior (MOI) includes all municipalities of the caza. The head of Tyre Municipality currently head the union. The union spreads over the entire geographical area of the caza (see Figure 2).

Administrative and Institutional Structure

The union has a financial autonomy and independent status. The union's decision body is the council of the union, which consists of the constituent municipality's mayors.

Executive authority lies with the head of the council (Tyre Municipality Mayor) who is elected by the members and assisted by a Director of administration body; the latter is composed of engineers, doctors, administrators, lawyers, financial staff and police. The responsibilities of the Municipal Union entail:

Issuing of plans and tender documents for projects;

Common public works (SWM, WWM, Infrastructural projects, others)

Ratification of the union's budget and closure of accounts;

Co-ordination between municipalities;

- Ratification of structure and staffing complement of the administration; and
- Managing loans.

Revenue Sources of the Municipal Union

The revenue resources of the union are:

1-10% of the revenues of the constituent municipalities;

2-A percentage from municipalities benefiting from a common project;

3-Allocations from the Independent Municipality Fund contributions (taxes of Phone bills, electricity bills and other taxes) from the government towards the Union or individual municipalities; and

4-Grants, loans and revenues from municipal land.

Why the Union Was Pushed and Motivated to Establish a Plant for Solid Waste Treatment Facilities?

For many reasons:

1. The management of solid waste is generally disorganized and consists of Uncontrolled dumping and burning in various inland dumpsites and river valleys.

In addition to those chaotic dumpsites, existing storage, collection and Transportation system in the union area suffers from insufficiency and Mismanagement.

2. The union has recognized the gravity of the environmental and health impacts due to the improper solid waste management practices in the member municipalities and the Caza in general. The main issue that triggered the union's interest to find a permanent solution for its solid waste problem particular started with the Ras el Ain dumpsite.

Where in Tyre Caza, the final destination of 95 % of the total waste quantity (or 90% of all Villages in Caza) is open scattered dumps with uncontrolled burning as the only available treatment option .Currently, there are forty two (42) dumps identified in the Caza with 'ras el ain" is being the most significant one. "Mores 2010 –July".

Ras el Ain dumpsite is the largest dumpsite in the caza receiving around 53%of the total solid waste generated in the caza. The dumpsite is considered an environmental burden on the area. Moreover, a large public pressure and local NGOs face the municipalities. Several attempts have been made by the municipalities to respond immediately and close the dumpsite, but in the absence of a valid alternative, these municipalities were forced to continue dumping their waste in this dumpsite.

The main responsibility of union of tyre region Municipalities is to establish Common public works (such as solid waste management (SWM), Infrastructural Projects).

Solid Waste Management Plan for the Union of TYRE/Management Plan Objectives.

Analysis of the existing solid waste management system in the union has revealed several limitations and constraints regarding the benefit of all constituent municipalities in the union from the proposed treatment facility in Ain Baal. In addition, the analysis of the original design of the facility including the process operation, equipment, management of wastewater, odor and operational cost has also revealed the need for some modifications and operational process upgrade.

The objective of this management plan is to provide the union with the most feasible solid waste management solution starting from transportation of waste to the treatment facility (best routing system, estimated additional transportation cost, transfer stations, trucks, etc.), assessing an optimal layout design and construction cost, developing a strategy to ensure the sustainability of the treatment facility (cost recovery, marketing of compost and recyclables, reducing operational cost, etc.), enrolling the private sector in operating and managing the facility, privatizing the collection and transportation of waste on the caza level, and finally providing a conceptual design of the turnkey solution that is thought to provide an integrated solid waste management system for the entire caza.

The management plan will tackle the following issues:

* Suitability of the In-vessel tunnel composting technology (comparison with other Technologies);

* Optimal layout design and construction cost;

* Upgrading and management of facility operation (increase and enhance Product).

* Quantity and quality, manage working hours and shifts, upgrade the facility's electro-mechanical systems and human resources);

* Constraints facing transportation of solid waste to the proposed site (additional Transportation cost, best route to reach the facility, etc.);

*Sustainability of the proposed project (operational cost, revenues, privatization);

*Marketing of recovered material and compost (quantity and quality of products, available markets, potential buyers, revenues, etc.)

*Organizing the private sector involvement (types of contracts, duration, and Responsibilities)

*A turnkey solution for the entire caza (Proposed ISWM solution for the entire Caza).

In addition, here comes ain Baal solid waste management project as a solution.

Proposed Project

Convinced that a permanent and sustainable solution needs to be taken immediately, the union has decided to put all its effort and current budget (around 1,000,000$) to permanently solve the problems generated from the existing solid waste management system in all Tyre Caza. After a series of negotiations and review of several proposals submitted by different solid waste treatment expert companies, the union decided to adopt the proposed project submitted by YMCA and Grossimex. YMCA is an International NGO and one of the leading NGOs in the Lebanon that has been involved in community solid waste projects through its Sustainable Environmental Practices and Policies (SEPP) program that is funded by the USAID.

The proposed project consists of a material recovery and composting facility. The facility is designed to treat a total capacity of 150 tons/day of incoming commingled waste. The material recovery system consists of a typical combination of manual sorting and magnetic separation. However, the composting system will use a high-tech composting technology known as the In-Vessel Tunnel Composting technology. This technology is a well-proven technology used intensively in developed countries (especially in the USA); but it will be the first time this system to be adopted in Lebanon and at this large scale.

The total investment cost of the facility was originally agreed to be covered 50% by YMCA through its SEPP Program and the remaining 50% on the Union's budget.

However, with the launching of the second phase of the OMSAR's Solid Waste funding program, the union has decided to request OMSAR's help to fund part of its share of the investment cost in this project. While the Union has already invested a sum of 250,000$ in some of the equipment for the facility and the land on which the facility will be constructed, the union will also continue to invest in upgrading the SWM system in other locations in the caza to serve disadvantaged municipalities in this project.

Project Location

The proposed facility is to be located at the outskirts of Ain Baal village, Tyre Caza, South Lebanon. The facility is located around 10km southeast the city of Tyre. The area designated for the facility covers around 32,900 m2 on parcel land number 765, Ain Baal. For more information regarding the site and surrounding environment refer to the EIA prepared for the facility.

What are the benefits and disadvantages, if any, in the implementation of solid waste sorting line in AIN BAAL?

One of the main indicators of the success or failure of any solid waste management

System is its financial and environmental indicators.

Benefits:

1-Saves landfill space by diverting recyclable materials.

2-Allows municipalities to meet mandated goals for the reduction of land filledwaste.

3-Income is generated from the sale of recyclables.

“Based on the quantities of recoverable recyclable materials, and on a survey on existing market prices for the selected types, recyclable materials will generate revenue of around 1 million USD annually. This revenue can go up to 1.5 million USD annually if the recovery rate is improved from 50% to 70%. Table 14 shows the details of the calculations.” Page (26) volume (3) Envirotech Ltd May 20, 2005

4-Conserves resources especially water and will minimize the danger of flies breeding, rats etc.

“Slaughter waste and medical waste are dumped in Ras el dumpsite on daily basis without any treatment. During the field visit to the dumpsite, 4 large holes used for the disposal of chicken slaughter house waste (as shown in Figure 5) were identified generating a highly offensive smell and creating an excellent location for fly breeding which poses a human health risk and contamination for nearby agricultural areas” Page(40) volume(1) Envirotech Ltd May 20, 2005

5-Will create jobs.

6-Will provide a significant financial burden for municipalities as it came to answer the question (15) in the questionnaire.

Statistics

		savings money	authority weakness	municipalitystrength
N	Valid	55	43	48
	Missing	1	13	8

7-Get rid of the landfill and indiscriminate burning of waste and significant negative effects in the air.

8-”Gases emanating from waste fermentation and incineration, organic gases such as dioxins and furans, are transported by wind to neighboring villages presenting a potential negative impact on the health of the people living there.

9-Another significant negative impact to the environment is dust and particulate generation.

10-From waste incineration and waste hauling trucks and pick-ups movement on unpaved roads. In addition to its potential impacts on human health, this polluting dust impedes.

11-The visibility in the region and can be seen even from a far distance from the site, which is aesthetically unacceptable (see figure 6).

12-The pre-mentioned negative impacts of the site have raised many public complaints; the Tyre Municipality and Tyre caza residents, especially those living in the proximity of the site, seek all an urgent solution to the problem of the Tyre dumpsite" Page (41-42) volume (1) Envirotech Ltd May20,2005

13-Protection of the marine environment from municipal solid waste and its impact on fisheries as stated in the interview with: Mr. Khalil Taha, Leader of Sour's Fishermen Association (SFA) April 6th, 2011 and what is related in the sea from tourism and fisherman living.

"However, it was clearly observed during Envirotech's field visit to the dumpsite that part of the leachate generated by the waste is migrating on the surface through a drainage channel constructed by the operators of the dumpsite.

This channel meets with a nearby water irrigation channel used by local farmers to irrigate their crops and finally discharging to the Mediterranean Sea.

Even though the site visit was conducted during dry season, traces of leach ate were clearly observed as shown in Figure 7. This quantity is expected to be much higher during wet season thus generating a stream of leachate as confirmed by some local farmers" Page (40-41) volume (1) Envirotech Ltd May 20, 2005

14-if we produce high quality compost (grade A) this will make a great significant support for agriculture, farmers, and rural development in the district of Tyre.

15- "There is a great need for compost in Tyre Caza region which is capable, alone, of using the whole compost generated by the operation of the proposed composting plants. Bearing in mind the relatively large areas of cultivated lands in Tyre Region, it is expected that there is a high rate of green waste generation the composting of which will yield high quality - good price compost" Page 19-20 volume 3, Envirotech Ltd May 20, 2005.

Disadvantages

1-High capital cost (the union of TYRE region municipalities spent around 5.000.000$)

2-Probable decrease in the market value of nearby real state of solid waste sorting in AIN BAAL.

3-"Negative effects occur when the compost is not produced according to the Physical norms set. These would reflect at harvesting time when foreign particles in the compost such as plastic and glass penetrate the harvesting machinery, disrupt its normal functioning, and would make its maintenance and cleaning even more difficult and inconvenient. "Page (15) volume (3) Envirotech Ltd May 20, 2005

4-Attention should be paid when we import any technology from abroad, even in the sector of sorting solid waste we must import technology which fits our circumstances as developing countries, even the quality of solid waste composition varies from one country to another, so all of these factors may cause the success or failure of the technique used for waste sorting.

Economic Analysis

When conducting an economic analysis for a new SWSL, it is critical that the amounts and types of materials processed, as well as the markets and finished specifications for these materials, be well defined. The market price for recyclables is volatile and consequently, predicting the long-term revenue obtained from a SWSL is difficult. Since there are no long-term markets in recyclables, operators of successful SWSLs must research markets on a frequent basis. The volatility of the marketplace makes it necessary for SWSL operators to avoid long-term contracts in order to stay on top of changing commodity prices and to not be locked into a price that has the potential of increasing. The recent high cost of landfill disposal has enhanced the economics of SWSLs.

The economic analysis presented below is for SWSL located in AIN BAAL. The facility is processing approximately 54000 tons per YEAR of solid waste assumptions:

1-Yearly processing rate: 54000 tons/yearly of solid waste (360day*150daily=54000tones) 54000tones*21$=1.134.000$ cost

2-Recovered recyclables 416275 $ annually-revenue

3-Recovered compost: 160000$ annually -revenue

4-Landfill disposal cost: 100000$ annually –cost

5-Table 1. Annual Operating Cost Comparison for Diversion through Solid Waste Sorting Lines and for Disposal/year2010

DOLLAR RATE : ONE DOLLAR =1500L.L

Statistics

		rubbishexpenditure $ 2008	rubbishexpenditure $ 2009	rubbishexpenditure$ 2010
N	Valid	47	47	53
	Missing	9	9	3
Mean		36601.01	42417.70	47353.65
Std.Deviation		97369.609	116811.585	137650.161
Range		666667	800000	1000000
Sum		1720247	1993632	**2509743**

2509743L.L/1500L.L.=1673162$$

	Diversion	Disposal
TotalOperationalCosts	1234000	1.673162
TotalRecoveredIncome	576275	0
Net Annual Cost/Benefit:	-$657.725	**-$1.673162**

EconomicAnalysisSummary

AnnualSavings :-$1.015.437 ($1.673162-$657.725)http://www.p2sustainabilitylibrary.mil/p2_opportunity_handbook/7_III_11.html

6. Conclusion and Recommendations

The establishment of solid waste facility project in the district of Tyre was an urgent need for the following reasons:

Tyre Caza, as is the case for the whole Lebanon, is in need for a sustainable integrated solid waste management strategy that, in addition to providing environmental protection and natural resources conservation, seeks appropriate levels of source segregation, recycling and resource recovery, and establishes cost recovery mechanisms for long term financial sustainability.

Tyre caza has almost 15,000 ha of cultivated areas, and its soil has low organic content below the desired range of 2 to 2.5%, which makes it in dire need for organic material such as MSW compost. Furthermore, it has 70 ha of burned forests that require reforestation and large areas of artificial greeneries, grasslands and forests the soil quality of which would improve through the addition of MSW compost. The caza has also a pronounced market for recyclable materials the demand of which is much higher than the quantities that will be generated by the proposed composting plants.

The study estimated the potential revenues from the selling of recoverable materials at a minimum of 160,060 USD annually from compost, and 343,000 USD annually from recyclable materials.

We therefore conclude that there is fair market value for all recoverable materials obtained from the process of sorting. The sale of recoverable products will generate revenues in addition to funds from direct fees collection; can ensure a reliable cash flow that will sustain the economic feasibility of the composting plants operation and the solid waste management Strategy in general. However, we recommend that the good quality of recoverable materials be constantly maintained and monitored.

These funds will be used in a rational way to achieve, sustainable balanced rural development, and to develop all rural area in the district of TYRE caza.

In addition, We must concentrate on awareness campaign because the questionnaire analyses reveals a total absence of any awareness activities in the villages otherwise the success of the ain Baal sorting line relay in total on the activity of source sorting.

In achieving this will help to create jobs and keep young people in rural areas and reduce the internal and external migration.

Finally we strongly recommend achieving all steps of decentralization besides the establishment of local rural development bank, because all that will enhance and strengthen the municipal work , prosperity in rural areas , rural development and to transfer with no delay all municipalities' funds from the Independent Municipal Fund and the Ministry of Finance .

LIST OF ABBREVIATION

ADR	associationforthedevelopmentofruralcapacities
CEO	Chiefexecutiveofficer
DONOM	Land unit measure (= 1200 square meter)
EIA	Environmentalimpactassessment
FAO	FoodandAgricultureOrganization
IDAL	investmentdevelopmentauthorityof Lebanon
ISWM	integratedsolidwastemanagement
LED	LocalEconomicDevelopment
MOI	MinistryofInterior
NGO	non-governmentalorganization
OMSAR	AdministrativeReformandDevelopment
R.I	rural industries
SWM	solidwaste management
SARDF	SouthAfricanRuralDevelopmentFramework
SFA	SourFishermenAssociation
SWSL	solid wastesortingline
SEPP	SustainableEnvironmentalPracticesandPolicies
UOTM	UnionofTyreregionMunicipalities
USAID	UnitedStatesAgencyforInternationalDevelopment

USA	unitedstatesofAmerica
USD	unitedstatesdollar
WWM	WasteWaterTreatment
YMCA	TheYoungMen'sChristianAssociation

References

Allen, J. C., & Don, D. M. (1994). *Against All Odds: Rural Community in the Information Age*. Boulder: Westview Press.

Alonzo, W. A. (1991). *The Interpretation of Rural and Urban America, presented at the Workshop on Population Change and the Future of Rural America*. Aspen Institute, Wye Plantation, Maryland, 1991.

Bernard, T., & Jora, Y. (1997). *The Ecology of Hope*. New Haven: New Society Publishers.

Bird, R., & Wallich, C. (1993). *Fiscal Decentralization and Intergovernmental Relations in Transition Economies: Toward A Systematic Framework of Analysis*. Policy Research Working Paper No. 1122: Wash. D.C., World Bank.

Botkin, D. B. (n.d.). *Discordant Harmonies: A New Ecology for the 21st Century*. Oxford and New York: Oxford University Press.

Campbell, S. A. G. (1996). Cities, Growing Cities, Just Cities? *63 Journal of the American Planning Association*, *3*, 1996.

Champion, A. G. (ed). *Counter urbanism: The Changing Pace and Nature of Population Deconcentration*. Edward Arnold, London 1989. Congressional Office of Technology Assessment, ATelecommunications and Computing Technologies, May 1997.

Chute, E., & Liedholm, C. (1989). *A Rural Non Farm Employment: A review of the state of the art*. MSU Rural Development Paper No. 4, Michigan State University (1989).

Cloke, P., Milbourne, P., & Carl, T. (1994). *A Lifestyles in Rural England, Research Report number 18*. Rural Development Commission, London, 1994.

Coppack, P. M. (ed). *Entrepreneurial and Sustainable Rural Communities*. Mt. Allison University Press 1990.

Deavers, K. (1992). What is Rural? *Policy Studies Journal*, *20*(2), 184-189.

Galpin, C. J. A. (1915). *The Social Anatomy of an Agricultural Community, Research Bulletin 34*. Madison: University of Wisconsin Agricultural Experiment Station, 1915.

Galston, W. A., & Karen, B. (1995). *Rural Development in the United States: Connecting, Theory*, Practice & Possibilities, Wash. D.C.: Island Press.

Murray, M., & Dunn, L. (1995). A Capacity Building for Rural Development in the United States. *Journal of Rural Studies*, *1*.

Newlands, C. A. (1981). *A Local Government Capacity Building*. Urban Affairs Papers 3, 1981,

Nussbaum, K. (1989). A *Population and Sustainable Development: The Policy Challenges*. UNESCO Working Paper #14, 1989.

Tambunan, T. (1995). A Forces Behind The Growth of Rural Industries in Developing Countries: A survey of Literature and A Case Study From Indonesia. *11 Journal of Rural Studies*, *2*, 1995.

Theobold, P. (1985). *Teaching the Commons, Colorado*. Westview Press, 1997. Toffler, Alvin E., The Third Wave, N.Y. Preager.