

SEIGNIORAGE: ITS HISTORY, ITS PRESENT, AND ITS FUTURE FOR THE EUROPEAN UNION

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Abstract

Seigniorage, the government's revenue from the creation of money, has been a source of finance for countries from the old days to the present. The article looks at the history of seigniorage and focuses on the future of it as a new, and true, own resource for the European Union.

JEL classification: E40, E50, H20, H30

Keywords: Seigniorage, own resources of the EU, the monetary income of the ECB

1. Introduction

Seigniorage is the government's revenue from the creation of money. It has been a source of government finance for most of the countries in the world. The average reliance of governments, measured as the ratio of seigniorage revenue to governmental expenditures, varied, e.g., for the period 1965-94 from a maximum of nearly 31% to a minimum of 1% (Haslag and Bhattacharya, 1999). In Western Europe, it was on average a little above 5 percent in the sixties and seventies of the last century (Klein and Neumann, 1990).

The difference of seigniorage relative to other sources of government revenue can be explained by looking at seigniorage as a form of taxation. Countries with a more unstable and polarized political system often have a more inefficient tax structure and rely heavily on seigniorage. Political instability, also, is positively related to the amount of seigniorage (Cukierman, Edwards, and Tabellini, 1992).

Nowadays, seigniorage consists of the income a government has from printing new banknotes and the profits of the investments of the reserves commercial banks have to hold, interest free, at their national central banks (NCBs) as a counterpart to the amount of banknotes in circulation.

The aim of the paper is to show that seigniorage, as an old source of

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government income can be the solution to a modern problem of the European Union (EU). The Union seeks new own resources. Though every present source of revenue of the EU is, by definition, called an own resource – the EU knows better. In fact, only the custom duties that are collected at the borders of the EU are true own resources. They generate 15 percent of the revenue of the EU. The other 85 percent consists of, *grosso modo*, contributions by the Member States based on their Gross National Income (GNI). The EU budget is limited to one percent of the GNI of the Member States. For 2011 the revenues and expenses of the EU, the budget has to be in balance, are € 126.5 billion.

The overriding manner of financing the EU by national contributions gives rise to the infamous *juste retour* thinking of the Member States. Every state looks at what it gives and what it gets back from the Union. It tries to put a national flag on EU expenditure. Real EU public goods go underfinanced and, hence, are under produced. The generation of really own means could solve this problem. To really belong to the EU, resources should be the result of an EU policy; just as custom duties are the result of the EU policy to create one common internal market.

If we look at the history of the EU, the introduction of the euro in 2002 is for sure a common EU policy. Also the seigniorage created by the Eurosystem is certainly not simply the result of adding-up the seigniorage all the Member States generated separately with their own currencies. Most currencies certainly did not have the status of an international reserve currency the euro at present does have. Hence, seigniorage can be a true new own resource.

In short, the euro is a *sui generis* result of an EU policy that all started when the Treaties of Rome, on which the EU is founded, entered into force on January 1958. At the moment, seigniorage goes to the European Central Bank (ECB). The ECB is an independent institution inside the European Union. It is distributed to the NCBs and, as a result, to the national governments. It could, however, become a new true own resource of the EU especially since it can be a stable source of revenue for about a third of the EU budget.

2. Seigniorage: the old days

Originally, seigniorage, also spelled ‘seignorage’ or ‘seigneurage’, was an ancient prerogative of the crown whereby it claimed a percentage upon the bullion brought to the mint to be coined or to be exchanged for coin. Individuals with precious metal could take it to the government, and, for a fee called *brassage*, the government’s mint would stamp a coin out of the metal so it could be used in commerce. In the world of commodity money, it was

the difference between the face value of a coin and its costs of production and mintage. The authorized individual, the Seigneur, had the prerogative to stamp his seal upon and to issue the new coins into circulation. Seigniorage became such a lucrative source of income that seigneurs often mandated yearly recoinage: *renovatio monetae*. The circulating coins were declared to have lost their legal tender; it was required that, e.g., taxes were to be made in a new coin. In England, e.g., after the year 1000 over a period of 150 years, rulers changed their coinage at least 53 times (Desan, 2011). Seigniorage is also a type of revenue governments earn because of their monopoly power over the production of coins. Later the government mixed gold or silver with metal of lower value to create a token coin in contrast to a full-bodied coin. This all led to the creation of paper money. England abolished all seigniorage charges for coinage in 1666.

In today's terms, the stock of money corresponds to the monetary aggregate called M1. It consists of all the coins and banknotes, together called 'currency', and sight deposits in circulation. Coins and banknotes are the cash, and are created by the central governments. Sight deposits are the non-cash. Banks create the sight deposits, also called checking deposits, overnight deposits or demand deposits by granting loans. By double entry bookkeeping the amount of the loan is printed in the books of the commercial bank: one entry into the bank's own credit account as a claim on the customer and a second entry into the current account of the customer as a cash liability to the bank (Huber, 2000).

Nowadays, with rising cashless payment practices, coins actually count for less than one percent of M1. Banknotes count for about 15 percent of M1 in the Eurozone; in the U.S. it is a little bit more than 50 percent. In fiat money economies the difference between the face value of paper money and its marginal printing cost are almost equal to the face value of the note---marginal printing costs are effectively zero (Buiter, 2007). The cost of printing paper notes in the U.S. is estimated to be about four cents for a newly printed dollar bill (Barro and Stevenson, 1997).

3. Seigniorage: now

In these days, the returns to the government from the issue of currency are three-fold. Firstly, it is the difference between the face value of a coin and banknote and its production costs. Secondly, it consists of the profits of the investments of the reserves commercial banks have to hold at their NCBs as a counterpart to the amount of banknotes in circulation. Thirdly, it is the economic disadvantage suffered by a holder of cash, due to the effects of

expansionary monetary policy, which acts as a hidden tax that subtracts value from those assets. This is what is called an inflation tax. Inflation, is mainly the result of the excess issue of money over and above the amount equal and necessary to finance the growth in trade. The main purpose of an inflation tax is financing government expenditures. Essentially, inflation is a form of indirect income tax, since it causes a decline in the purchasing power of the public's income. The government profits at the expense of the consuming public (Scott, 1997). In short, at present seigniorage can be said to be the revenue of the state because of its monopoly of the issuance of base money: currency and commercial bank balances with the Central Bank.

Because of the just-said, at present there seem to be, at least, three common measures of seigniorage. Firstly, the change in the monetary base, that is the currency and central bank deposits which together provide the base for the money supply under fractional reserve banking. Secondly, the interest earned by investing resources obtained through the past issuance of base money in interest-bearing assets. And thirdly, the inflation tax (Buiter, 2007). It depends on the situation which concept to employ. In periods of high inflation, when the rate of inflation dominates real growth, most seigniorage is generated as inflation tax. When inflation is relatively low and interest rates are market demand, it is the second, opportunity cost based concept that makes the most sense. In cases where the central bank is integrated with the government and where the government finances itself directly, by deciding on the amount of new banknotes or monetary base issued each period, the first concept is the most useful (Hochreiter and Rovelli, 2001). The last is mainly the case of central banks in smaller and poorer economies (Ize, 2007).

4. Seigniorage and the EU finances

4.1 EU budget reform

In 2006, the EU agreed on a full, wide-ranging review without taboos of EU spending and revenue. With the current reliance on contributions from Member States and the accompanying ubiquitous *just retour* thinking there is no room for policies with a real added value for the EU. The Union needs more really own resources. In addition, the EU wants to create a more visible bond with its citizens. Own EU taxes according to the European Commission will attain both ends. It will increase the financial autonomy of the European Union and create a direct bond of citizens with the EU institutions.

In the seventies of the last century, the Union got its own resources in the

form of customs duties, agricultural levies and a percentage of a harmonized tax base of the value-added tax (VAT) in the Member States. National payments, as they were agreed to finance the EU during the transition period directly after the founding of the EU, temporarily disappeared from the scene. By now, however, as was said before, again national contributions finance 85 percent of the EU budget. On the list of the by the Commission new proposed EU taxes, though it is emphasized there are certainly other possibilities, are six taxing possibilities: (1) taxation of the financial sector; (2) revenues from auctioning under the greenhouse gas Emissions Trading System; (3) a charge related to air transport; (4) VAT; (5) energy tax, and (6) corporate income tax (European Commission, 2010).

4.2 Seigniorage in the EU

Seigniorage as a possible new own resource is mentioned in older studies of the Commission (1998) and the European Parliament. It has, however, disappeared in the more recent studies. Already in 1997 in a study from the European Parliament (1997) it got, as the only one of all the proposed new own resources, zero points. Though seigniorage scored high points because there are no collection costs or possibilities for deceit, it scored low points because not all Member States do participate in the Eurozone and the tax is not directly visible for EU citizens.

For the EU, seigniorage as far as it depends on currency in circulation, is based on the production of euro banknotes. The Member States are still in charge, and do get the gains, of the production of euro coins, the other form of currency in circulation. Though the NCBs are often part of the distribution process of coins. They have to buy the coins against token value of their national governments. However, the value of coins is only a few percent of the value of bank notes. The gain of euro coins also goes directly into the national treasuries. The ECB, however, states the limits of national coin production. It also sets limits on the emission of commemorative coins. The emission of commemorative coins was in the pre-euro period a lucrative business, not to be forgone for national governments. In Austria, e.g., in 1999 the amount of commemorative coins was almost 80% of total coins in circulation (Rösl, 2002).

In the EU, 17 of the 27 Member States of the Union participate in the Eurosystem. Seigniorage in the EU is mainly based on the revenues of the euro notes in circulation. At this time the total value of the notes in circulation is about € 800 billion. The revenues are estimated to be about 0.4 percent of the GNP of the member states of the Eurosystem. This estimate would be in

line with the seigniorage of The Bank of Canada (2010) (cp. Neumann, 1992). In Canada, for the most commonly used 20-dollar bill, the revenues minus all the costs, is about 95 dollar cents each year. If the euro would be used more outside the Union this would also have a positive effect on the seigniorage. For the U.S. about half of the dollar bills are used outside the U.S. It is about three percent of GNP (Baldwin and Wyplosz, 2006).

Seigniorage could also generate about a third of the EU budget. Combined with the revenues from custom duties, this would finance about half of the EU budget. The present budget of the EU is ceiled to a maximum of 1.24 percent of the GNP of the Member States. It is an explicit goal of the Commission to finance half the budget with true own resources. If the seigniorage would flow to the Union, that would not leave the ECB and NCBs without means. They do also have revenues from the trade in international currencies, interstate payments, monitoring functions and real estate. Especially central banks with private shareholders undertake these other activities to lure private shareholders (Rösl, 2002). Though of course the ECB and the NCBs can keep a part of the seigniorage as handling costs re spending for their currency function.

4.3 Political, legal, and practical problems

There are, however, political, legal, and practical problems to be tackled when seigniorage is introduced as a new own means of the EU.

Politically, there will be winners and losers in monetary terms when seigniorage is introduced as a new means. Poorer member states will loose, though not much. No country would pay more then 10 percent extra. At present they do receive more seigniorage from the ECB by way of the payments of the ECB to their NCBs than they do save on their national contribution to the EU (Heinemann, cs., 2008). Unfortunately, seigniorage also does not create a bond between the Union and its citizens. This bond is one of the aims the Commission wants to establish by the introduction of European taxes.

From a legal point of view, a solution has to be found re the different legal structures of the NCBs. In most member states the state is the only shareholder of the National Central Bank. In Belgium, Austria and Italy, however, there are only, or next to the state also, private shareholders. All shareholders have a claim to the dividend and hence to the seigniorage of the NCB. Those private shareholders must be compensated. In addition, there has to be a change in the statutes of the European Central Bank. The statute, art 33.1 (b), obliges that the seigniorage is to be shared with the NCBs.

Finally, a practical solution has to be found for those countries that do not,

out of principle or yet, use the euro. Those countries, however, could continue to pay by way of their national contributions based on their BNP to the Union. From the countries of the Eurosystem the total seigniorage could be subtracted from their contribution to the EU (Heinemann *cs.*, *op.cit.*; *cp.* Bogetić, 1999 and Goulard and Nava, 2002).

4.4 The autonomy of the ECB and the fiscal sovereignty of the Member States

Another important point, at least in the eyes of the NCBs and the ECB, is that though the financial autonomy of the EU increases for the central banks it decreases. At least it looks that way. In the eyes of the NCBs seigniorage is a long run reliable income source that helps central banks to maintain their financial independence (Vergote, *cs.*, 2010). The argument, however, is a sophism. We are looking at the monetary income of the ECB *to* the European Union. We are not discussing the *folte face* that the European Union pays to the ECB. The situation that would arise when seigniorage goes to the EU is basically not different as it was before the introduction of the euro: the NCBs had to give seigniorage directly to their central governments, respectively the private shareholders. The financial and operational autonomy of the ECB remains the same (Begg, *cs.*, 2008; *cp.* Buchanan, 2004).

Moreover, there are other means to ensure the autonomy of the ECB (Scheller, 2006). In the Treaty of Lisbon there are explicit provisions therefore. The directors of the ECB can, for several reasons, behave independently of national politicians and the members of the European Parliament. Firstly, the directors of the ECB and the presidents of the NCBs do have a tenure of eight respectively five years. The tenure lasts longer than the political cycle. Secondly, the requirement that the directors of the ECB do have to be persons of know reputation and experience on monetary business and the banking sector does have the same result. Mostly those people who do get positions do not have to think, given their age, of a job after they do stop working at the ECB. Thirdly, members of the ECB are explicitly forbidden, as it is written in the Treaty of Lisbon, Protocol No.4, to ask for or receive advice from other EU institutions or national politicians. These last institutions do have to obey to the same principle.

The just-described situation of autonomy of the ECB is probably also the reason that Member States did give up part of their sovereignty re monetary policy relatively easily with the introduction of the euro. Compared with the present struggles of the Member States re the perceived loss of sovereignty in the case of fiscal policy. But there are other differences too. There is a direct

link with citizens re fiscal policy which is absent re monetary policy. In addition, the credibility of the ECB is believed to be greater than the institutions of the Union. Hence, there is more trust to transfer sovereignty to them. The NCBs also play a direct role in the ECB. The interplay between national parliaments and the European Parliament is less direct and not that harmonious (Negrescu, 2008). The EP and Council, also miss essential characteristics –they are even enlarged– to make decision making re taxation rational. In the EP the national interest often prevails over the much weaker ideological bond in the parties. It is also a fact that what Member States or the Council tell and write in official documents is not the same as that what they really think and hence do not give a truthful picture of the situation (Clasper en Thurston, 2010).

5. Summary and Conclusion

Originally, seigniorage was a charge over and above the expenses of coinage that was deducted from the bullion brought to a mint to be coined. From early times onwards, coinage was the prerogative of kings, the seigneurs, who prescribed the amount they were to receive as seigniorage. In these days seigniorage is the difference between the interest a central bank earns on a portfolio of securities –which is roughly equal in value to the total value of all bank notes in circulation– and the cost of issuing, distributing, and replacing those notes. To transfer the seigniorage of the European Central Bank, as it is the result of the monetary gain based on the euro, to the European Union would create the, by the EU long wished for, true new own resource. Seigniorage is a stable and sizable new resource; it can supply about a third of the present EU budget.

The main argument against the introduction of this new own resource is a sophism. The argument states that the ECB would lose its autonomy against the other EU institutions. Seigniorage as predominately an inflation tax would become a real possibility. The situation that would be the result of the introduction of this new own means of the EU, however, is not different as it was in the days before the introduction of the euro in the Member States. The ECB pays to the other European institutions – not the other way around. It is also from a second point of view that seigniorage scores high as a new own means of the Union. All the new proposed European taxes by the Commission need a very severe constitutional-implementation process. Next to the Council, the European Parliament and all the national parliaments, must agree. In the present political situation, agreement among all these parties is not to be expected.

To conclude, for a new EU own resource it seems to be a realizable possibility to go back to almost square one of modern monetary history: seigniorage.

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THE DYNAMICS OF TOURISM AND THE INTERNATIONAL ENVIRONMENT: THE GREEK EXPERIENCE

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Abstract

Tourism, which is gradually becoming a more industrialized economic activity, has faced constant structural changes as its functions are greatly influenced by technological advances, international competition and specialization. The implementation of new information and communication technologies and the launching of new products have led to a broader, more dynamic globalization of the tourism industry, giving it a boost and new profile through the emergence of new, dynamic destinations, resulting in spatial redistribution. Within this framework, some traditional destinations, such as Greece, have to address the challenges resulting from a continuously changing international environment. Drawn upon the Greek experience, it is argued that the tourism product's reassessment could be achieved by applying the analysis of external factors, the curves of tourism supply and demand, the life cycle model, the curve of tourism frequency, and the logistics curve. It is suggested that in this way, the dynamics of the tourism industry can be described and new strategies of qualitative upgrading and rejuvenation, which are currently the most significant, may be both determined and assessed.

JEL classification: L83, B2, D12, 010

Keywords: tourism dynamics, external factors, demand and supply curves, life cycle model, frequency and logistics curves, strategy, Greece.

1. Introduction - Analysis Framework

Economic development, primarily focused on the augmentation of productivity profits, has allowed the continuous rise of leisure time, in the framework of the gradual augmentation of consumers' spending power, which constitutes the activating force of tourism demand (Hall, 2002; Spindler, 2003). The evolution in tourism demand, in its turn, dynamically influences the tourism and travel industry,

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which is characterized by significant fluctuations, as being completely part of the ‘new economy’ and the ‘leisure society’ (Henderson, 1994; MacCannell, 1989; Poon 2002). For many years, tourism had been considered as a supporting and pre-industrial activity. The undoubted growth in the economic prosperity of the major industrial countries together with the travel revolution brought about through holidays with pay, lower international transport costs in real terms and information technology, has seen world tourism grow to a truly global business. However, one should not ignore a series of difficulties related to its conceptualization and determination as an economic sector and its substantial recognition as a dynamic industry (Goeldner & Ritchie, 2000; Spindler, 2003). Regarding the Hellenic economy, there are many factors, which necessitate the economic analysis of tourism. In this study, these factors are summarized as follows:

(a) Greece is considered as an important tourism destination, occupying worldwide fifteenth position with regard to the inbound tourism arrivals (hosting more than 14 million international tourists in 2009); and tenth position with regard to the international tourism receipts (about 12.5 billion euros). This performance of the country in the global tourism industry might be the starting point from which to formulate a series of questions concerning the tourism dynamics and its significant contribution to Greece’s integrated development (Soteriades & Arvanitis, 2006; Varvaressos, 2008). These questions are more crucial for a number of New Tourism Destinations (NTD, i.e. countries of Asia, Africa and Eastern Europe regions), which consider their tourism development as a communication channel (and probably incorporation channel) with the global economy (Ryan et al., 2005). Hence, it seems that tourism, depending on the country in question, might be a leverage for the economic and social development process and contribute to the transition into the global market economy.

(b) The tourism and travel industry has a constant trend of augmentation (Holloway 2002; Ryan et al. 2005). The World Tourism Organization reports that in 2006 the international tourist arrivals were 732.6 million, representing a rise of 2.3% compared to 2004, while the international tourism receipts were 496.2 billion US\$, augmented by 2.6% (WTO 2007). Europe holds first place (with 407.8 million), and the South-Eastern Asia and Pacific regions occupy second position worldwide with 145.6 million arrivals, having registered an average annual augmentation of 8.4% (the corresponding rate for Europe was 2.3%). Consequently, ever since becoming universal, tourism activity is dynamically involved in a transactions globalisation procedure (Bianchi, 2002; Ryan et al., 2005).

(c) It is stressed that tourism constitutes an application field of industrial economics models, since it has a significant number of features (Tremblay, 1998; Varvaressos, 2008; Vellas, 2003), such as: travel and tourism industry

is characterized as international / universal; tourism products are considered as complex ones by their nature; international tourism companies' size and dynamics, as well as their strategies, substantially influence and determine tourism functions. Furthermore externalities and the rapid development of information and communication technologies (ICTs) play an important role in the tourism industry (Buhalis, 2005; Frew, 2005; WTO, 2001).

A study direction for the revitalization of tourism seems to lead to specifying the application fields, taking into consideration its particularities and the economic analysis tools available. However, it has been observed that in the framework of the industrialization of an activity, branch or sector, there is a constant transformation of its structures and the actors involved (Malecki, 1997; Tremblay, 1998). Historical observation and experience indicate that this development is not fast moving, in contrast to the manufacturing industry, since their functions are less subject to technological, competitiveness and internationalization developments. It is argued that tourism has gradually being transformed into an industrial economic activity (Bianchi, 2002; Holloway, 2002; Leiper, 2004; Mill & Morrison, 1998; Tremblay, 1998; Vellas, 2003; Vellas & Becherel, 1995). In the framework of its international specialization and organization, tourism introduces the 'creative destruction' procedure, suggested by Schumpeter (1949), which affects almost all modern economic activities. The introduction of the 'new' (for example, information and communication technologies) in the tourism field contributes to the formation of a new scene, the intensification of competition between involved business and destinations, as well as to the multiplication of modernization opportunities (Sheldon, 1997). In our study it is suggested that, based on the Greek experience, the analysis of the tourism market could be conducted, by taking into account, on the one hand, its particularities and the influencing external factors and, on the other, the concept of crucial size. The task of determining tourism dynamics and, by extension, the implementation of 'qualitative modernization' strategies could be achieved by means of external influences analysis, tourism demand and supply curves, the life cycle concept, the tourism frequency curve and logistics curve, placed in the framework of developments constantly evolving worldwide (Brent Ritchie & Crouch, 2003; Faulkner, 1998; Laws, 1995; Mansfield, 1995; Tooman, 1997).

2. The Concept of External Influences in the Field of Tourism

The analysis of evolution in tourism and development is greatly characterized as being supported by the networks theory (Novelli et al., 2006; Tefler,

2002). This economic theory has been developed in the 1980s aiming basically at understanding the procedure of ‘implementation and extensive application’ of new ICTs, on which the concept of external influences has been, to a great extent based. It is worth stressing that economists use the specific term to describe the conditions by which the consumption of a person directly influences the prosperity degree of another person (Varvaressos, 2008). In this approach, it appears that external influences could be grouped into two types: the positive external influences (i.e. information, specialization, development, etc.); and the negative ones (i.e. environment pollution, aesthetic degradation, dependence, etc.). The presence of external influences on productive and consumptive activities advocated the intervention actions of the public sector on market regulation (Hall 2005; Wanhill 2000). Governments encourage the development and promotion of activities creating positive externalities (by according subsidies to research and education), while on the contrary they attempt to limit the actions causing negative externalities (by taxing the activities which pollute the environment). The networks theory is substantially used to estimate the development degree and the access opportunities to information networks that are provided by means of two choices (Buhalis, 2005; Novelli et al., 2006): the Global Distribution Systems (GDS) and the World Wide Web (WWW) available on the Internet. It is obvious that technological developments create new conditions mainly in two fields: the tourists’ choices and the production of new tourist products (Sheldon, 1997; Poon 2002; Spindler 2003). It is worth mentioning the ‘electronic intermediaries’ (e-Mediaries), encompassing the traditional ones (GDS, Viewdata, Teletext) and the new main destination managers, such as airline companies, hospitality organizations, national tourism organizations, tour operators and travel agents, portals, vortals (i.e. specialized vertically integrated, such as the golf portals), communications media, auction web sites, etc. (Buhalis & Licata, 2002; Frew, 2005). It seems that all tourism intermediaries tend to become electronic ones due to the extensive use of ICTs by all involved businesses. Moreover, the absence of frontiers in ‘cyberspace’ renders all tourism companies potential competitors, independent of their formal or actual headquarters (Frew, 2005; WTO 2001). Hence, it seems that networks externalities constitute a special type of external influences by which the individual benefit resulting from the consumption of a product or service depends on the number of persons consuming this product or service. In other words, the value of an information network is directly related to the number of persons using or connected to this network (Novelli et al., 2006). The Internet at an international level bases its operation on the interconnection of fragmented and spatially dispersed webs (computer systems providing information on the Internet) all over the world and intermediary users, who

are connected through their personal computers and automatically acquire the opportunity to communicate worldwide with other users. The Internet's services menu is extremely wide and, therefore, its use offers huge opportunities (Frew 2005; O'Connor, 1999; WTO, 2001), such as direct access to numerous information sources on a global scale; marketing and promotion of tourist products and services; and sales of tourism products and services. However, the networks' external influences in tourism are not so significant as they are in the manufacturing industry, information and telecommunications fields, because the development degree of a tourism destination is dependent on a series of explicative variables of the geographical unit (Gordon, 1994; Hall, 2002; Py, 2002), such as natural and cultural resources, tourism infrastructure, equipment and business activity, as well as the presence of the 'tourist visitor / consumer'. Therefore, the creation of a primary 'tourism mass' gives a value to a destination. The volume of tourism flows, the frequency degree of tourists and tourism behaviour represents a particular category of external influences of the tourism consumption (Pearce, 2005; Py, 2002). Specific consumption models that are rooted in an imitation effect often influence the appeal of a restaurant, accommodation, a beach or a theme park. At a glance, this effect seems to confirm the fact that tourism consumers behave irrationally, in contrast to the economic theory standing opinions (Bergery, 2002; Goodall, 1998). This means that tourists make decisions based on the choices of others, instead of acting in relation to their main interests. The phenomenon of spatial concentration of tourists is considerably due to information asymmetry with regard to the pre-industrial structure of the tourism product. Hence, other visitors most likely influence tourist consumption behaviour, since the mutual observation of consumption behaviour has become the main information source (Bergery, 2002; Spindler, 2003). However, tourists are not exclusively consuming tourist products and services (i.e. accommodation, sightseeing, beach and restaurant services), but the environment and ambience in which these products are determined, also attract them and they are an integral part of the whole tourism product value (Decrop, 2006; Pearce, 2005). Consequently, it could be argued that a rationale might be determined, an approach by which a tourist does not choose to visit a tourism destination because it presents a tourism value, but this destination becomes attractive since other tourists choose to visit it (Bergery, 2003; Decrop, 1999; Decrop, 2006; Pearce, 2005).

3. The Demand and Supply Curves

The tourism demand and supply curves for a destination represent the relation between tourists' arrivals and available accommodation capacity for a

time period (Py, 2002; Varvaressos, 2008). In essence, by means of this ratio, the international and domestic demand for the whole tourist product offered by the hosting spatial unit is reflected in quantitative and qualitative terms (Vellas, 2003). The case of Greece is presented in Figure 1. This figure shows the relation between the inbound tourists' arrivals* and the hotel accommodation beds for the period from 1960 to 2009. It is to be noted that a great number of other accommodation beds (hotel apartments, rented rooms, etc.) are not taken into account. This aggregate of secondary tourism accommodation had led to an important augmentation of the total accommodation park during the period after 1980s, even to their duplication during the last decade of the twentieth century (SETE, 2005; Varvaressos, 2000).

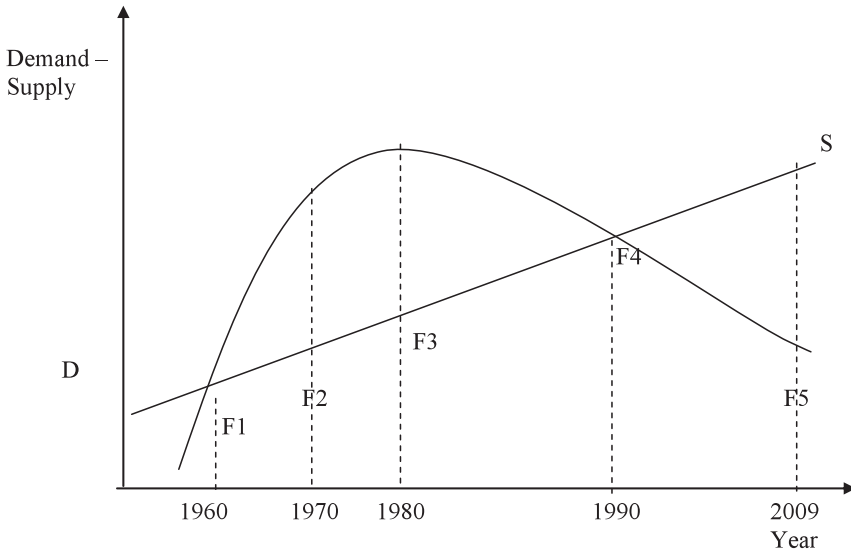
As might be seen in Figure 1, the tourism demand and supply curves represent a surplus of inbound tourism demand during the period from 1960 to 1990. An unplanned tourism development attempted to meet this demand, by constructing new beds, primarily in auxiliary accommodation and secondly in hotel units (Buhalis, 2001; Tsartas, 2000 and 2003). The incapacity of introduction and substantial implementation a model of planned tourism development and the weakness to move appropriately and timely from the spontaneous development model (SETE, 2005), have led to an oversupply of accommodation, from 1980 to 2009, thereby causing the demand curve to be placed under the tourism supply curve, since the supply of beds was greater than the augmentation of inbound tourist arrivals. The triangle S, F5 and F4 represents the size of this accommodation oversupply. The tourism demand curve, shown in Figure 1, could be compared to the resort life cycle which is analyzed in the next section, placing the Greek tourism product into the framework of demand – supply interrelation at the phase of maturation – decline (Varvaressos, 2008). However, in both cases, in the formation of the demand curve and life cycle, the presence of externalities plays a significant role; these external influences largely affect tourist consumption behaviour (Origet du Cluzeau & Vicériat, 2000; Py, 2002).

4. The Life Cycle Model

In the framework of economic analysis the term 'life cycle' substantially reflects the successive phases, which a product, resort or destination goes through from its creation until its decline (Cooper et al., 1998). Butler (1980) proposed the application of a model based on the life cycle. One of its key

* During the period from 1960 to 2004 75% inbound visitors and 25% domestic tourists accounted for overnights in hotel accommodation in Greece (SETE 2005).

Figure 1: Curves of tourism demand and supply, Greece (years 1960-2009)

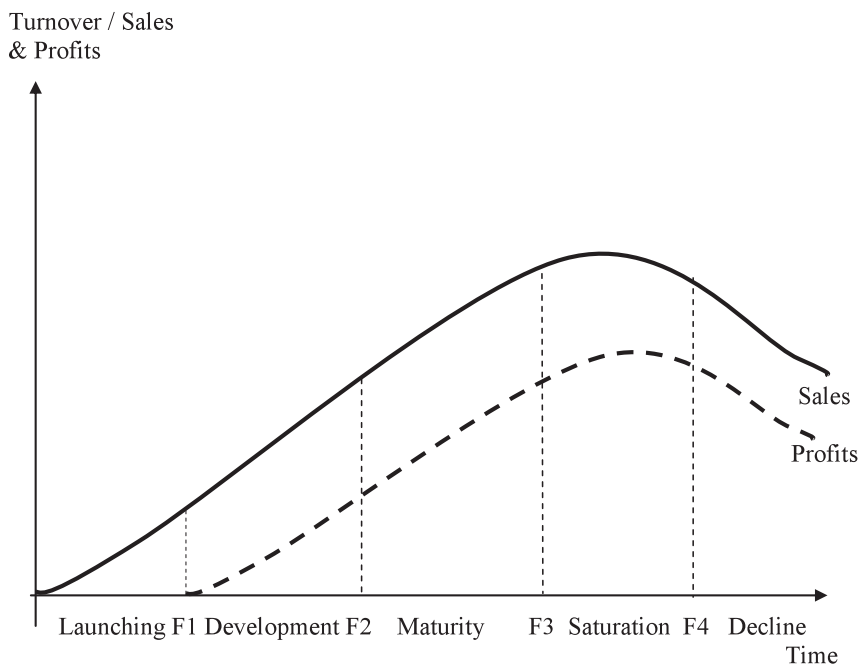


elements is process; the model suggests that there was a specific and common process of development of tourist destinations, which could be both described and modelled. As a result of this process and if intervention and management did not occur, then change and decline are probably inevitable (Cooper et al., 1998; Telfer, 2005). The phase of decline has some distinctive features, such as decrease in arrivals, low occupancy rates in accommodation, qualitative degradation of the tourism product, low social and economic profile of visitors, tourism services' oversupply, replacement of a selective clientele by a mass market clientele, weak interrelation between price and services value (Butler, 1997). The life cycle model could be more useful if its adoption reflected the commonly known concepts of linear evolution, as they are found in everyday life, and by extension, in the tourism field. As regard to the unit of analysis, Agarwal (1997), pointed out that a tourism destination is not a simple product, but consists of a series of components –accommodation, travel agencies, catering business, theme parks, etc.– and each of these has its own life cycle. Tooman (1997) claims that, while one typical non tourist product remains stable and its promotion efforts are modified (a product's modification implies a new position in the life cycle curve), the tourism destination as an integrated product would undergo the process of consecutive modifications, responding in such a way to

the changes occurring in tourism consumption and supply fields. Consequently, it appears that every evolution should be considered as possible. However, it is worth noting that the using the life cycle model as a forecasting tool has been criticized (Getz 1992; Digence, 1997); although its value as an ex post descriptive tool is recognized (Butler, 2000). The tourism destination's system of cyclical development or, in other words, its life cycle is influenced by several factors. It is stressed that the shape of the life cycle will vary from destination to destination and will be dependent upon the rate of development, access, government policy, market trends and competing destinations (Cooper et al., 1998; Tefler, 2005). The extent of positive or negative influences exerted by each factor on the geographical zone tourism development has not been proved by empirical evidence; although it is accepted that there are three groups of factors affecting the tourism destination's life cycle, namely (Laws, 1995; Williams & Gill, 2005): the 'attractiveness of the tourism product' and specifically the quality of tourism services provided in relation to their prices (value for money); the 'hosting zone's adaptability' to the tourism consumption's changes, mainly the approach of tourism as a fashion phenomenon, being launched and determined considerably by corporate aims and strategies of tour operators; and the 'tourism capacity' of hosting spatial zone, in relation to the whole potential of the actual tourism system. Therefore, it appears too difficult to accurately forecast the life duration of a tourism destination, although the process course could be represented (Haywood, 1992). The life cycle process of the majority of tourism destinations could be divided into a number of phases, such as launching, development, saturation and decline (Doswell, 1997) or conception/research, launching, development, maturity and decline (Lanquar & Hollier, 2001).

Some authors (Hovinen, 1981 and 1982; Formica & Uysal, 1996) proposed various names for these phases: Exploration, Involvement, Development, Consolidation, Stagnation, and Post-stagnation. Hovinen suggests the replacement of 'consolidation' and 'stagnation' phases by the term 'maturity' because of the coexistence of common features presented simultaneously during the various stages in a spatial zone. The phenomenon of coexistence of different characteristics has been pointed out by Agarwal (1997), while Baum (1998) proposed the phase of 'rediscovery', which might be a case of 'rejuvenation' (Formica & Uysal, 1996). During this phase the life cycle model could be a useful methodological tool and framework of analysis to be implemented, mainly a posteriori, in a tourism destination. Therefore, the distinction of life cycle phases by means of a series of features becomes feasible and this is confirmed mathematically (Lundrup & Wanhill, 2001); however, one should bear in mind that in actual (and not historical) time, the identification of phases –and even more

Figure 2: Life cycle model and its stages



the transition time from one phase to another– is extremely difficult, if not, impossible. The factors influencing the determination of the life cycle’s phases of tourism destinations in general and of the sub products in particular, are grouped as follows (Agarwal, 1992; Cooper et al., 1998; Doswell, 1997; Ioannides, 1992; Russell & Faulkner, 1998): (i) Endogenous: level of economic development of the spatial zone and accessibility, business decisions, political decisions – financial incentives, legal framework, regulatory acts, public investments, partnerships agreements and promotion, etc.; and (ii) Exogenous: competitive destinations (NTD), changing tourist typologies, tour operators’ expansion, hospitality organizations and airlines companies, etc.

5. The Tourism Frequency Curve

The existence of external influences on tourism consumption implies a significant importance on the formation of tourism demand curve. In economic terms, the

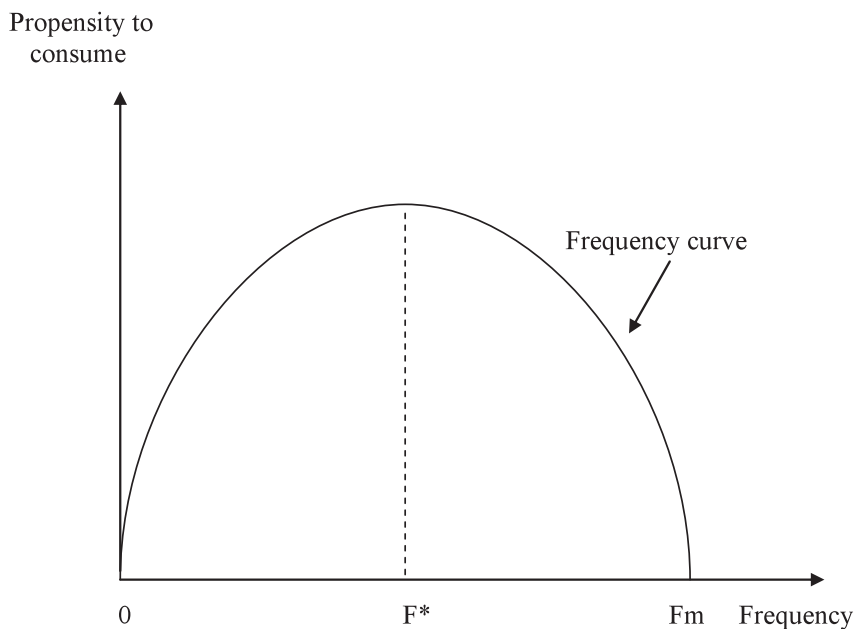
demand curve represents the maximum prices that consumers are willing to pay in order to acquire a product's quantity (Varvaressos, 2008). Based on consumption's externalities, it is obvious that the price of goods depends on the number of individuals consuming the goods (Py, 2002). Figure 3 shows a specific demand curve, called 'frequency curve', which represents the willingness of potential tourists to consume any product –i.e. a tourism destination A, a hotel business B, a restaurant enterprise C, etc– in relation to the degree of tourist frequency.

In Figure 3 a closed curve is shown, which constitutes, in essence, the combination effect of two phenomena:

(a) During the development stage, the tourism product takes a value on the potential tourists' perception as a result of the increase of visitation frequency (Bergery, 2003; Py, 2002, Seddighi & Theocharous, 2002; Vellas, 2003). This frequency represents an indication of tourism market size, considered simultaneously as a qualitative variable. At this stage the consumption external influences are positive, since the expansion of tourism flows augments the product's value, thus having a positive impact (see also Figure 1).

(b) In the stage of decline, the propensity to consume and the tourism product value decrease resulting from an increase in tourism frequency. During this stage consumption externalities are negative (Py, 2002). Certain features, such as a heavy concentration of visitors, thus long waiting service time; aesthetic and environmental pollution which exert a negative impact on the level of tourists' satisfaction, diminish the value of a product or a resort (Andriotis, 2006). This situation is usually observed in the airports (for instance, the airport of Iraklion on the island of Crete) and in popular resorts. It could be argued that the above analysis leads to the observation that: (i) at point zero there is no value of a tourism product since the tourism frequency is null. This fact proves that the presence of tourists could contribute to the valorisation and exploitation of tourism resources; (ii) at F^* , which represents a modification point; the tourists' propensity to consume is at its maximum value. After this point, this propensity begins to diminish. Consequently, if destination management wish to continue attracting visitors, prices should decrease, since going beyond the F^* point results in a downgrading of the product's quality; and (iii) at the F_m point tourism frequency reaches maximum value, but the propensity to consume becomes null. The specific level of tourism frequency represents, in some way, the stage of saturation (see also Figure 2).

Tourism development in Greece constitutes a representative case of the above statements (Tsartas, 2000 and 2003). The Greek government with its national tourism policy had founded the expansion of tourism on the devaluation of its national currency for a long period in order to achieve an increase in tourism frequency (Buhalis, 2001; Varvaressos, 2000). According to the above

Figure 3: The tourism frequency curve under the influence of externalities

analysis, it seems that such a strategy is neither sustainable nor long lasting, since any point beyond point F^* (modification) reflects the downgrading of the quality in holidays experience, which negatively affects the image of tourism destination, while limits are imposed on reductions in prices (Bramwell, 2004; Vellas, 2003). With regard to Greece, the adhesion to the European monetary zone and the application of a fixed exchange rates system inside a specific monetary zone, as a result of the Maastricht treaty, acted as prohibitions to a continuing devaluation policy (SETE, 2005). From the above analysis the necessity to introduce and implement a more active strategy to improve the quality of the tourism product and to revitalize tourism supply emerges, in order to achieve a repositioning, sustainment and enhancement of tourism frequency (Laws, 1995; Formica & Uysal, 1996; TTI, 1997; Vera & Rippin, 1996).

6. The Equilibriums

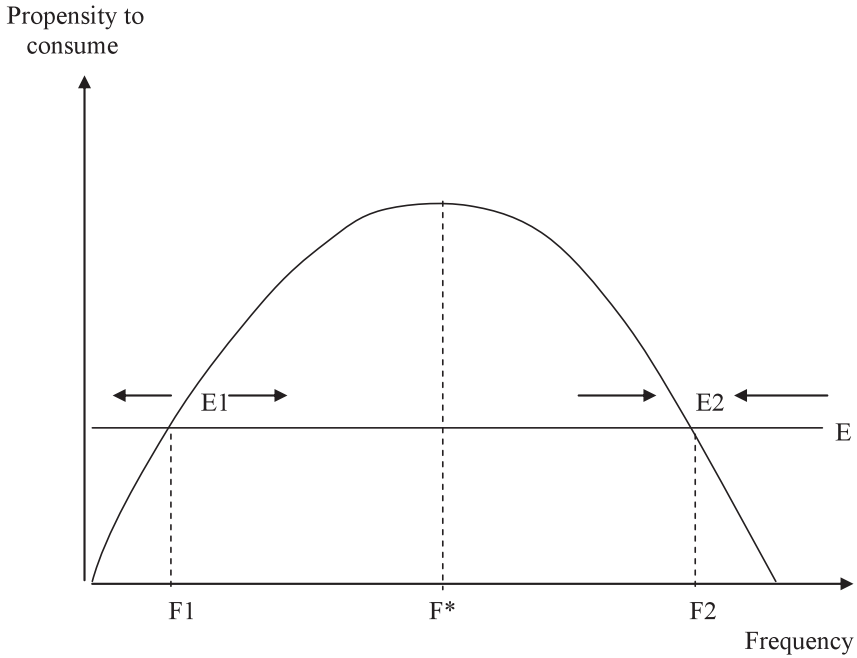
The analysis of tourism market dynamics, within the framework of external influences of tourism consumption, could be conducted by means of the

supply curve. This curve both represents and determines the relation between the quantity and the price of a product (Py 2002; Varvaressos, 2008). In an attempt to simplify, the tourism product is considered as being an outcome of a particular know-how and it is shown in Figure 4 by a supply curve, which takes the form of a horizontal line (E) corresponding to a value equal to the average cost* (2). The market is the outcome of the relation between demand and supply. In Figure 4, demand is represented by the frequency curve, and the horizontal line shows supply.

Figure 4 shows the existence of two points where supply is equal to demand (i.e. E1, E2). At point E1, consumers perceive the ‘equilibrium of low frequency’ as an indication of unsatisfactory quality of provided services. Hence, it could be argued that tourists are not willing to spend more money to acquire specific products or services. The point E2 presents ‘equilibrium of high frequency’. A similar equilibrium tends to characterize tourism destinations that are perceived as being mass tourism resorts (Bramwell, 2004; Soteriades & Arvanitis, 2006). In this case, prices are at low levels, because tourists do not attach high value to the product even though the destination is highly frequented (Varvaressos, 2000; Andriotis, 2006). It is worth noting that at this level the negative externalities are greater than positive ones; in such a way that high frequency involves a reverse proportional relation to quality (see also Figures 1 and 2). However, since there is more than one possible equilibrium, a study of the market dynamics attempts to determine which one will finally prevail. Economic analysis states that since individuals are willing to spend an amount higher than the production cost of a good, the market’s size would increase, because the potential producer ought to meet the needs and expectations of potential consumers (Py, 2002). In the contrary situation, the market’s size would diminish. In the specific example, where the tourism demand curve is positioned under the tourism supply’s curve, tourism frequency has increased. The vectors in Figure 4 show how the two points gradually come together, as a result of the relative positions taken by the curves. Within the framework of this dynamic procedure, point E1, designated as ‘low frequency’, presents an unstable equilibrium, whereas point E2, characterized as ‘high frequency’, represents a stable equilibrium. These observations provide useful

* It is worth noting that the supply curve moves according to cost production conditions in the industry. The accepted theory affirms that the curve should normally move upwards due to the entry of new producers in the industry, as a result of excess demand (Py 2002). The final position of the supply curve is determined by the interaction of production cost and the incorporation of new technologies. Figure 4 clearly shows the hypothesis that the industry’s cost production remains unchangeable.

Figure 4: Tourism market dynamics under the influence of externalities



information regarding the specialized dynamics of the tourism market. Any information network requires the existence of infrastructure, without which it could not be set up and developed; in a similar way development of the tourism product implies the prior existence of infrastructures; their absence renders the resort worthless for potential tourists (Cooper et al., 1998; Leiper, 2004). Consequently, point E1 constitutes the critical point, which must be outflanked in order to get into a development stage, which would eventually lead to a stable equilibrium at the E2 level.

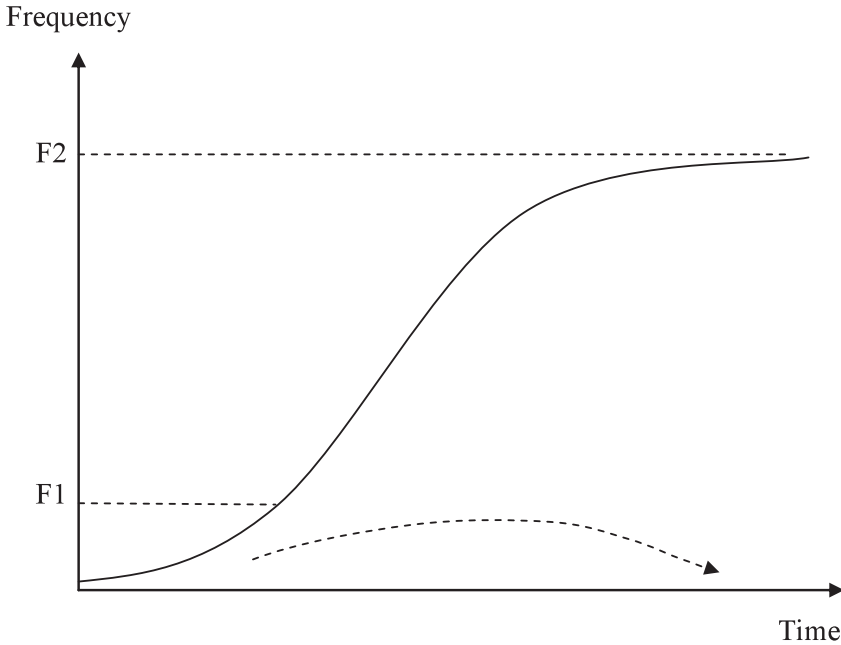
7. Development and Critical Size of a New Tourism Destination

The above analysis of tourism market dynamics has revealed the existence of two equilibrium levels, of which the first one is regarded as the critical point. Indeed, the tourism market is not self-driven to the first equilibrium level, since an action of the involved stakeholders is needed to reach the critical equilibrium volume. It has been demonstrated that level E1 – called ‘low

frequency' – represents a potential level and, therefore, a critical point. In fact, a tourism destination that cannot go beyond the specific level would be condemned to return to a level of low frequency. At this specific level, the marginal propensity to consume becomes null and no producer will undertake any business action offering tourist products, which may result in the infeasibility of activating the market (Varvaressos, 2008). However, it should be noted that not all tourism destinations have the capability of attracting mass tourism. Therefore, in this situation, the 'low frequency' equilibrium could constitute the main aim; but, given its unstable nature, every variation from the tourism frequency level F_1 could lead to two situations: the tourism destination grows weaker, given the weak critical mass; or the tourism destination develops and moves towards the 'high frequency' level. This does not represent the direction desired by entrepreneurs and investors of selective high added value tourism. Since it is a desirable objective, going beyond the critical point F_1 might constitute a valuable strategic option. The stage of development corresponds to the take-off point, which is represented by the logistics curve. Hence, in this approach, the dynamics of logistics appears to take into consideration the course of a destination's tourism frequency connected to a time factor. The move from a low frequency, indicative of a selective tourism activity, to a high one, synonymous with contemporary mass organized tourism, presents the moulding of strong dynamics, particularly regarding the seaside, sea & sun focused tourism that characterizes the tourism development model of Greece (Buhalis, 2001; SETE, 2005; Varvaressos, 2000).

Figure 5 represents the logistics curve and gives the impression that the successive stages –namely preparation, launching, taking off, development, maturity, decline– are conducted automatically (see also Figure 2). However, the study of tourism market dynamics indicates that the development of a tourism product is not automatic –because the market is not self driven at the critical level– and requires a significant involvement of the public sector and tourism business of the host country/area (Telfer, 2005; Wanhill, 2000). If, for instance, the tourism market is not in a position to reach the tourism frequency corresponding to critical level F_1 , then the frequency would return to its initial position (indicated by the dotted vector). In essence, the S-shaped curve represents the life cycle's curve of a new successful product, for instance the products such as 'discovery', 'adventure' and 'escape' (Buckley, 2007), as well as theme products or tours which increase spatial mobility (e.g. 'Theme Roundtrips'). (Comilis, 2001; Novelli, 2004). But, since tourism demand depends on number of tourists, it is suggested that destination managers should enhance market development by engaging the stage of conception in the life

Figure 5: Curve of logistics and Critical size



cycle of the tourism product (Laws, 1995; Vera & Rippin, 1996). Once the critical level is reached, the tourism market enters the take-off stage and develops considerably, since the marginal propensity to consume remains higher than the production cost.

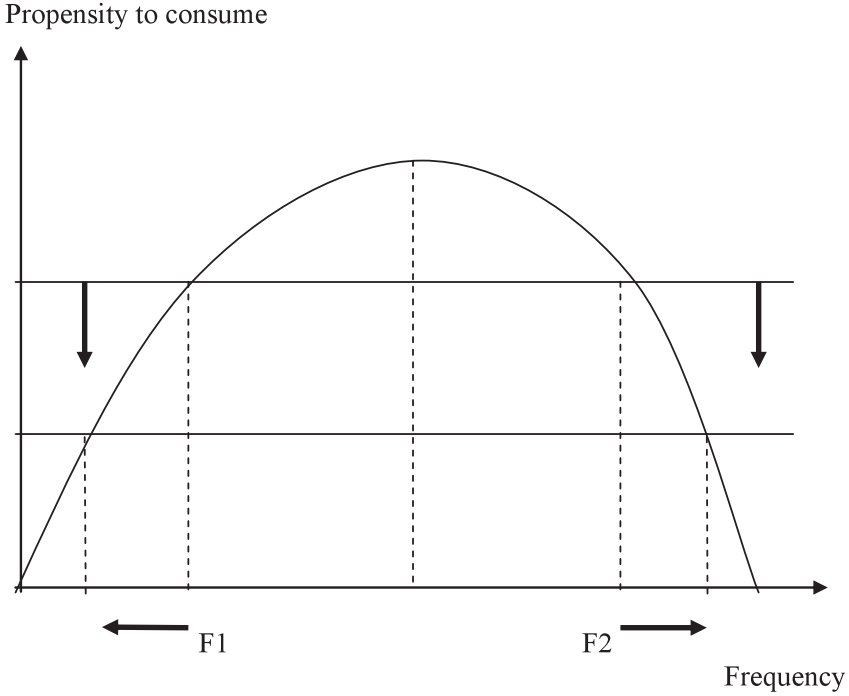
8. The Impacts of New Products on the Equilibrium's Dynamics

Within a dynamic perspective, technological developments constantly modify production conditions, consumption trends and habits (Buhalis, 2005; Frew, 2005). Initially, the production cost of a good is set at a high level, but afterwards it gradually decreases due to acquired experience, know-how and technological developments. Figure 6 shows the tourism market dynamics within the framework of changes occurring in the field of technology. The technological renewal renders possible a reduction in marginal cost, and this is shown in the figure by a downward movement of the horizontal line representing the supply curve.

When production cost falls to a satisfactory degree, then one could observe that the critical level of frequency $F1$ moves to the left (direction of the vector), indicating its decrease. The development in technologies renders the emergence of new tourism hosting zones and, by extension, the formation of new tourist flows, easier and less expensive (Buhalis, 2005). Investments in research and development of new tourism products, in combination with a decrease in tourism frequency to reach the critical point, renders feasible the take-off of the whole tourism product (Poon, 2002; WTO, 2001). Similarly, the $F2$ equilibrium level of ‘high frequency’ seems to be increased, indicating that the undertaken arrangements and modernizations could contribute to enlarging the hosting potential of the tourism destination. This procedure allows the backward movement of the frequency level until the point where the projection of the proportionality of negative externalities to positive ones creates additional tourist flows, contributing to the tourism destination’s attractiveness. In this regard, the airlines deregulation and the increase of competition constitute an indicative example (Hass, 2000). Competition has considerably contributed to the reduction in transport cost to destinations, particularly the exotic ones, characterized as being selective.

The above described process has internationalized the tourism potential of certain regions, such as Southeast Asia and the Pacific, which partially explains, the emergence and development of specific tourism destinations (Hall, 2002; Vellas, 2003). Hence, the New Industrialized Countries (Southeast Asia) have become New Tourism Countries (NTC), radically modifying the international tourism’s spatial structure. This procedure has already been observed in the field of domestic tourism, prior to the development of mass tourism, when seaside – summer tourism activity was exclusively reserved, for over many decades, for the upper socioeconomic class (i.e., aristocrats, land owners, stockholders, etc.) (Varvaressos, 2008; Vellas, 2003). Therefore, when the critical point receives indications of high frequency, the development cost of a hosting spatial zone or a new product’s tourism potential is too high, resulting in the restriction of a destination’s opportunities to attract a mass tourism’s share. However, it could be a strategic option, as has already been pointed out, of selective tourism based on a low level of frequency, but of high added value (Comilis, 2001). The various authorities and businesses involved in tourism activity could also contribute to strengthening the spatial zone’s attractiveness, by carrying out a certain volume of infrastructure investments (Telfer, 2005; Tsartas, 2000; Wanhill, 2000). In essence, tourism operations invest in order to improve their technology, enhancing somewhat the downward movement of the tourism supply curve. The public sector, acting conjointly, takes charge of infrastructure investments

Figure 6: Adaptation of tourism market cost



(transports network, telecommunications, etc); information and communications, thereby contributing to improvement of the destination image (Hall, 2005; Telfer, 2005). This particular type of public investment, a generating factor of positive externalities, enhances the reduction in the marginal cost of the tourism product and this is shown by a downward displacement of the supply curve. In broader terms, a decrease in the critical size drives the tourism product to the stage of take-off more quickly, resulting in a limitation of the conception stage. From the above analysis it has been pointed out that the tourism product's saturation does not constitute an inevitable situation. Nowadays, the tourism use of natural resources and their degree of incorporation into the whole tourism supply of a spatial zone depend on the existing technological conditions that contribute to their commercialization, and simultaneously the creation of high added value. Similarly, the inexistence of technology renders other natural resources inactive and without any economic value. In this perspective, the saturation levels in the tourism field are dependent on technological conditions,

which are indispensable to the exploitation of tourism resources (Cooper et al., 1998; Tefler, 2005).

9. Conclusions

Nowadays, tourism activity, regarded as an outcome of a series of variables – such as the economy, transport, leisure time, and ICTs – appears to constitute the most flourishing industry of the globe (SETE, 2005; WTO, 2007). According to official estimates, the number of international tourists will double within the next fifteen years, at both international levels as well as level in Greece (SETE, 2005; Vellas, 2003). The demand of this new tourism clientele, according to the emerging trends, seems extremely sensitive to the triptych of ‘quality, prices, and services’ (Brent Ritchie & Crouch, 2003), which is mainly catered for by low budget accommodation. However, the task of attracting this new mass tourism market could certainly affect the tourism activity’s structures, driving it to a further standardization of the existing products, as well as to a differentiation of new ones, as past and current experience of Greece has indicated. Obviously, these trends lead to a wider restructuralization of tourism (Poon, 2002; Spindler, 2003). Nowadays, the tourism sector seems to be a field of three dynamically interactive forces; namely: (i) the globalization of tourism within the framework of a worldwide competitive market and the emergence of new host regions; (ii) the rapid introduction and implementation of new ICTs, connected to the development of networks; and (iii) the related impact on traditional distribution channels of tourism products.

The ICTs significantly contribute to the development of new tourism products and pave the way for new distribution types and channels. The traditional intermediaries face the danger of being excluded, under the intensification of international competition. The perspective of forthcoming radical changes within the structures of tourism industry, Greece, as a country of valuable tourism resources’ production and distribution, appears to be incapable of determining, ensuring, controlling and monitoring its own future course, since it depends more on the active presence and corporate strategy of large European tour operators, than on tourism flows themselves. The repositioning of a tourism product allows an analysis of both the dynamics of the tourism industry and the product life cycle. Therefore, drawing upon the Greek experience, it is suggested that the apprehension of strategies of ‘qualitative modernization’, which are implemented in the tourism industry, on the one hand, and the delimitation / analysis of the principal axes of evolving changes in this field, on the other, are now more than ever, of considerable importance. It is estimated

that the present analysis of the Greek experience constitutes an approach in this direction and this issue offers opportunities for further research.

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MOTIVATION TECHNIQUES AS A MANAGEMENT TOOL IN GREEK PUBLIC HOSPITALS

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Abstract

Motivation in the hospital environment is the process whereby the behavior of an individual is energized, sustained and diverted in order to meet individual needs and achieve organizational objectives. The main objectives of our study is to unveiled a number of motivational techniques, which would be much valuable for the hospital manager, in a random sample of 900 hospital personnel (300 Administrative Personnel, 200 Medical Personnel and 400 Nursing Personnel) in a sample of 20 Public Greek hospitals. As research instrument was used validated questionnaire and the chi-square as a contingency test used for data analysis. As an additional contribution, our research identified the administrative, medical and nursing personnel's attitudes towards those motivational techniques.

JEL classification: I18, M12, M54, J24, J45

Keywords: Hospital Management; Motivation techniques; Healthcare Personnel; Allocation Effectiveness; Performance Management.

1. Introduction

Motivation is an important tool that is often under-utilized by managers. Managers use motivation techniques in the workplace to inspire personnel to work, both individually and in groups, to achieve organizational outcomes in the most efficient and effective manner. It is manager's responsibility to carefully identify and address these motivating forces (AHA, 2002).

Motivation is one of the corner-stones psychologists have propounded in their quest for understanding the individual. Indeed, taken in the context of everyday decision-making process, activates, directs and sustains human behaviour (Markovic, 2002). Besides, motivation is the willingness to exert high levels of efforts towards organizational goals conditioned by the efforts

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and ability to satisfy some individual needs (Greenberg, 1999). To motivate others is one of the most important management tasks. It comprises the abilities to understand what drives people, to communicate, to involve, challenging, to encourage, obtaining feedback and providing a just reward. The challenge lies not in the work itself, but in the person who creates and manages the work environment (Cook, 1991). There are many factors that determine people's behavior. These are psychological needs, psychological drives, survival, urges, emotions, hurts, impulses, tears, threats, rewards (money, friendship, status, possessions, wishes, intentions, values, mastery, freedom, intrinsic satisfaction, interests, pleasure, dislikes, established habits, goals, ambitions and so on).

Lope (2004) indicated that personnel have reasons in favoring their profession as being a noble profession, meaning as an opportunity to contribute towards advancement and development, and to fulfill self interest and satisfaction.

There are two presuppositions to successfully motivate the personnel:

(a) they must feel *valued* (meaning The job is worth doing; they are not overworked; pay, promotion are appropriate; they are trusted to take responsibility; there is social esteem; a reasonable measure of public respect) and (b) they must be *supported* (meaning Paid appropriately; Adequate equipment and devices; A building fit for purpose; they are trained, encouraged, cared for; There is appropriate curriculum guidance).

According to Silver (1983), motivation factors are the aspects of a job situation that can, when present, fulfill employees' needs for psychological growth. The six motivation factors are: *Achievements* (successful or unsuccessful completion of a job; solution or no solution of problems, seeing or not seeing the results of one's work), *Recognition* (notice in the form of praise or blame for any other person, personal acknowledgement by management, reward or punishment that is directly related to task accomplishment that was assigned), *Work itself* (the nature of the tasks to be accomplished in the task, the task themselves might be routine or varied, creative or stultifying, interesting or boring, difficult or easy), *Responsibility* (presence or absence of autonomy in carrying out job assignments, increase or decrease in authority over others, accountability for task accomplishment), *Advancement* (actual in status within the organization as a result of performance, promotion, lack of expected promotion, or demotion related to performance), *Possibility of growth* (changes in the work situation such that advancement is more or less likely and opportunities to learn are increased or decreased).

Our research mainly focuses on the effectiveness of healthcare organizations, as it presents and analyzes the motivational techniques used by public hospital managers to motivate their (administrative and healthcare) personnel to succeed an effective performance.

2. Motivation in Healthcare Organizations

Motivation is not the same for everyone, as we have different needs, goals and different personalities. The nature of the good «health» and its unique characteristics has led to major features in the organization, administration and operation of hospitals. Typically, motivation in healthcare organizations is likely to be intrinsic rather than extrinsic. Learner control increases the relevance of the learning and in turn improves learner motivation. Motivated and successful hospital personnel believe that they can inspire each other and learn.

Motivation for hospital personnel is very significant (Ricks et al., 1995). It is virtually impossible to determine a person's motivation until that person's initiation and persistence of an intentional, goal-directed activity (Mifflin, 1995). In healthcare organizations it is mainly the work of the administrative, medical and nursing personnel that determines the degree of success or failure in the organization's efforts to achieve its goal of healthcare delivery. It's the personnel who gives the hospital its credibility and determines its profile. A hospital manager has the opportunity to influence significantly the personnel in building a worldview that rests on faith commitment (Moret et al., 2008).

In every hospital there is a need for a dynamic leader to emerge. Leadership is the exercise of authority and the making of decision (Dubin, 1951). Healthcare administration is important wherever two or more people are involved in the execution of some task. The choice of rewards, recognition, reprimands or punishments to motivate personnel help to project the leadership style of the administrator (Knezevich, 1984).

The hospital manager should be very concerned about the long-term development needs of hospital personnel. The hospital manager should establish a good working relationship between the administrative, medical and nursing personnel and make sure the avenues of effective communication are available and utilized. For a hospital to be effective, both the manager and the administrative, medical and nursing personnel must realize that they need each other in mutual partnership to plan and implement strategies for the effective leadership of the organization at their respective levels.

Administrative and healthcare personnel have both intrinsic and extrinsic needs (Ashworth, 2000), (Fagin and Garelick, 2004). The personnel that are intrinsically motivated may be observed to undertake a task for its own sake, for the satisfaction it provides or for the feeling of accomplishment and self-actualization. On the other hand, the extrinsically motivated personnel may perform the activity/duty in order to obtain some reward, such as salary raise. Extrinsic motivation plays an important role in people's life and it is too strong

in influencing personnel's behavior. Therefore, the aim of the hospital manager should be to built up the enhancement of the intrinsic motivation for every member of the personnel and, at the same time, to supply some extrinsic motivation along the way for hospital's outcome improvement (Kerlinger, 1993).

Medical Personnel motivate learners throw a variety of strategies based on understanding of learner's growth and development patterns, individual ability differences, and of internal and external factors that may arouse and sustain the desire to learn more. These general principles may be adapted to adult motivational strategies of the administrator working with Medical Personnel, supervisors, other administrator and other adult workers. Recognition of the motivational value of intrinsic factors such as, desire for achievement or self fulfillment is needed to balance what has been an over reliance, extrinsic motivator factors are external to the person and job satisfaction. The executives engaged in "management" should understand the characteristics of existing feelings, and to stimulate by appropriate incentives to perform and achieve the objectives of the unit. Within the existing organizational framework and working conditions of staff, personalized relationships and internal conflicts, managers should set motivation techniques that should be a function of the following parameters, as analyzed by the Newbold (2004).

Given that motivation is a dynamic process that is often altered by external and internal-personal factors, a package of benefits should be modified and adjusted to meet the resulting needs. Personal details of employees, employment and social variables and corporate culture will be covered and taken primarily into account (Rosenstein, 2002).

3. Management Practices in Greek Public Hospitals

Since the foundation of the Greek state till 1909, hospitals were municipalities' and charitable caring organizations (Vozikis and Kostelenos, 2009). From 1909 to 1952 was obvious the first active state intervention with the creation of public and military hospitals. In the third period 1953-1982, actually started the development of an organized health system, setting the stage for the first time with the organization of health clinics. Starting from 1983, the last period is characterized by the efforts of implementation and development of the Greek NHS. There is strong government intervention in the organization, administration and operation of hospitals. The primary objectives of the NHS were decentralization, the development of primary health care, modernization of hospitals, continuing education and motivating people (Giannopoulos et al., 2008). These objectives are not achieved, at least to the extent required by the needs and increased demand from citizens for quantitative and qualitative health services (Vozikis and Pollalis, 2006).

The increased government intervention, the inability to take immediate decisions in a complex and constantly evolving environment, are important factors that strongly influence the organization and administration of health-care organizations.

The activities carried out by hospital personnel from different disciplines and different levels of education are numerous and vary considerably to each other. In addition, most of these activities are characterized by high frequency fluctuations due to the rapid and continuous developments in both medicine and technology, and the development of health perceptions (Kontodimopoulos, Paleologou and Niakas, 2009). The hospitals are atypical organizations in which power and responsibility shared by the various strains, not only by the position in the structure of the hierarchy, but also the prestige and the special effect of various categories of health professionals working in this (Paleoglou et al., 2006). Today it is very difficult to detect the theoretical framework of a government hospital. The structure of a hospital is layered, and interdependent, which makes it even more difficult to command. The hospital is constantly interacting with the external environment, receiving inputs consisting of subsystems (directorates, departments), with specific operational resources (human resources, equipment, services and suppliers.), which together aim towards a common vision, purpose and business objectives (Vozikis, Goulionis and Miovolos, 2010). However, the systems approach and systems theory does not attribute entirely to the current situation of the administration of the hospital. It is influenced by the bureaucratic governance model. A system of rules and standards ensure the execution of work. There is a hierarchy which starts from the top management (Governor, Board of Directors) and ends at the base (Kanfer, 1999). You need a written record of the rules, decisions and actions. The autonomy of doctors in their work, leads to the type of professional bureaucracy, after matching more with their profession than with the organization (Zydziunaite and Katiliute, 2007).

4. Research methodology

The main purpose of this study was motivation techniques used by hospital managers and their impact on performance of hospital personnel. The nature of study was of descriptive type.

4.1 Sample and data collection

The instrument used is a questionnaire with 35 questions-statements using a five-point Likert scale, where the respondents (hospital personnel) were asked

to evaluate according to any kind of subjective or objective criteria about motivation techniques used by hospital managers. We first test the validity of the research instrument in the Greek healthcare environment, taking a large and fairly representative sample of personnel from two general hospitals of the National Health System, located in the broader Athens area.

The main study was conducted in a random sample of 900 hospital personnel (300 Administrative Personnel, 200 Medical Personnel and 400 Nursing Personnel) in 20 Public Greek hospitals located in Athens, Thessalonica, Larissa, Ioannina, Patra and Heracleion (Crete), in order to represent the distribution of these groups within the Greek health system. The questionnaires were handed in person to the hospital personnel by students of the “Health Services Management” Postgraduate Programme in the University of Piraeus, with instructions describing the purpose of the study and stating that participation was voluntary and anonymous. The students therefore helped the personnel to fill in (answer) the questions-statements and collected the questionnaires. The response rates were physicians: 65%, nurses: 80% and administrative personnel: 70% and overall 73.33%, i.e. 660 questionnaires were eventually collected.

4.2 Data Analysis

Data collected through above mentioned instrument were tabulated, analyzed and interpreted category wise, compare responses of three groups and compare responses of Administrative Personnel, Medical Personnel and Nursing Personnel. To analyze the data, chi-square as a contingency test and percentage were used. For statistical analysis chi-square was applied using the following formula:

θ_i : Frequently observed or experimental determined

e_i : Frequency expected

df: Degree of freedom

$$x_{obs}^2 = \sum_{cells} \frac{(\theta - e)^2}{e} \quad (1)$$

Chi-square as contingency test was used to compare the frequencies of Administrative Personnel/Medical Personnel, Medical Personnel/Nursing Personnel and Administrative Personnel/Nursing Personnel.

Having seen the significance of difference between Administrative Personnel, Medical Personnel and Nursing Personnel by Chi-square as a contingency test, Chi-square value identify the sources of differences. On the basis of the analysis and interpretation of data, conclusions were drawn.

5. Research Findings

In our study the data have been interpreted and analysis through Chi-square as a contingency test. The Chi-square is the most widely used test for statistical data generated by non-parametric analysis. The data for this comparison is generated from the frequencies in the categories. In the discussion section the data have been interpreted and analysis in three different groups.

- *Compare responses of three groups*
 - a. Administrative Personnel / Medical Personnel
 - b. Medical Personnel / Nursing Personnel
 - c. Administrative Personnel / Nursing Personnel
- *Percentage wise interpretation of the three groups' responses*
 - a. Administrative Personnel
 - b. Medical Personnel
 - c. Nursing Personnel

The question being addressed is whether the groups differ in their responses from each other.

Below we present the research findings of the most interesting questions-statements:

Table 1: The Hospital Manager is always constructive and optimistic

	SA	A	N	D	SD	Comparisons	X ²	df	p
Administrative Personnel	40	20	5	25	10	Administrative Personnel / Medical Personnel	86.5	4	<0.001
Medical Personnel	26	53	6	11	4	Medical Personnel / Nursing Personnel	148.2	4	<0.001
Nursing Personnel	36	42	1	13	8	Administrative Personnel / Nursing Personnel	61.9	4	<0.001

Although some Administrative Personnel hold a strongly positive view, in general they are less positive when compared to Medical Personnel. In many ways, Medical Personnel and Nursing Personnel hold similar views although

the Medical Personnel are not quite positive. It is clear that the Administrative Personnel are different in their responses from both other groups, being significantly more holding negative views. The question is difficult to intercept in that two adjectives are used: ‘constructive’ and ‘optimistic’. Perhaps the Administrative Personnel are less optimistic.

Table 2: The Hospital Manager motives Hospital Personnel to be more innovative

	SA	A	N	D	SD	Comparisons	X ²	df	p
Administrative Personnel	38	28	11	10	13	Administrative Personnel / Medical Personnel	32.7	4	<0.001
Medical Personnel	30	49	5	9	7	Medical Personnel / Nursing Personnel	136.0	4	<0.001
Nursing Personnel	35	38	2	21	4	Administrative Personnel / Nursing Personnel	108.1	4	<0.001

All groups are positive but the Administrative Personnel are less confident and Medical Personnel are most confident. Perhaps the Administrative Personnel are most sure that they are achieving what they want to achieve, while the Medical Personnel are more aware of the motivating effects. It is possible that Medical Personnel think they are more innovative than they are!

Table 3: The Hospital Manager provides personal loyalty to the Hospital Personnel

	SA	A	N	D	SD	Comparisons	X ²	df	p
Administrative Personnel	10	19	5	36	30	Administrative Personnel / Medical Personnel	277.3	4	<0.001
Medical Personnel	46	37	4	7	6	Medical Personnel / Nursing Personnel	46.4	4	<0.001
Nursing Personnel	40	33	4	13	10	Administrative Personnel / Nursing Personnel	195.6	4	<0.001

Both Medical Personnel and Nursing Personnel have positive view while Administrative Personnel have negative views. In general most Medical

Personnel and Nursing Personnel agree that Hospital Managers provide personal loyalty to Hospital Personnel.

Table 4: The Hospital Manager acknowledges the Hospital Personnel’ achievements

	SA	A	N	D	SD	Comparisons	X ²	df	p
Administrative Personnel	25	43	2	15	15	Administrative Personnel / Medical Personnel	11.2	3	<0.05
Medical Personnel	35	41	4	11	9	Medical Personnel / Nursing Personnel	33.4	3	<0.001
Nursing Personnel	36	37	3	9	15	Administrative Personnel / Nursing Personnel	13.2	3	<0.01

All the groups are more positive in views, but Medical Personnel are most confident as compared to Administrative Personnel. It may reflect that the Hospital Managers acknowledge the Medical Personnel achievements.

Table 5: The Hospital Manager encourages hard working Hospital Personnel

	SA	A	N	D	SD	Comparisons	X ²	df	p
Administrative Personnel	30	38	7	17	8	Administrative Personnel / Medical Personnel	12.7	4	<0.05
Medical Personnel	32	43	6	9	10	Medical Personnel / Nursing Personnel	90.4	4	<0.001
Nursing Personnel	34	37	2	15	12	Administrative Personnel / Nursing Personnel	29.7	4	<0.001

All the groups show more positive attitudes. This shows that Hospital Managers encourage hard working Hospital Personnel.

Table 6: The Hospital Manager creates a professional competition among Hospital Personnel

	SA	A	N	D	SD	Comparisons	X ²	df	p
Administrative Personnel	8	24	5	43	20	Administrative Personnel / Medical Personnel	193.8	4	<0.001
Medical Personnel	40	28	4	12	8	Medical Personnel / Nursing Personnel	1177.6	4	<0.001
Nursing Personnel	10	14	2	33	41	Administrative Personnel / Nursing Personnel	46.4	4	<0.001

The views of three groups show very large differences and all groups a high degree of polarization of views. Both Administrative Personnel and Nursing Personnel show negative attitudes but Administrative Personnel' views are more negative than the Nursing Personnel. In general, Medical Personnel consider that Administrative Personnel create professional competition among them but the majority of the Administrative Personnel do not think that they create professional competition among Medical Personnel. This needs further exploration.

Table 7: The Hospital Manager criticizes the Hospital Personnel in a constructive way

	SA	A	N	D	SD	Comparisons	X ²	df	p
Administrative Personnel	29	48	6	7	10	Administrative Personnel / Medical Personnel	18.8	4	<0.001
Medical Personnel	42	36	3	11	8	Medical Personnel / Nursing Personnel	22.1	4	<0.001
Nursing Personnel	35	38	2	15	10	Administrative Personnel / Nursing Personnel	22.2	4	<0.001

All groups hold quite strong positive views. Both Administrative Personnel and Medical Personnel are similar in their views, while Nursing Personnel' views are slight less positive. It is clear that the Hospital Managers criticize the Hospital Personnel in a constructive way.

Table 8: The Hospital Manager establishes a good relationship with the Hospital Personnel

	SA	A	N	D	SD	Comparisons	X ²	df	p
Administrative Personnel	23	38	3	22	14	Administrative Personnel / Medical Personnel	14.7	3	<0.001
Medical Personnel	34	39	2	16	9	Medical Personnel / Nursing Personnel	3.1	3	n.s
Nursing Personnel	36	40	2	14	8	Administrative Personnel / Nursing Personnel	25.3	3	<0.001

All groups hold positive views but the Administrative Personnel are less confident compared to Medical Personnel and Nursing Personnel. Perhaps, Administrative Personnel are less sure that they are achieving what they want to achieve while Medical Personnel are more aware of the motivating effects. It is possible that Hospital Managers think that Administrative Personnel establish a good relationship with them.

Table 9: The Hospital Manager assists and leads the Hospital Personnel to gain achievable targets

	SA	A	N	D	SD	Comparisons	X ²	df	p
Administrative Personnel	32	45	4	11	8	Administrative Personnel / Medical Personnel	30.0	4	<0.001
Medical Personnel	44	25	5	16	10	Medical Personnel / Nursing Personnel	160.4	4	<0.001
Nursing Personnel	28	43	2	18	9	Administrative Personnel / Nursing Personnel	9.9	4	n.s

The views of all the respondents are positive. Medical Personnel are less positive than other groups. Their attitude shows that Hospital Managers assist and lead Hospital Personnel to achieve targets.

Table 10: The Hospital Manager gives feedback to the Hospital Personnel on their performance

	SA	A	N	D	SD	Comparisons	X ²	df	p
Administrative Personnel	10	16	5	27	42	Administrative Personnel / Medical Personnel	315.8	4	<0.001
Medical Personnel	51	31	3	10	5	Medical Personnel / Nursing Personnel	1220.8	4	<0.001
Nursing Personnel	12	13	3	34	38	Administrative Personnel / Nursing Personnel	6.6	4	n.s

There is quite a difference in the views of three groups. While the Nursing Personnel cannot possibly know what is actually going on, the Medical Personnel are very positive. Clearly, they think they are getting feedback but the Administrative Personnel are not so sure.

Table 11: The Hospital Manager rely on the Hospital Personnel for achieving Organization goals

	SA	A	N	D	SD	Comparisons	X ²	df	p
Administrative Personnel	30	37	6	10	17	Administrative Personnel / Medical Personnel	17.6	3	<0.001
Medical Personnel	43	31	2	14	10	Medical Personnel / Nursing Personnel	1091.3	3	<0.001
Nursing Personnel	13	8	3	36	40	Administrative Personnel / Nursing Personnel	263.2	3	<0.001

There are very large differences in the views of three groups respondents. Both Administrative Personnel and Medical Personnel are positive, while Nursing Personnel are negative in their views. It shows that Hospital Managers mainly rely on the Medical Personnel for achieving instructions goals.

6. Discussion and Proposals

Our research unveiled a number of motivational techniques, which would be much valuable for the hospital manager. As an additional contribution, our research identified the administrative, medical and nursing personnel's attitudes towards those motivational techniques.

Medical Personnel and Nursing Personnel hold similar views that Hospital Managers are constructive and optimistic though the Medical Personnel are not quite positive. All groups are positive that Hospital Managers motives personnel to be more innovative, while only the Medical Personnel and Nursing Personnel agree that Hospital Managers provide personal loyalty. Hospital Managers acknowledge mainly the Medical Personnel achievements and encourage hard working Hospital Personnel. Hospital Managers criticize the Hospital Personnel in a constructive way, while Medical Personnel are more aware of the motivating effects. Finally, Hospital Managers assist and lead Hospital Personnel to achieve targets, but rely mainly on the Medical Personnel for achieving instructions goals.

Our findings are compatible with the Lindner's study (2003) who described the importance of certain factors in motivating employees. Specifically, his study sought to describe the ranked importance of the following ten motivating factors: job security, sympathetic help with personal problems, personal loyalty to employees, interesting work, good working conditions, tactful discipline, good ways promotions and growth in the organization, full appreciation of work done, feeling of being in on things. Also, Lope (2004) indicated that personnel have reasons in favoring their profession as being a noble profession, meaning as an opportunity to contribute towards advancement and development, and to fulfill self interest and satisfaction. Our research mainly focuses on the effectiveness of healthcare organizations, as it presents and analyzes the motivational techniques used by public hospital managers to motivate their (administrative and healthcare) personnel to succeed an effective performance. Many of the above presented motivation techniques are also evaluated by other researchers (Bennett, Gzirishvili and Kanfer, 2000), (Luoma, 2005), (Mahoney, 2005) as successfully implemented in various healthcare organizations all over the world.

As a proposal, the complex management of the Greek public hospitals should be replaced by a flexible, modern and efficient governance model, which will be free of the disadvantages of the past and meets the requirements of future challenges. A key condition for success is the participation and the cooperation of all human resources. So, personnel motivation should effectively assist in the hospital's goals that are the full satisfaction of the needs and expectations of the citizens-patients. Hospital Managers should be setting clear and measurable performance standards, and to determine the degree of success, failure, comparing the performance with previous years, but also with other hospitals.

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A NEW COOPERATIVE MODEL OF MICRO AND SMALL ENTERPRISES (MSES) FOR SUSTAINABLE DEVELOPMENT

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GEORGE XANTHOS***

Abstract

The purpose of this paper is to explore how entrepreneurial strategies based on co-operations can enhance the competitiveness of micro and small enterprises (MSEs). It further determines factors that can lead a cluster both to its success and to its successful transition into a multi-participial company. The findings conclude that the basic elements for a successful cooperative approach involve: geographical proximity, trust, innovation, diffusing knowledge, competition, the role of the government, universities and research institutes, participatory management and new technologies.

JEL classification: R58, M13, P13, R11

Keywords: Micro and small enterprises, cooperative model, participatory management

1. Introduction

Globally, small and medium enterprises play an important role in the development of local economies. Despite the changes that have taken place in industry and society, small business continues as the dominant business form in an economy. It is recognized that approximately 80 per cent of economic growth comes from the SME sector. This means that SMEs are the economic backbone of the national economies. However, factors as globalization, competition and economic conditions have forced small business to the change of their behavior. Thus, the pattern of environmental linkage has to change by

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identifying opportunities, developing products, introducing new products and entering new markets. For achieving this, small business have to be innovative and risk-taking, characteristics which are elements of entrepreneurship. Moreover, collaboration, co-operation and alliances have become crucial factors for the development of small business. If a large number of enterprises are involved, new relationships can be created among them so as to form a compact network. The involved small business can pool and share resources a fact which facilitates the development of new products and enables small businesses to compete with other bigger businesses. Collaboration with other enterprises helps to gain access to a diverse and specialized expertise to meet customer needs and to share risks and costs (Keeble, 1997). In addition, the most significant point that derives from the cooperation between micro and small enterprises is the ability they have to learn from each other and from an intermediary system that has acted as a successful catalyst for cooperation (Huggins, 1996). The survival of micro and small enterprises depends heavily on their innovation capacity which comes from internal and external sources. In the recent innovation literature a great deal of emphasis has been placed on determinants that are external to the firm and more specifically to the positive externalities that firms receive in terms of knowledge from the environment in which they operate.

When firms compete within a cooperative model, this has an effect on the national competitive advantage because through the economies of scale, firms can have the appropriate size to approach the international market and are able to operate in a competitive environment (Carrie, 1999). Perry and Pyatt (1995) and Weaver and Dickson (1995), state that alliances between companies is the crucial factor of creation of the competitive advantage. As companies become more and more engaged in international activity, there is a tendency for companies to come closer together to maintain a competitive advantage (Porter, 1990). Additionally, clusters will attract foreign investments and promote viability and exports.

Globalization and liberalization have resulted in the integration of economies and have prompted a rapid increase in the movement of products, capital and labor across borders. The internationalization of markets at least indirectly influences every enterprise. Regardless of size, even long-established and flourishing enterprises are vulnerable to the increased pace of globalization. Micro and small enterprises, designed to meet the demand from local markets, are more susceptible to the competition of transnational conglomerates and/or multinational corporations. Small-scale enterprises play a crucial role especially for the development of isolated and regional places. Recent

research emphasized the role of cooperation for regional development and its dependence on regional contexts (Nijkamp and Stough, 2002; de Groot et al., 2004; OECD, 2005). Hence, factors like localization economies, social systemic frameworks and other locally bound assets should be seriously taken into account (Wanger and Sternberg, 2004).

The paper addresses an alternative approach for sustainable regional development through the cooperation of micro and small enterprises. The study broadens the scope of analysis to explore the cooperative network structure that enhances global competitiveness of micro and small enterprises. It is original in nature since it examines for the first time the combination of key factors such as participatory management and transition to multi-participial enterprise in the context of clusters.

2. Why micro and small enterprises

According to the European Union recommendation, a small and medium-sized enterprise (SME) should have fewer than 250 employees. The sub-population of SMEs may be further divided into:

- Micro enterprises (1 to 9 persons employed)
- Small enterprises (10 to 49 persons employed), and;
- Medium-sized enterprises (50 to 249 persons employed).

The vast majority of SMEs in the EU are considerably smaller than the threshold of 250 persons. While large enterprises can maintain whole departments to keep up with technological developments, track competitors, suitable finance and skilled employees, or develop new products and processes, many smaller enterprises struggle of resources, finance, know-how or skills.

As mentioned above, small businesses are noted as having an important role in the development of economy and are regarded as the dominant business form in the European economy. European Union's data are presented in the following table (table 1 and figure 1) and it is observed that the overwhelming majority (99,8%) were SMEs. A closer inspection reveals that 91,8% of the total sample were micro enterprises (employing fewer than 10 persons), while 6,9% were small enterprises (10 to 49 persons employed), 1,1% were medium-sized enterprises (50 to 249 persons employed) and the remaining 0,2% were large enterprises (250 or more persons employed).

Just over two thirds (67,4%) of the EU non-financial economy workforce was employed within an SME in 2006. Approximately 50% were micro and

Table 1: Breakdown of activity within the non-financial business economy by size-class, EU-27, 2006

Size of enterprise	Number of enterprises	Value added	Number of persons employed
Micro	91,80%	21%	29,7%
Small	6,90%	18,9%	20,7%
Medium	1,10%	17,8%	17%
Large	0,20%	42,3%	32,6%

Source: EUROSTAT (SBS)

small enterprises (figure 2). Large enterprises that were estimated just 0,2% of the enterprise population employed almost one third of the work force (32,6%).

The economic importance of large enterprises was generally higher in terms of their contribution to total value added (42,3% of the total) in 2005. The contribution of the micro and small enterprises to the total value added was close to 50%.

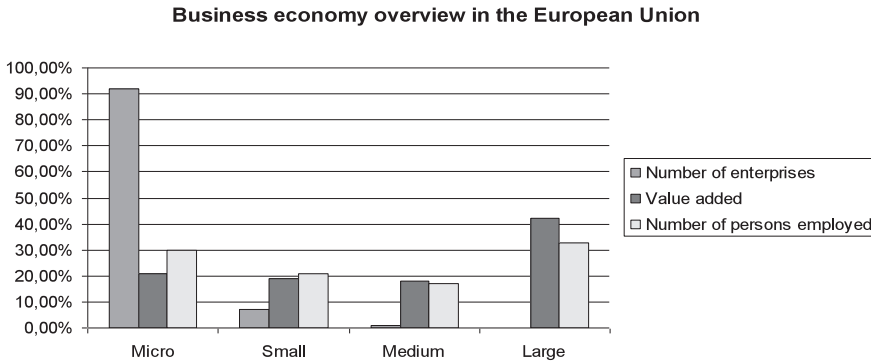
Finally, it is concluded that micro and small enterprises (MSEs) make substantial contributions to national economies. The collaboration among MSEs can work as a tool for meeting their challenges related to globalization and trade liberalization which have significantly increased customer expectations and competition between companies.

3. Elements for success in cooperative model

3.1. Geographical proximity

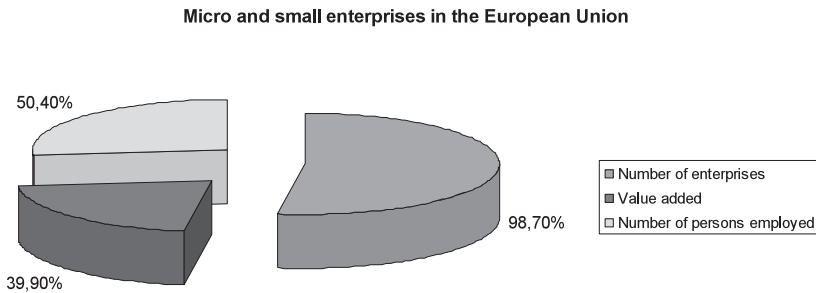
Geography plays a very important role in the formation of a cluster. Industries or sectors that are located in certain geographical area will create an interdependence among firms and they will be linked through a commonality or sector specialization (Frisillo, 2007). Firms that operate in the same area can exploit existing opportunities through sharing high quality information and tacit knowledge as well as through cooperative exchange (Morales 2007). Geographical proximity creates competitive advantages to SMEs which closely cooperate and compete, since a host of linkages among cluster members result

Figure 1: Breakdown of activity within the non-financial business economy by size-class, 2006



Source: EUROSTAT (SBS)

Figure 2: Breakdown of non-financial business economy for micro and small enterprises, 2006



Source: EUROSTAT (SBS)

in a whole greater than the sum of its parts (Porter, 1998). Firms that are located in a region carry the same local characteristics, fact which enhances the ability of these firms to be more competitive in a certain market sector. Commonly the competitive advantage of the geographical proximity is enforced by the co-operative models and not by companies that stand alone.

Finally, the members of the cluster will benefit from the reduction of transaction costs, transportation costs and costs for obtaining information (Preisll and Soliment, 2003). Also they will profit from the access in resources that are not available to members not located in the cluster and from technological and skill advantages. Moreover, the geographical proximity can broaden the alliances with universities and research institutions that are located in the same area (Porter, 1998).

3.2. The relevance of cooperation and trust

Another important factor for building an efficient cluster is cooperation. Firms participating in clusters should be open to each other and also be able to share any risks involved. In strengthening the bonds between the members, the role of formal institutions like business associations, labor associations and specialized institutions is very important (Dwivedi and Vrman, 2003).

Trust is another crucial factor that is needed for successful co-operations. Trust means that the actors of the cluster would not indulge in certain kinds of selfish behavior (Lewis and Wiegert, 1985). The high level of trust can bind the actors together. According to Dubini and Aldrich (1991) the cohesiveness and the collaboration among SMEs depends on the mutual trust of their members (Hancke, 1998). In the same way Coleman states (1990) that the interactions between the members of a co-operative model can build the trust between them and thus it can be converted in social capital. Where there is trust, new markets begin to form because companies can share knowledge more freely without worrying that they will not gain anything (Lorenzen and Maskell, 2004). Clusters must have trust and cooperation in order to achieve an economic advantage. The lack of these values will have as a result the cluster to be merely a group of companies that will be loosely organized and could forfeit wealth creation (Bergman and Feser, 1999). High trust level also decreases the transaction costs, reduces the costs for legal disputes and administrative procedures. In order to achieve this, business codes should be developed on several levels along with functioning measures that would sanction them (Karaev et al.,2007).

3.3. The importance of innovation

Another important variable that assists in the success of a cluster is innovation. Companies belonging to a cluster have a window open on to the market, better than their isolated competitors and consequently the innovations can

be applied adequately. Clusters also provide the capacity and flexibility to act faster in the adoption of innovations. Clusters can also develop the new technology that is vital in order to compete against other businesses. And in particular Enright (2002) states that a cluster can generate, adapt or use various forms of technology.

The development of cooperative models enhance the innovation inspiring the accumulation of knowledge in a certain area which will be the “innovation benchmark” (Mancinelli and Mazzanti, 2009). We should point out that it is the everyday innovations, not the inventions that help firms make progress.

3.4. Diffusing knowledge

The diffusion of knowledge plays a fundamental role in a company’s (micro and small business) ability to maintain its competitive advantage. This is because knowledge is the driving force behind innovation. The interchange of knowledge in designing and creating products, among businesses in the same network, can promote the viability of small companies which do not have the resources to invest (Gulati, 1995; Alvarez and Barney, 2001; George et al., 2001; Soekijad and Andriessen, 2003).

Moreover, the cooperative networks provide the ability to companies, which activate in the same sector, to have a more powerful access to knowledge, to information, to technology and research, a fact which can bring about the development of joint knowledge and skills (Das and Teng, 1998; Hit and Ireland, 2000; Grant and Baden–Fuller, 2004). According to Forsman and Solitander (2003), innovations and technology as a result of knowledge diffusion, is a good base for the cooperative model and also for the local business economy.

3.5. The role of the government, universities and research institutes

A Government can support the development of a cooperative model by simplifying the bureaucracy that is related to the business environment. Moreover, a government can organize a decretive frame for the operation of the firms and the establishment of supportive mechanisms. Governments can assist the cooperative model development by providing investment initiatives. They can also provide market research for clusters in order to make them more aware of current market trends (Enright, 2002).

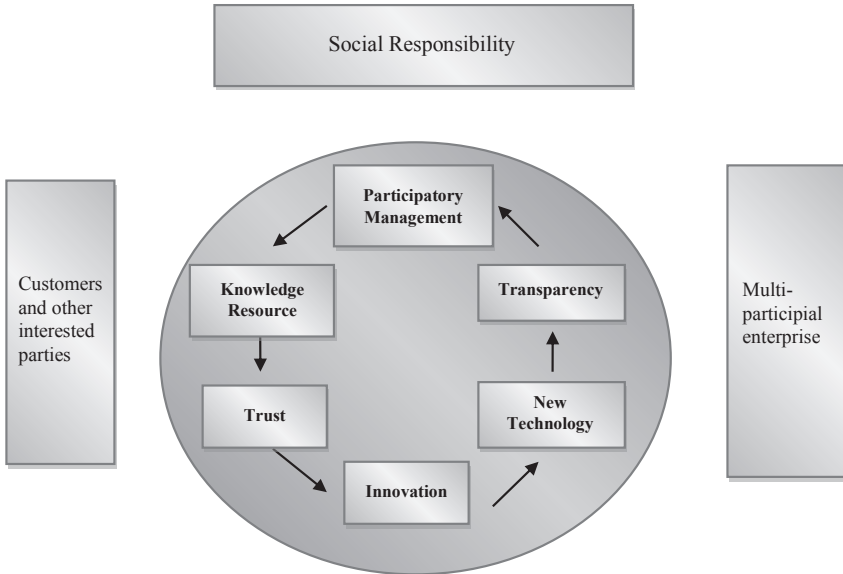
Also, the accentuated role of universities in forming successful clusters has, among other things, brought forward the importance of entrepreneurial

education. Through their combined tasks to carry out education and research, universities can provide essential entrepreneurial training for members of clusters about techniques, tools and ethics for efficient cooperation.

3.6. Participatory management and new technologies

New technology like electronic data interchange, internet, intranet and workflow systems contribute to the effectiveness and transparency of all procedures, functions and direct information of the networking companies (Bititci and Carrie, 1998; Husband and Mandal, 1999; DeWitt, Giunipero and Melton, 2006, Tambunan, 2009). Through new technologies, all members of a cluster are able to acquire the necessitated information of what happens in the cluster, so the level of trust and transparency is of a high level. Moreover, new technologies can enhance not only the operating activities but also the participatory management of a cluster (figure 3). Specifically member of a cluster, connected with new technology (teleconferencing systems, electronic data interchange etc) and regular–routinely meetings, has input and influence over the decisions that affect the organization. The designated managers still have the final responsibility for making decisions and answering for them except in the case of general assembly, but members of the cluster who are qualified and experienced entrepreneurs are actively sought to provide observations, analysis, suggestions and recommendations in the executive decision making process. Furthermore, participatory management encourages involvement of members at all levels in analysis of problems, development of strategies and implementation. As a result, the cluster will run better as the members feel needed and wanted, feel that they are respected, and feel that their opinions count. Decisions tend to be better when they can call on a wider range of knowledge, information and experience. No matter how wise and experienced the managers may be, they do not have as much experience as the total of all experienced entrepreneurs. Additionally, participatory approach for the management of a cluster usually means that decision making is more transparent. That, in turn, increases the trust of the members of a cluster and the leadership of the manager is increased, consequently the transparency itself is an added benefit to this approach; is worth mentioning the fact that the failure of many clusters is the result of the opacity. Finally, participatory management is not only beneficial from a human and social point of view, as it mobilizes human skills and processes, but also it is a key asset for transition to a successful multi-participial company.

Figure 3: The new cooperative model



4. The multi-participial company

The creation of a multi-participial company from the members of a cluster strengthens not only the coherence and the ties among them but also the growth of the relative formation. This company operating with effective governance practices is more likely to carry out strategic and succession planning than a cluster. Also, the referred company would run with substantial social responsibility standards as the shareholders - entrepreneurs live in the specific area and therefore are more sensitive to local environmental problems, employment matters, labor relations etc. than a big impersonal company. This fact is expected to encourage the local consumers to support the multi-participial company. The creation of a multi-participial company offers clear advantages as it contributes to the maximization of economic efficiencies, including the efficient utilization and allocation of resources, such as natural resources, labor and capital used by the members of a cluster, resulting to a sharp increase in local output and growth. Furthermore, such a company has better access to finance and can develop stronger, more effective representation at local and national level, reducing costs of bureaucracy and enabling better agreements (figure 4).

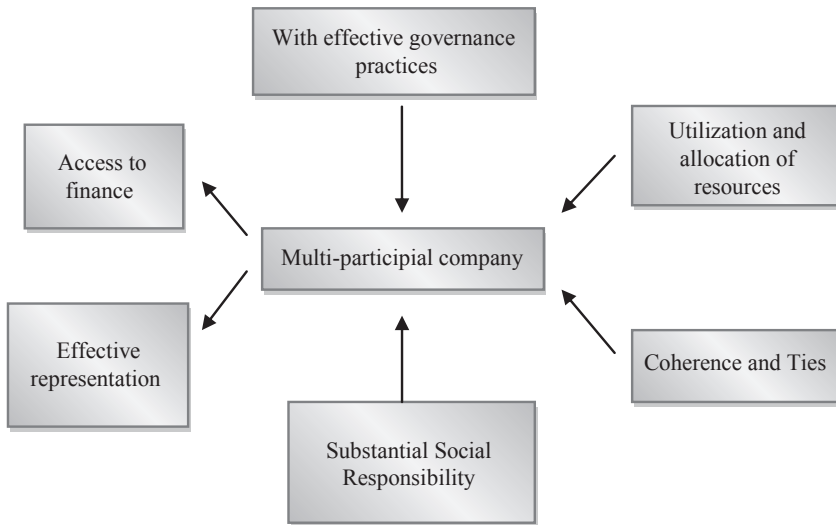
Moreover, this suggested model, in frontier and isolated areas, has much more added value because the micro and small businesses, which operate in those areas, possess a very low level of technical know-how, of human recourses and in means to survive. It is worth noticing that the number of SMEs is estimated in 17 millions and represents the 75% of employment, 50% of investments and 60% of the resources in the European Union. The creation of co-operative models can solve the problems of SMEs that is related to the size during the production and the consumption of their products.

5. Conclusion

The debate about the globalization has been controversial over the past years, and it has been associated with the expansion of multinational companies. Particularly, it has been blamed for the change of local cultural values, the tax evasion and the dependence and manipulation of local economies and hence the reduced regional economic development. Therefore, regional economic development on the basis of micro and small enterprises, that suffer from free trade agreements and globalization, is a major concern for researchers and policymakers world-wide. In this paper, we have proposed a new cooperative model of micro and small enterprises in order to form a multi-participial company that can survive from the competition of multinational companies. We have concluded that the clustering of micro and small enterprises and the overall progress in transition to multi-participial company under certain conditions could create competitive advantages for sustainable regional development. In this context, we have defined the following key factors and conditions for the success of this venture.

- Geographical proximity
- The relevance of cooperation and trust
- Innovation
- Government, universities and research institutes
- New technology
- Participatory Management

The above approach is expected to bring about reliable and timely information which increases confidence among decision-makers within the organization and enables them to make good business decisions directly affecting growth and profitability. Furthermore, the application of this model helps the members of the cluster to better understand company's activities, policies and

Figure 4: The multi – participial company

performance with regard to environmental and ethical standards, as well as the relationship with the communities where the company operates. Finally, the increased size of the cluster and therefore the multi-participial company will improve access to financing and diversify the production base resulting in strengthening competitiveness.

The creation of multi-participial companies from cooperative S&VSE would, in regional level, assist to the assessment of short and long-term strategies for the maintenance and the development of the regional industry/market. In this way, the oligopoly of local markets cartels is turned away. Furthermore, this suggested model of MSEs is able to promote the social justice as is related to the decentralization of the economic power namely economic democracy.

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ECONOMICAL CONSEQUENCES OF ENVIRONMENTAL DEGRADATION IN THE MODERN TOURISM-HOTEL ENTERPRISE

ANASTASIOS NTANOS* KONSTANTINA BOULOUTA**

Abstract

This article analyses the profound and rapid climatic changes that have taken place in the world, in the past two decades, giving their implications and effects upon tourism. The earth's climate is changing. Global temperatures are predicted to continue rising, bringing changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather events. Such climatic events can have a major economic impact. One of the economic sectors which will most likely be affected, is the tourism industry. Information on climate change risks, impacts and best practices would be exchanged between governments, agencies, and organisations working on adaptation policies. Many of the adaptation measures will need to be carried out nationally or regionally.

JEL classification: O13, L83

Keywords: Climatic changes, ski tourism, extreme weather events, financial crisis.

1. Introduction

Tourism enterprise has become one of the largest industries in the world and has an economic and social activity of vital importance for many countries worldwide covering all social classes. Its link with the development of modern society is straightforward and aims to satisfy all needs for every person contributing to the acquaintance and reconciliation of mankind for a better future.

The climate influences the way the image of a destination is formed in the mind of a tourist, particularly when seeking to undertake leisure activities outdoors. Many climatic variables affect tourist activities, namely air and water

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CLOSER TO THE TARGET FOR ERADICATING WORLD HUNGER: THE SCIENTIFIC MEASUREMENT OF FOOD DEPRIVATION AND UNDER-NUTRITION

URANIA V. KAKRIDA*

Abstract

Food deprivation is synonymous with individual malnutrition. Food deprivation will inevitably occur if there is food shortage or food poverty, but deprivation also affects individuals in households whose food supply would be adequate were it distributed evenly.

Extreme poverty remains a daily reality for more than 1 billion people who subsist on less than \$1 a day. Hunger and malnutrition are almost equally pervasive: more than 800 million people have too little to eat to meet their daily energy needs. For young children, the lack of food can be perilous since it retards their physical and mental development and threatens their very survival. More than a quarter of children under age 5 in developing countries are malnourished.

This paper aims to provide a broad account of the methodology for estimating the prevalence of undernourishment.

Monitoring and measurement applied to the problem of food insecurity or, more specifically, food deprivation and undernutrition, serve the noble objective of counting and identifying those who are chronically or temporarily undernourished, malnourished, food insecure or vulnerable.

The measure of food deprivation, which is referred to as the prevalence of undernourishment, is based on a comparison of usual food consumption expressed in terms of dietary energy (kcal) with minimum energy requirement norms. The part of population with food consumption below the minimum energy requirement is considered underfed.

But the rest of this report makes it equally clear that the lack of progress does not result from a lack of knowledge about what needs to be done. It is not that we have lost our way but rather that we have not followed it. We can escape from the vicious cycle in which hunger and poverty are perpetuated and we can enter a virtuous cycle, in which every investment in achieving one of our development goals accelerates progress towards reaching them all.

JEL classification: C200, I300, I320, Y100

Keywords: child poverty, social exclusion, measurement of food deprivation, countries in transition.

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1. Introduction

The conceptual basis for measuring food insecurity can be traced to its emergence as a construct. The history of science is replete with examples of the progressive differentiation of a general idea in response to an increasing understanding of what it entails. The general idea of food scarcity, with all its dangers for survival and serious physical and psychological discomfort, have been part of human experience and human culture from the earliest inception of language and thought.

Indeed, the very development of religious activity is closely allied with human efforts to ensure food supply. It is also probably safe to assume that a word or phrase for hunger occurs in virtually all languages, but with considerable latitude about its referents. The concept of hunger covers a spectrum from the short-term physical experience of discomfort to chronic food shortage to severe and life-threatening lack of food.

With the establishment of the modern science of nutrition, the concept of malnutrition as a condition brought by insufficient intake to meet biological requirements became a focal construct. Technically, the grammatical modifier, “mal” refers to both over and under-intake, but the usual association, and until relatively recently, the bulk of research on malnutrition has been directed to understanding inadequate intakes of macro- and micro- nutrients. As malnutrition acquired a central role in scientific conceptualization, it was often mentioned jointly with the idea of hunger, to the point that the two became virtually synonymous.

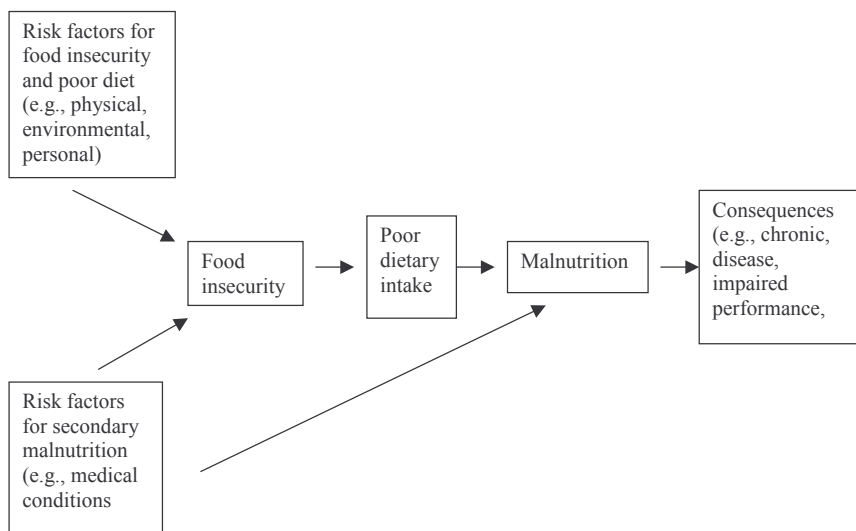
The causes of deprivation are:

Food poverty

Households that cannot secure control over enough food to meet the needs of all their members are food poor. There are more food-poor households in food short regions, food poverty is a significant problem in regions where food is adequate as well. Inequitable food distribution creates hunger even when is adequate.

The relationship between deprivation and food poverty is quite similar to the relationship between food poverty and food shortage. Food deprivation is more common in households where there is food poverty, but food deprivation is a significant problem in households where food is adequate as well. Inequitable food distribution creates hunger even when supply is adequate.

Although these parallels are informative in conceptualizing the causes of the various levels of hunger, it is also important to recognize that distribution

Figure 1: Core concepts related to nutritional state

Source: Anderson, S.A., ed. 1990

within –in contrast to across– households is governed by household economic conditions, discrimination, and understandings of nutrient needs.

Discrimination

Discrimination is the most easily understood reason why individuals go hungry in households with adequate food. Discrimination results from some members being deemed more valuable than others. Although some discrimination is a household – level manifestation of inegalitarian attitudes pervasive in the society as a whole (e.g. women are less valuable than men, elderly people deserve higher honour), other discriminating behaviours reflect economically rational response to adverse circumstances.

Misunderstood needs

Food deprivation also results from misunderstood individual nutritional requirements. Individual needs varies according to relatively stable factors such as basal metabolic rate and sex, but also with life-cycle variations such as age and maturation, reproductive status, and activity levels. Not just caloric needs but also micronutrient requirements vary among individuals within

the same household, especially growing children and pregnant and lactating women in comparison with most other adults. Therefore, it is not surprising that households do not fully comprehend the nutritional requirements of all their members or the synergism between nutrition and disease.

In 1974, governments attending the World Food Conference had proclaimed that “every man, woman and child has the inalienable right to be free from hunger and malnutrition in order to develop their physical and mental faculties”.

The Conference had set as its goal the eradication of hunger, food insecurity and malnutrition within a decade. For many reasons, among their failures in policy making and funding, that goal had not been met. FAO (The United Nations Food and Agriculture Organization) estimated that unless progress was accelerated, there could still be some 680 million hungry people in the world by the year 2010, more than 250 million of whom be in Sub-Saharan Africa.

Against this background, eleven years ago—in November 1996—the world turned its attention to Rome, where heads of State and Government of more than 180 nations attending the World Food Summit (WFS) to discuss ways to end hunger. As an important step towards this noble and long overdue objective, world leaders committed themselves to what was considered an ambitious but attainable intermediate target: to halve by 2015 the number of undernourished people in the world from the 1990 level. To this purpose, they approved the World Food Summit Plan of Action.

The question is not whether we can afford to invest the resources, the energy, and the political commitment required to fight hunger. Rather, we must ask whether we can afford not to do so.

The hungry themselves pay most immediately and most painfully. But the costs are also crippling for their communities, their countries and the global village that we all inhabit and share.

Today, we are confronted with the sad reality that virtually no progress has been made towards that objective. Despite disappointing performances in reducing the number of hungry people, a smaller percentage of the populations of developing countries is undernourished today compared with 1990-92: 17% against 20%.

Furthermore, future projections suggest that the proportion of hungry people in developing countries in 2015 could be about half of what it was in 1990-92: a drop from 20 to 10 percent. Reducing hunger is no longer a question of means in the hands of the global community.

The world is richer today when it was eleven years ago. There is more food available and still more could be produced without excessive upward pressure on prices.

THE WORLD FOOD SUMMIT PLAN OF ACTION

Commitment One

We will ensure an enabling political, social, and economic environment designed to create the best conditions for the eradication of poverty and for durable peace, based on full and equal participation of women and men, which is most conducive to achieving sustainable food security for all.

Commitment Two

We will implement policies aimed at eradicating poverty and inequality and improving physical and economic access by all, at all times, to sufficient, nutritionally adequate and safe food and its effective utilization.

Commitment Three

We will pursue participatory and sustainable food, agriculture, fisheries, forestry and rural development policies and practices in high and low potential areas, which are essential to adequate and reliable food supplies at the household, national, regional and global levels, and combat pests, drought and desertification, considering the multifunctional character of agriculture.

Commitment Four

We will strive to ensure that food, agricultural trade and overall trade policies are conducive to fostering food security for all through a fair and market-oriented world trade system.

Commitment Five

We will endeavour to prevent and be prepared for natural disasters and man-made emergencies and to meet transitory and emergency food requirements in ways that encourage recovery, rehabilitation, development and a capacity to satisfy future needs.

Commitment Six

We will promote optimal allocation and use of public and private investments to foster human resources, sustainable food, agriculture, fisheries and forestry systems, and rural development, in high and low potential areas.

Commitment Seven

We will implement, monitor, and follow-up this Plan of Action at all levels in cooperation with the international community.

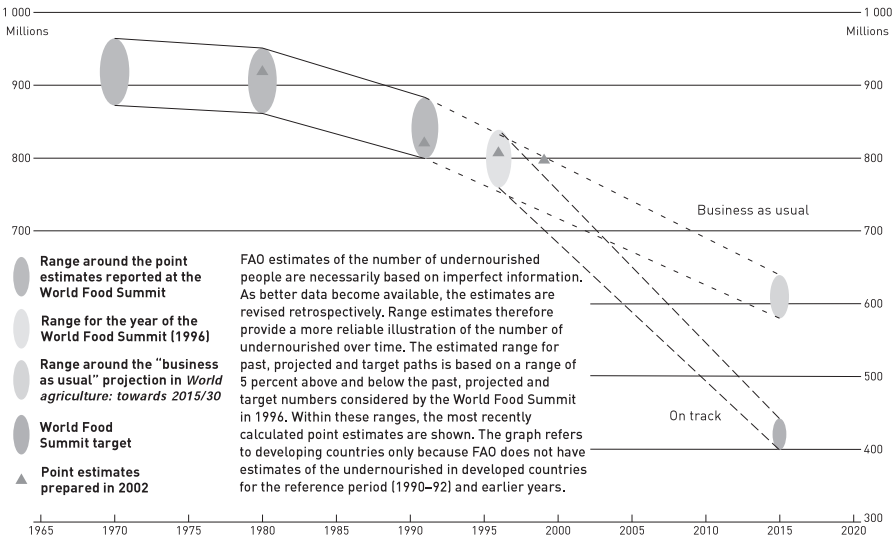
“We do not have the excuse that we cannot grow enough or that we do not know enough about how to eliminate hunger.”

What is lacking is sufficient political will to mobilize those resources to the benefit of the hungry.

There can be no excuse for further delay. Hunger can be defeated. But only, if we demonstrate our commitment by mobilizing a concerted and adequately, financed campaign.

Experiences documented so far show that hunger reduction is possible, even in some of the poorest countries in the world. Countries experiencing setbacks, on the other hand, underscore the need for us to scale up proven models and strategies while, at the same time, sharpening the focus on problem areas where hunger is endemic and persistent.

Figure 2: Number of undernourished in the developing world: observed and projected ranges compared with the World Food Summit target



2. Under-Nourishment around the World: Counting the hungry

After the WFS, the number of undernourished people in the world remains stubbornly high. In 2001-2003, FAO estimates there will still 854 million undernourished people worldwide: 820 million in the developing countries, 25 million in the transition countries and 9 million in the industrialized countries.

When the number of undernourished is considered as a proportion of a country's total population, the picture is somewhat more encouraging. In the majority of developing countries, the proportion has actually decreased since the WFS.

Sub-Saharan Africa

Sub-Saharan Africa continues to have the highest prevalence of under nourishment and also has the largest increase in the number of undernourished people.

Sub-Saharan Africa accounts for 13 percent of the population and 25 percent of the undernourished people in the developing world. It is the developing region with the highest proportion –one third– of people suffering from

Figure 3: Undernourished 2001-03 (millions)

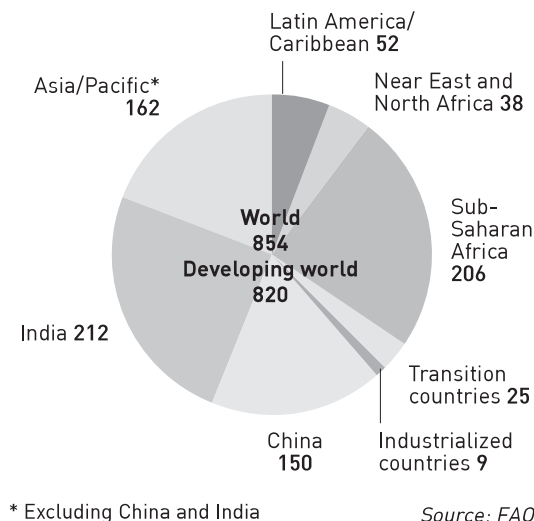
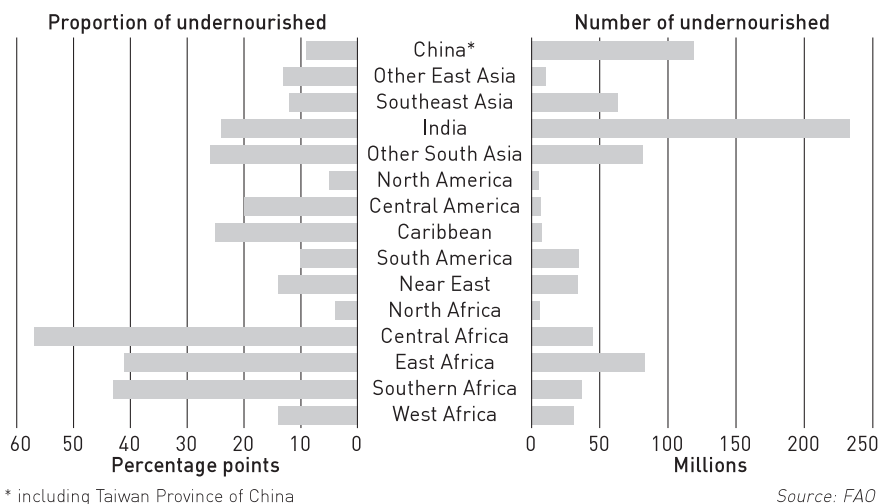


Figure 4: Number and proportion of undernourished (1998-2000)



chronic hunger. In 14 countries in the region, 35 percent or more of the population were chronically undernourished in 2001-2003.

Hunger in sub-Saharan Africa is as persistent as it is widespread. Between 1990-1992 and 2001-2003, the number of undernourished people increased from 169 million to 206 million, and only 15 of the 39 countries for which data are reported reduced the number of undernourished.

But the situation in Africa is not uniformly grim. Most of the increase took place in Central Africa, driven by the collapse into chronic warfare of a single country, the Democratic Republic of the Congo, where the number of undernourishment people has tripled, from 12 million to 36 million, and the prevalence rose from 31 to 72 percent of the population. The evident conclusion is that conflict is a major reason for lack of progress towards the WFS target in Sub-Saharan Africa.

The persistence of hunger in the region is underlined in the next figure, which shows individual country progress towards the WFS target. In addition to Ghana, which has already reached the target, only Gabon reduced the number of under-nourished by 25 percent or more. Other countries that reduced the number of undernourished are: Angola, Benin, Chad, Congo, Ethiopia, Guinea, Lesotho, Malawi, Mauritania, Mozambique and Namibia. Nigeria and Côte d'Ivoire saw only a marginal reduction in the numbers, while the prevalence declined.

2.2. Countries in Transition

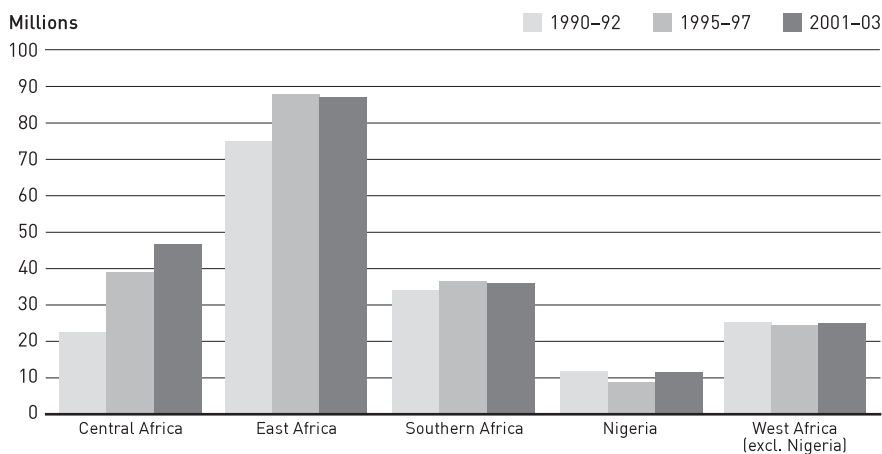
The transition economies are an extremely diverse group, a fact that should be kept in mind when analysing hunger trends in the region. The region is home to an estimated 25 million under-nourished people, 21 million of whom live in the Commonwealth of the Independent States (CIS).

In countries that have recently acceded to the European Union (EU), and in Romania, the level of undernourishment is generally low – 6 percent at the most. Somewhat higher levels are found in the Balkans (Bosnia and Herzegovina, Bulgaria, Croatia, Serbia and Montenegro, and The former Yugoslav Republic of Macedonia).

Within the CIS countries, the range of prevalence of undernourishment varies widely: from about 3 percent in Belarus, the Russian Federation and Ukraine to 61 percent in Tajikistan, which, along with Armenia and Uzbekistan, is one of the countries facing the most serious food insecurity problems.

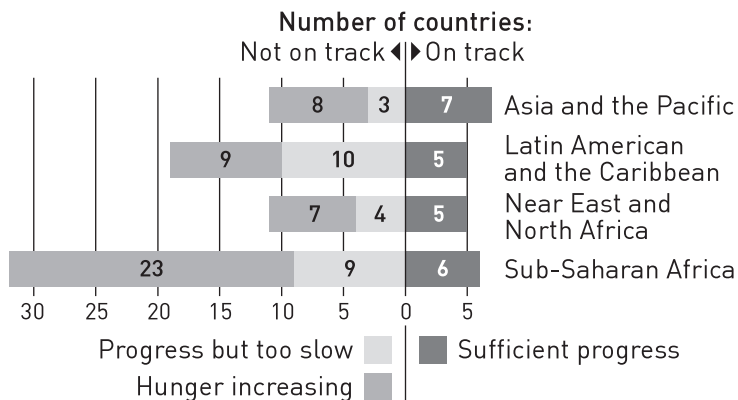
Progress towards the WFS target for the countries in transition is measured using 1993-1995 as the baseline period. For the region as a whole, there has

Figure 5: Number of undernourished people: Sub-Saharan Africa



Source: FAO

Figure 6: Towards the WFS goal at country level



Only 23 countries in the developing world are on pace to achieve the World Food Summit goal. In more than twice as many countries, the number of undernourished people is actually increasing.

Source: FAO

been a slight increase in both the number of hungry people and the prevalence of hunger.

Factors influencing progress or setbacks in hunger reduction are diverse in the region. In many instances, food insecurity has been a direct consequence of human induced disasters – war, conflict and political and economical instability with ensuing problems of refugees and displaced persons. Armenia, Azerbaijan, Georgia, the Republic of Moldova, the Russian Federation and many Balkans countries are among this group.

More generally, food insecurity in the region can be traced to factors such as weak economic development resulting from lack of support policies and infrastructure and the breakdown of social safety nets following the dissolution of the pre-1990s economic and political systems in Eastern Europe and the CIS.

Between 1990 and 2001, extreme poverty, measured as the share of the population living on less than US\$1 a day, increased from 0.4 to 5.3 percent in the CIS countries and from 0.2 to 2.0 percent in the transition countries of southeastern Europe.

However, the CIS average masks the existence of countries with exceptionally high rates of extreme poverty such as the Republic of Moldova (22%), Uzbekistan (14%), Armenia (13%), Turkmenistan (10%) and Tajikistan (7%).

Closer examination reveals that the situation in West Africa, with Southeast Asia and South America, has reduced significantly both the prevalence and the number of undernourished people. But prospects are troubling for Central America, the Near East and East Asia (excluding China), where both of these elements have increased.

The concentration of hunger in rural areas suggests that no sustained reduction in hunger is possible without special emphasis on agricultural and rural development.

In countries and regions where hunger remains widespread, agriculture often holds the key achieving both economic progress and sustained reductions in under-nourishment.

History has taught us that, in general, those countries that have managed to reduce hunger have not only experienced more rapid overall economic growth but have also achieved greater gains in agricultural productivity than those experiencing setbacks or stagnation. It follows that investments in agriculture, and more broadly in the rural economy, are often a prerequisite for accelerated hunger reduction.

The agriculture sector tends to be the engine of growth for entire rural economies, and productivity-driven increases in agricultural output can expand

Figure 7: Number of undernourished: country progress and setbacks in sub-Saharan Africa

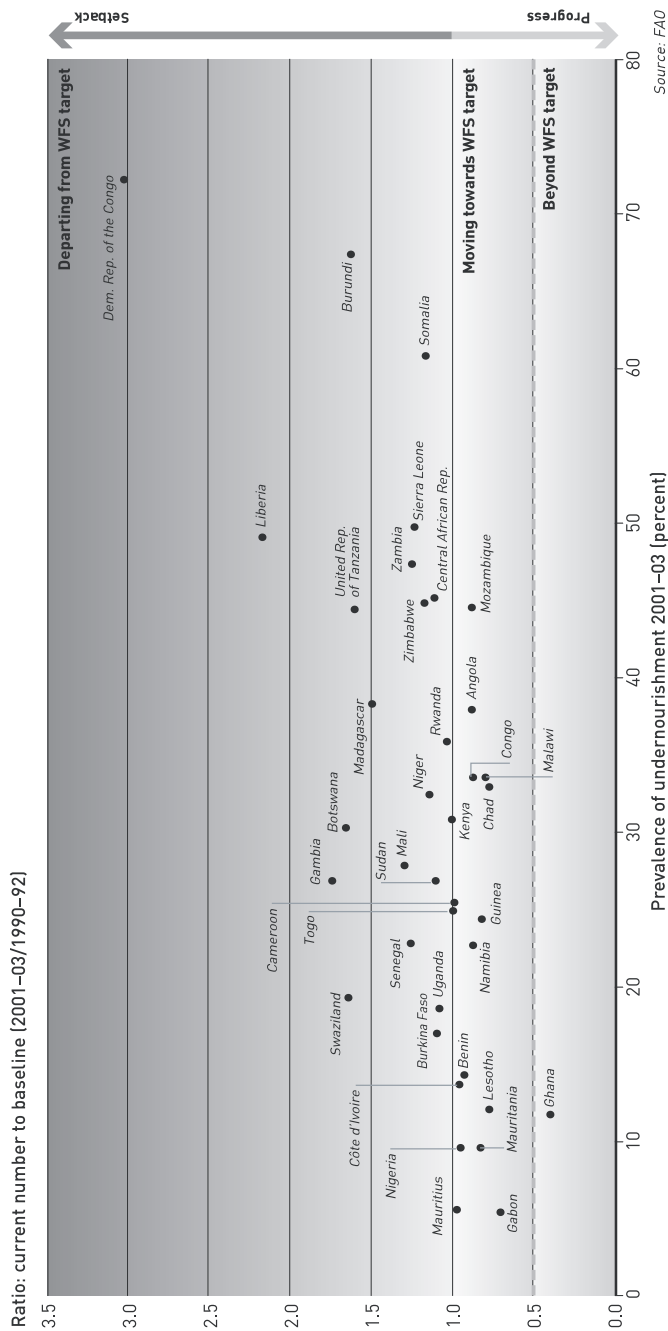


Figure 8: Number of undernourished people: transition countries

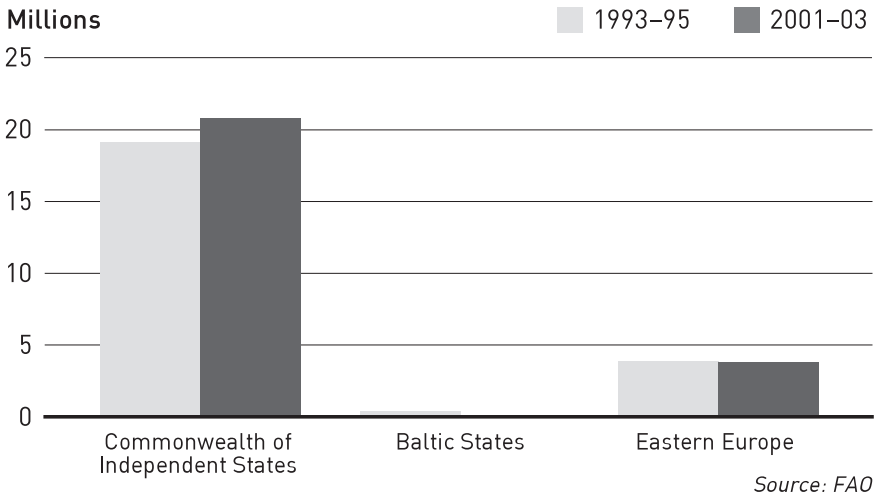


Figure 9: Proportion of undernourished people: transition countries

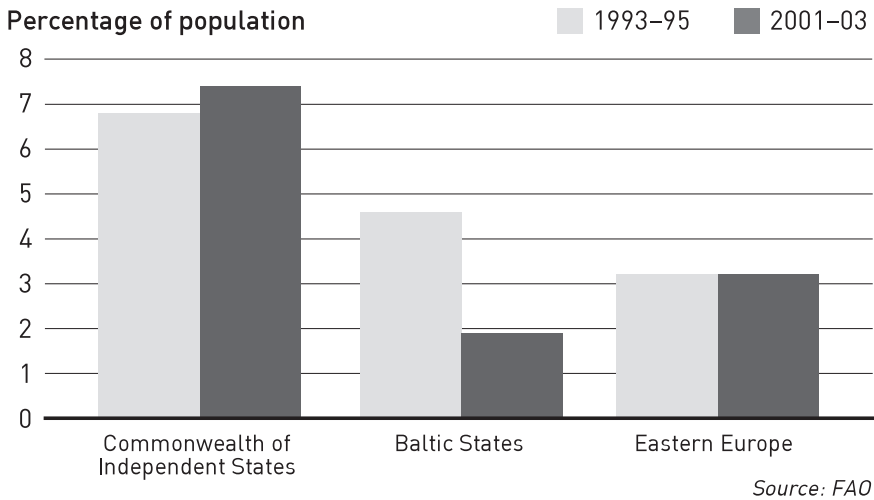
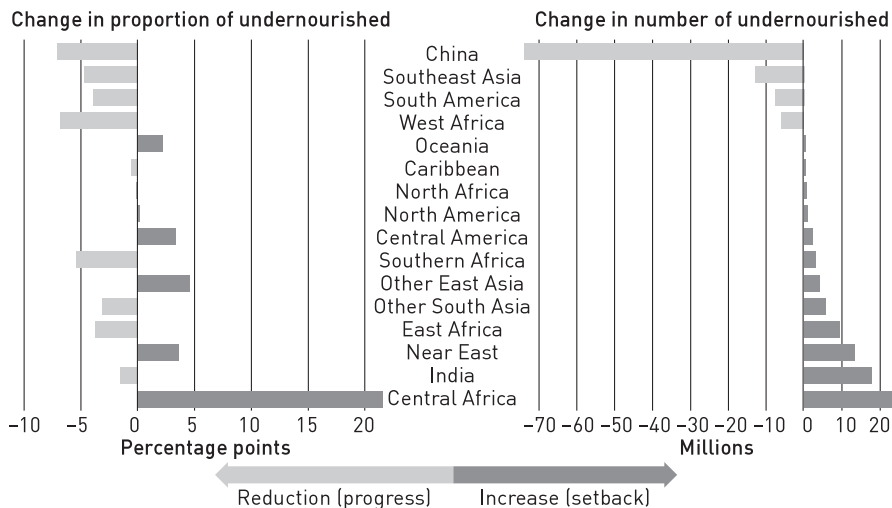


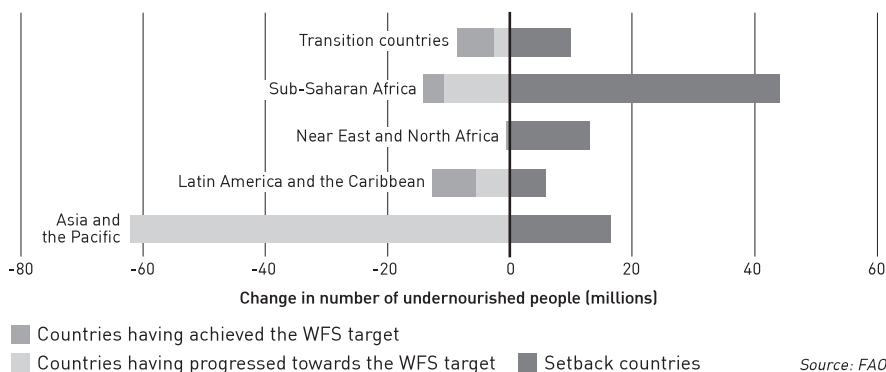
Figure 10: Change in undernourishment from 1990-92 to 1998-2000



* including Taiwan Province of China

Source: FAO

Figure 11: Progress and setbacks in hunger reduction from 1990-92 to 2001-03



Source: FAO

food supplies and reduce food prices in local markets, raise farm incomes and boost the overall local economy by generating demand for locally produced goods and services.

3. Methods for the measurement of food deprivation

People often fall pray to contribution not so much because food is unavailable on the market but rather because their access to such food is constrained. The lack of clarity that preceded Sen's (Sen AK., 1981) reconceptualization of famine was arguably the reason why many policies failed to alleviate food insecurity.

Development analysts and practitioners have now spent a quarter of a century seeking ways to measure the "access" dimension of food security, with only varying degrees of success. Proxy measures are commonly used, by they centered on agricultural productivity and food storage or on children's nutritional status.

Yet, each of these proxies is only a partial, usually indirect, measure of what is a larger, multifaceted phenomenon. Similarly, the relationship between caloric (or other nutrient) sufficiency and household food security has been shown to be unpredictable across a range of circumstances.

The international community has broadly accepted that food insecurity is not a monolithic condition easily measured in monetary or energy-availability terms, it has not found a way to identify how, when, and where different facets of the concept are more important than others.

The FAO measure of food deprivation, which is referred to as the prevalence of under-nourishment, is based on a comparison of usual food consumption expressed in terms of dietary energy (kcal) with minimum, energy requirement norms.

The part of the population with food consumption below the minimum energy requirement is considered underfed. The focus on dietary energy is assessing food insufficiency or deprivation is justified from two perspectives. First, a minimum amount of dietary energy intake is essential for body weight maintenance and work performance. Second, increased dietary energy, if derived from normal staple foods, brings with it more protein and other nutrients as well, while raising intakes of the latter nutrients without ensuring a minimum level of dietary energy is unlikely to be of much benefit in terms of improving nutritional status.

For the purpose of monitoring progress towards the target of halving the number of undernourished, the need had arisen to regularly up-date such

estimates at the global as well as country level. FAO has been undertaking this task in its annual report on “The State of Food Insecurity in the World” (SOFI), which was first issued in 1999. SOFI 2003, which is the latest report, was issued in October 2003.

The estimates cover 45 developing countries in Africa, 30 in Asia, 19 in Latin America and 5 in the Caribbean; the 12 Eastern European countries, the 12 CIS countries and the 3 Baltic States.

In the following sections the basic methodological framework, the data sources and the procedures used by FAO for deriving the country estimates are described.

3.1. Methodological Framework

In developing the methodology for estimating the prevalence of under-nourishment, a basic problem concerns the use of the available energy requirements norms. These norms are usually specified as the average for the groups of individuals of the same age, sex, body weight and activity. This means that even after taking into account the most influential factors such as age, sex, body weight and activity, differences exist in the energy requirement of individuals.

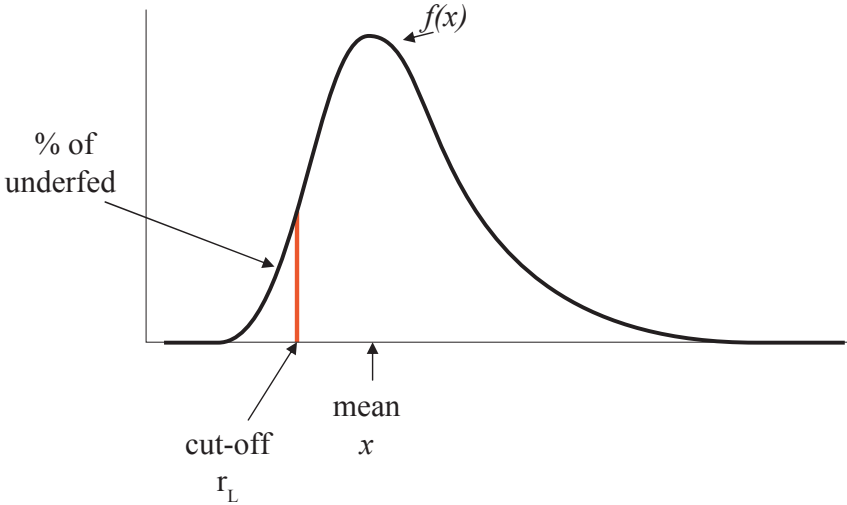
The estimate of the proportion of individuals having inadequate energy intake has been defined within a probability distribution framework.

Sukhatme, in a pioneering study on the application of distribution analysis in estimating the extent of hunger in the World (Sukhatme, 1961), had indicated that if information in the form of a bivariate frequency distribution of *intake* x and *requirement* r , referring to individuals of the same age, sex, body weight and activity, was available, the proportion of individuals with intake below requirement could be formulated as follows:

$$P(U) = P(x < r_L) = \int_{x < r_L} f(x) dx = Fx(r_L) \quad (1)$$

Where:

- $P(U)$ is the proportion of under-nourished in total population;
- (x) refers to the dietary energy consumption (DEC);
- r_L is a cut-off point reflecting the minimum energy requirement (MDER);
- $f(x)$ is the density function of dietary energy consumption; and
- Fx is the cumulative distribution function

Figure 12: Proportion of the population under-nourished

In the graph the curve $f(x)$ depicts the proportion of the population corresponding to different per caput dietary energy consumption levels (x) represented by the horizontal line. The area under the curve up to the cut-off point, represents the proportion of the population under-nourished, r_L .

The density function, $f(x)$, is assumed to be lognormal so that the parameters μ and σ^2 can be estimated on the basis of the mean, \bar{x} , and the coefficient of variation, $CV(X)$. A summarized description of the procedure for calculating the prevalence of under-nourishment on the basis of \bar{x} , $CV(X)$, and r_L is given below.

3.2. Estimation of the mean \bar{x}

There are two options for estimating the mean: using Food Balance Sheet (FBS) data or household Budget Survey (HBS) data. The first can be used to prepare annual estimates for monitoring progress in food security for the country as a whole. The second one allows the derivation of sub-national estimates. The later estimates can not be prepared on a yearly basis, as they depend on the survey frequency, in general ranging from 5 to 10 years.

The mean is represented by the *per caput Dietary Energy Supply (DES)* which refers to the food available for human consumption during the course

of the reference period, expressed in terms of energy (kcal/person/day). It is assumed that the latter is a close approximation of energy consumption, at least for developing countries. The estimate is derived from the Food Balance Sheets compiled on the basis of data on the production and trade and of food commodities. Using these data and the available information on stock changes, losses between the level at which production is recorded and the household gate, and types of utilization a supply/utilization account is prepared for each commodity in weight terms. The food component, which is usually derived as a balancing item, refers to the total amount of the commodity available for human consumption during the year. The total *DES* is obtained by aggregating the food component of all commodities after conversion into energy values.

The procedure of using the *per caput DES* derived from the food balance has some advantages as indicated below.

- The FAO *per caput DES* database, which covers practically all countries of the world, is regularly revised and up-dated in connection with FAO's continuous work programme on supply/utilization accounts and food balance sheets. As a result the database represents a readily available source of information for the assessment and monitoring of the prevalence of food deprivation at the global, regional and country levels.
- The linkage of the *per caput DES* with a measure of inequality within a probability framework provides a mechanism for assessing the effect of short-term changes in food supply as well as its components (production, import, etc.) on the distribution of dietary energy consumption and hence the prevalence of food deprivation. In addition, the use of a probability model – such as the log-normal function– facilitates the assessment of expected changes in the prevalence of food deprivation as a result of the combined effect of food supply increase and inequality reduction.

3.3. Estimation of the coefficient of Variation

The *CV* of the household *per caput dietary energy consumption* is estimated as follows:

$$CV(x) = \sqrt{CV^2(x/v) + CV^2(x/r)}, \quad (2)$$

where:

- $CV(x)$ is the total CV of the household *per caput dietary energy consumption*, $CV(x/v)$ is the component due to household *per caput income* (v) and $CV(x/r)$ is the component due to energy requirement (r).
- $CV(x/r)$ is considered to be a fixed component and is estimated to correspond to about 0.20.
- $CV(x/v)$ is however estimated on the basis of household survey data.
- The $CV(x/v)$ is estimated using the averages of household per capita dietary energy consumption by household per capita income (or total expenditure) classes from n households as follows:

$$CV(x/v) = \sigma(x/v) / \mu(x/v) \quad (3)$$

The numerator of the ratio is derived as

$$\sigma(x/v) = \sqrt{\left[\sum_{j=1}^k f_j (x/v)_j^2 - \left(\sum_{j=1}^k f_j (x/v)_j \right)^2 / n \right] / (n-1)} \quad (4)$$

and the denominator, which is the overall average household *per caput dietary energy consumption*, is derived as

$$\mu(x/v) = \sum_{j=1}^k f_j (x/v)_j / n \quad (5)$$

where:

- k is the number of income classes;
- f_j is the number of sampled households and
- $(x/v)_j$ is the average household *per caput dietary energy consumption* of the j th income or expenditure class

Thus, the data required for estimating $CV(x/v)$ are the averages of household *per caput dietary energy consumption* by household per capita income or expenditure classes from n households and the number of households in each class.

According to the sample size and design, the CV estimates can be broken-down by geographic areas and socio-economic groups.

3.4. Estimation of the minimum energy requirement, cut-off point r_L

The energy requirement norms or standards, adopted at the international level, are periodically reviewed by expert groups and consultations. The report of the FAO/WHO/UNU Expert Consultation on Energy and Protein Requirements (FAO/WHO/UNU, 1985), has defined energy requirements as follows:

The energy requirement of an individual is the level of energy intake from food that will balance energy expenditure when an individual has a body size and composition and level of physical activity, consistent with long term health; and that will allow for the maintenance of economically necessary and socially desirable physical activity.

In children and pregnant or lactating women the energy requirement includes the energy needs associated with the deposition of tissues or the secretion of milk at rates consistent with good health.

The procedure for estimating the minimum energy requirement by sex and age group begins with the specification of the reference body weight. After specifying the reference body weight the procedure for arriving at the corresponding energy requirement differs between children below age 10 on the one hand and adolescents and adults on the other.

Therefore the procedure for deriving the reference body weight is handled first, followed by two separate subsections dealing with the derivation of minimum energy requirements for children and adolescents and adults and lastly a fourth subsection dealing with the derivation of the overall minimum *per caput* energy requirement. Minimum energy requirements can be estimated for geographic and socioeconomic groups, using survey data on heights and demographic structure.

- For children below age 10 the reference body weight is fixed at the median of the range of weight-for-height given by the WHO reference tables (WHO, 1983).

The minimum energy requirement per person for children is obtained by multiplying the reference body weight by the recommended energy requirement per kilogram of body weight for each sex/age group. The energy requirements per kilogram of body weight are based on the recommendations of the report of the FAO/WHO/UNU Expert Consultation on Energy and Protein Requirements (FAO/WHO/UNU, 1985).

- For adolescents and adults of age 10 and above, the reference body weight is estimated on the basis of the fifth percentile of the distribution of the Body Mass Index –The BMI refers to weight (kg) divided by height² (m)– (WHO,1995). For adults and adolescents, the specification of energy requirement begins with the estimation of the BMR (Basic Metabolic Rate).
This is derived on the basis of body weight through the use of a set of sex-age-specific regression of the Schofield equations (James and Schofield, 1990), linking the BMR with body weight.
The energy needed for activity is expressed in terms of the BMR so that the energy requirement for a given sex-age group is finally expressed as a multiple of the BMR. The BMR is referred to as the physical activity level (PAL) index.
- For children below age ten, the above component approach is not applied, and the sex-age-specific energy requirements are expressed as fixed amounts of energy per kilogram of body weight.

4. Worldwide food deprivation trends

The understanding of the food deprivation trends in the developing world in the context of the targets of the Millennium Development Goals (MDGs) requires an analysis of changes over time in proportion of food deprivation (people who suffer from hunger) and in the number of food deprived.

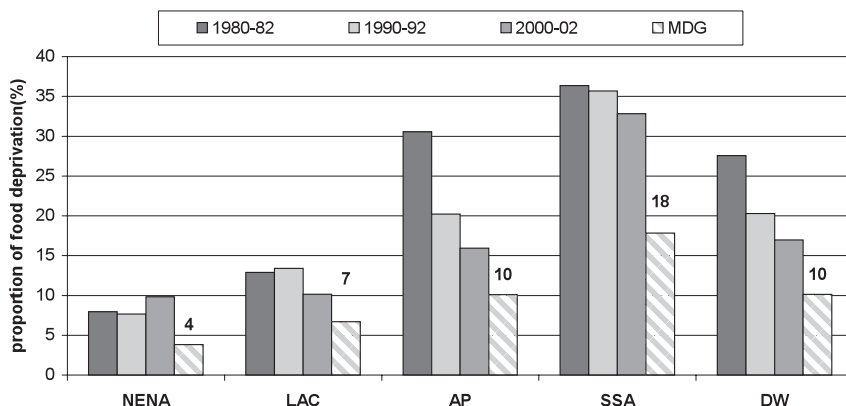
Worldwide and regional long-terms of the proportion of food deprivation during the last decades in the developing world (DW) are shown in graphs 1. and 2. (FAO,2006)

The regional trends are shown under the assumption that the MDG target applies to regional levels. Graph 1 depicts the proportion of food deprivation for the three-year average periods of 1980-82, 1990-92 and 2000-02. Additionally, it shows the proportion of food deprivation that has been set by MDG to be reached by 2015.

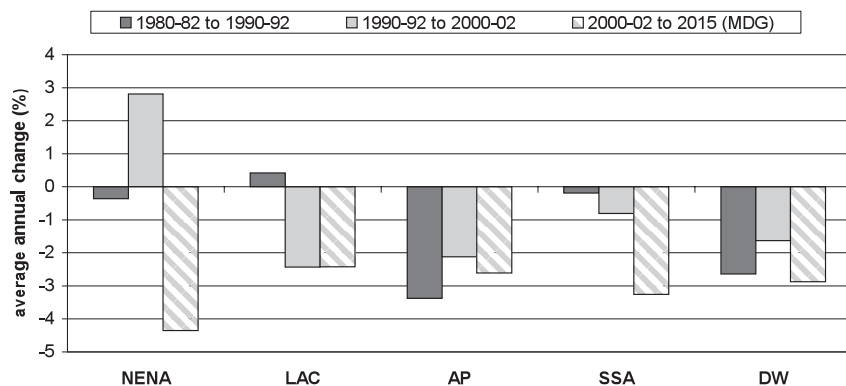
Graph 2, in turn, presents the progresses and setbacks in hunger reduction experienced in the 1980's and 1990's and the progress required to reach the MDG target.

Graph 2 shows that in the DW as a whole, the proportion of food deprivation decreased during the last decades. Food deprivation was reduced from a high (20–34%) to a moderate (10–19%) level. However, the decrease observed during the second decade was slower than the one that occurred in

Graph 1: Trends in the proportion of food deprivation in the total population and MDG target



Graph 2: Changes in the proportion of food deprivation during last two decades and change required for MDG target from 2000-02 to 2015 (%)



the first decade. As the graph shows, each region contributed differently to the observed worldwide food deprivation trend.

Asia and Pacific (AP) experienced a high level (20–34%) of food deprivation at the beginning of the 1980’s, while a moderate level (10–19%) in the early 2000’s as shown in Graph 1. During the 1980’s AP experienced a very rapid reduction in the proportion of food deprivation, but it slowed in the 1990’s (Graph 2).

Figure 13: WFS target in terms of proportion of food deprivation at the regional level.

	Proportion of food deprived in total population		
	1990-1992	2000-2002	WFS target by 2015
Near East and North Africa	8%	10%	≤2.5%
Latin America and the Caribbean	13%	10%	5%
Asia and the Pacific	20%	16%	7%
Sub-Saharan Africa	36%	33%	10%

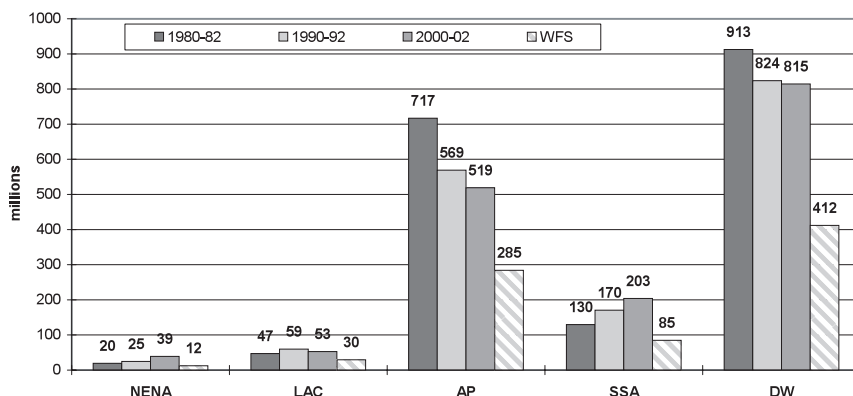
Sub-Saharan Africa (SSA) showed also a high level of prevalence at the beginning of the 1980's, but in contrast to AP, the progress in hunger reduction was much slower.

Even though SSA increased its speed of progress in hunger reduction during the 1990's, this increase was not enough to show down the high level of food deprivation.

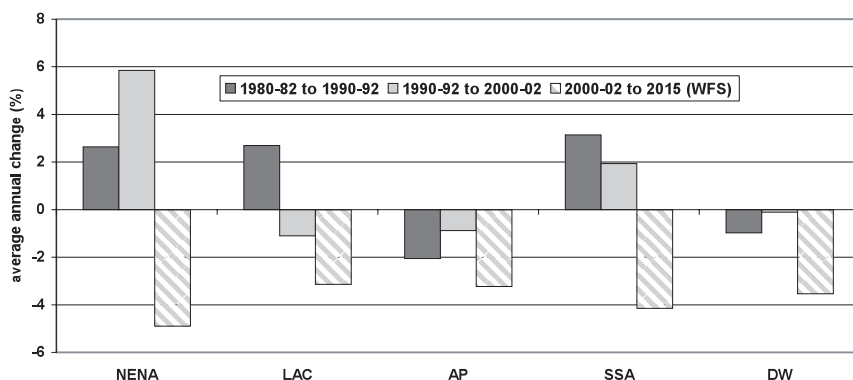
The other two regions, Latin America and the Caribbean (LAC) and Near East and North Africa (NENA), were already at a moderate level of food deprivation at the beginning of the 1980's. LAC experienced a slight increase in the proportion during the first decade, however, during the second decade reversed this trend significantly. NENA, in turn, experienced a slight reduction during the 1980's followed by a setback during the 1990's. Currently, both regions have a moderate level of food deprivation.

The Millennium Development Goals, adopted in 2000, set a target to halve, between 1990 and 2015, the proportion of people who suffer from hunger. Although significant progress has been made towards the MDG target, the pace will need to be accelerated to reach the goal by 2015. Assuming that the MDG target applies to all regions, AP stands a good chance of reaching the MDG target if it can accelerate progress slightly over the next years. NENA, needs to reverse the rising trend experienced in 1990's. In SSA, the proportion of food deprivation has been falling at a very low rate. Only LAC has been reducing the proportion of food deprivation faster enough to reach the MDG target by 2015, with the current hunger reduction pace.

Graph 3: Trends in the number of food deprived people and the WFS target



Graph 4: Changes in the number of food deprived people and the WFS target



Source: FAO

The target established by the WFS in 1996 was more ambitious than the one formulated by the MDG in 2000. The WFS goal is to halve the number of undernourished over the same period.

Chart 1 shows the comparison between the current situation and the one that would occur in 2015 after a 50% reduction in the number of people who suffer from hunger.

Since the WFS target is stricter, it would be more difficult for the regions to reach it.

If they do so SSA would still be facing a significant level of food deprivation, while in the other extreme NENA would practically succeed in eliminating hunger. AP and LAC would be situated in intermediate positions. Even in this optimistic scenario, in all regions except NENA, further improvement would be still needed.

The worldwide and regional long-term trends of food deprivation, expressed in terms of the number of food deprived people, are shown in Graphs 3 and 4, respectively.

Generally, in both decades there was hunger reduction in developing countries as a whole. However, there was a drastic slow down in hunger reduction in the 1990's.

Moreover, during the 1980's progress in the developing world was owed entirely to progress in the AP. In all other developing regions the number of hungry people actually increased.

In 1990's progress has slowed down significantly in the AP and stalled completely worldwide. Among the other regions, only LAC recovered from the negative decade of the 1980's and the trend has been reversed from increasing hunger to hunger reduction.

Even though worldwide hunger is decreasing, the reduction up to now is not fast enough to meet the WFS target. Graphs 3 and 4 show that AP succeeded in decreasing the number of undernourished in both decades.

However, the speed of reduction is slowing down and the WFS target is unlikely to be reached in this region by 2015. LAC, even though it reversed the process of a rising number of undernourished in the 1990's, also has to speed up its reduction. SSA and NENA have to reverse the rising process experienced in the last two decades.

5. Conclusions

It is fair to say that the international community today pays more attention to hunger as an intrinsic and pressing development issue. Hunger has been raised to a more prominent position in national anti-poverty programmes and similar initiatives, and there is more widespread and vocal acknowledgement of the fact the persistence of chronic hunger in the midst of plenty is an unacceptable contradiction.

Furthermore, not all countries face equal challenges, and many risk being left behind in the fight against hunger. Those that face the most serious

difficulties and need to make the largest efforts are often those that have the least means to do so. Without purposeful action by domestic stakeholders and without assistance from the world community, these countries risk further marginalization, making the hunger reduction effort even more difficult in the future.

The WFS target, adopted in 1996, set to halve, between 1990 and 2015, the number of people who suffer from hunger. The MDG which was adopted later in 2000 set a target to halve, between 1990 and 2015, the proportion of people who suffer from hunger. The message is clear for regional and country levels: the progress in food deprivation reduction is uneven in the developing world. The positive side is that a few countries have managed to reach the target already, one decade anticipated. The hope is for countries that are encouraged to speed up the reduction rate. It is possible to achieve the target in countries challenged to reverse the worsening trends.

By answering the calls for an international alliance against hunger and a global partnership for development, we can escape from the vicious cycle in which hunger and poverty are perpetuated, in part, by the crippling damage they inflict on human lives and natural resources. And we can enter a virtuous cycle, in which every investment in achieving one of our development goals accelerates progress towards reaching them all.

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