THE SUSTAINABLE SYSTEM OF AGRICULTURE AND COUNTRYSIDE DEVELOPMENT

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SUMMARY

It is increasingly obvious from our present investigations that we can hope to escape the controversies of the present day globalizing world only via sustainability, creativity, development of alternative energy resources and people's cohesion. This applies particularly to the transitional problems of domestic agriculture arising from the change of political system in this country, where a systematic introduction of a sustainable regime for the development of agriculture and countryside would be especially desirable.

The attainment of sustainability and countryside development is taking place simultaneously but independently in each country in the EU, but a deliberate combination of national strategies to draw on the advantages of interactions and interrelationships is perceived to be increasingly urgent. Brussels is yet to recognize the use of such a strategy. Globally sustainability has hardly made any noticeable advances so far, whereas at local levels confusion can be detected. For countryside development the LEADER programs based on local initiatives are being executed and for sustainability the LA-21 (Local Agenda 21) programs have been started.

Based on the actual domestic situation, EU aspirations, the globalization phenomenon and present research, it can be stated with reasonable confidence that agricultural and countryside development combined with sustainability is of paramount importance in achieving a synergistic effect at all levels (local, regional and global), at all dimensions (natural environment, society and economics), in all forms of production and consumption (people's and producers' consumption) and for all participants (individuals, entrepreneurs, community organizations, politicians).

The complex and dynamic system of sustainable agricultural and countryside development consists of sustainable production, sustainable farming system, sustainable enterprises, sustainable countryside and sustainable settlements.

The described system may constitute the backbone of an independent countryside development program, because it corresponds perfectly well with changes of EU regulations expected between 2007 and 2013.

A unified, programmed approach to sustainable agricultural and countryside development is particularly important in Hungary, because farmers and country people are pinning their hopes of improved living standard on such an approach, in place of the present system of dealing only with details, ignoring any interactions and even bringing about confrontations.

With sustainable practices in agriculture and countryside development we can ensure the long-term preservation of the quality of natural resources exploited

in agriculture and forestry and that of the country environment, the adaptation to global challenges, the fulfillment of increasing quality requirements, improved competitiveness and elevated living standard for farmers and country people, that at the same time contributes to the social advancement of whole society.

INTRODUCTION

The phrase "sustainable" has quickly spread both in the scientific literature and political spheres since *Brown R Lester (1981)* first used it. The *Bruntland Committee*'s report (1987) popularized the phrase in wide circles and made it a principle to be followed. The phrase has become fashionable also in this country with its good and bad connotations.

R Carson (Silent Spring, 1971) has raised the issue of the preservation of the environment of human life decades ago. Followed this were two United Nation World Congresses, *Rio de Janeiro (1992) and Johannesburg (2002)*, marking important stages of its advancement, although the idea even on global level did not get beyond the stage of political slogans, the airing of desirable principles so far.

Thus practical measures are yet to be introduced, while sustainability and its application to agriculture and forestry could clearly play a key role in resolving the controversies of globalization and climate change. (This was a reason why we covered the sustainability of domestic agriculture in a 2003 issue [No 1] of Gazdálkodás after the Johannesburg congress and before joining the EU.) To date Hungary does not have a consistent policy of sustainability and neither is the principle an orientating guide in agriculture still toiling with the consequences of transition.

Unlike sustainability, agricultural development promoted almost independently of sustainability did not receive the attention of world forums, but was localized mainly to the EU for the following reasons: amelioration of over-production, application or avoidance of GATT-WTO treaties, arresting the depopulation of countryside, protection of nature and environment, etc. The roots of agricultural policy in the EU can be traced way back to the *Treaty of Rome* (1957). The "*European Charter of Country Regions*" (1995) defined the present structure of agricultural development that was crystallized into action programs by the *Cork Declaration* (1996) at *the European Conference of Agricultural Development* and was eventually declared to be the second pillar of EU agricultural policy in *Agenda 2000* at the Berlin summit in 1999. Agricultural development gained further ground at the *Review of Agenda 2000 in 2004* and the trend is expected to continue in *the 2007-2013 targets* mainly for the above listed reasons.

Since the EU has also adopted the principle of sustainability, it is conspicuous that the budget allocated to agricultural development was not related to sustainability nor was its relationship and interaction with agriculture and forestry clearly defined nor the role it played in counterbalancing the negative effects of climate change and globalization. The lack of parallelism and clear vision are underlined by the fact that the LEADER I, II, and LEADER+ programs in agricultural development are running since 1991 and the Local Agenda 21 (LA-21) program sponsoring local sustainable development is operated since 1992. Brussels still owes us the organization of the two kinds of development programs into a system according to relationships and this hinders, complicates the modernization, growth and expansion of sustainable development of agriculture and forestry.

The domestic topicality of the issues of sustainability and agricultural development derive from the fact that no governments since the change of regime (*Antall–Boross, Horn–Kuncze, Orbán–Torgyán*) paid the attention to the countryside appropriate to its importance. In February 2005 the prime minister *Mr Ferenc Gyurcsány* listed the following areas requiring special attention: informatics and communication, biotechnology and health industry, business services and logistical centers, transport industry, tourism, environment industry and entertainment industry. The list excludes sustainability, countryside development, climate defense or the agricultural sector. However, health, tourism and entertainment are closely related to agriculture and forestry, food, countryside and to a relaxing, recreational, orderly scenery, not to mention the fact that a fundamental condition of all seven special areas is a sustainable natural environment and a strategy to deal with global warming.

The consolation is that upon the farmers' present demonstrations the prime minister has actually made reference to the countryside and a "countryside cabinet". (It is a pity that farmers awoke too late and did not protest when the current food industry was privatized thereby hindering the development of trade organization along the food chain, or when bidding for compensations for damages suffered by nationalization or when the institutional conditions of joining the EU were not fulfilled or when despite plenty of attention attracting activities unilateral corn-maize cultivation on arable land continued.)

Recently the 2nd volume of *Magyar Tudománytár* was published, in which well recognized experts list among factors affecting the efficiency of regional domestic economy the following: the presence of foreign working capital, the ability to export, the structure of agricultural and industrial economics, research and development, the system of institutions and the potentials for innovation. The engines of development in the regions are the processing industry and finance and business services. All this is perfectly acceptable, except that the agricultural sector, natural resources, state of environment or orientation for sustainability are not mentioned even in the background. It is a well-known fact that due to the limitations of land rights foreign capital did not enter agriculture in a regulated form, but it did enter the field of food processing and wholesale marketing and acquired controlling positions. Agricultural exports in the 1990's were made possible by drastically reduced domestic consumption, which has turned critical in these days. The highly fractured industrial structures were unable to assemble into cooperatives or other organizations, and this lead to a contraction of research, development and innovation. Despite all this it would be naïve to assume that in a cultural environment of deteriorated factors determining regional efficiency a successful existence can be achieved without sustainability, without secure domestically produced food supplies or that the developing regions are not affected by a countryside characterized by backwardness, poverty and ignorance.

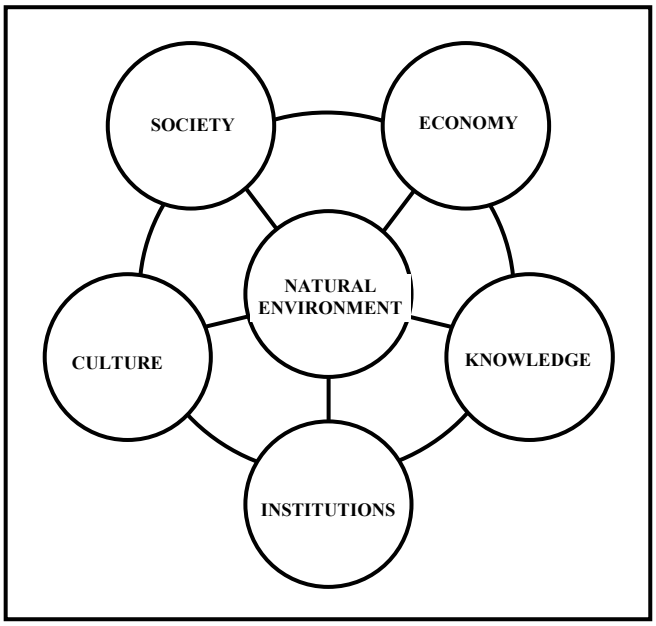
THE SUSTAINABILITY COMPOSITE

Above all it is to be stressed, that sustainability, mentality, lifestyle, method of production and consumption embrace all dimensions of human existence, our relationship to natural resources, the economics and society. This is illustrated diagrammatically on Fig. 1, showing the natural environment to be in center posi-

tion. Parts of the natural environment used for satisfying human needs are the natural resources that are foundations of agricultural and forestry operations. It is commonly known, but still well worth to emphasize, that agricultural and forestry activities if practiced sustainability do not deplete natural resources, on the contrary they enhance natural assets, biodiversity and strengthen climatic defenses. In the following we shall deal with agricultural and countryside development from the point of view of sustainability composite, but changes in the quantity, quality and mode of producer consumption are assumed without referring to the topic.

Figure 1

The relationship between natural-social-economic dimensions



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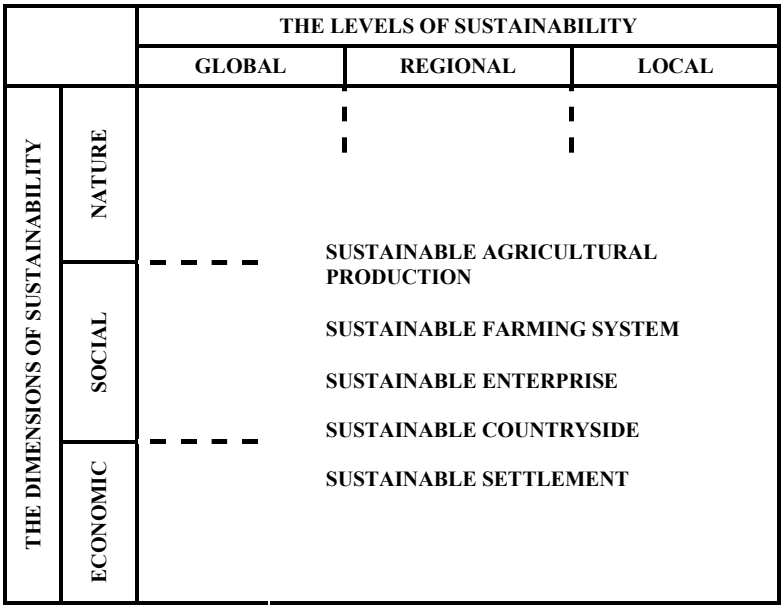
THE SYSTEM OF SUSTAINABLE AGRICULTURAL AND COUNTRY-SIDE DEVELOPMENT

Fig. 2 illustrates the complex system of agricultural and countryside development, whose constituents are as follows:

- sustainable agricultural and forestry activities
- sustainable farming regime
- sustainable countryside and
- sustainable settlement.

Figure 2

The sustainable agricultural and countryside development



The constituents of the system appear at all levels of sustainability reflecting all dimensions of sustainability according to the level and nature of constituents.

1. In p*roducer-service activities of sustainable agriculture and forestry the economic target is in harmony with the regenerative capacity of natural resources and assimilating capability of the already burdened environment.* This is the foundation of all that follows because this is simply the alpha and omega of a system preserving the natural environment and regeneration of natural resources in agriculture and forestry used for sustaining human existence (Fig. 3).

2. *Sustainable farming or industrial system* provides the framework for the application of sustainability and leads to increased efficiency as defined in modern terms. This is because sustainable agriculture and forestry organized into a regime leads to greater derivative efficiency than that of separate activities. The system arranged into subsystems synthesizes the nature of production locality, the scale of industry, the technical-technological background, etc. (Fig. 4). The characteristics of a sustainable system (that includes more and more operations and functions) are as follows: investment sparing (materials, energy,

chemicals, etc.), environment friendly, quality producer, enables environmentally conscious management, requires expertise, competitive and the system survives on long-term in the service of humanity. If computer and GPS technology is built into sustainable farming systems or farming machinery are equipped with leaf analyzers that indicate the availability of nutrients to plants we have the sustainable precision farming system.

Figure 3

The sustanaible agricultural production

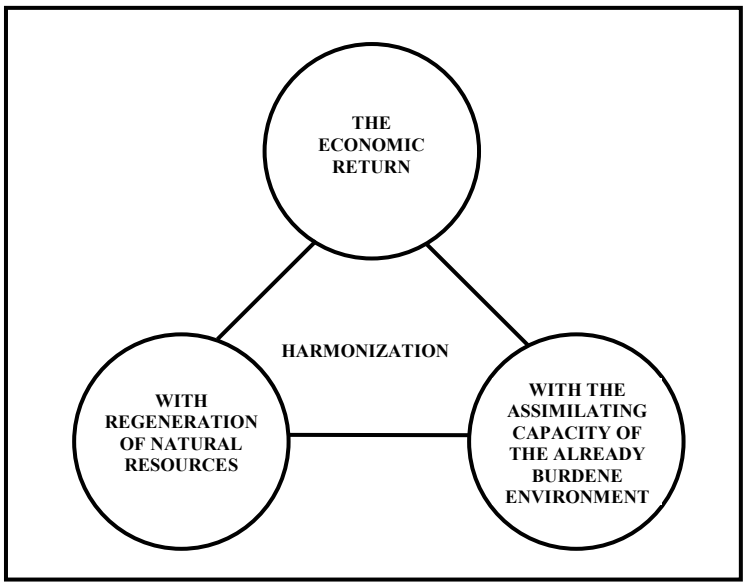


Figure 4

The farming system of sutainable development

THE PRODUCTION			
CHARACTERISTICS OF CULTIVATION LOCALITY	**SIZE**		
	SMALL	**MEDIUM**	**LARGE**
PRODUCTION STRUCTURE	**Sub- and part systems (technique, technology, management, informatics, integrated plant protection, up-to-date soil cultivation and nutrient application, etc.)**		

3) *The sustainable enterprise.* The implementation of sustainable agriculture and forestry, sustainable farming regimes can be achieved only by building on the interests of participants. An enterprise is sustainable is if it is liquid throughout the year, that is its income covers expenditure, it provides for the entrepreneur's personal needs and at the end of year it allows for profit develop-

ment. It can be stated with confidence, that the greatest barrier to setting up sustainable farms in practice is the lack of income, endangering the future of the entire agricultural sphere (Fig. 5).

4. Without the introduction of *sustainable countryside,* the environmental conditions in agriculture may become uncertain, endangering the wider and novel application of agro-ecosystems, but even the mere existence of countryside could become questionable, not to mention the direct and indirect damages to the natural environment, society and economics!

Agricultural and forestry work does not take place in cities, but in the countryside intertwined with the natural environment.

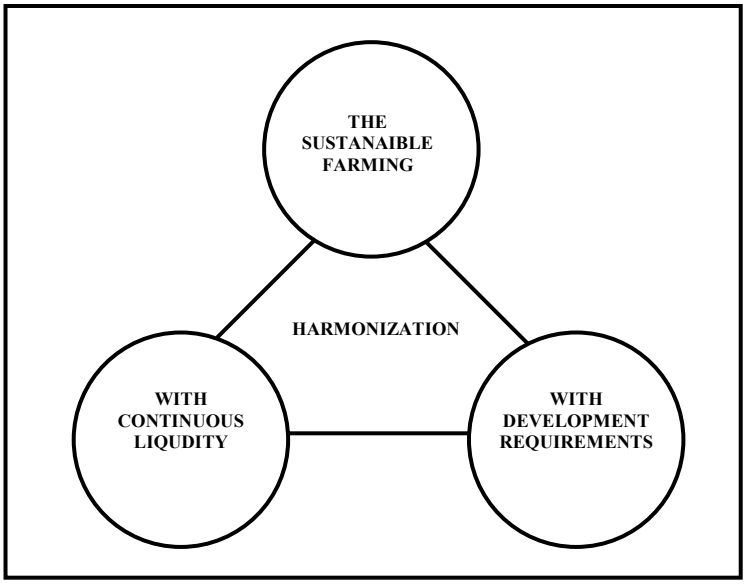
Sustainable countryside is a habitat. If people leave the countryside, it could quickly become a dying cultural landscape. The sustainable countryside contributes to

– the advancement of country people's living standard
– the performance of country functions, its restoration
– the preservation of natural resources, landscapes, environment, in cases improving them
– the fulfillment of various social requirements
– livelihood, because agricultural and forestry activities play a significant role in day to day existence, especially for pensioners, larger families and unemployed inhabitants
– the preservation of nature, because agricultural and forestry activities at some level are the cheapest and best allround protection of soil, lakes, rivers, aquifers, etc.

These considerations should be remembered in the debate between followers of countryside development and agricultural supports or when confronting related concepts.

Figure 5

The sustanaible agricultural enterprise



5. *The key to sustainable countryside is the network of sustainable settlements situated on the territory!* The implementation of *sustainable settlements* is a fundamental requirement for retaining people in their place of residence, because *people do not just generally live in the countryside, but in actual tangible settlements*, where their children are schooled and brought up.

A sustainable settlement is where
– conditions of life is favorable and people live there with pleasure,
– local government is financially solvent with available development funds
– residents' income is appropriate for country life and on par with that of city dwellers
– the principle of sustainability is applied on land and agricultural production
– the level of expertise and literacy is adequate and
– people's health, cultural and information requirements can be satisfied.

Unlike in Western Europe, the concept of sustainable countryside and country settlements described above is warranted by the characteristics of domestic development, infra-structural tensions, the state of villages, farms and farm-steads, the demographic composition of inhabitants, their quality of life, conditions of employment, standard of living, their level of expertise and literacy, chances of employment and their possibilities for acquiring information. And how relevant the present definition of sustainable countryside (proposed on the basis of data and facts) can easily be checked by contrasting it with the facts and objective reality. The conditions of today's country settlements differ a lot from the criteria of a sustainable settlement and clearly indicate the desirable orientation of development.

The arguments between followers of countryside development and agricultural supports and the confrontation of related items are a shortsighted and fatal mistake. Within a sustainable complex system interrelationships and interactions tend to reinforce each other's constituents and it would a huge error to ignore these and to confront artfully the individual constituents, agriculture or the countryside, nature, environmental protection and innovation with each other. *The organic interrelationship of agricultural activities and countryside is so natural*, that their confrontation would have not occurred to any farmer or any country resident in the olden peasant society. Referring to supports, attention should be drawn to reciprocal benefits, that is, up-to-date agriculture cannot exist with backward countryside and, vice versa, developed countryside strengthens agriculture. (See the "golden triangle" of Cegléd–Abony–Nagykörös or Szentes, Makó in Central Hungary.)

IMPLEMENTATION OF SUSTAINABILITY AT ENTREPRENEURIAL AND INDUSTRIAL LEVEL

The three key elements in the sustainable agricultural production, farming system and enterprise complex are as follows:
– adaptive strategy
– quality goods production
– market competitivity

The fundamental condition of sustainability is adaptation to the future, production of quality goods and reinforcement of competitivity that at the same time stimulate the attainment of sustainable countryside and country settlements by interactions.

Longsighted adaptation is warranted primarily by the presence of EU, global-

ization phenomena and climatic change. The adaptive strategy takes into account variations of responses to unforeseeable, uncertain, risky situations, thus moderating any damages deriving from the unexpected. It should be noted that the more extensively sustainability is applied the more likely that adaptation leads to a successful outcome. Clearly if someone has no idea what to choose, it is pointless for he/she to think in terms of strategies!

Of course it is easier to plan and apply adaptive strategies for a group of producers in cooperation than in separation. Unfortunately both producers and governments ignored the potentials hidden in cooperatives. Even though, unlike the old socialist practice, these cooperatives of farm proprietors - operated according to cooperative principles – could set up enterprises (procuring, merchandizing, producing, processing, servicing companies), which would be profit orientated but subordinated to the goals of the cooperatives. This modern structure of co-operation and cooperative enterprises is practically unknown both in the government and producer sectors.

Quality came into the forefront of consumption, because of health conscience consumers, food safety, convenience of wholesale merchants, moderate production supply, etc. The position of the large number of geographically scattered, independent producers is much more difficult as far as quality control and quality assurance application is concerned than that of wholesale merchants or processors. Therefore producers either have to start cooperating with each other or join in with processors. (The way the TMQ system works in Holland or Denmark.) Reduction in the use of farm chemicals (an integral part of sustainable strategy), modern techniques and technology, etc. lay the foundation to quality, especially if the use of materials and methods, which harm natural resources, producers or consumers are omitted.

In implementing sustainable production-delivery regimes, sustainable farming systems and enterprises, all approaches should be applied that simultaneously strengthen flexible adaptation, freely interpreted quality and competitivity. The starting point of competitivity is the competitive product and the competitive entrepreneur or manager. In simple terms competitive is that product, which can be sold and competitive is that enterprise can retain or even expand its market presence. Competitive is that entrepreneur or manager who has informed, creative marketing skills and is able to take reasonable risks.

IMPLEMENTATION OF SUSTAINABLE COUNTRYSIDE AND SETTLEMENT

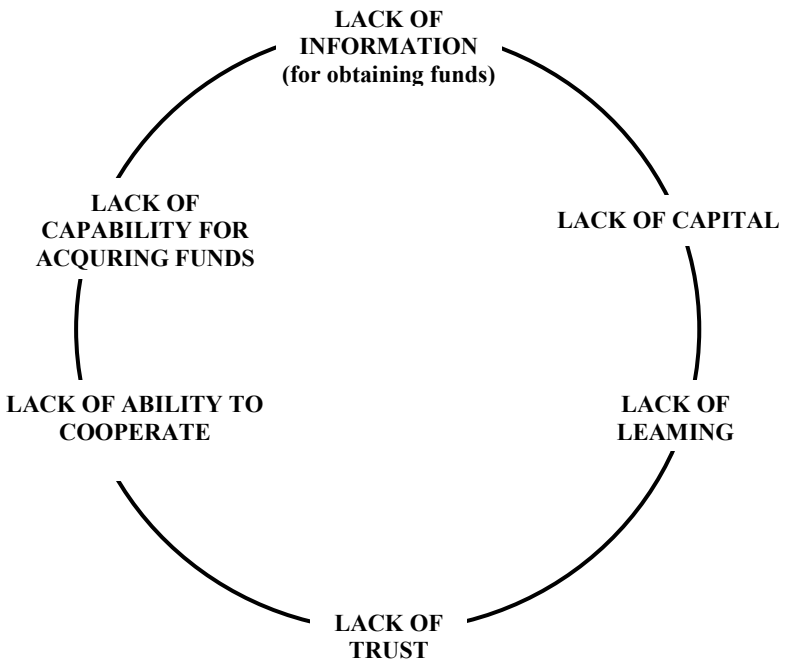
Here we shall cover only a few, mostly ignored tasks, which need to be acted upon to implement sustainability. First of all, a few "shortcomings" stand in the way of implementing the sustainability criteria of countryside and settlement development (See Fig. 6). These are

- lack of information, especially of acquiring finance
- inability to obtain funds
- shortcomings in drafting grant applications
- shortcomings in receiving and evaluating applications
- lack of cooperation
- lack of trust
- lack of knowledge and
- lack of capital

Winning the cooperation of local persons of authority are playing an increasingly greater role in countryside and settlement development, involving the transformation of good intentions into deeds, self-action and self-organization.

Figure 6

The dificiency circle of countryside development



Without community support all trials of development are clip-winged and a waste of energy and resources. This is why it is so important to *gain the support of local experts and leading personalities*. In the interest of clear vision, it is also advisable to consult outside experts. Proposals of planners, programmers and application drafters may be implemented only if local inhabitants and leading personalities approve. All this is in accordance with the principle of building upon aspirations coming from below, the rational and controlled use of public funds, the acquisition of private funds in some cases and the application of the principle of subsidiarity.

We have to expect that determining the objectives of countryside development in Hungary and controlling and evaluating the consequences will be time consuming. Countless facts indicate that an orderly relationship exists between social-economic-political change and time requirement. It is well known that political changes occur in a short time; occasionally in days, weeks but in general within 6 months a political system may radically alter. In contrast for perceptible economic change (directing the economy onto a new coarse) the time requirement is about 6 years. Compared with these the worthy alteration of society is far more time consuming; in practice it requires at least 16 years. Consequently the determination of priorities and the order of the tasks to be accomplished is particularly important in countryside development. In practice this is central not only for finding resources and financing the task, but also they play an important psychological role in motivating enthusiastic participation in accomplishing the target stage by stage.

In developing the countryside in this country we have to take into consideration that *society desires a realistic historic and situation assessment, security and a clear, plainly defined outlook to the future*. Without an objective evaluation of historical events, the causes of consequent changes and start-ups it is a hopeless task to embark on any countryside development. But with such evaluations we can strengthen country people's feeling of security and gain their acceptance of plans for the future.

The latter is complicated by various, significant and insignificant local interests and counter-interests, which are frequently linked to land rights. Preparations for acceptance of plans cannot neglect mapping local interests that can be done by discussions, interviews, meeting with groups of people and finally a public debate involving the entire community. Based on these observations, countryside development can be said to be an art of finding compromise and forming unity.

A complex problem of countryside and settlement development is the fact that country people tend to lag behind in expertise and education. This needs to be drastically altered, if Hungary is to be the gateway to the West rather than a gateway to the East. The countryside can be set on the road to steady development on the basis of knowledge only. Creative, educated people devoted to villages play a decisive role in this respect. Village settlements are still living in the present, but with wise leaders and winning entrepreneurs they can look forward to a happier future.

EXPANSION OF THE AREA OF OPERATIONS OF SUSTAINABLE AGRICULTURE AND COUNTRYSIDE

The expansion of traditional activities, reviving old trades and encouraging novel activities, services, home-crafts and other traditions aids the organic integration of sustainable agriculture, countryside and settlement. For example, such activities are ecologic, bio-, organic, integrated and law investments farming (LISA); alternative agriculture (USA); alteration of the ratio of cultivation branches; modification of the use of plough-land; aiding tree growing on arable land; tree plantations (cops plantation, cultivation between lines of trees); establishing energy forests; energy production; operations for renewable energy generation; energy grass production, utilization of biomasses programs; establishment of grazing land and based on it animal husbandry; development of producers' services, aiding "Hungaricums" and region specific production; cultivation of non-food products; environmental protection (ragweed clearing); creation of green surfaces and their care; local food processing and entertainment; nature protection work; preservation of biodiversity; care of landscapes, traditions and culture; elevation of living standard of the poor, unemployed, pensioners and large families; tending to countryside development tasks; recreation, refection, relaxation; hiking, rambling, camping; village tourism, creation of holiday village; week-end relaxation for city dwellers; aiding the construction of holiday complexes; helping animal protection and animal well-fare etc.

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In this short-study we have placed the emphasis on sustainable agricultural and countryside development. A detailed treatment of other problems sparsely covered here is included in a recent book of ours (Csete, László - Láng, László: Sustainable agricultural and countryside development)

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