

# RESULTS AND EXPERIENCES OF TAMA, A LAND CONSOLIDATION PROJECT IN HUNGARY

*Enikő KOVÁCS, Hungary*

**Key words:** Compensation, GIS-aided land consolidation, Hungarian-German co-operation.

## INTRODUCTION

Starting in the early 90's, by changing its political system and introducing a wide-ranging compensation policy and re-privatising the socialist co-operatives according to the principle of *Compensation before Restitution*, Hungary has managed to completely redraw the map of the ownership and division of land within a few years. At the beginning of the political changes altogether about 8 % of the arable land belonged to private owners. At the present time, over 5.1 mill. ha. of agricultural land and forest has been split up into about 2.6 mill. parcels and divided between an estimated 1.8 million new owners. The impact of the land-related compensation and other land privatisation resulted inadequate size and shape, too fragmented distribution of plots belonging to one single ownership, which doesn't support the viable family farming and the competitiveness as well as it doesn't fulfil the requirements of the agricultural systems of the EU member countries. If we look at these problems then it is clear that, at the moment, Hungary has a wide range of problems to solve. The Act LV.(1994) on Agricultural Lands suggested land consolidation on voluntary base as a possible way to solve the problem.

## THE START

In 1993 started a computer-aided land consolidation project called "TAMA". This project was carried out in a Hungarian-German co-operation between the Federal Ministry for Agriculture, Bonn (BML) and the Ministry of Agriculture and Regional Development, Hungary (MoARD) using financial and technical assistance provided by the Federal Republic of Germany. A technical group arrived to Hungary from Germany to learn the Hungarian situation and to develop a method for solution of the computer-aided land consolidation. The German partner have taken upon itself

- the adaptation of the German method to the Hungarian circumstances,
- the teaching of Hungarian specialists,
- and the active collaboration with the Hungarian specialists in the preparation of the project.

The German method is a special method which is based on a complex information system and which includes the possibility of a complex village renewal and provides methodical conditions for rural development, village renewal and ecological planning.

The main aims should be:

- to ensure a long-term, sustainable, productive use of natural resources,
- to create and safeguard a system of agriculture and forestry which is both ecologically sound- and market-oriented,
- to create and ensure a good living conditions,
- to create an adequate employment base outside agriculture,
- to develop and safeguard primary functions, e.g. construction of main roads, flood control measures etc.

In Germany this method is a planning tool which helps to reach the final, overriding goal: to improve the living conditions in the rural areas.

In the very beginning of the project from Hungarian side the main solution seemed to be the concentration of parcels to ensure a more economical agricultural production. The German partner proposed to carry out something more: This must deal simultaneously with aspects of village development, a new system of land division and ecological planning and should be based on a total development approach which cuts across all levels of rural society.

## **ASPECTS OF SELECTION OF THE PARTICIPATING VILLAGES**

The project was launched in late 1993. At the beginning the pilot focused on 16 settlements. Four-four settlements in four counties of the 19 Hungarian counties have been selected as pilot areas for the investigation of the possible adoption of the German Land Consolidation practice fitting into the Hungarian environment. The settlements were selected by the Department of Land and Mapping of the Ministry of Agriculture and Regional Development with contribution of Land Offices. The main aspects were the differences in interest, localisation, natural endowments, agricultural cultivation, structure of parcels.

In 1998 a small region with six villages from Veszprém county joined to the project. In this region the schedule of works was different from the other villages. Additional 2 other small regions joined to the project in 1999, 2000.

## **PREPARATION OF THE REORGANISATION OF LAND OWNERSHIP IN THE 16 PILOT COMMUNITIES:**

### **Main working steps**

- General preparations in each villages: The specialists informed the mayors about the possibilities, tried to win them over to supporting the project, becoming partners. In each settlements village-meetings were called where the citizens got information about the possibilities, the expecting results, benefits and the schedule of the works.
- Analysis of the experiences: The importance of the village-meetings showed that the opinions of the citizens were declared there. Sometimes they were extremists. The most

of the owners had confidence in the land consolidation and they wished it. But they found also difficulties in it, for instance in the principle of making an arrangement with somebody other, in base of the exchange (it was the so called Gold Crone which is a value for determining the quality of the parcels), they wished to take into account other values, too, for instance the distance of the parcel from the settlement, from roads, melioration etc. All of the villages gave different opinions.

- Establishment of working teams in the villages. The teams guaranteed the conditions for co-operation with the specialists as well as the fulfilment of the procedure for land consolidation. The teams called village-meetings and sent Questionnaires for surveying the demands of the citizens.
- Public relation for the project activities in a series of meetings, open days in every level (e.g. owners, interested other parties, local governments, Land Administration, MARD)
- Data collection. Land registry data including information on owner, the properties, and related legal circumstances (altogether about 35 items) from the computerised District Land Office Land Registry and its large scale (cadastral) map sheets. Information on the land users from the District Land Office's User's Inventory. Topographic maps at scale of 1:100 000 and 1:1 000. Aerial photographs (optional) and high resolution satellite imagery (so far SPOT, IRS). Land Offices are accessible using the TAKARNET wide area intranet/extranet network. Collecting the necessary geological, soil maps, agro-topographical maps, hydrographical maps and the maps of natural reservations. Marking the boundaries, surveying the new parcels, digitising the maps, marking the different soil classes and digitising them on the maps.
- Installation of the information technology infrastructure (hw/sw) in the Land Offices as well at the TAMA head office with help of the German specialists. All of the participating Land Offices have been equipped with GIS workstations. Adaptation of the German method for Hungary. The simplified method using GIS software called PIA was selected.
- The institution framework was established with awareness raising and training of the co-operating employees of the County and District Land Offices.
- Establishment of a parcel bourse for free exchange in one county (Baranya). Over the Questionnaires and the village-meetings the citizens of Baranya county could personally express their demand by using a long-time living telephone line or personally in the Baranya County Land Office where the employees could interview them about their demand and could inform them about the possibilities.
- Draft of land consolidation plan for each village. Besides the survey of the demands this phase was the thorniest in the whole process. The reason for this was the lack of the land consolidation law. The Act LV.(1994) on Agricultural Lands suggested the fulfilment of land consolidation on a voluntary way and by the regulations of a Land consolidation law. Unfortunately this law has not been yet discussed by the parliament. This means that nothing else only the voluntarily and compromise, agreement between the citizens could be aspect for fulfilment the land consolidation plan. If the working team of the village could not find the compromise and it could not make arrangement with all the citizens then it could bring about the failure of the whole process. As the method made possible to give solution in part, in some village fulfilment of a partial land consolidation was the result.

- Fulfilment of the technical procedure, closing works. In those villages where the citizens made arrangements the new parcels were surveyed, given to the new owners and the property right was taken into the land registry.

### **Results of the reorganisation of land ownership in the 16 pilot communities:**

- **Baranya County:** The work of the teams in each villages was successful, the citizens accepted the plans for land consolidation, they fulfilled the voluntary parcel exchanges.
- **Békés County:** The preparation was unsuccessful, the owners were not interested because their parcels mostly are used by lessees.
- **Pest County:** The citizens of each villages were interested in the land consolidation but it could be fulfilled only in one settlement because in the others the unorganised land return of the formerly co-operative raised difficulties. Both of the villages were interested in preparation of landscape development plan.
- **Somogy County:** Partial land consolidation was fulfilled in one village. Both of the villages were interested in preparation of landscape development plan.

### **Experiences of the project in the 16 pilot communities**

- Technical tools, infrastructure, technology, knowledge for fulfilment of the land consolidation process is ready.
- The progress in this field will be accelerated by the planned Law on Land Consolidation and the Law on the National Land Fund, which will have a strengthening impact for the land market.
- Fulfilment of a land consolidation process need the interest of the owners.
- Although the size and shape of the parcels is not suitable for viable and marketable farming, the timing of land consolidation was untimely after 50 years of socialist agriculture.
- The voluntary parcel exchange is unsuitable for regulation of comprehensive, concentrated for more owners, more parcels land consolidation.
- The determination of the exchange-value is very important. Neither the market price nor the Gold Crone value are not suitable for exchange-value.
- The method is expensive, the citizens could not pay the costs, the state has to take upon itself all or part of the costs.
- The method proved that in frame of land consolidation is not enough the exchange of parcels, it needs to solve the complex task of landscape development, village renewal, rural development.

### **PLANNING OF RURAL DEVELOPMENT, VILLAGE RENEWAL AND LAND CONSOLIDATION IN THE "THREE BROOK SMALL REGION"**

The ongoing project in the Three Brook Small-region can serve as a model for the rural development programs initiated by small regions, The primary objective is to enhance the quality of life via the implementation of a land consolidation taking into account the

harmonised requirements of the sustainable agricultural development, landscape and environmental protection.

The "Three Brook Small Region" Association was established in 1997 by the municipalities of six little villages in Veszprém County. The aim of the Association was to start the economical, social cultural development of the small region. These efforts were supported among the bilateral co-operation by the Embassy of the Federal Republic of Germany in Budapest as well as by the United States Information Service (USIS). Interest was shown for the TAMA experiences by the Geneva-based UN Economic Commission for Europe WPLA (formerly known as MOLA) as well as by FAO Sub-regional Office for Central and Eastern Europe located in Budapest.

### **Main tasks in the Small Region**

- Combining regional economical and ecological planning of the Association with rural development of the small region.
- Foundation of a permanent village development workshop with the following tasks:
  - Installation of hard- and software, training of personnel,
  - Re-organisation of ownership and landscape development plans,
  - Product marketing, support of tourism and employment,
  - Offering special non-profit and profit-oriented services of the village development workshop,
  - Assistance to self-supporting activities of the villagers,
  - Collecting opinions, innovations, ideas of the villagers.

### **Activities related to the village development workshop according to the wishes of the villagers**

- Improvement of land registration and parcel reorganisation,
- Improvement of telecommunication and getting information,
- Service centre for transport and infrastructural services,
- Training for other languages and computer handling,
- Supporting local newspaper and public-relations material.

The TAMA land consolidation project began in 1998 in the small region. Its aim was the same as in the other 16 pilot settlements, but in this region it became a tool for the rural development, village renewal, village development, ecological planning. The main aim of the project was to start the sustainable development in the small region.

In this region with a bottom up initiative opened possibility for the adaptation of the whole German method. The project is in its preparation phase.

## **Main working steps**

- Data collection, analyses:
  - Land registry, land use data,
  - Maps (cadastral, topographical, geological, tourist etc.),
  - Satellite (Spot) images,
  - statistical data,
  - data about the small region (state of buildings, infrastructure, employment, institutions, schools, shops, commerce etc.).
- Surveying of demands. The employees of the village workshop surveyed the demands of the citizens for the different services, served by the village workshop (for instance use of computers for writing texts, making visit cards, copy of texts etc.).
- Preparing the starting digital maps about the:
  - land cultivation,
  - infrastructure,
  - soil types,
  - slopes,
  - subsoil water,
  - hydrography.
- "Plan about the appropriated steps" (of those territories which need protection, care, cultivation, restore)
- Direct view of the land. As result of this phase the "protection plans" were prepared.
- In October, 1999 the TAMA specialists gave the protection plans to the mayors of the villages. These plans are the base for the village development.
- Preparation for the voluntary land consolidation. Some of the specialist of the District Land Office spent more days in the villages. On the "open days" the citizens could discuss their demands, requirements, problems with the specialists who gave free information about the land registry data, cadastral maps and collected the demands for the land consolidation.
- Primary preparation of the data. Plan for land consolidation. Discuss the plan with the citizens on village-meetings.
- Start the technical fulfilment of land consolidation, surveying of the new parcels, taking the new owners and the property right into the land registry. (Ongoing phase).

## **Experiences in the "Three Brook Region"**

- The "bottom up" initiative can lead to an easier, quicker solution.
- Technical infrastructure, technology, knowledge for fulfilment of the land consolidation process is ready.
- The method proved that in frame of land consolidation is not enough the exchange of parcels, it needs to solve the complex task of landscape development, village renewal, rural development. It is the interest of the citizens.
- The method can serve as a model for other small regions!
- For successful use of this method in other regions it should be

- standardise the planning process,
- develop the uniformed definitions,
- support an uniformed hardware system.
- The most important condition of the land consolidation and rural development process is that the citizens together with the leaders of the villages (mayors, employers of municipalities, main farmers etc.) voluntarily take part in the process.
- The process needs the financial support of the state.

## **SUMMARISING OF THE ACTIVITIES IN THE OVERALL PROJECT**

- Supporting partnership and commercial relationships between German and Hungarian institutions and companies respectively (e.g. EU Twinning program as well as bilateral know-how and experience exchange programs),
- Organising a domestic and an international Workshop on „Land market, land consolidation and rural development”, 1999 respectively,
- Production of a strategy paper on village renewal and other village development workshop activities,
- Preparation of an application for a project continuation to enable small regions and institutions getting SAPARD funds (Transform/ FAO).

## **CONTINUATION: TAMA-2 PROJECT**

Aside these activities and numerous results Hungary has a wide range of problems to solve. Therefore the duration of the TAMA project has been extended a year, till 31.12. 2000.

The main problems and activities for this TAMA-2 period could be summarised in the followings:

Although some partial solutions have been formulated they have not been implemented at a municipal level. Some of the interventions that have been attempted are:

- A range of sectorial studies on general questions dealing with the technical environmental protection and ecological conservation.
- Some studies on questions of economic development of industrial and commercial estates and regional economic organisations, however these are generally not transferable.
- The implementation studies for the national cadastral programme as well as for TAKAROS (countrywide computerisation of map based cadastral system) and TAKARNET (TAKAROS on the Net) and
- Some studies on improving agricultural structural planning and on developing agricultural information systems and marketing.

Meantime the rural development and the structural change have been singled out as a policy priorities of the Hungarian Government in frame of "National Programme for the

Adoption of the Acquis". The Government recognised the need for special action both to facilitate the implementation of Community legislation and to prepare for an effective use of the European Commission's SAPARD (Special Accession Programme for Agriculture and Rural Development) pre-accession assistance. In the by the Ministry of Agriculture and Regional Development prepared priority list for SAPARD the main aims are completely in line with the TAMA project's goal and objectives of rural development and land consolidation at a whole.

The aims of TAMA-2 project included:

- Continuation of the TAMA reorganisation activities, establishing the land consolidation law and an independent exchange service for the voluntary exchange of parcels of land, developing a better structure for land division, consolidating the land-ownership structure, taking public land-use requirements into consideration, establishing parcel funds on community level.
- Consolidation of the TAMA village development project and workshop in the Three Books Small Region that it can be used as a basis for other similar projects. Ensuring payment for the personnel, supporting the communications, data-collection and advisory activities in the regional marketing of agricultural products, tourism and job creation, village development and ecological communal planning as well as consolidating the land-ownership structures within farming areas and ensuring sustainable land use.
- Establishing village development workshops in the counties of the TAMA project using existing co-operation network to create further examples of positive demonstration, pilot projects to stimulate other self-help projects and install village development workshops.

### **Results of TAMA-2 project**

The one year duration of TAMA-2 project - beside the existing problems- brought a lot of results which can be summarised in the follows:

- Establishment of a task force (operating, training and consultants) for the project components of rural development and land consolidation in the Ministry of Agriculture and Regional Development.
- Proposal of a technical guideline to operate the land consolidation law and establishing an independent exchange service for the voluntary exchange of parcels.
- Collect data for the exchange service in Baranya, Somogy and Veszprém County Land Offices and in the Institute of Geodesy, Cartography and Remote Sensing.
- Development of the hardware and software components of the Three Brook Small Region and for County Land Offices (Baranya, Pest, Somogy, Veszprém).
- Organisation of workshops and public relation events to multiply the idea of land consolidation in the sense of rural development and ecological planning at a whole.

- Establishment of two new offices (Hegyhát Small Region and Balaton Park Small Region), hardware and software support of them.
- Pilot projects in the new offices to test best practise experiences and lessons.
- Elaboration of an operating framework for rural development, land consolidation and village melioration projects especially with relation to the forthcoming EC SAPARD program.
- Consolidating the TAMA village development workshop in the small regions.
- Writing and distribution of a Handbook, preparing and presentation of a video, and an information film, special presentations both in Hungary and abroad.
- Recommendations for reorganisation of the public administration.
- Collaboration with the "small regions" etc.

## **CONCLUSIONS**

The finish of the TAMA project might have not mean the end of land consolidation. The ideas which were won from the project must be used in the future. The technical staff, the "task force" must have all kept together, either in frame of the Ministry of Agriculture and Regional Development or in the Institute of Geodesy, Cartography and Remote Sensing. Land consolidation must be and must continue as a complex work. It must be the base of the rural development, agricultural development. It could not have been a demarcation between land consolidation and rural development. Land consolidation is not a task for itself, but a starting point for solving the problems of rural development, agriculture, environmental protection, social, cultural arrangements. The begun steps must be continued, the develop of a suitable structure in harmonisation with the requirements of the European Union is one of the most important task before connecting the EU.

## **REFERENCES**

1. Hudák, L., 1999: The Three Book Small Region - presentation on the TAMA workshop, 1999
2. Dr. Kneib, W., 1999: Results and experiences of the computer-aided land consolidation project "TAMA" in Hungary - presentation on the TAMA workshop, 1999
3. Dr. Kneib, W., 2000: Summarising the computer-aided land consolidation project "TAMA" in Hungary - presentation on the TAMA workshop, 2000
4. Kovács, E., 2000: Summarising Report on Results and Experiences of TAMA Project
5. Dr. Riegler, P., 1999: Experiences of land consolidation in County Baranya, - presentation on the TAMA workshop, 1999
6. Dr. Riegler, P., 2000: The TAMA project - presentation on the TAMA workshop, 2000.
7. Dr. Riegler, P. et all, 1999: Report on Results and Experiences of TAMA Project

8. Dr. Remetey-Fülöpp, G., 1999: Land Consolidation in Hungary. Executive Summary. Prepared in co-operation with the TAMA Project Management. Department of Lands and Mapping, Ministry of Agriculture and Regional Development, 1999.

## **BIOGRAPHICAL NOTES**

Enikő Kovács

*Academic experience:* Msc. in Civil Engineering, Msc. In Automatisation of Geodesy (Technical University of Budapest, 1970, 1976)

*Practical experience:* land surveying, participation in numerous national and international R+D projects.

## **CONTACT**

Enikő Kovács

Institute of Geodesy, Cartography and Remote Sensing, Hungary

H-1149 Budapest, Hungary

Bosnyák tér 5

Tel. + 36 1 222 51 11

Fax + 36 1 222 51 12

Email: [eniko.kovacs@fomigate.fomi.hu](mailto:eniko.kovacs@fomigate.fomi.hu)