

Final Engineering and Land Consolidation Planning - Action Research Method as Increasing Activity and Contentment of Landowners

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Key words: action research, final engineering, land management, highway, private road

SUMMARY

In Finland we have developed an innovative way of highway planning in which land consolidation planning is connected to final engineering planning. It was a question of final engineering plan pilot project, by which the road was to be changed into an overtaking-lane road with median barriers, when barriers will block the traffic at existing at-grade intersections of private roads. The accessory method used was action research.

So we did the planning in tree cycles at public hearings. The landowners, design consultants, the Finnish Road Administration and the National Land Survey of Finland acted in cooperation to draw up the plan. I (as the researcher) also participated in this work. At first hearing I told the landowners their potential for influencing. During the planning I theme interviewed them and sent a questionnaire to them. I sent the questionnaire also to those landowners who did not participate in the hearings.

The method used seemed to enable active participation of the landowners both in the developing of proceedings and the final engineering and land consolidation planning. Those actively involved felt that they had got enough information and could discuss and negotiate during the planning. Action research as an instrument in changing land management proceedings seems to be an interesting possibility.

Avainsanat: toimintatutkimus, tiesuunnitelma, kiinteistötekniikka, maantie, yksityistie

TIIVISTELMÄ

Suomessa on kehitetty innovatiivista maantien ja tilusjärjestelyjen yhtäaikaista suunnittelutapaa. Kyse oli tiesuunnitelman pilottiprojektista, jonka mukaan tie muutettaisiin keski-kaiteelliseksi ohituskaistatieksi, jolloin kaiteet estäisivät liikenteen nykyisistä yksityistie-liittymistä. Apuna käytettiin toimintatutkimusta.

Niinpä teimme tiesuunnitelman ja tilusjärjestelyn suunnittelun kolmessa syklissä kuulemis-tilaisuuksissa. Maanomistajat, suunnittelukonsultit, Tiehallinto ja Maanmittauslaitos työskentelivät yhdessä suunnitelman aikaansaamiseksi. Minä (tutkijana) olin myös mukana tässä työssä. Ensimmäisessä tilaisuudessa esittelin maanomistajille heidän osallistumismahdollisuuksiaan. Suunnittelun aikana teema haastattelin heitä ja myöhemmin lähetin heille

kyselyn. Kyselyn lähetin myös niille maanomistajille, jotka eivät osallistuneet tilaisuuksiin.

Käytetty menetelmä näytti mahdollistavan maanomistajien aktiivisen osallistumisen sekä menettelyjen että tiesuunnitelman ja tilusjärjestelyjen suunnitteluun. Aktiivisesti osallistuneet kokivat saaneensa tarpeeksi tietoa ja pystyneensä keskustelemaan ja neuvottelemaan suunnittelun aikana. Toimintatutkimus apuvälineenä muutettaessa kiinteistötekniisiä menettelyjä näyttää olevan mielenkiintoinen mahdollisuus.

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1. INTRODUCTION

In Finland there are about 78 000 kilometres (km) of highway maintained by the State, the final value of which is about 15 milliard euros (Tiefakta 2005). After the Second World War the main highway net was re-built and the elementary motorway net in the 1960-1990's. Nowadays the leading principle is in the maintenance and in increasing the traffic safety. One way to increase safety is to turn the main roads in the rural areas into overtaking-line roads with median barriers. According to a rapport the length of these roads should be 2500 km at the end of the next few decades. In 2004 there were less than 100 km these kind of highways. At-grade intersections of private roads have significant importance to traffic safety. Indeed, when planning a highway the land division of the area should be improved at the same time, in which case the need of at-grade intersections should decrease and also local traffic. (Tieliikenteen turvallisuus 2006-2010).

There are different kinds of actors involved in urban and regional planning in the various countries of Europe, but in general we may say that planning systems consist of a strategic level and a detail level. In Finland, the regional land use plan is a strategic plan upon which the more practically oriented master plans and town plans are based. Also preliminary and final engineering plans in road planning form a part of this system. For most of the sparsely populated areas there are no master plans or town plans, and in such situations the importance of preliminary and final engineering plans in road planning is highlighted. The Finnish land use change process so differs from other countries that the surveying authorities conduct the land management implementation. (Larsson 2000) It bears no relevance to the content of the planning, but some to those involved in acting. In the implementation we use legal public road survey (sometimes land consolidation), in which guidance with a surveyor is done the relevant decisions of expropriation ex officio. But in this stage it is too late to begin any extensive land consolidation planning. (Kotilainen 2006) Another possibility is that the Finnish Road Administration (Finnra) buys the land, after which there is only the technical cadastral survey. For instance in 1.1-31.8.2004 about 12 per cent of land was purchased with agreements (Tiehallinto 2004).

Also the land consolidation procedure is in the authorization of the National Land Survey of Finland (NLS). Legislation does not control how communication between the final engineering planning and land consolidation planning should be carried out. Additionally, the way that those concerned should be present is not controlled in detail. (Kotilainen 2004) So NLS and Finnra set up a pilot project to make a final engineering plan to an overtaking-line road with median barriers. The aim was a change in the operation mode, by which co-operation between the surveying and road authorities and the planning consultants should be improved. Indeed,

the landowners' points of view should be taken into account better than before.

2. ABOUT RESEARCH STRATEGY AND METHODS

This paper describes the action research method used in one pilot project. The source of this paper is Loppuraportti [Final report] 2005 and my own additional observations. Other additional sources are expressed separately in the text.

It is unambiguously hard to make out the detector of the action research, but several researchers (Björn Gustavsen 1992, Stephen Kemmis 1988, Elizabeth Hard and Meg Bond 1995, and so on.) refer to Kurt Lewin to be the central person to adopting it in the 1930-40's. Lewin developed an operational model for a change in the working life, in which theory and practice create one research entity. It is a question of accurately aim-defined empirical field research, in which a cyclic research process is in use. We move ahead by the help of planning, action and analysing - more cycles in empirical reality and in theory. (Figure 1; planning, acting, evaluating, reflecting). Group decisions are important in the method. The role of a researcher is central. (Lewin 1946).

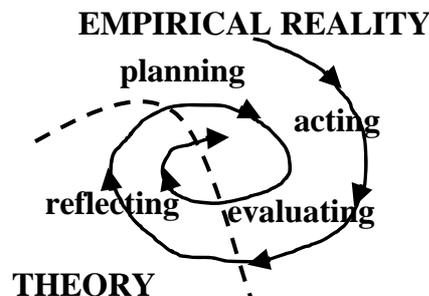


Figure 1. Action research as a cyclic process

Action research has been in change from the time of Lewin, but the central idea is still to give the opportunity to partake. (Participation means going along, Kotilainen 2004.) The change has happened in the fact that the researcher is nowadays within the process as one of the actors, not in the position of an authority. However, action research is still seen as a usable way to do empirical research. Nowadays it is also used in other connections than only in studying working life or organisations. (Kuula 1999).

Lewin's communicative research tradition was adapted in the pilot project to the process, which crosses organisational boundaries and in which the landowners had a central role. According to Kuula (Kuula 1999) in this type of case it is also a question of action research in working life, because research deals with work communities and their customs as a system. The paper introduces how those who participate in the final engineering planning (mainly landowners) evaluate the success of the operation mode.

3. RESULTS

3. 1 Object and Project Planning

This case study involves a section of the Road 5 from the central community of the municipality of Leppävirta towards the city of Kuopio (10 km). The road belongs to the Trans-European Network and is up for inclusion in the Finnish trunk road network. It was built in the 1960's and has been subsequently improved. Numerous earlier clarifications have been conducted on the road, with the landowners having a potential for participation.

The planning project was conducted in 2003 to 2005. The developing project group included representatives from Finnra, the NLS and the planning consultants. There was with representation of leadership of Finnra and NLS. First, a project plan was made, in which interactive road planning through communicative planning was set as the goal. The planning was done mainly in public hearings, in which the landowners, Finnra, NLS and planning consultants and some parts representative of community participated. The NLS was responsible for organizing public hearings and providing real estate expertise. Although the final engineering plan itself was the responsibility of Finnra, the planning consultants had a significant influence on the working according to my observations.

The area of impact of the plan contained 150 homes, summer cottages, agricultural properties and forest properties, with 193 landowners in all. There were 53 at-grade intersections of private roads on the section of the highway concerned. The area of impact was delineated so as to include all properties with private access roads. There were 11 active farms in the area of impact, with a total field area of some 100 hectares. Some farms had leased land parcels as far as 10 km from the main farmhouse. The placement of the fields was such that it was estimated that land exchanges would perhaps not be able to do.

3. 2 First Cycle of Final Engineering Planning

At the first public hearings on March 30 and 31, 2004, the purpose of the new-shaped planning method was described. The landowners in the area of impact had been invited by a letter and an announcement in two newspapers to attend the hearings, some to the first and others to the second. In the method used earlier in Finland only those conveying land to the road had got a letter. At these hearings, I outlined the conducting of landowner participation and told that responses to the enquiries and interviews concerning participation and mode of action could be given anonymously.

80 landowners attended the hearings. Maps of the draft final engineering plan were displayed on the walls of the venue, and the cadastral maps and maps showing the parcels of units of use were available on tables (A 'unit of use' is an economic entity consisting of one or more parcels of real estate such as cadastral units.). The participants congregated in groups of 5 to 10 persons and engaged in a lively discussion on the private road arrangements and the lengths of the overtaking lanes. New solutions were mooted.

I interviewed the landowners for the attitude survey as they were leaving. According to my observations there was even a queue to interview. First I asked how the hearing with its arrangements felt like. Secondly I asked how the participants would like to be contacted, when it was a question of self-evaluation. The landowners also proposed improvements considering the arrangements. These were realised later on. Most of the landowners wanted to receive a written questionnaire in the future. The project group also instantly evaluated the mode of action in its meeting. In the meeting everyone could present his or her result of evaluation and after the discussion the final outcome was the collective result of evaluation. Based on this and the landowners' opinions the next tasks and the mode of the next hearing were planned.

3.3 Second Cycle of Planning

The invitees by letter to the next public hearing on June 11, 2004 were the landowners who would be impacted by the changes. Again, an announcement was published in the newspapers as well. A total of 44 people attended the hearing; some of them had not attended the earlier hearings. Participation activity was good.

At the end of second hearing I distributed a semi-structured questionnaire with a prepaid return envelope to the participants as they left. Along with the background information also the common attitude of the respondent to the road project and to the improvement of the final engineering during the year 2004 was also enquired. The potential for influencing was especially asked. Also after this hearing the project group held its meeting and formulated the next hearing.

3.4 Third Cycle of Planning and Participation of those not Previously Attended

The third hearing was held on March 1, 2005, and respecting the wishes of several respondents it was held in the evening. It was announced in the newspapers, and those landowners who would be impacted by the changes had been invited by letter. There were 35 landowners present who registered (Some did not.). Again the participants were in small groups, the discussion was lively, and new solutions were found.

After the hearing I mailed a semi-structured enquiry to those who had not been present at the hearings. I clarified the opinions of those not present about project and the reasons for not participating. The enquiry was sent to those, who had got an invitation to some of the three hearings, but had not registered in the hearings. It was obvious that some persons may have been present without registration.

3.5 Results

The research method consists of presentation interventions at the beginning of the first hearings and after each action cycle self-evaluations and planning of the future actions based on evaluation. Both the common mode of action and improvement of the final engineering is described in the following. The latter indirectly characterises the felicity of the action mode.

The participation percentage among the landowners rose to about 60% overall. A property was counted in the participation percentage if even one representative from that property attended the hearings. Many of landowners had forwarded their opinions through delegates or relatives. When we also take the enquiry answers (seen in the following) from those not attending into account, nearly all landowners knew the situation of the plan quite well.

Summary of the theme-interview answers in the first hearings is shown in Table 1.

Table 1. Participants in Hearings on March 30-31.3.2004; Summary of the theme-interview

Object of discussion				
COMMON ARRANGEMENTS OF HEARING	18 persons; they where good	2 persons; Did not get any new information.	Nobody; Not good	1 person; No comments
BENEFITS OF THE HEARINGS	10 persons; Benefit 8 persons; Essential benefit	1 person; Little benefit	2 persons; No benefit	Nobody; No comments
IN WHICH WAY SHOULD OPINIONS OF LANDOWNERS BE INQUIRED IN THE FUTURE?	10 persons; By mail	7 persons; No matter how	1 person; By phone 1 person; Interview	2 persons; No answers

The enquiry on the second hearing was received by 42 persons and returned by 21 (feedback percentage 50). The answers were classified according to those to convey land (10 respondents) and others (10 respondents). The answers were analysed qualitatively. I took into account my own observations both on the interviews and the comments from the planner, who had participated the earlier planning stages. These support the conclusions made.

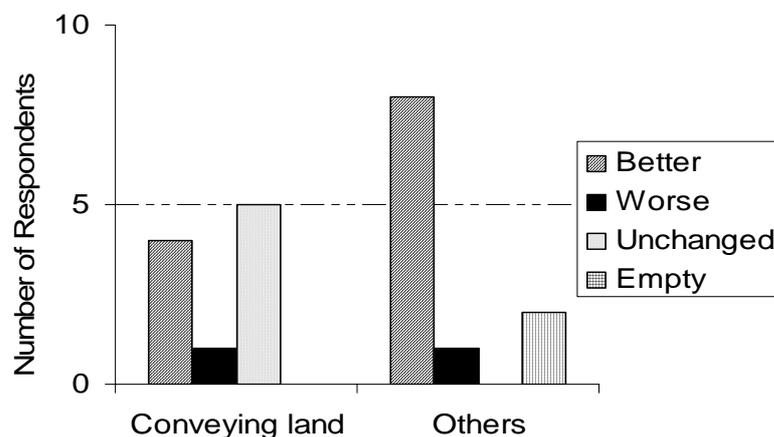


Figure 2. Has the plan changed to worse/better during the year 2004?

During the pilot project the final engineering plan was commonly experienced as changing to better (Figure 2). Others than those who convey land thought almost without exception that the plan has improved. It seems that private road readjustments have improved during the project. The respondents had got information, they were listened to and had the potential to negotiate and discuss. Somebody commented that especially in the last hearing one could have his/her case individually forward. The mode of action used seems to be successful from the perspective of the landowners, when we consider it as interaction criteria shown in Figure 3.

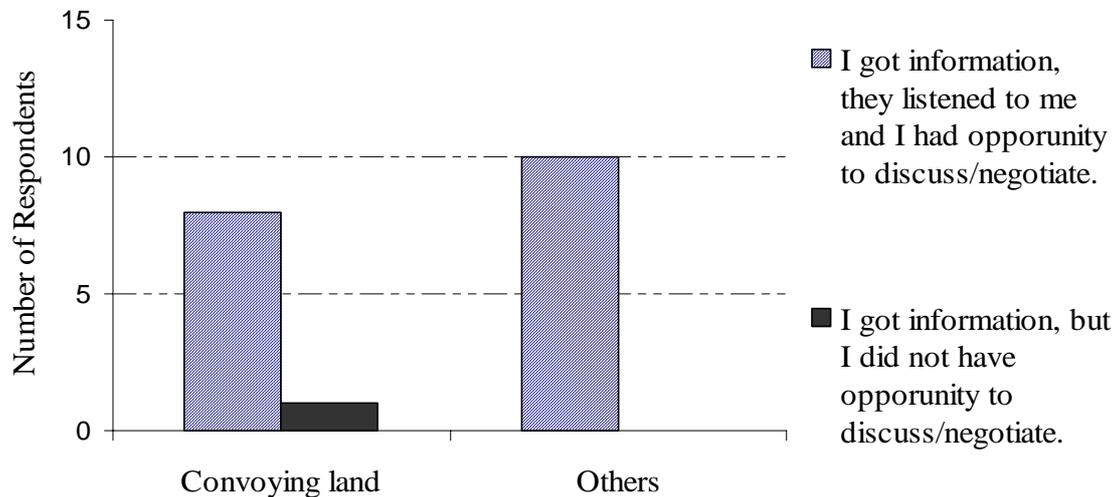


Figure 3. Characterization of hearing on June 11, 2004 according to the respondents.

Because the answers could have been influenced by earlier communication of the respondents or additional communication during the project, also these were inquired (Figure 4).

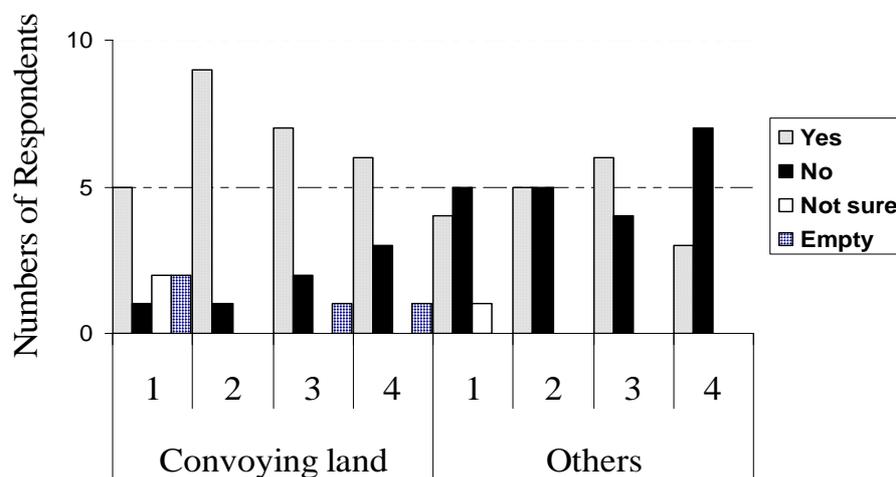


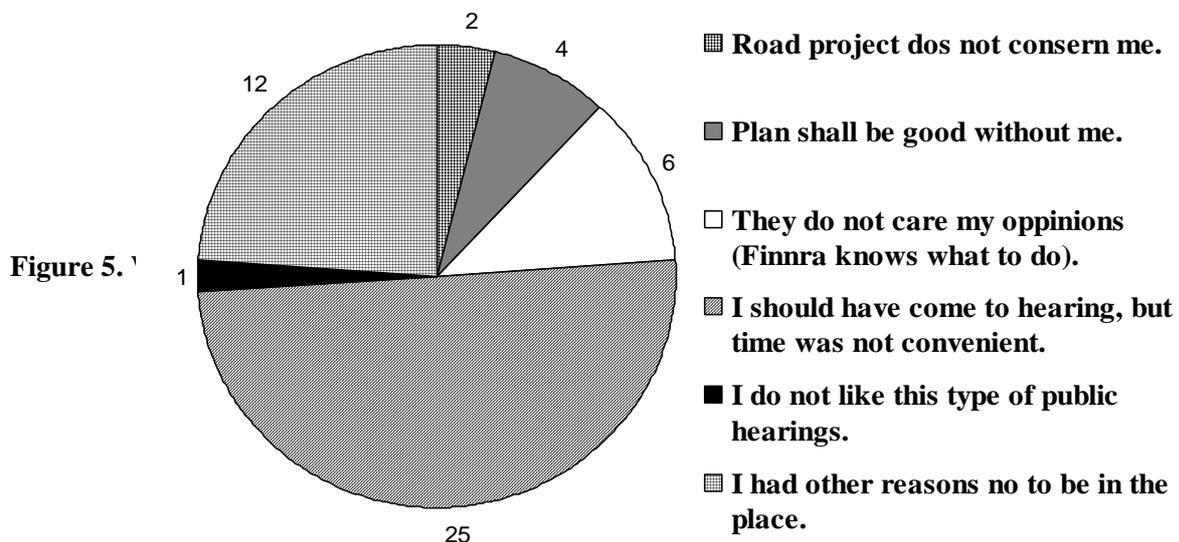
Figure 4. Other participation of those involved in hearing on June 11, 2004
(1= Have you answered to Kyösti Sormunen's inquiry at the beginning of the year 2004? 2=

Did you take part to hearing on March 30 or 31, 2004 in Leppävirta communal office? 3= Have you discussed/negotiated about the project other way during the year 2004? 4=Have there been any contacts to you before the year 2004 when there was no plan of overtaking-line road?)

The respondents had been active at the early stages of the pilot project. For instance, many of them had answered the so-called Sormunen's inquiry. More than a half of them had negotiated or discussed about the project also at the inspection or by phone. The rate of times differed from 1 to 3. Already before the year 2004 the planner/road district had contacted nearly a half of the respondents. Anyhow, they had earlier contacted those conveying land, but not the others present in the hearing. Indeed, the hearing to which the invitation was sent by a personal letter seems to have offered a possibility to those real estate owners aside private roads to take part in the planning of the cases of their own.

The questionnaires were mailed to those 89 persons not participated in the hearings. 11 announced by mail and three by phone that they had been present in the hearing (without registration). So the number of those not participated lowered to 75 persons. From them 41 returned the inquiry.

A part of these respondents declared more reasons for not participating. The most common reason for not participating was (Figure 5) that date was not suitable. Five respondents answered that there had been relatives or somebody else on behalf of themselves in the hearings. One told having been in contact by phone. Six explained that they did not come, because they live so far away. Four respondents answered health-related reasons for being unable to participate. Four should have come if only the hearings were outside working hours. One person proposed the use of Internet to present planning situations, so that he/she should not need to partake in the hearings.



Only two respondents though the reason not to participate was only the fact that their opinions

did not have any importance, because Finnra shall do what it will. On the other hand, four respondents announced that the plan should be good without them. So Finnra was not seen as an autocratic activator, because the respondents trusted the planners. When the needs to change the operation mode (of hearings) was inquired in general, the answers were that there is no need to change the mode.

3. 6 Result Summary

1. Background information; Project by which traffic safety is improved is good and remarkable as a rule. Both those who participated and those who did not considered the road project good and remarkable. This positive significance of traffic safety was also highlighted in free form answers.

2. All respondents thought they had a possibility to participate, i.e. a comprehensive possibility to participate. A hearing to which people were invited by a personal letter, extended possibility to partake to those landowners who had their real estates aside private roads.

3. Participation was active and the mode of action in the hearings was good.

4. Reasons for not participating in the hearings were found out.

5. Those not participating proposed development ideas to final engineering proceedings.

6. Actual object of the action, the final engineering plan, improved during the pilot. The co-operation method seems to have a positive influence on those who were objects to land exchanges and private road readjustments. In this case there were not many possibilities to influence on the position of those conveying land. So their answers should have been more critical than those of others. And so they did. The possibilities to land exchanges came out in a fast schedule, so the landowners did not have much time to consider them. The influence of the hearings and additional contacts during the pilot project on the opinions of the respondents about the final engineering improving during the year 2004 could not be analysed separately. So the used mode of action with its all activities (hearings, additional contacts) was recommended when carrying out comparable projects in the future.

The final result was that in this case the results are valid and good. We could only make indicative conclusions when thinking other road projects in Finland. Indeed, additional research on the participation of landowners in other road projects should be necessary. After the project Finnra and NLS have continued with the mode of action described above in other projects, but self-evaluation of the landowners (interviews, inquiries) is not included in them (Seppänen 2006).

4. CONCLUSIONS AND DISCUSSION

It was a question of field research based on Lewin's thinking, however so that the role of the researcher was both a participant and a spectator. The role of the researcher was no problem. The idea of action research to participate succeeded well. Firstly, every respondent considered he/she had got information on the possibility to participate, because personal letters were used. Secondly, participation was active and all participants, also the landowners, co-operated together well. There is not yet knowledge on the permanence of the change, when we think of the situation in the whole of Finland.

Action Research method seemed suitable, but there is still a need for comparative data from those final engineering plan projects, which were carried out otherwise. Economical legitimating of the method was not the object of the research. Theoretically, when acceptability of the final engineering is increasing, further appeals should be decreasing and the costs they cause should be minimizing. The use of the method caused several planning cycles and thus additional expenses both to the authorities and the other participants. On the other hand, required work-time and appeals should decrease in the future considering legal public road survey. Action research as an instrument in changing land management proceedings seems to be an interesting possibility.

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