

# The Education Market of the 80's Youngsters

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**Key words:** youngster, education, market, enrolment and curriculum.

## ABSTRACT

A market orientation is needed for traditional education programmes in land surveying, both towards the labour market and towards the market of the youngsters. Lund University started the land surveying programme in 1992 with a profile in GIS, but has turned towards real estate economy and management. The traditional core areas of surveying and land management are less focussed. The Programme Board of the School works hard to identify an optimal mixture of subjects for career profiles. This is based on the current and expected demand at the labour market, but also on the interests of the students born in the 80's, searching for their personal future in the society. Previous surveying generations are mostly oriented towards the central and local government authorities as employers, and towards surveying techniques or land management. Such narrow goals are not attractive enough today.

A successful School of Surveying analyses market "symbols" of the youngsters, such as private sector, international opportunities, project leadership, negotiation skills, industrial management and a mixture of law, economics and engineering. The Master's degree in (Surveying) engineering has a settled value at the market, though repeated student failures in Mathematics call for a revised education curriculum. Up-rising BSc programmes in Geomatics, GIS, Real Estate Management and for Real Estate Brokers offer competitive professional specialisations. Our MSc programme must cater for generalist training for unknown future top careers. The current 50/50 male/female ratio is supported by the curriculum profile, which has erased the previous mal characteristic of the profession. The female generation of the 80's requires our best attention.

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## 1. OUR PERSPECTIVE OF THE LAND SURVEYOR AND THE MARKET

We are well acquainted with the profession as land surveyor. The history of the profession is longer than most professions of today. The educational curriculum is based on the historical tradition, but it is successively changing according to our understanding of the needs of the society (the market), and to some degree to the presumed interest of the youngsters. This paper will analyse the education profiles in a market perspective. We have a special interest in understanding how to satisfy the market despite an eventual reduced interest among the youngsters in the land surveying area.

As an educational organisation we are basically responsible to the demand of the market, which we could define as the labour market in the public and private sectors. The National Agency for Services to Universities and University Colleges of Sweden (VHS) coordinates the demands of the different educational sectors, by attributing quotas for the educational areas and for the specific programmes. In some cases, such quota could correspond to the demand of the youngsters, i.e., the number of applications for each educational programme, while the quotas differ for many programmes. A full correspondence to the current demand of the youngsters is not feasible, if we pretend to take into consideration the demand of the labour market. As educational board, we act in a two-sided market with offers and demands: towards the youngsters and the labour market. We need to find our most strategic role in between these two markets. We offer a certain enrolment to the youngsters, and after the years of completed studies we offer them to the labour market.

## 2. THE LIMITED ELASTICITY OF THE EDUCATION PROGRAMMES

There will always be a discrepancy between the two demands on the educational system, due to the limited elasticity of the youngsters in regard to the labour market. In a more theoretical perspective, the choice of the youngsters should turn towards the educational programmes with a good career perspective, which could be interpreted as the areas with attractive conditions (e.g. salaries and other employment conditions). The changes in salary conditions could be the easiest way to assess the conditions, but it is too limited to provide a full understanding of the changes at the educational market. Nonetheless, it could be used as a tentative indicator for the labour market to procure the optimal conditions for the required number of land surveyors.

Currently, there is an increasing demand for land surveyors at the Swedish labour market, in particular at central and local government authorities. A logic answer to such a demand would be to increase the salary level and other employment conditions. Such a sign to the market of high school youngsters would increase the interest for the land-surveying programme, as well as the current students in our programme. In a long-term perspective, such an answer to the youngsters would increase the interest of and attract more youngsters.

Due to the time lap between the choice of the educational programme and the graduation of a land surveyor (at BSc or MSc level), the labour market will have to be very patient to receive the increased number of graduated land surveyors with more attractive employment conditions in a long-term perspective.

The demand of the youngsters of the land surveying programme might be a typical area with substantial changes over time. This could permit us to analyse the elasticity of this educational programme in a wider context.

The lack of elasticity of the market could be illustrated by the ratios of applications to educational areas in regard to the centrally fixed enrolment. Table 1 below indicates the low attraction of the engineering science area, through the low ratio, i. e., few applications in regard to the available enrolment. Some education areas have a high ratio, in particular behaviour science, information/communication, law and medicine & health sciences. Some of these areas might attract youngsters due to high salaries, while other areas offer other professional qualities, e.g. the traditional quality of “working with people”.

Education area	Admitted students	Ratio <sup>1</sup>		No of applications (1 <sup>st</sup> choice)		
	Year	2001	2001	2000	2001	2000
Behaviour science	3,352	5.0	6.0	11,199	12,523	13,501
Computer science	4,339	1.7	2.6	5,397	7,524	9,137
Economics/management/tourism	10,243	2.6	3.0	16,005	16,668	17,158
Humaniora	1,878	1.6	1.8	1,677	1,837	2,271
Information/communication	1,611	5.1	6.6	5,526	5,776	5,743
Law	1,340	4.5	4.4	3,766	3,548	4,193
Environment/natural resources	4,305	1.1	1.2	1,189	1,143	1,369
Mathematics/natural science	1,310	1.2	1.1	3,559	3,709	4,519
Social sciences	2,501	2.0	2.7	2,803	3,169	3,570
Language	1,298	1.3	1.6	809	898	842
Engineering sciences	20,192	1.4	1.5	24,274	26,129	27,780
Education/sports	12,941	1.9	2.0	16,287	19,130	22,321
Medicine & health sciences	7,022	3.8	4.5	21,284	22,099	23,836
<b>Total</b>	<b>72,332<sup>2</sup></b>			<b>113,756<sup>3</sup></b>	<b>124,153</b>	<b>136,335</b>
<b>Enrolment</b>		<b>2.2</b>	<b>2.4</b>	<b>52,121</b>	<b>51,194</b>	

Table 1: Enrolment and applications at Swedish universities and university colleges 1999-2001. VHS, 2001a.

<sup>1</sup> Ratio = n° of 1<sup>st</sup> choice applications/enrolment

<sup>2</sup> The number of admitted students is higher than the official enrolment, mainly due to an extra enrolment to compensate for youngsters who change their mind or abandon their seat short after commencement. The planning target is basically towards the enrolment figures.

<sup>3</sup> The decline in number of applications is mainly due to demographical reasons.

### **3. THE NATIONAL CONCERNS FOR THE FUTURE STUDENTS**

The figures and tendencies of the applications and enrolment require a thorough analysis to provide an optimal educational offer for the youngsters and the society (the market). The National Agency for Services to Universities and University Colleges (VHS 2001b) express some concerns regarding the future enrolment and the future students:

- 1) Will there be enough students to enable the fulfilment of the objective of the parliament and Central Government?
- 2) Will the number of graduates cover the needs of the labour market?
- 3) What is the background of the students, what and how do they study, and how are they distributed geographically?
- 4) How internationally oriented are the students? Will they choose other universities than the Swedish ones?
- 5) What kind of teaching methods will be used in the future, and what connection to the research activities?
- 6) What role will the admission system and its procedure play?

The concerns could be strongly recommended to include in our analysis for the future Land Surveying students.

### **4. COMPETING AT THE EDUCATION MARKET**

As a university programme, we are competing at the national (and international?) market to get the best students to our programme in land surveying. Even though there are approximately 2 applications/seat, we cannot just be relaxed with these figures. The MSc programme is demanding, and we need to get good students, in order to maintain the quality of the land surveyors we offer the labour market.

We could use the figures above to put some challenging questions to ourselves:

- Could the land surveying programme in a long-term perspective become as attractive as the programmes in behaviour sciences (e.g.), with an average of 5 applications/seat?
- What could make us as attractive as the programmes in Law?
- Being part of the engineering programme, are we condemned to continue with the same low ratios as other engineering programmes?

It should be noticed that the used ratio is not the only indicator for assessment of an attractive programme. The engineering programmes are known to be difficult, which makes many youngsters hesitate to choose them. The formal requirement of Mathematics, Physics and Chemistry from the high school also excludes many youngsters. The number of applications does not directly show the quality of the youngsters. The second phase of the admission procedure is assessed by the marks of the last admitted student. Each of these indicators gives an idea about the attractiveness of the programme and the quality of the students. Another decisive factor is the degree of graduation, i. e., the percentage of graduations after the "normal" years of study (formally 4.5 years for the MSc in Engineering Sciences) and successively up to 10 years of studies. A graduation rate of 60-70 % is reached after 7-9 years

of study, though included sabbatical years. These indicators could also be used to provide a more comprehensive understanding of the students, but it would not lead to any significant difference.

The master's degree in land surveying has a settled tradition in Sweden as a unified education programme, without an intermediate BSc level. The traditional training of surveying technicians was offered as a vocational education at high school level, added with on-the-job training. During the 80's and 90's it has been developed towards a BSc degree in surveying and GIS, while the land management area has maintained the MSc as the only education level. Still, the BSc programmes in GIS or surveying has not been recognized as attractive educational areas. Some figures will be mentioned below.

## 5. THE CURRICULUM PROFILE

The MSc in Land Surveying still keeps its role as the important degree for anyone who wants a recognised education for a good professional career. A certain diversification of the educational curriculum has been healthy, enabling the graduated to get employed in new professional areas, without a unique educational profile. The diversification started in the 1960's and has proceeded towards the following areas:

### Geomatics

- Surveying and Mapping
- GIS/GIM
- Technology Management

### Land Management and Planning

- Land Management
- Planning
- Environmental Engineering

### Economics

- Real Estate Economics
- Real Estate Management
- Facility Management
- Industrial Economics

The list above shows the current situation in Sweden, with emphasis on the programme at Lund University. The list of specialisations could be more or less extended. Mattsson (2000) and Allan (1996) show a more diversified list, based on programmes in most Western European Countries. Their classification of specialisations in different countries makes the curriculum profile quite complete:

### Geomatics

- Geodesy
- Instruments
- Mining/Engineering Surveying
- Maps&GIS

### Land Management and Planning

- Law
- Urban Development
- Rural Development

## Economics

- Valuation
- Finance and Taxation
- Building Economics and Management
- Marketing
- Land and Farm Management
- Building Design
- Construction Technology
- Building Quantities
- Cost Control

As mentioned by Mattsson (2000), none of the countries offers the total amount of areas within its land surveying programme. The differences between the countries are mainly due to the traditional diversification in professional profiles, e.g., Quantity Surveyors as a specific profile in the UK, while Civil Engineers use to work with similar tasks in Sweden.

## 6. DEVELOPMENT OF THE SWEDISH PROFESSIONAL PROFILE

A comparison is always restricted to the specific professional profiles of each country. Still it is important to identify the changes over time in each country, instead of importing specialisations from other countries. The professional profile is often developed through the universities, in broadening the profiles in areas with lacking competence at the market. New courses are offered, if the students find them relevant and attractive, and if the departments at the university are sensible to these demands.

The Swedish perspective could be used to illustrate how the diversification has played a role for the Land Surveying Programme and for the market.

The total enrolment of students in Sweden has increased from about 30 in the 60's, 60-70 in the 70's and to 120-150 in the 90's. Such an increase has several explanations. Some of them will be described.

Starting with the name of the programme: Land Surveying (*Lantmäteri*), is a recognised "trade mark", basically related to the Governmental Land Surveying Authorities (*Lantmäteriet*). As long as the education of land surveyors (MSc) was oriented towards the governmental sector, the programme curriculum was more or less tailor made towards this governmental sector. The demand of land surveyors to the Local Governments (Municipalities), from the 1960's, did neither lead to a substantial change of the "trade mark", nor the programme curriculum. It was still accepted to talk about the land surveyor (*lantmätare*), even though it successively changed towards the emphasis on the MSc degree, in Land Surveying (*civilingenjör i lantmäteri*).

The more fundamental change started with the introduction of Real Estate Economics as a specialisation, dated back to the late 60's. During the latest three decades we have seen a remarkable growth in courses in economy, applied to land, real estate and management. These courses have expanded as many students have found them interesting. Half or even

more of the students have chosen real estate economics as their specialisation, while the traditional areas of surveying&mapping and land management have attracted a limited number of students.

The labour market has not hesitated to employ the graduated land surveyors, in particular until the 90's, while the real estate market has somewhat more careful during the first years of the 21<sup>st</sup> century years ago. We might have seen a first awareness among the students towards the signs of the labour market, in their choice of specialisation during the final year of studies.

However, it might be hazardous to draw some interpretations of the choices of the students and the youngsters as a classical supply and demand situation of the labour market. There are other considerations that might be as important for them.

## **7. THE ELASTICITY OF THE YOUNGSTERS IN RELATION TO THE LAND SURVEYING PROGRAMME**

This rest of this paper will try to focus on some of the "signs" of the youngsters. As mentioned in the comparison above, the elasticity of the educational areas is very reduced, even in a long-term perspective. The education programmes with very high ratios are more or less permanently keeping the famous reputations among the youngsters, without any considerable reduction in employment conditions, e.g., salary and a consequently drop in interest in the education programme. The drop in interest for computer science programme last year could be an immediate sign of the recession at the market in informatics. The programme for Architecture is quite stable in application ratio, even though the housing market is quite sensible to national economic trends (i.e., the graduated Architects face a weak labour market during recessions). The education programmes in Medicine and Arts are both attractive, but the labour markets show a flagrant contrast: the Doctor is attractive and well paid at the market, while the Artist has to fight for his/her economic survival. If the educational market would work in an elastic way, the conditions for these two groups would change in opposite directions. However, they seem to be more or less stable. A reduced number of admissions to the Programme in Arts and an increased admission to Medicine could work towards a harmonisation between the education programmes and their labour markets in a long-term perspective.

Land Surveying belongs to the less attractive group of Engineering Sciences at the education market, with a ratio about 1.5, i e, lower than the average of all University programmes in Sweden. The applications to the MSc in Engineering programmes at Lund University provide a further understanding of the areas of interest of young people. Table 2 below shows the figures of all Master's degree programmes in Engineering at Lund University.

A few programmes are attractive, with a ratio above the national average of 2.2 for all university programmes, namely Architecture, Industrial Design, Industrial Management & Engineering and Information & Communication Engineering. However, our comparison should be based on the national ratio of all programmes in Engineering Sciences – 1.4 - as mentioned above. Some might argue that we will not be able to attract more youngsters and

increase the ratio. However, the list above shows that some programmes do attract a lot of youngsters. Why shouldn't we be able to increase our ratio, become a more famous programme and in a long-term perspective increase our enrolment?

Education Programme	No of applications (1 <sup>st</sup> choice)	Enrolment	Ratio <sup>4</sup>
	2001		
Master's Degrees, Lund university			
Architecture	462	60	7.7
Industrial Design	141	30	4.7
MSc, Lund university			
Industrial Management and Engineering	302	60	5.0
Information & Communication Engineering	121	30	4.0
Biotechnology	151	60	2.5
<i>Land Surveying</i>	59	30	2.0
Computer Science and Engineering	248	128	1.9
Civil Engineering	143	85	1.7
Engineering Physics	166	110	1.5
Environmental Engineering	83	60	1.4
Mechanical Engineering	176	142	1.2
Chemical Engineering	86	75	1.1
Electrical Engineering	160	155	1.0
<b>Total MSc Programmes</b>	<b>1695</b>	<b>935</b>	<b>1.8</b>
Fire Safety Engineering (3.5 years studies)	437	50	8.7
Campus Helsingborg (BSc Programmes)			
Geomatics	8	16	0.5
<b>Total BSc Programmes</b>	<b>278</b>	<b>244</b>	<b>1.1</b>

Table 2: Applications and enrolment at Engineering Programmes at Lund University, 2001

The Land Surveying programme in Lund has had a healthy increase in applications during the latest years, from the ratio 1.1 in 1997 to 2.0 in 2001, passing above the average of the MSc engineering programmes at the university (1.8). This makes us dare to increase the enrolment from 30 to 40 students in 2002, and in this satisfying the desire of the labour market. We hope that we will be able to keep the ratio through a continued increased number of applications.

What is the secret behind the increased interest in the Land Surveying programme?

Some conventional explanations might be mentioned, such as marketing activities and an increasing awareness of the still young programme, started in 1992. 10 years might be a short period for the programme to become well known, but we might not expect any significant increasing awareness of the programme among the youngsters within "our" regional area.

<sup>4</sup> Ratio = n° of 1<sup>st</sup> choice applications/enrolment



It should be noticed that the Land Surveying programme at the Royal Institute of Technology in Stockholm, with an enrolment of 105 students (15 with an environmental profile), has had a significant decrease in applications, passing below 1.0 for the first time in 2001 (89 first choice applications). A part of this decrease is due to a difficult housing market, restraining many youngsters to move to Stockholm. This tendency is also evident at other programmes at the Royal Institute, though some programmes continue with good ratios. The two MSc land surveying programmes in Sweden (in Lund and Stockholm) have an enrolment of 145 students.

The new BSc programmes in Geomatics, GIS and Land Surveying at five regional University Colleges have a total enrolment of 129 students, though with only 112 first hand applications (ratio = 0.9). The BSc programmes in Geomatics and GIS are critically low (ratio about 0.5), while the programme in Land Surveying (including Law and Economics subjects) is more attractive with a ration of 1.5. One conclusion could be an overestimation of the university boards of the attractiveness of the programmes, despite the promising labour market.

Four quite new Bachelor programmes in Real Estate Management and for Real Estate Brokers (only 2 years of study) at three university colleges are much more attractive. They offer 227 seats and they got 1,220 first hand applications in 2001. Most applications refer to the programme for Real Estate Brokers (ratio = 6.5), while the interest for the programmes in Real Estate Management & Economics (ratio = 2.5) is closer to the national average of all university programmes. They are not engineering programmes, as they focus on Economy, Management and on a practical housing and construction knowledge.

It should be noticed that a recent law requires a formal two years education for real estate brokers, which has forced a big number of acting brokers to apply to the programme, after many years of practice. Nonetheless, the interest for real estate management and economics justifies these programmes at the education market.

## **8. THE CHALLENGES FOR THE LAND SURVEYING PROGRAMME**

The challenge for our MSc programme in land surveying could be defined in this way:

1. Satisfy an expected increasing demand at the labour market, by a successive increased enrolment;
2. Keep the attractiveness of the MSc programme, with a high ratio of applications/enrolment; and
3. Develop the attraction of the MSc programme, aiming at a top position among the MSc engineering programmes.

The figures presented above could be conclusive in our analysis of feasible ways to satisfy the labour market with top graduates in land surveying.

A very first conclusion of these figures could be give more emphasis on the real estate and management area in the land surveying MSc programme, while the traditional areas of surveying, mapping and land management could continue as a choice for a low (and stable?) number of students. A crucial question is if we should include all these areas within the land

surveying programme, or if we should separate them in specific programmes. The up-rising BSc real estate programmes without the traditional engineering profile show that the youngsters have responded to the educational offer, being sign of a healthy introduction of new programmes at the university market.

A reduction of the enrolment would increase the ratio, and thus providing our schools with better qualified students. The labour market would not easily accept such a reduction, even though they could agree on the need for well-qualified youngsters to the education programmes.

Even though the ratio only shows the relationship between the number of applications and the fixed enrolment, the quality of the admitted students is important for their success. The ratio is also of a certain importance for the Land Surveying programme, as it indicates the importance and popularity of the programme.

Three of the engineering programmes at Lund University are very attractive to youngsters, if we use the ratio as base for comparison. The low enrolment at the Land Surveying Programme (30 seats) puts our programme on a prestigious fourth place. The labour market is specific for each education programme, which requires an enrolment based on the labour market as well as on the market of the youngsters. Unaware of the specific labour market of the other areas, I simply assume that the fixed enrolments approximately correspond to their respective labour market. A high ratio means that the youngsters value these education programmes more than the labour market and the educational boards. They simply find the curriculum and expected profession very attractive.

One conclusive reason for starting the land surveying programme at Lund University was the shortage of land surveyors at the market in Southern and Western Sweden. Even though the land surveying programme in Stockholm increased the enrolment during the 70's and 80's, a very reduced number of graduated surveyors moved to Southern and Western Sweden. Competitive employment conditions could certainly change the willingness to move, but neither the employers nor the land surveyors seem too eager to change their mind.

Nonetheless, starting a new programme in a traditional engineering area, i.e., without a specific trend in technology or in the society (such as computer science), does not automatically attract a significant number of youngsters. You have to start with a low enrolment, but preferably not below 30 students, as an economic minimum limit of MSc programmes. Thus, ten years after the start of the programme, we have created a solid base to increase the enrolment, while all regional BSc engineering programmes in geomatics and GIS are severely threatened by the declining market of the youngsters.

## **9. WHO IS THE NEW LAND SURVEYING STUDENT OF 2001?**

The youngsters do not make their choices with the same understanding of the society as their parents. The programme board is basically constituted by the "parents" of the youngsters at the starting edge of their university education career.

The success of the attractive programmes might give some indications on how youngsters think about the profession and its conditions. The attraction is not limited to salary levels of the profession. Generally, the MSc programmes in engineering sciences are known to be arduous, and the length of them (4,5 nominal years) is long and mostly known to be very underestimated, compared to real study years. Why should you start on an arduous MSc engineering programme if you are not the typical youngster “born to be a MSc engineer? These “engineering genies” find their way in the traditional engineering sciences, such as physics, mechanics, electronics, chemistry or civil engineering. If *not* “born” MSc engineer, why not choose a Bachelor programme, e. g. in Economics or Social Sciences?

A demographic survey is made each year with the new engineering students at Lund University (LTH 2001). The 35 answers of the new land surveying students give a limited sample for conclusions, but we learn from other engineering students and students of previous years as well. However, I will use the survey for this small group as basis for some observations.

The interest for the profession is only stressed by 23 % of the new students. They are more attracted by the breadth of the programme (45 %). In our marketing we stress the three areas: Law, Economics and Engineering. This mixture of academic subjects is of crucial importance for the land surveying students. The other engineering programmes with a high ratio do also offer a mixture of subjects in the crossing between engineering and other areas.

Only one of the new students expressed an expectation of a high salary. One will always find youngsters in search for a profession with high salary, but the very great majority does not put the salary condition as conclusive reason for his or her choice of education programme.

A majority of the students (56 %) expresses a moderate interest in Mathematics, but we certainly find the remaining part (44 %) of the students with high interest. 83 % of the students consider their knowledge in Mathematics as medium high, but only 3 % (1 student) as high. Almost half of them (41 %) feel anxious about their basis in Mathematics. These figures confirm the idea that we attract the group that was not “born” with Mathematics or Engineering Sciences. They still find reasons enough to start at the programme, even though the Mathematics might become an obstacle during the studies.

Some questions without connection to the education or the profession ought to be mentioned. Nine of the students (26 %) mention that they intend to make a study break, seven of them for travel and two for other studies.

40 % of the students started the university study just after completing high school at 19 years of age, and we have also noticed that many of these “non-stoppers” take a break after the second or third year of studies in Lund. The group with one year’s break after high school (17 %) might be the 10 males one year of military service, but we understand that there is a considerable group of youngsters with other life experiences. They simply want something else than a straightforward education career. 15 of them have already travelled abroad for some time.

These figures might not be surprising for Western European youngsters, but we need to understand why we get them as students and how we could attract more of them.

## **10. WHO IS THE FUTURE YOUNGSTER FOR THE LAND SURVEYING PROGRAMME?**

Several studies of the youngsters of today are available and of great importance for university programme boards. Andersson, Fürth & Holmberg (1997) have described the change of values in the Swedish society, focussing on the youngsters of today. Some lessons for the land surveying programme will be made based on their description.

We need to start with the older generations of land surveyors. They had already graduated when the students revolted in Paris, Stockholm and other university cities in 1968. Their background in the society did not show many differences. The profession had a strong “trade mark” as integral part of the public sector. Responsibility for the management of land through the established public sector was the main guidance for this group (somewhat generalised).

The next generation of land surveyors might have faced the political debate and the economic changes of the first oil crisis. However, the personal perspective was still based on the “good society”, in particular in regard to the system for public land management (in Sweden).

The knowledge of the profession was of crucial importance:

- The knowledge was specific for this professional group;
- The knowledge was recognised as useful by the State and other clients;
- The knowledge had a scientific basis;
- The knowledge was the basis for the professional group to claim certain positions at the labour market and in the society.

A more theoretical perspective could focus on the role of the profession in the class society. The education programme played a confirmed role for us to confirm our belonging to a certain class – the people with a master’s degree (some without an academic family background). We entered into one of the oldest professions as civil servant in Sweden, with a education elevated to a MSc programme in 1932. This confirmed and established the key role of the profession in the society.

The generation of graduated land surveyors in the 70’s and 80’s still lived with the profession as an important “trade mark”, though with increasing problems to identify themselves as a public civil servant. The diversification of the education towards real estate economics permitted for the first time a significant group of graduated land surveyors to enter into the private market of companies in real estate management. They became a professional group to fill a certain gap to make the society work better. They became useful cogs who fitted in the cog-wheel of the society. The industrial society had created a notion that we all were needed as cogs. My role was only to choose my specific cog as professional area. The role of the universities was to plan for the required number of people to enter into the society with their specific cogs. This is still our challenge at the universities.

Some of the youngsters born in the 80's might feel themselves as part of the societal cog-wheel. But an increasing number of youngsters do not express their rationale for life in terms of their role in the society. The profession as land surveyor is fading away as denomination of something that people don't understand or recognise. The new students are practically facing problems in explaining "land surveying" to their ex-high school colleagues. Or do they need to explain it at all? Some of them would prefer a new name of the education programme, while others bother less about the name of the MSc degree.

A successful School of Surveying analyses market "symbols" of the youngsters, such as private sector, international opportunities, project leadership, negotiation skills, industrial management and a mixture of law, economics and engineering. The "symbols" might preferably be expressed and explained by the youngsters themselves – not by me!

The simply reason for the 80's youngsters to start the MSc programme in land surveying might be neither "land" nor "surveying". The students' answer "the breadth of the programme" is the "trade mark", with its healthy mixture of Law, Economics and Engineering.

This group of youngsters might find the programme just interesting or as a "pleasure" in not being forced to stick to only one scientific area. Several youngsters do not choose at all – they continue with an interesting mixture of subjects at university level, and find themselves simply integrated in the scientific society. Mathematics plays a certain part of this, but it might not be more than a challenging exercise for the brain. The first study year of the land surveying programme provides this general introduction into the interesting scientific world: Law and Mathematics the first term, complemented with a thematic Environmental and Engineering term (added with continues Mathematics). Some students find the thematic Real Estate Economics during the 3<sup>rd</sup> year too remote (Geomatics and Real Estate Information Technology during the 2<sup>nd</sup> year). The search for knowledge in various scientific areas is expressed in this way.

The gender issue has not been mentioned at all. The current admission of students has about 50 % females, which is another sign of a curriculum profile attractively tailored for the entire population of youngsters. The development of the programme in a diversified way has erased the previous mal characteristic of the profession. We need to continue give our best attention to the programme for both the female and male young generation.

A Master's Degree for a youngster of the 80's might be less focussed on aiming at a certain position in the society, but just be a basis for "The Good Life". You choose something that will enable you to stay in major urban areas, a profession where you enter into the global society (of the World). Surveys with Swedish youngsters show that two thirds of them plan to live a couple of years abroad, and one third plan to emigrate (=integrate into the "world society") (Andersson et al, 1997). The internationalisation of the society is a reality that the youngsters already have assumed, and they are personally an integrated part of this new society. But this international living does not necessarily need to be realised through the profession. It could also be expressed through other journeys, before, during or after the university studies. The profession is just one of several means to make your life "coming

true”.

The very fast exposé of the youngsters of the 80's turns our attention from the specific curriculum of our programme and from the profession of the land surveyor to the society of the youngsters in search for their recognition as human beings in an internationalised world. We might need to draw more specific conclusions on how to design our programmes and how to attract the youngsters. The most decisive conclusion might be that we need to provide an open university programme, where different scientific areas complement the offer to the youngsters without a fixed profession and career in mind.

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