

Exchange of Surveying Personnel

INTERNATIONAL FEDERATION OF SURVEYORS (FIG)

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TASK FORCE ON THE EXCHANGE OF SURVEYING PERSONNEL BETWEEN DIFFERENT COUNTRIES



*Seppo Härmälä
Task Force Chairman*

1. Aims and Work of the Task Force

The FIG Bureau decided in 1988 to establish the Task Force chaired by the Vice President (Group A). Other members were to be nominated by the interested member associations. The terms of reference were accepted to be: To investigate the exchange of surveying personnel between different countries, to review the connected economical, technical and linguistic aspects and to present appropriate proposals.

The Task Force has consisted of the following members:

Chairman	Dr. Seppo Härmälä, Vice President (Group A)
Secretary	Mr. Matti Pallasvuo, Helsinki, Finland
Members	Mr. G. K. Allred, Edmonton, Canada
	Mr. Mike Cooper, London, United Kingdom
	Mr. Richard Hoisl, München, Germany F.R.
	Mr. Aw Kheng Huat, Selangor, Malaysia
	Mr. Tokihiko Kaminashi, Tokyo, Japan
	Mr. Milan Klimes, Brno, Czechoslovakia
	Mr. F. J. Kearns, Wellington, New Zealand
	Mr. Grahame Lindsay, Belconnen, Australia
	Mr. Dimitar Shekow, Sofia, Bulgaria
	Mr. Zhang Xiarong, Beijing, China P.R.

The Task Force has held two meetings

- October 15, 1988 in Wellington, New Zealand

- August 17, 1989 in Budapest, Hungary.

The different views and guidelines of the work were discussed at the meetings. Both meetings were attended by some additional invited participants to obtain a still wider scope to the matters.

Information for the work has been collected in different ways. A very important source has been the material sent by the members of the Task Force. Further information has been gathered from various published papers and by interviewing people dealing with the exchange of personnel.

2. General Background

In modern times the need to collect information and experiences from abroad is more prominent than ever before. There are some special aspects which have changed our world in this respect.

The development of techniques is very fast. New amazing methods appear from time to time. Especially electronics, computer techniques and satellite methods have introduced entirely new revolutionary changes to the different fields of surveying.

On the other hand, the world and the demands of surveying have faced new challenges. The explosion of the world population requires more and more land information. The information is needed for the inventory of land resources and to plan their utilization. The increasing population and the heavy urbanization yield many problems, of habitation and so do the different forms of transportation. In doing this, we all have to take into account the preserving of the nature and generally the environment. In all these matters the surveyor has a remarkable role, he has to cope with new duties applying the new tools.

The problems are international today and consequently, international cooperation is necessary to meet the challenges. Therefore the world community must work together. It is true that in different countries the surveyors have different duties, different organizations, different background and different education. Nevertheless, the basic needs for surveying are the same. Even if the methods used in one country cannot be applied directly in another, they almost always inspire new solutions and may lead to a more useful procedure.

Then again we have to take into account the element of time. The problems have become so pressing that we cannot afford to wait for decades, not even years, for the new methods. We have to bring immediately the new knowledge from there where it exists.

The necessity to exchange information on an international basis is not a new idea. As a matter of fact, it was the main objective in establishing the Federation in 1878 and it is still its main goal today. In the course of its long history FIG has been a

great intermediary of ideas in the field of surveying. As stated in Article 3 of the Statutes, there are different ways to disseminate information like international congresses, lectures, exhibitions, meetings of the technical and scientific commissions etc. Each FIG congress or PC meeting has included visits to the institutions of the host country. This all added to special commission meetings, symposia, workshops and working groups has disseminated ideas tremendously.

Many ideas can be conveyed this way, but not all. It can be noted that lectures and papers as well as exhibitions frequently present matters like show-windows or homes cleaned up for visitors. Often it is better to see the hardships of the practice, too. Moreover, many methods are so complicated that much time is needed to become familiarized with them. This type of activity has been noted and already provided by the Statutes of FIG. Article 1 reads: "The principal aims of the Federation are as follows:

..
..

f) To foster good relations with the proper authorities and the exchange of surveying personnel between different countries."

This has not been a dead letter. Many FIG meetings have yielded friendly ties which have resulted in more good contacts and profitable visits. We should not underestimate the exchange of personnel which has been arranged this way. However, modern times require more emphasis on this activity due to the rapid and great changes faced by the profession nowadays.

There are some aspects to be investigated. We need more and more surveyors who have learned international communication in the course of their studies. In general, the exchange of students, trainees, young graduate surveyors and young academic staff builds up the future of our profession.

In order to follow closely the development of surveying it is very important that the experienced surveyors, experts and executives can see with their own eyes the surveying processes in countries where a special branch of surveying stands as a vanguard of the development. Frequently it is very impressive to experience the methods in completely different circumstances, because it gives more depth to the knowledge.

A highly important area of exchange prevails between developing countries and technically developed ones. In developed countries new surveyors gain experience by working among experienced ones. The staff of developing countries is mostly so young and so scarce that they have not opportunities for the same procedure. In order to educate a competent and sufficient surveying staff to each developing country, a lot of exchange is necessary and it concerns all levels of personnel.

There are certainly many obstacles confronting the exchange, serious ones and others which may look serious. Some of them may be viewed in connection with different types of exchange. Some of them are common to all and may be

discussed here.

In the first instance, there is the barrier of the languages. It should not be as serious as feared by the inexperience done. Of course, there are large areas where the same international language is spoken and then there is no problem. Anyway, it is always useful to learn at least one widely spoken language and this is mostly enough, because most of the surveying experts know international languages, too. Moreover, why not to learn to read the international professional literature on surveying? And still more. A concentrated effort provides the elements of a new language in a fairly short time and the practice gives more.

One of the worst barriers is the lack of information. This may be the reason for the lack of interest in many cases; the ignorance may extinguish a good interest. One of the main aims of this study is to improve the flow of information.

3. Student Exchange

The exchange of students in this context can be divided into four categories:

- (a) taking the whole examination at a foreign university
- (b) taking only one part of the examination at a foreign university
- (c) taking only some elected studies at a foreign university
- (d) taking some post-graduate studies at a foreign university

In all these categories the universities have a central role. An agreement is needed between universities about the aims and the conditions of the exchange. The recognition of the examination is one of the most important points for the agreement. Of course, the needs of national legislation and varying practice have to be taken into account.

There is already a multitude of bilateral agreements some of which may cover the faculties of surveying.

There are also examples of multilateral programmes intended to build up a university network. (ERASMUS in EC Countries or NORDTEK in Nordic Countries).

The exchange causes students extra costs like traveling, accommodation, fees etc., which can vary a lot from country to country.

The agreement can include a system of financing the studies abroad. The financing can be based also on low interest loans or other systems of financing the studies in the homeland of a student. In this case the agreement does not deal with the financing questions.

Recommendations to the Member Associations:

- foster the system of agreements between universities about the exchange of students
- follow up the regional programmes like ERASMUS and similar programmes so

- that the interests of surveying is taken into account
- work for promoting the financing systems of student exchange
 - work for disseminating information about possibilities and conditions of student exchange
 - work for promoting the exchange of young university staff taking into consideration the agreements made by universities and a financing system to be built for this purpose.

4. Exchange of Trainees

The 53rd Permanent Committee Meeting in Toronto, Canada, on June 6, 1986 adopted the Resolution 14(b) "that the Bureau appoint a Task Force covering the relevant FIG Technical and Scientific Commissions to investigate and execute the methods and mechanics whereby our survey students take better advantage of the work of IAESTE".

Mr. J. G. Riemersma, Chairman of Commission 4, presented a report of the IAESTE Task Force at the 54th Permanent Committee Meeting in Oslo, Norway, on June 25, 1987. The final report of the IAESTE Task Force was presented by Mr. C. W. Youngs, Chairman of the Task Force, at the 55th Permanent Committee Meeting in Wellington, New Zealand, on October 15, 1988.

The Work Plan of FIG for the years 1988-1991 adopted by the 55th Permanent Committee Meeting states that the report will be taken into account by the Task Force on the Exchange of Surveying Personnel between Different Countries.

IAESTE is obviously the principal organization for the exchange of trainees. However, there are some restrictions which have seriously limited the exchange of surveying trainees.

All of the member countries have not joined IAESTE. In addition, there are countries which are members but the member associations and the surveying trainees are not aware of the IAESTE organization.

The classification of trainees does not cover the surveying profession. Instead, they are grouped under constructors, builders, geodesists, surveyors or architects etc. Consequently, the trainees received are often not students of surveying, which does not meet the intention of the receiver, nor the need of the surveying field, in general.

The idea of the international exchange of trainees is not adequately known by the surveying students, nor the connections and the financing of the exchange. The same is so of employers.

The measures required to reach a sufficient level of trainees' exchange may be summarized with some necessary steps:

- the amendment of the IAESTE classification to insert surveying under the

subject "surveying"

- all member associations of FIG to join IAESTE
- good information to employers annually to offer trainees jobs
- good information annually to surveying students to apply for the jobs
- adequate mental and material support for the exchange.

Most of the steps belong to the responsibility of member associations. However, some duties belong to the Bureau, at least negotiations with the headquarters of IAESTE.

5. Exchange of Academic Staff

Academic staff has great influence on the future. Therefore the relevant exchange is one of the most important parts of the activity. The exchange of academic staff remains in the interests of FIG.

Nowadays the higher staff of universities and related educational institutions is quite mobile. The professors and other higher staff frequently attend different congresses and other meetings and visit other institutions for shorter or longer times.

The situation looks quite good but can still be improved in particular when extended outside the customary circles.

On the other hand, there seems to be some problems involved in the exchange of younger staff, personnel which are most important to the future. They can absorb new ideas and learn new techniques. At the same time they are mostly short of means. For this reason special steps should be taken to ensure an adequate exchange of young academic staff. Therefore it is very important to facilitate their visits. Some funds should be sought to finance the exchange. Should the visit concern studies, the same methods may be used as by the student exchange. Furthermore, candidates have already a good basic knowledge, and so they can be employed full-time or part-time for research or teaching tasks by hosting institutes. Member associations should emphasize the exchange of young academic staff to educational institutions. Existing international programmes should be used more intensively like COMETT (the programme on cooperation between universities and industry regarding training in the field of technology) in EC countries.

6. Exchange of Graduated and Experienced Surveyors

One of the leading principles of modern education is continuous education. Anyone wishing to keep abreast with his profession must repeatedly receive education all through his career. Of course, most of it and frequently all of it may be given domestically, a considerable part even at work. However, it has been verified several times that time spent abroad in professional duties will

considerably widen the scope of the surveyor's mind and its relationship to the society.

A visit to another country brings new ideas, new techniques and new visions. But a visitor also takes along his experiences, and so discussions with him may be very useful to the hosts, as it is always useful to view matters from a different standpoint.

Visits of graduated and experienced surveyors may be divided into the following categories:

- (a) sequel studies or training of young graduated surveyors
- (b) excursions of surveyors
- (c) short-term visits of experienced surveyors
- (d) long-term visits of experienced surveyors
- (e) visits of experts.

Apart from these categories, there may be several different cases in all varieties of life. However, it seems not to be worthwhile to pursue them more in this connection.

(a) Sequel studies or training. There are often some branches of surveying which are not taught in every country. Then again some special branches stand very high in a certain country. In those cases it is very important, and in all cases useful, to take some sequel studies or training in another country. However, here the visitor belongs to the category of a "student" or "trainee" in spite of his graduation and can be treated according to the corresponding rules. Then after graduation, it may be easier to get a fellowship. Thus it is best to keep a keen eye for these opportunities.

(b) Excursions of surveyors. An excursion to a foreign country is a convenient method to obtain a general view of the surveying systems of another country. The participants of an excursion may confide in the traveling experience and the knowledge of languages of some group members. A visit to professional surveying institutions is apt to give some ideas and views. It is true that a group is mostly heterogeneous and the time does not allow going deep into details. However, after the visit it is possible to know where more information is available. Moreover, an excursion provides good opportunities to receive friendly contacts with colleagues.

When an idea of an excursion arises, the FIG contacts yield opportunities to make contacts with institutions which can host a visit. Hence the participants mostly finance at least the bulk of the costs, and there should be no serious problems to arrange an excursion.

(c) Short-term visits of experienced surveyors. The aim of a short-term visit is mostly very specific. There is a certain technique or a method to be learned. So the goal is known in advance. A visit may last 1 to 4 weeks. The visit lies, in general, in

the interests of the employer and then it is quite natural that the employer pays the costs.

When the aim of the visit is known, the first question is how to find a proper host for the visit. Sometimes the idea is clear, but if not, and e.g. the dealer of the equipment cannot help either, FIG may guide to the right track. The National Delegate of the relevant Commission may have ideas and addresses, and still more, they may be received from the Commission Chairman – in the event that he has time and knowledge. If the planner of the visit has an idea of the host country, the member association of the country is certainly able to find a contact.

At first sight, a visitor may be a nuisance as a time consumer of the host country. However, an expert visitor from another country may be a very good aid for you to ventilate ideas. Thus the host office can obtain a full compensation for the lost time.

(d) Long-term visits of experienced surveyors. The aim of a long-term visit of an experienced surveyor is to become acquainted with the methods of another country and to learn the basic problems and their solutions as well as to become familiar with the general atmosphere of surveying tasks. As a by-product one may acquire good information on the host country and a very good exercise of the language. A short stay in the country is not adequate. The length can be 2 to 12 months. In addition, if the host office wishes to take full advantage of the visit, a short visit would not be sufficient, because the work of the visitor cannot be made productive enough.

As an example of long-term visits based on an international contact we may mention the Agreement between North European countries on the Exchange of Civil Servants. The Agreement covers all different governmental activities including surveying. The visitor is paid like a civil servant of the host country, and the traveling costs either by the home country of the visitor or by the visitor himself depending on the case. Several surveyors have made a visit under this agreement. As visitors have quite a good knowledge in advance of the other northern countries, the stay has mostly been limited to two months.

In fact, several international long-term visits have been paid without any special general agreements. Actually, it is difficult to include the almost limitless variation of requirements to any agreement.

Since the long-term visits should make a firm pattern in the future, an attempt should be made to draft certain general principles.

- The host organization employs the visitor for the time of the visit.
- During the stay the employer gives various tasks to familiarize the visitor with different types and stages of the work.
- The home organization pays the traveling costs.
- The organization and meetings of FIG serve to make contacts for the visits.

The role of FIG is very important but doomed to be inactive. It may appear in different forms. The key word is to get a contact between the parties and there are different ways to make it:

- personal contacts obtained through FIG activities
- contacts through the commission administration or the Bureau
- contacts through member associations
- direct contacts at congresses, PC meetings and other meetings.

Since the Bureau and the Commissions have no resources for this purpose, they can hardly be very active as intermediaries. Consequently, an active attitude of the delegates on various occasions of FIG may remain the main artery for the flow of exchange. A great help may be a special Notice Board of Exchange at congresses and other meetings. The most important point in promoting the exchange is, however, a general attitude in favour of the exchange. The rise or fall of the exchange depends on it. The attitude depends on the activity of member associations.

(e) Visits of experts. An expert is mostly needed to solve a problem. The visit is initiated by the existence of the problem. The visit is paid by those who have the problem to be solved. The role of FIG is limited: In FIG activities people have learnt where to find the experts.

An increasing number of experts are employed by multinational companies. A problem which concerns FIG and the Member Associations is how to utilize the presence of experts and how experts can become familiar with the surveying and surveyors of the host country. The best way seems to be that the visitor participates in the activities of the Member Association during his stay.

7. Exchange with Developing Countries

Surveying is a key to economic and cultural development of a country, especially of a developing country. Surveying and mapping activities produce information for the inventory of natural resources, on the use of land and, in general, on different activities related to land. Surveyors are needed to plan the future use of land for different purposes, to develop and maintain a land register or a cadastre, to evaluate land, to execute land management and their share of land policy.

Developing countries are now short of surveying activities due to the shortage of surveying staff. It is not possible to overcome these shortages without the aid of technically developed countries. Most of the aid received, so far, is concentrated on mapping activities. Fortunately, the educational aspect has been connected with mapping cooperation projects in several cases. Each mapping cooperation should include so strong an educational part that the maintenance of the material and the advancement of national mapping could be guaranteed.

In order to educate an adequate staff of surveying personnel to each developing

country, different action is required. They will be dealt with as follows:

(a) The educational institutions should be established, but maybe not in every country. Moreover, it is more important to establish and develop them in such way that they become effective and competent. At least at the first stage, this requires a collaboration of some developing countries. Still more, some of the developed countries should be connected with the project.

This all means a strong exchange of personnel. It is possible to send some students to the developed countries. However, this is not as necessary as to send members of the educational staff to gain more experience from developed countries. At the same time the staff of the educational institute requires educational experts from developed countries and for such a time that their own staff has been strengthened enough. Therefore a continuous tie to a developed country is desirable to ensure the continuity. In both cases the visits - long-term ones - should be mostly financed from development funds.

(b) The developing projects have in many cases included the exchange of personnel. There may have been different ways to carry out it.

The education and training of staff has been connected with practical surveying and mapping projects. The persons to be educated have participated in the work with the experts which have been sent. Side by side they have learnt the tricks of the actual work until they have been able to carry out the operations by themselves. In this way the developing country has gained the know-how to maintain and revise the surveying material they have received from the project.

This type of education is not enough for all stages of the work, a deeper education is often needed. Thus a cooperation project has sometimes been included in additional education, some courses in developing countries and visits to a developed country. The length of the courses depends on the basic education of students, the subjects to be taught and the planned future activity. The length of a stay in a developed country may vary from 6 to 12 months. All the time of the stay should aim to the later duties of the visitor. In addition to the theory, a good practical experience should be emphasized. This results from the need of the experienced surveyors which requires the primary attention.

Care should be taken to connect a suitable amount of education and exchange of personnel to each development cooperation project of surveying.

(c) Continued exchange of experienced surveyors and experts belongs to vital activities in the future. This concerns universities and other educational surveying institutions as well as institutions of practical surveying duties. Visits are necessary in both directions, e. g. from a developing country to a developed country and vice versa. It should be ensured with continuous ties between the countries and it should be continued until it maybe called the normal exchange between two developed countries.

8. Summary of Measures

(a) Educational institutions. The exchange of students and young academic staff as well as the exchange of senior academic staff belong to the interest of educational institutions. Since international activities are developing quite fast in this field, no extensive measures are directly necessary. However, the promotion of the professional activities cannot be expected without certain steps taken by the FIG member associations. They are requested to draw the attention of educational institutions to the faculty of surveying recommending good relations to be tied between different countries with a view to comparing examinations and finding mutual acceptance as well as urging students, young academic staff and senior academic staff to apply for the exchange.

(b) The IAESTE Office. As IAESTE is recognized as an intermediary of international exchange of trainees it is advisable to use its services as much as possible. Not yet all of the member countries have joined this organization. Moreover, some of the countries have joined but no link has existed with the surveying profession. Therefore national members are requested to promote the relations with IAESTE, on the one hand between faculties of surveying and the survey students, in order to encourage trainees to apply for the trainees' posts, and on the other hand between acting survey organizations and IAESTE, to obtain trainees' posts for foreign visitors.

(c) The national member associations of FIG are requested to emphasize an extensive exchange of surveying personnel. There is no other organization to initiate and promote the exchange of graduate surveyors and experts. A short consideration already reveals that there are no practical solutions to establish any office to organize the activity and e.g. the FIG Bureau has no means to take up the task. Member associations can without any extraordinary efforts offer the idea of foreign exchange to their individual members and urge the acting surveying organizations to receive visitors, underlining the advantages the employer can take of the visitors.

A more complicated matter is to get a contact between the visitor and the employer. There seems to be certain alternative means to do it. The delegates of member associations have a great responsibility. The information and the relations they have received at FIG meetings may enable them to take a direct contact or they may take along the offers to FIG congresses, PC meetings or other meetings and try to make the ends meet. A good aid to obtain a contact can be a special Notice Board of Exchange at congresses, PC meetings and other occasions. The organizers of meetings should be commissioned to set up a Notice Board. It is not possible to emphasize too much the importance of personal relations in this matter, especially the responsibility of the delegates.

(d) Development Aid. As the key to the future independence in the field of surveying is an adequate and competent staff of surveying personnel, the use of

development funds for this purpose belongs to the most effective ways to promote the economic and social life of developing countries. Consequently, member associations are requested to inform the offices dealing with development funds on this subject. The funds may used

- to support surveying faculties of educational institutions in developing countries including the exchange of staff at different stages
- to finance educational projects in connection with all development projects of surveying and not forgetting the exchange of surveying personnel
- to support the exchange of surveying personnel of surveying organizations in order to further the experience of the staff.

(e) The key word in promoting the exchange of surveying personnel is a good flow of information to everyone whom it may concern.

TASK FORCE ON THE EXCHANGE OF SURVEYING PERSONNEL BETWEEN DIFFERENT COUNTRIES

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Terms of Reference

To investigate the exchange of surveying personnel between different countries, to review the connected economical, technical and linguistic aspects and to make appropriate proposals.

Membership

Vice President (Group A) and other members nominated by the interested Member Associations.

Background Information

The Statutes of FIG define the principal aims of the Federation. One of these is to foster the exchange of surveying personnel between different countries. This serves the purpose of the Federation, i.e. international collaboration for the progress of surveying very well. Consequently, serious efforts are required to promote exchanges.

FIG has already launched an attempt. The IAESTE Task Force has been established to promote the international exchange of surveying trainees.

Some general projects have been developed to support the international exchange of students, e. g. Erasmus (EC Countries), Nordplus (Nordic Countries), Jupiter (U.K.), Deus (Denmark) and Comett (Universities and Industries). There are good reasons for investigating how far those projects can be extended to the benefit of the surveying profession.

As has been shown on several occasions, the exchange of qualified and experienced surveyors as well as other specialists, short-term or long-term, in groups or individually, has proved very useful. This activity deserves very careful attention.

The exchange of students, surveyors and specialists is of vital importance to the developing countries. Every effort should be made to improve such exchanges.

GUIDELINES FOR EXCHANGE OF SURVEYING PERSONNEL BETWEEN DIFFERENT COUNTRIES

These are guidelines for the purpose of identifying the role of the Bureau and Member Associations in promoting the international exchange of surveying personnel.

References to the Statutes: Articles 1 and 31

Guiding Principles

1. Surveying Personnel

The exchange between different countries includes the following categories of persons

- 1.1 Students
- 1.2 Trainees
- 1.3 Academic Staff
- 1.4 Graduated and Experienced Surveyors
- 1.5 Experts

2. Bureau

In promoting this exchange, the Bureau is requested

- 2.1 to maintain information on the advantages and opportunities for exchange to Member Associations and other organizations
- 2.2 to promote opportunities for contracts between parties interested in the exchange, in particular at Congresses and other international meetings
- 2.3 to collect information on the exchange of surveying personnel
- 2.4 to observe particularly the exchange with developing countries.

3. Member Associations

The Member Associations are requested to promote the exchange at the national level and

- 3.1 to inform the surveyors and students of surveying on the different aspects of exchange
- 3.2 to inform the employers and educational institutions on the requirements of exchange
- 3.3 to act as an intermediary for contact addresses and other necessary details
- 3.4 to be in contact with the IAESTE office to promote the exchange of trainees
- 3.5 to seek the necessary conditions, particularly funds, for the exchange

3.6 to notify the Bureau of the development of the exchange.

4. Commission 2

The Commission 2 (Professional Education and Literature) is requested

4.1 to observe the implementation of the recommendations of the Task Force on Exchange of Surveying Personnel between different countries

4.2 to notify the Bureau on the achievements in this field

4.3 to initiate actions in order to improve the exchange whenever the need is noticed.