

**CAPACITY ⇒ OWNERSHIP ⇒**  
**LEGITIMACY ⇒ COMPLIANCE**  
Review of Finnish Training in Chemical Weapons Verification  
**Timo Kivimäki**

A report commissioned by the Finnish Ministry for  
Foreign Affairs

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## **Foreword**

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Albertslund, January 25, 2001

Timo Kivimäki



## Introduction

Unconventional security threats, most recently the threat of terrorism, have fundamentally challenged the traditional thinking on defence, security policies and global relations. In addition to national defence measures, many of the current global challenges require global measures in which also Finland has needed to actively participate. The international community has tackled these threats by using three main strategies. Conflicts have been prevented, managed and mitigated by focusing attention on three different layers of conflict dynamics.

- ❑ First, conflict behaviour can be contained or its destruction can be scaled down by means of military or political containment, **arms control** and disarmament.
- ❑ Secondly, disputes that motivate conflict behaviour can be solved by means of conflict resolution.
- ❑ Finally, bad structures of interaction that give rise to disputes and conflicts can be transformed by means of conflict transformation. These structures can be economic and political, but they could also be structures of coercive power and in this sense **arms control and disarmament** regimes also transform conflict structures (See Kivimäki 2001).

In the field of arms control a large proportion of international attention is currently devoted to containing biological, chemical and radiological threats. Of these concerns the activity to prohibit chemical weapons can be considered the most successful. In addition to institutional development, especially the establishment in 1997 of the Organization for the Prohibition of Chemical Weapons (OPCW), the expansion of the number of state parties to the regime and the development of the norms and their implementation has been impressive. Currently, there are 145 member states to the OPCW,<sup>1</sup> and the regime bans an entire category of weapons under a stringent verification regime. Also the

implementation of the destruction of chemical weapons has proceeded well<sup>2</sup> and a considerable share of the declared chemical facilities is being inspected.<sup>3</sup>

Despite its success the regime also has its problems. In addition to the scarcity of resources, the international regime for the prohibition of chemical weapons suffers from a division between “North” and “South”: while the destruction and prevention of proliferation of chemical weapons can be seen as something globally beneficial, some individual norms within the regime do not serve all nations equally. Finally, many of the commitments of the members are difficult to keep for less developed countries. Many developing countries lack the expertise in analytical chemistry to participate in the activities to verify that chemical industries, imports and exports etc. comply with the stipulations of the Chemical Weapons Convention (CWC, or the Convention). Yet a willingness and capacity for compliance is naturally crucial for the strength of the regime

In order to address the problems that developing countries face, Finland launched a training programme in chemical weapons verification in 1989 during the Paris chemical weapons conference responding to the requests by the representatives of some developing countries to organise this kind of training.

## **Focus and Objectives of the Report**

The report focuses on an ongoing training program in analytical chemistry conducted by the Finnish Institute for Verification of the Chemical Weapons Convention (=Verifin), the Department of Chemistry at the University of Helsinki. Training is for the improvement of verification capabilities of developing countries in the preparation and chemical analysis of samples for their content of chemical agents. The aim of the investigation is to collect information useful for the development of Verifin’s training of CWC verification capabilities in less developed countries (LDC). While the administration and implementation of the programme both at Verifin and at the Finnish Foreign Ministry are certainly in competent hands, this report aims at offering a different perspective to the activity – a perspective from the academic research on conflicts, arms control, development cooperation,

administration and training. Furthermore, this report aims at supplementing Verifin's self-evaluation (Bannwart 1996) of the training programme which was conducted in 1996. The aim is to update the evaluation of 1996 and offer a more detailed, thorough analysis of the programme and contextualize the programme in Finland's foreign policy/development cooperation aims, the Chemical Weapons prohibition regime and conflict prevention programming. It should be mentioned here also that this report does not aim to produce any independent conclusions on the scientific quality (in terms of excellence in analytical chemistry) of the training focused on. Furthermore, this report has a different function compared to the one conducted by Verifin's principal trainer, exactly because of the fact that it is conducted by a consultant who has no role in the programme under evaluation.

The objectives of this report were set by the Finnish Foreign Ministry as follows:

1. To assess the adequacy and the relevance of the training in chemical weapons verification as an instrument of Finnish development assistance and as an instrument to strengthen the National Authorities in the recipient countries aiming at the fulfilment of the obligations under the Chemical Weapons Convention. Who are/have been the direct and indirect beneficiaries of the project? Has the training been based on the real and actual needs of the beneficiaries? Has the programme environment changed during the programme implementation and how possible changes have affected the programme objectives and scope.
2. To review the impacts of the programme in the participants' countries. What are the positive or negative, intended or unintended impacts of the project especially at person as well as at institution level. To what extent has the purpose of the programme been achieved and how well the results and outputs achieved have contributed to the achievement of the programme purpose. What is the progress seen as now compared to the situation when the programme started? Has the transferred knowledge been

appropriate in relation to the scientific and technological capabilities of the recipient countries?

3. To assess whether the quantity and quality of the results justify the means used for achieving them i.e. how cost-effectively have the means been converted into results? The assessment shall consider alternative possibilities to promote the verification (e.g. training organized by the Organization for the Prohibition of the Chemical Weapons and/or training in the recipient countries). The possible experiences of other donors in contributing to the chemical weapons verification shall be addressed. Could VERIFIN develop a “competitive edge” which could attract funding from other ODA-sources? Are there possibilities for the specialization, co-operation or division of work in the donor community?

4. To analyse how well the project administration and management have been organised. How programme-monitoring activities have been carried out.

5. To discuss what is likely to happen to the positive impacts of the programme after the Finnish assistance come to an end and to give recommendations for the future co-operation in the field of training of chemical weapons verification.

## **Operationalization of the Questions**

For the aims set by the ministry, information has been collected on the following topics:

1. Verifin training
2. Finland’s objectives related to the training activity
3. Recipient country experiences of the utility of the training activity
4. Chemical weapons prohibition regime and the role of Verifin training in it.

The question of the Verifin training focuses on the input & output of the program, and important aspects such as pedagogical, gender, organizational and political aspects of the training. These aspects are then analysed against the priorities set by Finland in her foreign policies and international development cooperation.

The experiences of the recipient country of the utility of the training activity is not an independent element to be evaluated. Instead, these experiences are relevant for the assessment of the efficiency of the training in general, its integration into the objectives of Finland's development cooperation foreign policy, and its contribution to the OPCW regime. Yet the interest in sorting out the perspective of the recipient requires information on the position of the trainees in the national authority of CW verification, questions of the problems related to the technological level of the recipient country, perceptions of the general utility of the training (including the spillover effects on various fields pertinent to development), questions related to the possible contribution of the training to the ability of the developing country to participate in CWC-related international cooperation. The questions in this category are summarized in Annex 1

The issue of the integration of the Verifin training into the Chemical Weapons prohibition regime requires information on the perception of actors in the CWC regime on the following questions.

- ❑ Problems that developing countries face in complying with the requirements of the CW convention.
- ❑ Practical contribution of training activity to the CWC.
- ❑ Activities of other donor nations and the OPCW in addressing the difficulties of the LDCs of the regime.
- ❑ Possibilities for further development of training of verification capabilities in LDCs.

## **Methodology**

The assessment of material in this report uses the method of comparison of data from various sources. On the one hand, it utilizes documents of Finland's development cooperation and

foreign policies, and documents specifically related to chemical weapons and collaboration with Verifin, Verifin contract documents with the ministry, Verifin's own documents and two internal evaluation processes of the training (one conducted by the trainees, one by the trainer) and the University of Helsinki's documents, including an evaluation of the Verifin and OPCW documents. Secondly the collection of material is based on interviews and discussions by Kivimäki (a number of them together with Mr. Petri Kruuti from the Finnish Embassy in the Hague) with representatives of the following institutions:<sup>4</sup>

- ❑ Verifin
- ❑ Finnish Ministry for Foreign Affairs
- ❑ Finnish Ministry of Foreign Trade
- ❑ Finnish Ministry of Defence
- ❑ OPCW
- ❑ German Export Control Agency
- ❑ Western Coordination Group in the OPCW (US representative)
- ❑ European Coordination Group in the OPCW (German representative)
- ❑ Nordic Coordination Group of the OPCW (Danish & Swedish representatives)
- ❑ Current trainees
- ❑ Trainees working for the OPCW
- ❑ Trainees working for their National Authorities

In addition to this, Finnish embassies in seven countries conducted interviews of officials of the National Authorities and former trainees. The countries where Foreign Ministry officials conducted their interviews were Ethiopia, India, Indonesia, Kenya, Mexico, Peru, and Zimbabwe. The selected countries were all developing countries, signatories of the CW Convention, and had an Embassy. The latter criterion was related to the practical feasibility of interviews.

The idea of collecting material with several strategies is justified by the common methodological observation according to which the political text is produced differently for different

audiences. When Finland's ambassador asks a former trainee, he is likely to answer differently than in case that he/she is approached very informally by a fellow scholar, and when an OPCW official is writing a public document she/he is likely to emphasize issues different from those she/he reveals in an internal document or in an interview. A comparison of different source materials give an opportunity to assess the same issues from several angles.

There are certain interests that different actors have which may affect the way different issues are dealt with. In the case of Foreign Ministry officials let alone Verifin personnel involved in activities under review, there are natural reasons to emphasize the success rather than the failures of the training. At the same time, these same people are also accustomed to the transparent practices of the development of activities and they have a genuine interest in addressing the problems of the training as well. In the case of National Authorities in developing countries, there is an interest in emphasizing the commitment of CW verification for many reasons: the free training of chemists is beneficial in a number of ways unrelated to the CW problematique, the committed image is sometimes also seen as affecting the way export controls are subjected and implemented against developing countries, etc. Finally, trainees who have invested a lot of their time and effort in Verifin training are not likely to undermine the quality and relevance of the skills and knowledge learned in training.

The basic method to deal with the different interests of the informants, in addition to the comparison of different sources, has been a strategy in which concrete pieces of evidence, instead of general assessments are focused on. Instead of asking generally whether the training has been relevant for National Authorities, questions are asked to sort out specifically the Convention-related duties former trainees have participated in.

Interviews have been conducted in full confidentiality, no direct quotations are used in the report and no direct attribution is made to any of the interviewed people (naturally, neither are confidential documents referred to or mentioned in the list of sources). This has naturally downgraded the persuasiveness of the argument of the report in the eyes of the reader. However, it has turned out to be the only strategy to get the information necessary for the report.

The role of different sources of material in the investigation has been the following. The documentary analysis of Verifin documents, documents related to Verifin-Foreign Ministry and interviews among Verifin, trainees and Foreign Ministry people as well as evaluations within the university system, and evaluations by Verifin itself and evaluations by the trainees have been used for the investigation into Verifin training as such. Some of this material together with official documents on Finnish foreign and development cooperation policies and interviews among Verifin are used for the analysis of how the training activity of Verifin fits into the overall Finnish strategy. The analysis of the impact on the recipient countries utilizes the interviews conducted by Finnish embassies in the mentioned seven countries among former trainees and LDC National Authorities, interviews by Kivimäki among the trainees. The analysis of the integration of the training programme into the CW-regime utilizes OPCW and other donor documents and interviews among OPCW officials and officials of the countries in the three main international coordination groups, the Nordic -, The EU -and the Western group.

## **Verifin Training**

Since 1990, training courses for chemists from developing countries have been organized in the field of analytical chemistry necessary for chemical warfare agents verification. In the beginning, Verifin offered two Basic Courses annually, but in 1993 the program was enlarged and each year a Basic Course during the spring term and an Advanced Course during the autumn term were organized.

### **What Does The Training Offer?**

The main objective for the Basic Course is that after the course the trainee is able to perform all the different phases relevant to the verification of the known chemical warfare agents by using sample preparation methods and chromatographic techniques.<sup>5</sup> After the course the trainee should also be able to conduct self-prepared training courses on sample preparation and gas chromatographic

methods. An introduction to the spectrometric methods<sup>6</sup> is also provided. The basic course also uses three days for the introduction of the Chemical Weapons Convention to the participants.

The aim of the Advanced Training Course is that after the Course participants should be able to perform all the different phases relevant to the verification of known warfare agents by using both chromatographic and different spectrometric methods suitable for unambiguous identification. The participant should also be able to conduct self-prepared training courses on spectrometric methods (Verifin: Report on Chemical Warfare Agents Verification training Courses 2000-2001. Helsinki, 2001).<sup>7</sup> On the basis of the interviews among the National Authorities, trainees and student evaluations, trainees tend to feel that they have mastered the required skills and knowledge after both courses.

Courses last for a duration of four months and they are for four chemists, who are selected by Verifin, in recent years in active collaboration with the Foreign Ministry. Trainees are selected from developing countries and three requirements are expected of the candidates: They should have reasonable practical and theoretical experience in analytical chemistry, some experience in at least the basics of chromatographic techniques and they should have a good working knowledge of English. Otherwise, the selection criteria have not developed to allow prioritization using political objectives as a guideline. The importance of trainees to their national authorities is often reported as a matter of relevance in assessing the candidates for the selection (even though in 1996, only 4 of the 15 trainees participating in the Verifin investigation were actually members of their national authorities). Also the suitability of candidates' experience to the course affects the decision. In the selection, Verifin aims at groups that are homogeneous enough to allow the efficient working of the group of trainees. Furthermore, candidates have to come from countries that have signed the Chemical Weapons Convention.

19 of the 90 course participations<sup>8</sup> were by trainees from countries with low human development<sup>9</sup>. This share should probably be considered rather low, taken that almost all (all except 3) of the countries with low human development are signatories and 23 of them have ratified the Convention. At the same time, the poorest countries are not likely to be very interested in investing in

matters related to the Chemical Weapons Convention, since they often do not have any significant chemical industries or chemical weapons to declare. In some cases even the lack of chemists can affect the lacking interest/lacking eligible candidates for Verifin training.

Only 17 of the participations were by female chemists. This might be related to the fact that there are probably less female chemists involved in the prohibition of chemical weapons and, therefore, it might be difficult to train an equal number of male and female chemists for verification purposes. Yet the fact that the gender aspect is not documented in the selection criteria, suggests that this consideration is not very important in the training activity.

The invitations for governments to present candidates were first distributed in connection with the CWC negotiations in Geneva and since 1997 through the OPCW, which has then become responsible for the marketing of the training (Finland's Ministry for Foreign Affairs 1999). The number of applications has remained high, even though recently it has declined somewhat. Yet, it has been estimated by the OPCW officials interviewed that the decline in applications does not reflect a decline in the need for of interest in Verifin training, but just temporary problems in the implementation of the "marketing" of the courses. In absolute terms the number of applications for the basic course is still around six times as big as the number of accepted applications, so there still is a clear market for that component of Verifin training. However, the number of applications for the advanced course will necessarily decline (currently Verifin receives about four times as many applications as can be accepted), due to the fact that passing the basic course is considered a requirement for the advanced course and yet only four people (the same number as are accepted for the advanced course) pass the basic course every year.

The participants in the training are provided with free of charge travel arrangements, accommodation, daily allowances and health care insurance and above all with the training facilities including training course material, the use of the analytical instrumentation and equipment, and all the necessary chemicals, as well as sufficient stationery products. If the participant cannot be expected to have suitable clothing for Finland's conditions

financial support or other arrangements can be made to acquire these locally after arrival in Finland. (Verifin 2001).

Until the end of 2001, 15 Basic Courses with the total of 59 participants and 8 Advanced Courses with a total of 31 participants have been held. One or several (maximum four courses per country) participants have come from the following 44 countries: Albania, Algeria, Argentina, Bangladesh, Brazil, Burkina Faso, Cambodia, Cameroon, Chile, Cuba, Ecuador, Egypt, Ethiopia, Ghana, India, Indonesia, Iran, Jordan, Kenya, Korea, Kyrgyzstan, Lithuania, Malawi, Malta, Mauritius, Mexico, Mongolia, Morocco, Myanmar, Nepal, Nigeria, Pakistan, Panama, Peru, Qatar, Sri Lanka, Tanzania, Thailand, Tunisia, Turkey, Uruguay, Uzbekistan, Yugoslavia and Zimbabwe (Bannwart 2001).

The practical value of the training was clear already before the establishment of the OPCW. In an evaluation conducted in 1996 by Verifin<sup>10</sup>, 13 out of the 15 respondent/trainees described the training as useful in their current positions. The interviews by seven Embassies and by Kivimäki among trainees in 2001-2002 were even more explicit about the practical value of the training in promoting the trainees career development. All but one of them felt that the theoretical information offered by the course was relevant in their professional activities. All of the people interviewed by the embassies and seven out of ten interviewed by Kivimäki reported very concrete ways in which the training was both practically and theoretically useful for the trainees.

Of the people interviewed in 1996, only six had been offered a new position because of the training, but up to 12 respondents had been offered new resources to apply the experiences and skills learned from the Verifin training. More concretely, up to 12 of the respondents reported decisions to purchase new instrumentation to utilize the new capability gained in Verifin training. Five ex-trainees had participated in trial inspections, 7 in OPCW meetings, 4 in inter-laboratory tests, and 8 had taught in national training courses (Bannwart 1996).

The most direct contribution to the verification capacities of less developed countries is naturally related to the centrality of the trained people in the National Authorities of the recipient countries. After the maturing of the CW-regime and maybe also after the foreign ministry took a more active role in the selection of

the trainees, the direct relevance of Verifin training to National Authorities has improved. In 2001-2002, seven out of ten trainees interviewed were working for the National Authority (not necessarily in a fulltime employment basis). Of the trainees interviewed in 2001 and 2002 (By embassies and Kivimäki), also more than half (five out of the nine who answered the question explicitly) reported to have gained a new position as a result of the training. Also half (5/10) of the recipient countries contacted for this report, informed of new CWC-verification related instrumentation purchases motivated by the expanded human capacity. In 2001-2002 the share of trainees who had participated in trial inspections and inter-laboratory tests was clearly increased in the new situation with matured CWC-regime. Of the ten trainees interviewed by Kivimäki seven had participated in trial inspections, however, only two of the chemists interviewed by the Finnish Embassies had participated in trial inspections, while one had not. <sup>11</sup>However, almost all of the Verifin trainees in 2001-2002 had taught in national and international courses giving training on analytical chemistry: four out of the five who gave an explicit answer to this question to Kivimäki had done this and so had all four of the trainees who gave explicit answers to this question to the embassies.

Furthermore, for many of the trainees the course has offered international opportunities in Chemical Weapons prohibition regime. At the establishment of the OPCW up to 18 participants of the Verifin training courses applied and five were selected for a position as Analytical Chemist for the inspectorate of the OPCW. For those selected, the advanced course was considered a requirement for being acknowledged as being on the same level of expertise as applicants from industrial countries (interviews; Bannwart 1996). In 2001 only three of the OPCW inspectorate were trained by Verifin, while a fourth had recently left the organization.

### **What Kind of Resources Has the Training Required?**

The personnel resources of the program have remained modest. Before the program started in 1990, a chemist was employed in September 1989 to prepare and give the courses, as the instructor

with the responsibilities for the organization, administration and teaching. In September 1999 a second instructor was employed with the responsibilities for the quality system of the training laboratory and teaching. In addition to the two scholars, Dr. Christoph Bannwart (full-time) and Ms. Essi Pölhö (part-time) who are employed exclusively for teaching activities, training has recently utilized eight or some years nine other lecturers and practical trainers on an hourly basis.

Of the trainers, in recent years, about half are male and half female (either in 5/6 favour of women or 5/5). The principal trainer is a male while the director and research director of the training institute, Verifin, are female. The fact that Verifin is considered as a model laboratory by many analytical chemists involved in verification-related issues also makes the gender balance in the institute and in its training a meaningful matter.

Training uses very advanced and expensive, state-of-the-art instrumentation and laboratory equipment. At the same time, the overall, annual expenditure of the training, which is covered by the Department of International Development Cooperation, has remained very low, under FIM 1,07m (EUR 179 400). This figure covers all the expenses of the trainees, materials (including computers and other teaching materials) and chemicals used in the laboratory, maintenance of the instrumentation (not the fixed costs), lecturing fees and the salaries of the two trainers). All in all it seems that Verifin training is a surprisingly cost-efficient operation taken its important contribution to the objectives of Finland's development cooperation and arms control policies. The size of the class could, according to some trainees, be expanded from four to five or six, but according to others even this could hamper the quality of training. Furthermore, expansion of the activity seems to require some heavy investments in the instrumentation and would not necessarily increase the cost-efficiency. Cost efficiency of Verifin training could be further increased if some supplementing measures and programmes were taken (see recommendations).

### **Basic Quality Considerations**

Although it is not possible for this evaluation to conclude anything independently about the quality of the Verifin training in terms of academic excellence in analytical chemistry, it should be mentioned that an evaluation of Chemistry at the University of Helsinki in 1999 concluded that Verifin was “operating on a scientifically high international level”. All in all the scientific environment of the institute is very good, according to this standard Helsinki University evaluation. Especially, the analytical chemistry laboratory gets a very good score as “one of the best analytical chemistry facilities in a university organization in the world.” (Jinno & al 1999). However, this environment is not necessarily fully utilized since, according to the Research Strategy (2001-2003) of the Department, inter-laboratory cooperation within the department is insufficient (Department of Chemistry 2001). Also the University evaluation (Jinno & al 1999) mentions the same as some of the people interviewed, namely that Verifin operates rather independently of the rest of the department.

While it was not possible within this investigation to participate in any of the training courses, visits to the laboratory during the courses, interviews among trainees, instructors, student evaluations and evaluation of the activity in 1996 as well as reports on the courses reveal the methods of teaching rather well. Because of the small number of participants training has been able to address the individual interests and situation well. This has been made possible also by the highly interactive nature of the teaching, which allows the trainees very active participation and the giving of feedback. Taken that the trainees come from very different countries and possess rather different levels of expertise, this kind of method of training seems the only possible choice. Training in both the basic and advanced course has involved independent assignments and an independent problem solving-exercise. Also this commitment to developing the independent capabilities of the trainees seems well-based taken that the role the trainees are expected to play in their respective countries in support of the chemical weapons prohibition regime, let alone the fact that these

kinds of methods are pedagogically efficient. As a result the student evaluations reveal that the training uses enough, but not too much, time for each part of the course and makes it not too difficult, but not too easy either for all trainees to learn the knowledge and skills required of the participants of the course. Finally the independent problem-solving exercises test the level of the knowledge and skills of the trainees before the course ends.

### **Administration**

The training activity is institutionally placed in an independent institute, Verifin, within the Department of Chemistry, University of Helsinki. Yet Verifin is fully financed by the Finnish Ministry for Foreign Affairs, for the basic funding by the Department of Political Affairs (FIM 5.8m = EUR 975,500 per annum) and for the training project by the Department of International Development Cooperation (FIM 1.07m = EUR 179 400 per annum). The responsibility for the planning and implementation of the training programme is with the only full-time trainer of the institute, who works under the director of the institute, who again is working under a governing board chaired by Finland's Under-Secretary of the State for Political Affairs. The Vice-Chairperson is the Head of the Department of Chemistry. Other members of the governing board are the Heads of Economy of both the Ministry for Foreign Affairs and the University, the desk officer responsible for disarmament in the Ministry and the head of the Department of Organic Chemistry.

The formal administrative structure of the training course reflects two major concerns of performance. On the one hand, training has to reflect academic excellence in analytical chemistry. This is why its administration needs to know the requirements of an academic institution and this is why leading authorities in analytical chemistry need to take care of the implementation and part of the administration of the programme. The university environment contributes an academic evaluation system, "pedagogical culture" and training for the trainers, and the system of utilizing external lecturers all contribute to the positive implications for the institute of being institutionally placed under the University of Helsinki. Even though Verifin could be criticized for being too far apart from the university system, it seems clear

that at least in certain ways its administrative connection as a University institute can be seen as yielding positive implications. Verifin has benefited from being accustomed to the academic culture of open evaluations, continuous development of teaching methods, and the utilization of the University's human resources for external lecturing manpower and these features have most probably greatly improved the quality of Verifin training.

At the same time, the programme needs to reflect the political objectives of the Finnish government, and thus the relevant Foreign Ministry officials need to be involved in the surveillance and decision-making at the institute. When the highest power in the program, both administratively and economically, lies with the ministry, the political "surveillance and guidance" of the programme should be guaranteed. Yet it seems that it could be improved.

Verifin activity in general and the training of analytical chemists from less-developed countries in particular exemplifies the dilemma of modern foreign affairs. One can no longer talk about one foreign policy line but of international relations in plural.<sup>12</sup> Foreign affairs no longer operate in the context of relations between nations, but has become complicated involving many kinds of technical questions such as the prohibition of chemical weapons (which might be a domestic problem as well as an international one). For foreign affairs administration this poses a challenge when the administrator, in order to maintain control over a number of complex issues, would need to master, in addition to traditional diplomacy and foreign affairs, a number of complex technical issues, too, such as matters related to analytical chemistry.

In great power bureaucracies there is the possibility of assigning officials permanently to the administration of one foreign policy issue area, such as the prohibition of chemical weapons. These officials can then concentrate on only one technical competence in addition to competence in diplomacy. Bigger countries, for example, employ chemists in their ministries to take care of chemical weapons issues.

However, in smaller countries like Finland, this is not practical, and as a result the successful running of foreign affairs requires exceptional abilities to build bridges of communication

and cooperation between several professional cultures (in this case between diplomats and chemists).<sup>13</sup> These bridges are necessary in the case of chemical weapons-related programmes due to the administrative complexity of the issue. In addition to Verifin and the Ministry for Foreign Affairs (the Department of Development Cooperation working with the Department of Political Affairs) also the *Ministry of Trade and Industry* is involved as the agency responsible for export control, and the *National Agency for Medicines* as the agency responsible for issuing licences for work with schedule 1 chemicals, and the *Ministry of Defence* as the agency responsible of issues concerning the export of defence material (incl. schedule 1).

It seems that there is some room for improvement in the collaboration between Verifin's trainers and Foreign Ministry officials dealing with the issue of Verifin training. The university culture of communication does not always go well with the diplomatic culture of communication. In practice Verifin sometimes feels a bit unguided and the ministry officials sometimes feel that Verifin does things without reporting. In operational matters cooperation has improved recently and for example in the selection of trainees the ministry has taken a more active role. Yet even here there could be more information sharing about the political preferences concerning the programme, selection of trainees and the selection of countries where the trainees come from.

The contract documents, the consultancy contract itself, and the related annual work plan, as well as the reports (interim and final) of the programs seem to be thorough enough in defining the chemistry components of the training but seem to be limited in terms of matters with political relevance, such as the more detailed selection criteria for the trainees, considerations related to proliferation of technological expertise in areas where according to some political views proliferation might spill over into chemical warfare capacity.<sup>14</sup> At the same time, the ministry seems to be rather alert to matters where the assessment of political implications related to developments in the CWC regime requires chemistry expertise. This suggests that information flows from Verifin to the ministry in a form that makes political decision-making well-informed (in other words, Verifin seems to have

found a way to formulate their messages to diplomats without assuming a very thorough understanding of technical matters of analytical chemistry.

However, the biggest room for improvement is in the field of pure information (here contrasted with operational information) exchange, where the ground rules could possibly be negotiated between the relevant units of the ministry and the training programme concentrating on mapping the information needs both parties have related to the programme.

## **Verifin Training and Finland's Development Cooperation/Foreign Policy Objectives**

The Parliamentary Report on Security and Defence (2001) outlines Finnish security challenges in very broad terms emphasizing more than before contingencies that can be considered global and unconventional. Very similar challenges have been dealt with in the various documents outlining the objectives of Finland's development cooperation and in documents of development cooperation objectives of agents with whom Finland coordinates its development cooperation.<sup>15</sup> Finland's work on the prohibition of chemical weapons is clearly a sector of foreign policy, which serves the common indivisible global security as well as Finland's national security, against one of the "least unlikely" security contingencies. Clearly, here development cooperation is an integral and indivisible part of Finland's foreign policy and international relations as the Government's Decision-in-Principle on Finland's Development Cooperation stipulates (Finnish Government 1996, 2).

The programme to train chemists in CWC verification has also very direct implications for the central principles and objectives of Finland's development cooperation. While as a disarmament measure the scaling down of the destructiveness of potential wars is naturally also a measure to parry global environmental threats, the main contribution of the training to the protection of the environment is related to its spillover effects: the same techniques for the preparation and analysis of samples for chemical warfare agents can be used in environmental chemistry.

In fact, interviews with the former trainees often revealed this spillover effect. National Authorities in developing countries seldom have many full-time employees, but instead they tend to use experts in universities and other public administrative units. Thus, the contribution of spillover effects is very important: in many cases a vast majority of working hours of Verifin's ex-trainees are spent in governments environmental, agricultural or drug control activities, where they can utilize the skills achieved in Finland to improve the agricultural production, environmental protection or drug control of their country.

However, the Verifin training program is most clearly related to the general aim of reducing poverty and the impact of the program can also be assessed on the basis of its effects on social equality, democracy and human rights in the developing world.<sup>16</sup>

While the main aims of the training program are not directly related to the Finnish aim in gender equality, the implementation of the program has gender-related implications. It has already been mentioned that the model Verifin gives for chemists of developing countries of gender equality in an expert organization might be valuable from the point of view of values that are the basis of Finland's development cooperation. At the same time, the resources the Verifin training program builds are not empowering women as much as they are empowering men. Gender balance could be taken as an explicit objective in the definition of selection criteria for the trainees of the program.

The effects on the democracy, human rights and good governance of the program are probably most closely related to the indirect influence of conflict prevention on these values. As is mentioned in several documents defining Finland's development cooperation objectives, war efficiently prevents good governance, human rights and is especially cruel to the vulnerable groups and women. Furthermore, the risk of war "securitizes" societies and makes them unable to (or is used by the elite to) allow democracy and basic freedoms for the people (Weaver 1995).

The main aim of reducing poverty is directly related to the training program through the spillover directly educational effects. However, the main influence of the program on poverty reduction is through its influence on the reduction of conflict potential, and through its effects on empowering the South in an important

international regime. Verifin training programme can be seen as what the OEDC/DAC calls *enabling intervention in the area of poverty reduction*. As is mentioned in many documents defining Finland's strategy of development cooperation (see for example, Foreign Ministry 1999, 37, 39; Ruohomäki & Kivimäki 2001), conflict is a major cause of underdevelopment and an extensive concentration on armament, security and defence a major obstacle to development (Deger & Sen 1983). Empowerment of the poor, at the same time is a cornerstone of the Finnish poverty reduction strategy. It has been noticed that famine almost never happens in polities where the poor people have a say in social development (Sen 1990). Thus also internationally the current trend in unequalization is currently between rather than within states (UNDP 2000), and thus international empowerment of the poor nations should be seen as an important strategy for the alleviation of poverty. The impact of the program in conflict prevention and in empowering the poor is can only be dealt with within the context of the CWC regime, whose strengthening is an important objective for Finland's foreign policy.

## **Training and the CWC regime**

Arms control is mentioned as a central consideration in Finland's security environment in the Finnish Cabinet's report to the parliament in 1997 (Finnish Government 1997, Chapter 1.5.). Inside Finland's arms control policies the role of prohibition of chemical weapons plays an important role. Finland's primary considerations in its chemical weapons policies are first and foremost the general global support of the CWC regime and secondly the support of the destruction of chemical weapons in Russia. Furthermore, Finland supports and is a member of the CWC-related export control regime of certain western countries, the Australia group<sup>17</sup>, which was originally an ad hoc arrangement, established as a reaction to the discovery of the use of chemical weapons in the Iran-Iraqi war in the 1980s.

Finland's support for the CWC regime is important for the reduction of the risk and intensity of war because of two reasons. On the one hand, the prohibition of chemical weapons addresses

the problem of conflict behaviour by trying to make one category of violence impossible. By doing this it contains violence with chemical weapons, prevents one type of escalation and scales down the destructive power of warfare.

Secondly, Finland's contribution to the effort of controlling and disarming chemical weapons has structural effects: it reduces the risk of destabilizing the arms race in this particular category of armament. International agents need to protect themselves against coercive competition and lessen the temptation of their opponents' to violence against them by sanctioning violent behaviour. In the absence of international norms to control the arms race, this interest in self-defence can lead to competition and a *security dilemma*<sup>18</sup>, in which all nations must arm themselves and fight for their rights and security no matter what their original orientation towards violence (Brown 1997, 6; Kaufman 1997, 276-277). Thus contributions to international measures to control defensive competition also transform the conflict-prone structure of international interaction and increase non-violent stability in the global system.

In the containment of the chemical threat and transformation of the structure of arms race in chemical weapons, the CWC regime has been relatively successful (refer to success related to participation, acceptance of the norms and implementation of the convention as mentioned in the introduction). Yet the regime, and any similar regimes, is very vulnerable to three types of problems: problems related to implementation and verification, problems related to participation and ownership of the regime principles in developing countries, and political differences within the regime between "the South" and the "North".

The implementation and verification issue is crucial to the CWC regime. Problems in the regime to prohibit biological weapons exemplify this. Without efficient verification, it is difficult to persuade even important and responsible governments into the regime. Furthermore, without strict compliance of all the norms in the regime, the Convention has little meaning.

Currently, the main problem of compliance is related to the developing countries. Many of the schedule three facilities in the developing world are undeclared. Less than one third of the 145

members of the OPCW comply with their commitment of annual declarations on chemical facilities. In 2000 a total of 55 States Parties submitted annual declarations on past activities involving Schedule 2 and/or Schedule 3 and/or other chemical production facilities and only 37 States Parties submitted annual declarations on their anticipated/projected activities in the year 2001 (however, the number of “initial declarations has increased dramatically to 96% by year 2000, OPCW 2001, 10 & 19). Also procedures related to export controls are widely neglected by the developing countries. Furthermore, the practice of export control is not efficient in the CWC, which problem is then reflected in an international decision of Western countries to establish their own arrangement, the Australia Group, for the control of the export of chemicals. The fact that there are no developing countries in the Australia group does not help the ownership problem in the international regime for the prohibition of chemical weapons. It contributes to the fact that developing countries do not pay enough attention to the requirements of their commitment to the regime. In some cases norms of export controls are felt as in contradiction to the Convention, which in article 11 stipulates that the provisions of the Convention are “implemented in a manner which avoids hampering the economic or technological development of States Parties” and prohibit to “maintain among themselves any restrictions, including those of international agreements, incompatible with the obligations undertaken under this Convention, which would restrict or impede trade and the development and promotion of scientific and technological knowledge in the field of chemistry for industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes.” (Convention 1994). In fact even some of the instrumentation for the verification of chemical weapons is controlled in the trade legislation of the group or individual countries of the West. According to some officials interviewed, however, the Australia Group is getting more and more acceptance among responsible developing countries, due to its crucial role in the prevention of the proliferation of chemical weapons technology.

Because of the crucial importance of export controls to the CWC regime, the problems of compliance and ownership are very serious for the prohibition of chemical weapons. However, they are

not the only problems in the “North-South” relations of the CWC-regime. Other problems are related to the technical, bureaucratic and economic difficulties less developed countries experience within the regime. Even officials of bigger countries with adequate resources for the administration of country’s commitments to the Convention admit that hosting OPCW inspections, declaring chemical facilities etc., are complicated multi-agency bureaucratic exercises.

For developing countries with little or no chemical industries, going through complicated procedures might be frustrating. Also the old belief of chemical weapons as the “atomic bomb of the poor”, affect the felt ownership among the group of developing countries in a world where the possession of nuclear weapons has implied undeserved political and diplomatic status.

Furthermore, membership of the OPCW is often considered expensive by developing countries. With the current emphasis on Russia’s special problems, developing countries often feel that their membership contributions sponsor activities that are relevant primarily to the security interests of Europeans and North Americans.

Regarding the resource allocation within the various administrative units of the OPCW, there seems to be another problem affecting the sense of ownership of the regime in the developing countries. Many of the activities in the OPCW cost a lot, while only the activities of the International Cooperation and Assistance Division clearly address the special concerns of the developing countries. It seems that while most developing countries would like to see the allocations of this particular unit expanded at the expense of other administrative units, most Western countries do not accept this development. These problems further aggravate the rift between the South group and the North group in the CWC regime.

Verifin’s role in Finland’s general support for the global CWC regime has been crucial. In addition to its role in Finland’s compliance with the regime,<sup>19</sup> Verifin is the main contribution Finland gives to the OPCW. In addition to the training function, it is and has been involved in the following parts of the work of the OPCW:

- ❑ The Conference of States Parties
- ❑ The Executive Council
- ❑ The Scientific Advisory board
- ❑ Validation group for updating the OPCW analytical database
- ❑ Evaluation of OPCW proficiency tests cost-free

The training activity is a contribution that addresses many of the key problems in the chemical weapons prohibition regime. The teaching of verification and the reporting with OPCW-based forms has a very practical relevance taken that most developing countries still do not comply with the routine commitments in declaring their chemical industries. Within the field of verification the role of the training can be understood if one considers all the components of verification. The Chemical Weapons Convention (Convention 1994) requires verification procedures to guarantee that

- ❑ Existing stockpiles of chemical weapons are declared, identified and destroyed
- ❑ No chemical weapons will be produced,
- ❑ Permissible production of certain chemicals stays within the limits defined by the convention,
- ❑ Legitimate production of certain chemicals is not diverted to purposes prohibited by the Convention, and,
- ❑ In the cases of the alleged use of chemical weapons the necessary proof can be obtained.

The training conducted by Verifin is relevant to the development of capabilities in all these requirements. However, inspections require many kinds of expertise, only some of them are given by the Verifin training. In the chemical weapons destruction facility (not as relevant since of all the developing countries Verifin cooperates with in training, only India declared chemical weapons) inspection requires four types of specialists: CW/conventional munitions specialists, chemical production technologists, analytical chemists and medical specialists.

Chemical industry inspection for schedule 2 and 3 chemicals would require 4 types of expertise: chemical production technologists, industrial chemists, chemical production logisticians (material resources planning specialists) and analytical chemists. This capability to verify lies with the International Inspectorate of the OPCW, OPWC designated laboratories and the National Authorities of each member of the Convention. Verifin training is designed mainly for the analytical chemistry component of National Authorities of LDCs and for LDC officials at the OPCW.

The training in the analytical chemistry of the verification of chemical agents contributes very directly to some of the main political problems of the regime. The very aim is to build one aspect of the capability of developing countries to comply with the Convention. Without analytical chemistry expertise necessary for verification, any declarations on chemical facilities would be useless. In many cases the lacking expertise in analytical chemistry has indeed, been the main obstacle to the compliance of developing countries. Expertise goes together with the relevant instrumentation in this problematique. The ability to use advanced instrumentation for verification purposes do not always yield success if the developing country cannot afford the necessary instrumentation. However, the availability of instrumentation cannot be the criterion for the selection of countries wherefrom trainees are selected. Firstly, inspections can utilize expertise gained on the Verifin courses in sample preparation, even if the actual analysis is not made in the country concerned. Furthermore, instrumentation can often be acquired if the skills to use them already exist. Experiences from the ex-trainees were very encouraging in this respect, since up to 80% of the trainees informed that they felt that their training was instrumental in the country's decision to purchase the instrumentation needed for verification. In one case, another donor country had decided to grant some instrumentation as a result of the newly acquired human capacity.<sup>20</sup>

Verifin's role in the training of the analytical chemistry components of verification is unique. None of the other donor organizations are involved in such extensive training. The OPCW offers support for national laboratories relevant to the Convention. This activity includes information visits to other laboratories,

internships at advanced laboratories in other States Parties, sponsorship for laboratory staff to attend scientific meetings, and support for the conduct of specialised seminars (OPCW 2001, 31). In terms of training, the International Cooperation and Assistance Division could only offer very short courses with emphasis on introductory information on the Convention rather than in-depth knowledge on analytical chemistry. Rather OPCW training for National Authorities is focussed on general questions of national implementation of the Convention (submitting declarations, receiving a challenge inspection, setting up National Authority's website etc.). OPCW Secretariat's Associate Program Courses are aimed at scientists and engineers from developing countries with a view to exposing them to current practices in the chemical industry, contributing to the development of chemical sciences and the chemical industry, improving practices in the field of chemical safety, and enhancing cooperation amongst States Parties in relation to the peaceful application of chemistry (OPCW 2001, 32-33). None of the other donors offer anything comparable to what Verifin offers in the field of training of analytical chemists in verification methods. There are occasional courses for a few days, none of which can in any way be seen comparable to courses offered by Finland. The fact that sample preparation and chromatographic and spectrometric methods are relatively similar in analytical chemistry whatever the application might be (CW verification, environmental assessments, etc.), training most comparable to Verifin's training can possibly be found within frameworks unrelated to chemical weapons. Yet, none of the former Verifin trainees were aware of opportunities for similar training.

While training in analytical chemistry of verification is necessary for the Convention, one must still remember that this is not the only necessary component. There are other elements besides capacity in related analytical chemistry in the complex bureaucratic process of fulfilling all the commitments of the Convention. It seems on the basis of views expressed by officials in fellow donor countries and in developing countries, that a definite bottleneck capability is related to bureaucratic practices. Even countries who have received Verifin training tend to neglect their reporting duties and their declaration of especially schedule

three facilities. While the kind of training that Verifin offers certainly is necessary for compliance, it is definitely not sufficient, and thus in order to maximise the results, Verifin training could be complemented by training that was given by administrative experts and perhaps some institution-building related to the bureaucratic side of compliance. Interviews among many donor countries in Finland's main reference groups (West, EU, Nordic Countries) suggest that this kind of complementing would be appreciated and that there would probably be a willingness to contribute or even offer it if an initiative was made in the coordination groups. Finland's current contribution in capacity building is well appreciated as it is and this might be the field where Finland has its competitive edge, while other donors, perhaps the bigger ones, could be expected to offer the administrative capacity building.

While the explicit aim of Verifin activity deals with the problem of insufficient capability, training also addresses some of the problems arising from a lacking willingness to comply. Verifin training activity is a perfect example of the possibilities that the regime could offer for the North and the South to work together. The technological and educational spillover effects are a meaningful matter in countries with very little emphasis and resources in the prohibition of chemical weapons. Thus trainees often spend most of their professional effort in activities unrelated to chemical weapons. Unlike export controls, this type of activity promotes rather than impedes LDC's development of scientific and technological knowledge in the field of chemistry for industrial, agricultural, research, medical and pharmaceutical purposes. Even law enforcement (anti-drug unit) and environmental protection, not to mention university institutions in many developing countries, have had their share of the positive spillover effects of Verifin training.

In some respects Verifin training also directly addresses some of the elements of the prohibition of chemical weapons that are most problematic for developing countries. The free building of verification capacity eases the rift about the expenditure of OPCW membership on developing countries and partly compensates for the expenditures caused by the costs of "Western projects" such as the destruction of Russian chemical weapons. Furthermore, this activity corresponds well with the activity of the International

Cooperation and Assistance Division. Thus these kinds of activities get more funding, and yet other Western countries cannot complain about the burden that the Division causes them.

Developing verification capacity and compliance is also likely to help a developing country's treatment in the Western export control regime: restrictions are likely to be implemented more in full against countries which cannot guarantee their CWC compliance.

Finally, an analysis of the training in "buying LDC compliance" could also emphasize the factors of bureaucratic psychology. When Finland selects chemists close to the National Authorities of many developing countries, it also develops settings where the professional career prospects in their own countries are partly dependent on the commitment their countries give to the compliance of their commitments in the CWC: if the country does not comply there is no need for expertise in verification. Thus personal motivations for becoming an internal lobby for compliance are created and personal "ownership" is bought. Another psychological matter related to ownership and the legitimacy of the Convention is related to the ethnic/national consistency of officials at the OPCW. As members of the OPCW, developing countries can justly expect their nationals to be hired by the organization. Verifin's contribution to the training of LDC chemists for the organization has not been very extensive in 1996 (only three participants of both courses are currently employed by the organization). Yet efforts to continue to support LDC participation in the OPCW are politically valuable. Also these matters of political psychology might have some influence on the consolidation of the regime to prohibit chemical weapons.

## **Conclusions and Recommendations**

The objective of this report has been to collect information and analyse it in the service of further development of the training programme studied. All in all it has become clear that this service to Finnish foreign policy and development cooperation objectives are clearly needed, and that they are produced in a competent and

cost-efficient manner, within an administrative framework that seems optimal for the monitoring of scientific quality of the program. Furthermore training in analytical chemistry makes sense in terms of comparative advantage, due to the high quality of the Finnish academic environment in the field. Verifin training of LDC chemists in analytical chemistry relevant to the verification of the Chemical Weapons Convention, teaches skills that are needed for the strengthening of compliance with the Convention. The basic setting for the training activity seems very well suited to this task. Training has many politically attractive consequences. It addresses the crucial problems of compliance, and the legitimacy of the whole CWC regime when alleviating many of the justified grievances by developing countries: the training eases the economic burden of the Convention for developing countries, it reverses the tendency of some elements of chemical weapons prohibition – notably export control – of negatively affecting the development of chemical, pharmaceutical and agricultural industries and education. It also has a positive spillover effect on education, technology, law enforcement and the protection of the environment. In short, by providing capacity, it empowers developing countries, makes them feel ownership for the cause and thereby legitimacy towards the regime. This can be expected to increase compliance with the norms of the convention, which again is important for the security, and development cooperation objectives of Finland.

However, to reach maximal efficiency the Verifin program should probably be complemented by other programmes addressing the lacking capacity in different aspects of CWC compliance. Complementation of the program in cooperation with Germany, the USA or UK and especially the International Cooperation and Assistance Division and Verification division of the OPCW towards covering training and institution-building of the bureaucratic component of CWC compliance by the developing countries could multiply the effects of Verifin training. Competence in analytical chemistry might be necessary for LDC compliance, but since it is not sufficient for compliance, the other necessary components are needed before the Verifin training can yield maximal results in terms of efficiency. If after Verifin training developing countries still do not possess the necessary

capacity to fulfil their duties in the Convention, supporting Verifin training still cannot buy compliance. At the same time, there seems to be interest among other donors to offer something similar to build-up the necessary legal and administrative capacity for LDC compliance.

Another less obvious suggestion for complementation could be in the field of verification instrumentation. While the training seems to be beneficial as it is, in some cases the limited abilities of the developing countries to buy instrumentation reduce the utility of the achieved human resources. Here also, it seems that Finland's comparative advantage is in offering training, while other countries could offer something in terms of physical capacity building.

Most of the problems in the Finnish contribution to training LDC chemists are related to the difficulties of collaboration and communication between various "professional cultures". In many cases the problems seems to be that the political objectives of the ministry do not seem to be reflected in the activity and procedures of the training programme. Also the programme documentation is rather inadequate (consisting mainly of the contract document and Verifin's annual plans) and fails to specify matters relevant to the political aims while being more specific about the technical matters of implementation.

The most obvious example of this problem is related to the selection of candidates for the training courses. Regarding individuals taken in, the question of gender balance is probably a political problem in the current state of affairs. It seems that gender balance should be a conscious concern and it should be documented in the selection criteria of the contract documentation. Otherwise the consistent procedural principles outlined in development cooperation strategy documents are not complied with in this programme.

Secondly, the political objective should probably be more consciously considered in the selection of the countries where trainees come from. The question of how much the overall aim of concentrating on the poorest countries can be applied in this programme should be negotiated between representatives of both relevant "professional cultures", chemistry and diplomacy. On the one hand, the need-based argument favours the increasing of the

share of the poorest recipients, and at the same time the consideration of the ability of the poorest countries to utilize the training aid sometimes certainly speaks against need-based prioritisation. Here it seems Finland's aims in arms control policies and development cooperation tend to favour different prioritisations.

More generally the objective difficulty of inter-cultural communication between chemists and diplomats tends to create minor problems in the everyday exchange of information. This is due to the different professional languages and different practices in reporting about activities. Some relevant officials of the Foreign Ministry tended to feel slightly uninformed of some of the activities of Verifin, while also some Verifin chemists tended to miss further instructions on ministry preferences. It seems as if there would be a need to further discuss the development and harmonisation of the practices of information exchange between Verifin and the relevant ministry officials, despite the fact that there were no major problems that could be attributed to the need to further develop this side of communication between the two professional cultures.

Also internationally there could be two ways of the further development of communication. The problem of the CWC regime is insufficient communication and collaboration between the North and the South. Since Finland has a valuable role in addressing some of the North-South problems in the regime, the program to address this division could further contribute to the same direction. The structure of communication and coordination in the regime for the prohibition of chemical weapons is organized so there is very little dialogue between the North and South. For the training programme Finland has to keep the channels of communication open to the recipients of training aid. This implies that Finland has to be sensitive to and knowledgeable of the needs, opinions and concerns of the developing countries related to the Convention. This communication should be developed to ensure that more chemists from developing countries could be represented at the OPCW. Here, communication between Finnish officials representing the development cooperation perspective and the organization should be strengthened in order to emphasize the empowerment of the third world in the organization, and more

practically to ensure greater participation of Verifin trained chemists in the organization. It seems that Verifin training is well appreciated by people who are familiar with it. However, too many within the organization are not sufficiently aware of it to appreciate it. Emphasizing the need to empower the third world and informing of the Finnish contribution both would add value to the training by increasing its appreciation at the organization and, therefore, ensuring that people with Verifin training would be more competitive in races for OPCW positions.<sup>21</sup> One way of making Verifin training and the empowerment issue more known within the organization would be to substitute the advanced course (which necessarily will attract less applicants with formal qualifications) occasionally with courses, or shorter term training, specifically targeted to LDC chemists (to be) recruited by the organization.

Another example of the opportunities to develop for North-South communication within the CWC regime can be related to collaboration between Finnish embassies in recipient countries and the National Authorities there. This very report has meant that Finnish embassies in recipient countries have contacted the National Authorities and some of the trainees, and many embassies have reported positive results in the collaborative atmosphere. This opening could be used to justify and facilitate a closer relationship between Finland and the National Authorities of the developing countries. The former trainees could be kept in a “mailing list” to enable communication, and even the provision of updated information relevant for analytical chemists. This way not only the continuing utility of the training programme for developing countries could be ensured, but this could also be the method how Finland could bring more sensitivity towards the needs, and knowledge of the concerns of developing countries to the Western, European and Nordic coordination groups. Most concretely for the training programme, this dialogue could be utilized in involving the LDC National Authorities in the decision-making on the trainees to be selected to the Verifin courses. Dialogue could also give an input to developing countries to integrate the Verifin trained chemists into the National Authority activities.

Verifin training could also be utilized in the development of South-South communication and regional collaboration. In the future training, experts could also be one window to enhance

regional co-operation where at least minimal institutional framework for this kind of co-operation exists. As much as warfare and chemical arms in many parts of the developing world cross national borders also this kind of transfer of expertise could be done on regional basis. This could involve inviting trainees to represent SADC for instance and asking them to utilise their expertise in the whole region for instance through local training courses etc. This should not be seen as an alternative to existing Verifin courses, since regional training naturally would require previous training with more sophisticated instrumentation. Verifin could even have a role in the organization of regional training in the developing countries. Regional co-operation could also help these countries to reduce expenses when investing in equipment. This might be possible even though the organization of prohibition is organizationally based on national arrangements (National Authorities).

Finally, another communication-related recommendation is related to the problem of limited visibility of the training program within the CWC regime. It seems that while Verifin as an institute is visible and known among analytical chemists of the world, its training activity for the regime is not known by many of the diplomats and representatives of Western, European and Nordic coordination groups. Verifin training seems to fit nicely with Finland's foreign policy profile, and thus it could be utilized more efficiently in Finland's "image policies". It seems clear that some brainstorming and strategic thinking could be initiated within the Foreign Ministry about how to seize the PR-potential latent in the training activity sponsored by the ministry. The good work done by Finland for the LDC capacity building would deserve greater publicity.

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22. Pöhlö, Essi, Quality system of the training course.
23. Rautio, Marjatta. Director, Verifin
24. Ruck, Manfred W., Referatsleiter, Federal Office of Economics and Export Control (Participated in the negotiation for the establishment of the Australia Group).
25. Ruohomäki, Olli. Policy Adviser, Conflict prevention.
26. Räsänen, Kai. Arms Control Unit, Finnish Ministry for Foreign Affairs.
27. Säilä, Pekka. Ambassador, Finnish Embassy in The Hague.
28. Teng Vannarith (Cambodia), Verifin Trainee
29. Vanninen. Paula. Research Director, Verifin, OPCW proficiency test (part time).
30. Vierros-Villeneuve, Pilvi-Sisko Director for Arms Control, Finnish Ministry for Foreign Affairs.
31. Virtanen, Pirjo Unit for Evaluation, Finnish Ministry for Foreign Affairs.
32. Wickramage, Chandra (Inspector, OPCW), former Verifin Trainee.
33. Yesodharan, E.P. (Inspector, OPCW), former Verifin Trainee.

## Annex 1: Questionnaire

### **Questions related to the position of the trainees in the national administration of CW verification.**

- In what kind of occupations are the trainees currently? How central is their expertise in the country's administration of CW verification issues?
- Are there any changes in the occupational positions of the trainees due to the training?
- Have the trainees been used in any national trial inspections?
- Have the trainees been used in national chemical weapons-related training?
- Have the expertise achieved from Verifin-courses been used in environmental protection, educational or any other activities unrelated to chemical weapons?

### **Questions on the problems related to the technological level of the recipient country**

- Do the Verifin-trained chemists fit into the resource-environment (instrumentation) available in the country?
- Will there be additional resources for verification purposes in the future?
- Has the Verifin-training influenced these plans?
- Has the Verifin-training improved the capability of the country to participate in international collaboration in the field of Chemical Weapons verification?

**Questions related to international cooperation**

- ❑ Have the trainees been used in international trial inspections?
- ❑ Have the trainees participated in international meetings concerning Chemical Weapons Convention?
- ❑ Have the trainees been accepted to positions in the international chemical weapons prohibition regime (such as in the OPCW)?
- ❑ Have officials of the national authority received chemical weapons verification-related training from any international institution/organization other than Verifin?

**General question on the utility of Verifin training**

- ❑ What have been the aspects that have made Verifin courses useful for the country?
- ❑ What could be done to make it more useful?

## Endnotes

<sup>1</sup> In addition to this there are 29 signatory states which have not ratified the treaty (OPCW 2002).

<sup>2</sup> After the establishment of the OPCW until the end of year 2000, 7.1% of unitary chemical weapons (nerve agents VX and GB, sarin and the blister agent HD, mustard gas) were destroyed. 26.2% of Category 2 chemical weapons (=Chemical weapons on the basis of all other chemicals and their parts and components) and 29.8 % of Category 3 chemical weapons (=Unfilled munitions and devices, and equipment specifically designed for use directly in connection with the employment of chemical weapons) had also been destroyed as of December 31, 2000 (OPCW 2001).

<sup>3</sup> By the end of year 2000 the OPCW had inspected all Schedule 1 facilities, almost all the declared Schedule 2 facilities, and one fifth of the Schedule 3 plant sites (Bustani 2001, 5). Schedules 1-3 are categories of chemicals defined and listed by the Annex on Chemicals (CWC 1994, 40-41) and facilities are those that produce chemicals in these categories. In short the difference can be summarized so that schedule 1 chemicals have little or no use for purposes not prohibited under the Chemical Weapons Convention, while Schedule 2 chemicals are not produced in large commercial quantities for purposes not prohibited under this Convention, while Schedule 3 chemicals may be produced in large commercial quantities for purposes not prohibited under the Convention.

<sup>4</sup> A full list of people interviewed is in annex 1

<sup>5</sup> The chromatographic techniques are used for the separation, identification, and determination of the chemical components in complex mixtures. It is a physical method in which the components to be separated are distributed between two phases, one of which is stationary while the other moves in a definite direction.

<sup>6</sup> Spectrometry is a method of identification of chemical components. The technique uses the mass, nuclear magnetic resonance or infrared wavelength absorption of the chemical component as a fingerprint of the chemical component.

<sup>7</sup> In addition to these courses VERIFIN and DERA CBD Porton Down (UK) gave a training course to the analytical inspector candidates (see <http://www.verifin.helsinki.fi/Training/insptrai.asp>) in March-May 1997. There were two groups of students: 15 persons and 14 persons. Each group started with four weeks in Finland consisting of lectures and laboratory exercises. Then the groups moved to the UK for three weeks and set up a field laboratory and did practical exercises. These courses were not a continuing institutionalized exercise that would continue, so they are not focused in this report except as possible supplementary/alternative activity for the continuing courses.

<sup>8</sup> The reason why participations are referred to rather than participants is because of the fact that all participants in advanced courses were in Verifin training for the second time. The number of participations, therefore, reflects the Finnish contribution better than the number of participants.

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<sup>9</sup> The human development index and life expectancy are widely considered as better indicators of poverty than GDP/capita. The group of low human development countries consists of the 35 poorest countries in the world.

<sup>10</sup> This evaluation was based on questionnaires, 39, which were sent through diplomatic channels. 17 of the questionnaires were returned and 2 of them rejected because of missing data.

<sup>11</sup> The rest of the responses were ambiguous about this question.

<sup>12</sup> For an analysis of the change in the nature of foreign policies in the context of Finland, see Berntson & Kivimäki 1998.

<sup>13</sup> For a more general analysis of the problem of professional cultures in Finland's international diplomacy, see Kivimäki 1999.

<sup>14</sup> The question of whether chemical weapons can most efficiently be countered by trying to contain proliferation by means of export control and closing doors to intellectual exchange in related fields, or by improving verification capabilities for verification will be dealt with later. Here it suffices to say that this controversial question requires dialogue between chemists and diplomats, dialogue, which is not helped by the briefness of the contract documents between Verifin and the Foreign Ministry.

<sup>15</sup> Finnish Foreign Ministry 1996, 1998, 1999; EU Commission 1999; Swedish Foreign Ministry 1999; Danish Foreign Ministry; UNDP 1999; UNDP forthcoming; OECD/DAC 1997ab; Butros-Butros Ghali 1995.

<sup>16</sup> Reduction of poverty, parrying of global environmental threats and promotion of social equality, democracy and human rights are defined as the main objectives of Finland's development cooperation in the Government's Decision-in-Principle (Finnish Govt 1996).

<sup>17</sup> Australia Group consists of 33 western countries and the EC. It is just one of the expert arrangements Finland is a member of. Others are the Wassenaar Arrangement (for dual use products), The Missile Technology Control Regime (MTCR), Nuclear Safety Convention (NSC), and the UN and EU economic sanctions arrangements.

<sup>18</sup> The Anatomy of the security dilemma in international politics was first analyzed by John Hertz (1950).

<sup>19</sup> VERIFIN is the Finnish National Authority as defined by the Chemical Weapons Convention, while [The Ministry for Foreign Affairs of Finland](#) is the highest implementing authority of the Convention in Finland.

<sup>20</sup> One should probably be a bit careful with some of the data indicating these positive results, taking the strong interests both National Authorities and trainees have in emphasizing the role of education and the significance of the instrumentation purchased.

<sup>21</sup> It should be remembered, however, that Finland's training programme aims primarily at strengthening National Authorities, rather than the OPCW. In a way it is also positive, if trained chemists stay in the third world instead of contributing to the "brain drain" from the South to the North.

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