

Sterilization Education in Indonesia

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Indonesia, measuring almost 46 (!) times the size as the Netherlands and a population of 250 million people, it is a country of an immense size. Jakarta is a huge city where millions of people are trying to make a living.

Already about 3 years ago I was approached by the German sterilizer manufacturer Webeco about the possibility of presenting a course on sterilization in Kupang on the island of Timor, one of the thousands of islands of Indonesia. The course would take place in Atambua, a town at the border with East Timor,

The Ministry of Health has launched a programme for improvement of the health services of the province of East Nusa Tenggara (NTT); it is financed through the German development bank KfW (Kreditstelle fuer Wiederaufbau). In the context of this programme, Webeco could supply sterilizers for 13 hospitals. NTT is one of the poorer parts of Indonesia; Timor is one of the islands of this province; an island where there was serious unrest which, several years, ago ended in grave riots and resulted in 2002 in the separation of East Timor. The majority of the island is Christian. Through the government there is a strong movement to promote the Islam as official religion. From the early days at the beginning of independence the rivalry between Christians and Moslems has been a hot issue. During the riots, which reached their climax in the period of 1999–2001, East Timor lost almost half of its population of the original 800.000 people.

Upon arrival in Jakarta, melting pot of 9 million people, we get stuck in a serious traffic jam; not different than in many parts of the Netherlands. The company that represents Webeco is in one of the business centres in an office tower of 23 floors. During the first days after arrival the training program is finalized and materials are bought; the translation of handouts arranged. And then on we travel to Kupang, with a stopover in Surabaya, in the western part of Java. From Kupang, a 6 hours drive takes us to Atambua, on the



southern side near the border with East Timor. Winding roads, beautiful views, and notably the friendliness of the people are the first impressions. Our destination is the hospital of Atambua: a district hospital with 200 beds and 2 resident doctors.

An initial visit to the sterilization department gives an impression of the situation. Of the 4 automatic sterilizers that were supplied, none is in use. 3 are out of order. The other one is not used due to only very limited or no training that the staff received when the equipment was delivered; thus one feels insecure in using the machine.

At the moment only a semi-automatic autoclave built in 1982 is used. All electrical components have broken down. Only the heating elements and the on-off switch have survived. However, it is still somehow working.

Packaging is done in worn-out old textile sheets. There are no sterilization control materials. Cleaning is done only manually. Half of the time during the day there is no electricity from the public supply; the generator cannot provide sufficient power for the sterilizers. Water proves to be a troublesome problem, too. After boiling of a litre of water from the tap, a thick layer of deposits shows on the bottom. The water softener is saturated in no time.

The new advanced sterilizers need water of highest quality for their operation. The new machines were installed already 3 years ago. When checking the cycle counter, we see that the machines have only been used rarely. We have to get going.

With two technicians of Hospitalia, the local representative for Webeco, we get the larger 80 litre sterilizer running again quite soon. Water shows to be the cause: due to scaling a float of a level-sensor remained stuck, and the machine does not know anymore how much water it has. After that we find that a small nozzle in the water supply for the steam generator is completely blocked. Everything is cleaned and soon it is running again. A big relief, because with this machine we have to do training.

Participants of 13 hospitals have been invited from various islands of the province. In total there are 26 participants, of which the majority are technicians and a number of users. Another problem is the language. Most people hardly speak any English. All communication has to go through a translator, Markus Tolani from the island of Flores.

Among others he is a diving instructor for the Marine life protection program in the province of NTT. Also he works regu-



Fig. 1: RSUD (district hospital) Atambua



Fig. 2: The sterilization department. Upon arrival only this 1982 vertical sterilizer was working



Fig. 3: Explaining the physics of water and steam



Fig. 4: Practicing folding techniques for wrapping sterile goods

larly in programs that are financed through the German Development Bank KfW. We immediately get on very well. He understands my words instantly and knows to set the right tone that demands respect from the participants. In his diving training it is essential to work seriously. It can cost one's own or another persons' life if you don't follow the correct procedures. In sterilization it is not different. He manages to transfer this message very well and regularly the analogies with the diving work are emerging.

We stick to the step-by-step approach. We start the course with the very basics: introduction into micro-biology, general infection prevention, physics, water, steam, and only then the sterilisers: from the most basic pressure cooker types to the new, computer controlled machines that they received. By doing so we hope to transfer understanding and insight, rather than the learning by heart of procedures of pressing of buttons and reading dis-

play messages, which then may refer to the customer support that usually is not available or simply too costly for a remote hospital.

On Sunday I wanted to work on the old autoclave so that on Monday I could do a demonstration with it. I asked whether somebody is interested to help me on their free Sunday. The whole group signed up – what an unexpected enthusiasm!

On Sunday afternoon we had planned to be at the hospital after morning mass. That night I was confronted with the reality under the seemingly friendly surface. Alongside the hospital there are some army barracks. A police post is also nearby. A conflict develops between these parties; there is fighting and shooting. A Moslem soldier is killed. Two policemen are seriously wounded. They are taken to the hospital where we are running the course. Assistance is called in from the army in the provincial capital

Kupang. The army command is installed in the same hotel where we are staying and soon there are only army uniforms around us. The parties negotiate. We consider whether to stay or to leave before the situation runs out of hand. However the day is already too far gone, and travelling by night is too dangerous. We decide to stay the night and the next morning we would see whether the situation would be safe enough to continue the course. The participants and we are all in the same hotel. If need arises we could continue in the hotel. With all these soldiers around us we feel relatively safe.

That night "our" hospital appears on the National TV news. In the meantime the parties have come to an agreement. The next day we can continue our work. The group carefully follows the lectures; there are practicals on packaging; they perform repair and maintenance procedures. And especially there is a lot of laughter and

fun – not least about my hopeless few words of Bahasa Indonesia. The atmosphere is very good.

As the course goes on, the participants realize that complicated equipment reveals its secrets when one starts understanding it. It really gives a boost when the group manages to repair one of the smaller automatic sterilizers without my direct intervention.

The course is closed with a test which shows that the theoretical knowledge needs yet to be improved. This also due to the fact that initially no handouts in the local language were available. However it still is surprising to see how much has been absorbed!

From reactions in the final evaluation the most important issue is the fact that the participants felt that they got more self-confidence and are not afraid anymore of this machine that is full of in-

comprehensible components. On the other hand, the danger of too much confidence was stressed. Even if participants are now better able to do their job with self-confidence because they understand what is going on, one week is not sufficient to upgrade a person with basic knowledge to a fully experienced sterilizer technician. Nevertheless soon they will be facing most jobs virtually alone. Next year the guarantee period for a large quantity of equipment will expire. So, additional support is necessary. In the meantime there has already been a proposal for a follow-up of this course, which will give us the opportunity to further improve the technicians' skills.

By the end of the course, the training handouts arrived, containing all presentations, and even the book on steam sterilisation had been translated (a preliminary version) within two weeks. Now there is

at least some background material in the participants' own language.

The departure on Thursday is hard. However, all the memories running through my mind – e.g. when the participants report that the sterilizer is working again – fill me with happiness and gratitude that I have the opportunity to do this work...

Cooperation has been crucial, notably with Markus, the translator. Making use of each others' knowledge and abilities releases an enormous amount of energy. And it can cause the impossible to materialize.

As I am writing this I realize that I forgot to print my e-ticket. Now I have to find out whether with some co-operation I still can go home...

Jan Huijs, Jakarta, December 2006