



DIFS-Live Project in Indonesia

Main phase Poultry and Dairy Food Security Program

Project number 1600684-01

Sub-assignment

Improving Vocational Education Programmes on Broiler Slaughtering Practices

Final report – November 2017

Executive Summary

Wageningen Bio-Veterinary Research (“WBVR”) has concluded a contract with the Dutch Embassy in Jakarta in respect of “Main phase Poultry and Dairy Food Security Program, under the name of DIFS-Live. Within this program there is a sub-assignment “Improving Vocational Education Programmes on Broiler Slaughter Practices”. On basis of Terms of Reference TONDEUR VTCA developed a proposal for implementation and signed on 21 December 2016 the contract for implementation.

The scheduled activities concerned the following phases:

- Orientation: analyze actual training curricula, identify vocational training centers, training materials, formation of a local working team of trainers, feedback with other Dutch partners and consultants involved in poultry slaughter
- Curriculum development: adjustments, new textbook on poultry slaughter, developing presentations, worksheets and assignment for the target group, exchange of materials, comparing traditional slaughter practices versus improved slaughter
- Organizing a training of trainers (ToT) course: with 15 trainers of the selected livestock training institutes, classical and practical training on the relevant topics of the new curriculum, advise on educational methods, prepare a try-out (pilot) training
- Organizing a Pilot training: with 8 selected persons who match the criteria of the target groups (diploma students, workers of poultry abattoir, broiler farmers, vendors), practical training in the new poultry abattoir at IPB Diploma, Bogor
- Final reporting: due to certain draw-backs it was agreed upon that the deliverables has to be submitted ultimately on 15 November 2017 (addendum of 22 August 2017).

Overall all the planned activities have been implemented with good, satisfactory results, mentioned in evaluation by the trainers, participants, coordinators, director of IPB Diploma and the Dutch poultry training experts. The main draw-back was the delay in installation of the new poultry slaughter equipment in the practical training facility at IPB Diploma Bogor. During the training of trainers course in August we could not make use of them; during the Pilot training we could compensate this by having three practical slaughter sessions, whereby the trainers managed to apply slaughter techniques independently. We are very confident that the trained trainers will continue to teach target group students on improved poultry abattoir hygiene and quality.



Introduction.

The project proposal for the subcomponent was developed by TONDEUR VTCA in cooperation with PTC+/Aeres International Group in Barneveld in October 2016. This sub-assignment on abattoir hygiene training will be run parallel to the one on Broiler Farm Management for Agriculture Vocational Training Centers in Indonesia. This one is implemented by PTC+/Aeres International Group at Barneveld. Mr. Bertus Bronkhorst is the coordinator for the implementation of the sub-assignment Broiler Farm Management training. He is supported by Mr. Helmich van Rees, who contributed in the ToT course in August 2017.

Four Indonesian training centers were invited to participate in the enrollment of the two training modules: IPB-Diploma Training Center in Bogor, VEDCA pedagogic training center in Cianjur, SMK Industri Perunggasan in Ciamis and SMK IPP in Ciangara. The IPB-Diploma institute in Bogor formed a working team of their training staff under leadership of Mrs. Yuni Resti to adjust the existing training curriculum and develop training materials and handouts.

Working group to adjust the training curriculum Poultry Abattoir Hygiene:

Dr. Bagus P. Purwanto	Director of IPB-Diploma	
Dr. Ir. Daisy Tambajong, MP	Lecturer IPB-Diploma	
Dr. Ir. Rukmiasih, MSi	Lecturer IPB-Diploma	
Mr. Danang Priyambodo, SPt, MSi	Lecturer IPB-Diploma	
Mr. Dudi Firmansyah, SPt	Lecturer IPB-Diploma	Coordinator Abattoir
Mrs. Fitriani Eka Puji Lestari, SPt, MSi	Lecturer IPB-Diploma	
Mr. Fariz Am Kurniawan, SPt	Lecturer IPB-Diploma	
Mrs. Gilang Ayuningtyas, SPt	Lecturer IPB-Diploma	
Mrs. Yuni Resti, SPt, MSc	Lecturer IPB-Diploma	Overall coordinator

1. Analysis of present curriculum and summary report

The Terms of Reference for the first, orientation visit was developed in January 2017 by TONDEUR VTCA and contained the following topics:

- Physical visit to the IPB Diploma Institute in Bogor, including an assessment of the current training facilities in relation to the scheduled training program. Plus the need assessment for additional training tools and materials.
- Collecting relevant information for the preparation of the Training of Trainers (ToT) program: looking at the existing training curriculum and teaching materials.
- Meet the selected trainers for the ToT program, identify their backgrounds, skills and experiences in the field of poultry slaughter and hygiene practices.
- Visit poultry abattoirs near Bogor and Jakarta for analyzing actual slaughter practices and the critical points that require improvement. Also identify these abattoirs as fitted locations for excursions and practical training.
- Discuss with the IPB trainers team a draft plan for the ToT program and the Pilot training, including a time schedule.
- To report within 3 weeks after the visit to TONDEUR-VTCA the findings and discuss the follow-up actions.

The orientation mission was carried by Mr. Bertus Bronkhorst on request of TONDEUR VTCA. The main reason for inviting Mr. Bertus Bronkhorst of PTC+ Barneveld was for efficiency reasons: it could be combined with his orientation mission for analyzing the present curricula of both Broiler Farm Management and Poultry Abattoir Hygiene at the IPB-Diploma Institute in Bogor. The first visit to IPB-Bogor was done in March 2017 and Mr. Bertus Bronkhorst reported to Wim Tondeur of TONDEUR VTCA after his visit. He shared information about the current training courses at IPB-Diploma and other agriculture vocational training centers in Indonesia. He reported about the team of trainers and



coordinators that potentially would be involved in the adjustment of the training curriculum and participate in the preparations of the Training of Trainers and the Pilot training courses.

Curriculum of Poultry Abattoir Hygiene module:

No	Subject	No of hours	Theory minutes	Practice minutes
1	Introduction on poultry slaughter practices (RPA): the objectives and benefits	5	50	240
2	The development of poultry slaughtering practices in Indonesia	1	50	0
3	The role and function of poultry abattoirs, design, requirements and equipment	1	50	0
4	The principles of RPA: stratification, clean-dirty	1	50	0
5	RPA management: daily operation, house, facilities	1	50	0
	1. Traditional RPA system – Excursion	4	0	240
	2. Modern RPA company – Excursion	4	0	240
6	Slaughter and processing steps	9	50	480
7	Practical manual slaughter technique	4	0	240
8	Factors influencing the carcass quality and food safety	1	50	0
9	Evaluation and presentation of results	4	0	240
	Total (minutes)		350	1680
	Total (hours)	35	7	28

On top of this reporting Mr. Bertus Bronkhorst shared relevant documentation and audio-visual material to TONDEUR VTCA. Mr. Bertus Bronkhorst reported about the constraints in the progress: the renovation of an existing cattle abattoir building into a practical training facility for poultry slaughter and processing. Special equipment for manual slaughter was developed by a team of experts of WUR and Stork/Marel. The original scheduled period of implementation in the agreement was set from January 2017 through August 2017.

2. Upgrading and development of curriculum, ToT and training aids

In this phase there was regular contact with the training coordinator and the team at IPB-Diploma in Bogor about the progress in the adjustment of the training curriculum and the development of teaching materials, via e-mail and via Skype meetings. The local team of 8 trainers in Indonesia worked every two weeks on Fridays on a textbook in Bahasa Indonesia on poultry slaughter practices (total of 30 pages). On top of this Wim Tondeur developed new worksheets for the practical training and PowerPoint presentations for the group presentations in the classroom. The idea is to have the most relevant papers tested during the Training of Trainers (ToT) course Poultry Abattoir Hygiene. These will be evaluated and adjusted on basis of joint experiences during the ToT. On 12 July 2017 Henny Reimert of WUR-Livestock Research had an extensive briefing with Wim Tondeur about the poultry slaughter practices in Indonesia. They also discussed the subjects of the adjusted training curriculum Poultry abattoir Hygiene.

The staff IPB-Diploma Institute reported periodically to TONDEUR VTCA about the progress in the renovation of the practical poultry slaughter room and their messages were promising. The procurement and the transport of the new Stork/Marel equipment was on schedule. The containers with the materials from the Netherlands arrived in March in the harbor of Jakarta. However the custom clearance of the abattoir equipment took much more time than was foreseen. Due to this the installation at location in Bogor made the final scheduling of the



Training of Trainers course and of the Pilot training course on Poultry Abattoir Hygiene very uncertain.

3. Implementation of ToT program to selected staff

Initially the Training of Trainers courses were scheduled from Dutch side in the summer holiday season of the Netherlands. However this did not match with the holidays of Indonesia – especially with the Holy Month of Ramadan (July) and with the Idd festival (beginning of August). The best moment for the local trainers was the two weeks prior to the start of the new academic year at agriculture colleges in Indonesia: the two weeks in the second part of August. Unfortunately Mr. Hermans Voortman, practical trainer for poultry slaughter was not available to join Wim Tondeur for the ToT course Poultry Abattoir Hygiene. For compensation of the input of Hermans Voortman it was decided that he could support Wim Tondeur as a practical trainer during the Pilot training course.

The two Training of Courses on Broiler Farm Management and on Poultry Abattoir Hygiene were integrated into one course of ten days. This was well communicated and approved by the local team of trainers. In total fifteen (15) trainers attended the ToT courses: 11 from IPB-Diploma in Bogor, 2 from VEDCA in Cianjur and 2 from SMK IP in Ciamis:

List of participants for Training of Trainers program (14-23 August 2017)

Dudi Firmansyah	Program Diploma IPB	Bogor
Elis Juariah	VEDCA	Cianjur
Fariz Am Kurniawan	Program Diploma IPB	Bogor
Fitriani Eka Puji Lestari	Program Diploma IPB	Bogor
Henny Endah Anggareni	Program Diploma IPB	Bogor
Iwan Setiawan	SMK Industri Perunggasan	Ciamis
Rukmiasih	Program Diploma IPB	Bogor
Setiawan	Program Diploma IPB	Bogor
Asep Tahyana	Program Diploma IPB	Bogor
Danang Priyambodo	Program Diploma IPB	Bogor
Gilang Ayuningtyas	Program Diploma IPB	Bogor
Sunaryo	VEDCA	Cianjur
Surya Kusuma Wijaya	Program Diploma IPB	Bogor
Dedi Kusmana	SMK Industri Perunggasan	Ciamis
Yuni Resti	Program Diploma IPB	Bogor

The following poultry abattoir topics were in the program of the combined ToT course:

- Discussion in classroom: evaluation of the improved training curriculum Poultry Abattoir Hygiene; the textbook and worksheets developed by the IPB trainer team
- Presentation in classroom: objectives, development, principles and management of poultry slaughter practices in Indonesia
- Practical manual slaughtering and processing in the Bubulak poultry abattoir
- Excursion to a modern, large-scale poultry abattoir of Japfa Group in Ciomas
- Excursion to a modern broiler farm of CP Poultry feed integration
- Management of traditional and improved poultry slaughtering
- Explanation on the use of improved slaughter equipment by Stork/Marel and WUR
- Food safety, quality control programs like HACCP
- Meat inspection and carcass lesions
- Hygiene and biosecurity
- Waste and water treatment



- Assignment: how to make a PowerPoint presentation and show it in classes
- Organizing and conducting practical classes
- Conclusions and evaluation
- Follow-up actions and planning of the pilot training course

For the full program and time-schedule of the combined ToT courses – see *annex 1*
The written and oral evaluations showed how much this training was helpful and appreciated by the participating trainers – see *annex 2*.

During the course two commercial poultry abattoirs were visited: Bubulak and one of the Japfa-group in Ciomas. The practical training in poultry slaughter skills was done in the Bubulak abattoir, due to the fact the new equipment was not yet operational in the new practical slaughter room of IPB-Diploma. Also some extra building construction adjustments were required: a wall between arrival/hanging/bleeding area and the area for scalding and de-feathering. From Indonesian side an epoxy floor was planned, and laid after the installation of all the new equipment. On the last day of the ToT course the Dutch expert team for the installation of the new slaughter equipment (Peter van Horne and Henny Reimert (WUR-Livestock Research), Jos van den Nieuwelaar (Poultry Equipment company Stork/Marel)) explained and demonstrated the use of the new equipment. However no slaughter of animals was possible at that moment.

At the end of the ToT course a plan was developed with the trainers for the Pilot training course as a try-out of the new curriculum subjects – see *annex 3*.

4. Coaching and assistance during first pilot training of trained trainers

The local team of trainers of the agriculture training centers preferred to have the Pilot training course planned during their mid-term break in the Indonesian academic calendar: the week from 30 October through 4 November 2017. From Dutch side Wim Tondeur of TONDEUR VTCA was present to coach and evaluate the ToT participants in performing the try-out of relevant subjects from the new curriculum and to have a try-out of the new slaughter facilities at IPB Diploma in Bogor. He was supported by Mr. Hermans Voortman of PTC+/Aeres International group, to divide their energy and time on each trainer. Condition was that the renovated poultry slaughter room with the new Dutch poultry slaughter equipment was fully operational. Mr. Henny Reimert, WUR-Livestock Research was present on Tuesday 31 October and Wednesday 1 November to explain the use of the new equipment to the trainers and the participants of the ToT course. In this way we hope that the trainers are capable to do the practical classes of manual slaughter and with the new equipment independently during the Pilot training course and all the practical training in the future.

The Pilot training course on Poultry Abattoir Hygiene was implemented from Wednesday 1 November through Friday 3 November 2017. The training coordinators, Mrs. Yuni Resti and Mr. Dudi Firmansyah prepared a time table with subjects for this Pilot Training. The idea is that each participant of the ToT course take care of a training subject: including preparation, implementation and evaluation. There were two practical training sessions in the new poultry slaughter room at IPB-Diploma institute in Bogor. No excursion to a modern or improved local poultry abattoir was in the program. The target was to have only one group of 8 participants for the Pilot training course: recently graduated Diploma students, some selected staff from local poultry abattoirs and persons who showed interest on basis of a Facebook announcement of this training.

Time schedule of the Pilot training on Poultry Abattoir Hygiene module:



Wednesday	01-11-2017	Morning session	Introduction to the course and curriculum	Yuni, Henny
			RPA objective, development, principles, management	Yuni, Henny
			Food safety, Quality Control programs	Henny, Yuni
			Lunch break	
		Afternoon session	Practical Manual slaughter and processing – yield assignment	Dudi, Asep
Thursday	02-11-2017	Morning session	Meat inspection and carcass lesions	Henny, Dedi
			Hygiene and biosecurity	Dedi, Henny
			Lunch break	
Afternoon session	Practical Manual slaughter and processing – improved technology	Dudi, Sunaryo		
Friday	03-11-2017	Morning session	Excursion to a modern broiler farm at University compound, Bogor	Setiawan, Asep
			Lunch break, Friday prayer	
		Afternoon session	Analysis of yield assignment Evaluation of pilot program Graduation of Pilot students	Dudi, Dedi, Sunaryo All staff

List of the 8 participants in the Pilot training on Poultry Abattoir Hygiene (1 – 3 November 2017):

1	Aceng Sukron
2	Binti Nur Halimah
3	Bobby Apriansyah
4	Rausanfkri Hafiz
5	Lala Nuljaman
6	Muhammad Yusuf
7	Rahman Imam
8	Surajudin

At the end of the training course a written evaluation was done by the pilot training participants. The outcome is very positive and with correct judgement of the subjects and trainers involved – see *annex 4*. During a kind of graduation ceremony 8 participants received a certificate of attendance, given personally by Dr. Bagus, director of IPB-Diploma institute. He thanked all participants and trainers to make the first training on poultry abattoir hygiene and quality so successful.

5. Overall evaluation and final reporting

In the afternoon of Friday 03 November 2017 a meeting was organized to evaluate the two revised training modules: Broiler Farm Management and Poultry Abattoir Hygiene. Nearly all trainers were able to attend, including the director of IPB Diploma, Bogor (Dr. Bagus P. Purwanto), Mr. Adriano, local representative for Advance Consulting and the three Dutch poultry training experts (Wim Tondeur, Bertus Bronkhorst, Hermans Voortman).

From the side of IPB trainers the following remarks were made:

- Improvement of know-how on the specific subjects of modern broiler farming and improved poultry slaughter techniques



- Educational skills have improved, especially in organizing practical training and to give assignments to students
- The pilot training was a good experience to share new technologies
- Best is to transfer knowledge in real situations like the school farm and in the new practical slaughter room
- Evaluation of my teacher skills after the classes by Dutch experts was a good method for self-reflection
- Look for ways to gain more new knowledge and skills, like attending a training course for trainers in the Netherlands
- The integrated approach of all training subjects was highly appreciated
- More cooperation with trainers of other SMK training centers; the participants of the ToT program have formed a WhatsApp group for regular exchange of information'
- An annual meeting of subject matter trainers of all SMK's has to be organized
- The trainers learned also from each other; they received relevant feedback information of students who have experience in poultry farming and slaughter
- Created an atmosphere in which students felt free to ask questions. Nice interactions which improves the learning process.
- Team is very flexible and willing to introduce new ways in practical training
- Advice, when the experts are gone, is to follow training from each other and give feedback

From the side of the two IPB training coordinators the following remarks were made:

- Time management of classes is very important, especially when dealing with none experienced students
- The feed-back from the Dutch experts was highly appreciated
- More skilled training staff is needed
- There was good team work: trainers of IPB, trainers of VEDCA and SMK Ciamis, poultry training experts from the Netherlands
- Good communication is important: first orientation visit, mail correspondence, Skype meetings, Training of Trainers program and a pilot training by us
- Poultry abattoir hygiene is completely new for us and confusing in beginning. Overall it was a very good experience
- Look/see – think - act

The director of IPB Diploma Bogor Institute gave the following comments:

- The human factor in this project has very high priority
- There is still some budget available to complete the new practical slaughter room in order to have it as a model for improved slaughter technology
- Need to focus on more improvement of staff training skills – internally and externally
- Other vocational training centers and local vendors will be invited for training and use of the practical slaughter facilities
- IPB looks for more cooperation and hope to stay in contact with all the Dutch experts

Mr. Adriano raised the following points of evaluation:

- Many thanks to everybody who made the two sub-component projects successful.
- A continuation in cooperation between all parties would be appreciated
- Sending training staff for fellowship programs to the Netherlands: Indonesian government has their sponsorship funds. The Dutch organization Nuffic has a fellowship program for short technical trainings

The three Dutch poultry experts added the following remarks in evaluation:

- IPB Diploma Bogor is in an unique position to have a simple, well-equipped poultry abattoir, not only for training of their own students, also for students of other vocational training centers and for workers of local poultry abattoirs
- This facility will spread ideas about improved slaughter technique and especially the young generation will adapt the important concepts of hygiene, biosecurity, cooling and product quality



- Innovation of the new slaughter facilities should continue, step-by-step to improve for a better hygienic process
- Investing in well-trained and skills staff is important. The Dutch team will support plans for more staff-development locally as well as in the Netherlands
- Further cooperation and exchange of information: feel free to contact and inform each other
- The book Broiler Signals (especially translated in Bahasa Indonesia) is an excellent textbook, both for trainers as well as for the students of the broiler farm management module. Wim mentions that Roodbont is working on a new textbook called Broiler Meat Signals, what could be a good textbook for the Poultry Abattoir Hygiene. The planning is to have the first edition published in one year time

The following adjustments were required during the implementation phase:

- The first mission (result 1) was done by Bertus Bronkhorst of PTC+, Barneveld – mainly for efficiency reasons: visiting the same training and poultry locations and meeting the same group of trainers. Of the available budget for the orientation visit only half was spent.
- The feedback meeting (result 2) was attended by Bertus Bronkhorst, especially because he did the orientation visit on request of Tondeur VTCA. Wim Tondeur was informed at a late moment about the meeting and could not attend due to other obligations he had at that moment. Of the scheduled three days for result 2 only two were actually realized.
- The curriculum development (result 3) and exchange of teaching materials went accordingly to the planning. The scheduled five days were sufficiently, even one day less will be charged for.
- The Training of Trainers (ToT) program at IPB Diploma Institute at location in Bogor (result 4) was postponed a few times, due to Ramadan and holiday season and to the delay in the renovation of the practical slaughter room and the installation of new poultry slaughter equipment. Finally the ToT course was held in the second part of August 2017 and combined with the ToT course on Broiler Farm management. The participants were trainers of 3 agriculture training centers, who attended both training courses. Mr. Hermans Voortman was not available to support Wim Tondeur in the implementation of the ToT Poultry Abattoir Hygiene. The formula of combining the two ToT courses worked out successfully. Due to this Wim Tondeur spent 12 working days in Indonesia instead of the scheduled 7 days. On the other side there was some saving in budget because of the absence of Mr. Hermans Voortman. On the last day of the ToT course the team responsible for the installation of the Dutch poultry slaughter equipment (Peter van Horne, Jos van de Nieuwelaar, Henny Reimert) gave an explanation about the principles of improved poultry slaughtering and hygiene.
- The implementation of the Pilot training course (result 5) was held 9 weeks after the ToT course, first 3 days of November 2017. The day before the start of the Pilot training course a first try-out in the slaughter of poultry was done, under guidance of Mr. Henny Reimert. He also was present during the first practical training by the IPB trainers the next day. This time Mr. Hermans Voortman was able to join, especially to supervise the practical slaughter process. Due to this a total number of 16 working days was required for the implementation of this activity instead of the scheduled 9 working days. The difference is well balanced by the lower expenditures in the previous activities.

Overall the implementation of the sub-assignment Curriculum development Poultry Abattoir Hygiene and Quality is well-done and satisfactory to me, taking the draw-backs and the necessary adjustments into consideration. Most important is that the 15 trainers of the three agriculture institute (IPB Diploma Bogor, VEDCA in Cianjur, SMK in Ciamis) are able to



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explain improved poultry slaughter techniques, including the use of the Dutch equipment. Finally I like to thank all persons who contributed in the implementation: we had a very nice and friendly work relation. Especially the team of IPB Diploma Institute in Bogor gave us the full support and the young team of trainers is open to new educational methodology and improved poultry abattoir hygiene and quality. I am confident that they will spread the message to the young generation in Indonesia.

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15 November 2017

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