

Analysis of constraints for compliance to Good Agricultural Practices by the horticultural sector in Indonesia

BOCI Project BO-10-009-109

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Project BO-10-009-109: Impact assessment: incentives for Good Agricultural Practices

This research project has been carried out within the Policy Supporting Research for the Ministry of Economic Affairs, Agriculture and Innovation, Theme: Robust systems, cluster: International cooperation.

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May 2012
Project code 8141105200
Report number CDI-12-007
Wageningen UR Centre for Development Innovation

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May 2012

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The horticultural industry in Indonesia is progressively moving to apply Good Agricultural Practices (GAP) with the aim of producing sustainably as well as guaranteeing food safety. While the Ministry of Agriculture has put a lot of effort in assisting farmers to comply to the national IndoGAP and become Si Sakti certified uptake has been slower than expected. This study has tried to identify the constraints for compliance to GAP such that with this knowledge incentives for GAP compliance can be formulated.

Photos

Front cover (vegetable farm, Lembang, Java): Ahmad Suleaman

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Acknowledgements

We would like to thank the farmers for their time and their willingness to participate in the pilots, the workshop participants for their lively discussion, the Ministry of Agriculture to host the concluding workshop and Mr. Jean Rummenie from the Embassy of the Netherland, Jakarta for his interest and support of this topic.

Table of contents

Acknowledgements	i
Executive summary	iv
List of abbreviations and acronyms.....	vi
Introduction.....	1
1 Activities.....	7
1.1 Pilots.....	7
1.2 GlobalGAP National Technical Working Group	23
1.3 Round table discussions.....	25
2 Conclusions.....	33
3 Recommendations.....	35
References and resources.....	37
Appendix 1A Proposed new composition of the NTWG	39
Appendix 1B Composition of the advisory committee for the Food Safety Initiative – Indonesia	41
Appendix 2 GlobalGAP certificate PT.SaungMirwan	42
Appendix 3 Remarks from Saung Mirwan on GlobalGAP Critical Control Point.....	43

Executive summary

Introduction of a good agricultural practice system for the horticultural industry in Indonesia occurred only in 2004. Implementation and certification of the IndoGAP system is developing, the importance, especially for food safety is recognised. The pilot farmers that were part of this project acknowledged that their farm operations have improved since becoming involved with IndoGAP and that their impression is that, without having carried out a comprehensive cost-benefit analysis, the farm returns have increased. This is due to reduced costs of farm-inputs, mainly pesticides, and an increased price for their produce. On the down-side, training is still not sufficient and not comprehensive enough. A well designed follow-up system of initial training. Involving farmers, as well as the public as private sector is called for. Examples are field schools managed by farmer cooperatives and supported by experts but also provision of information and training provided by supermarkets themselves.

On a national scale the importance of GAP is acknowledged. However, both key-stakeholders and informants agreed that, for increased compliance to GAP concerted action between public and private players, assistance of farmers and awareness amongst market parties and consumers is required. As a first step a committee operating under the name Food Safety Initiative Indonesia has been established (see <http://www.hortichain.org/site/en/projects/bocifsii/rtd1.html>).

GlobalGAP has become the international standard and is increasingly adopted by many countries. GlobalGAP certificate is a ticket to enter the arena of the international market, especially the European market requires it. For vegetables, the Europe is not the most suitable destination because of the perishability of the product. Possibility for fruit commodities such as mangosteen and other exotic fruits are larger but need both a guarantee of food safety as well as a concerted marketing effort.

The step from IndoGAP to GlobalGAP is still large for farmers. This is so for various reasons, IndoGAP works on a commodity certification, with comprehensive SOPs to follow, while GlobalGAP works on the basis of certifying farms. Without an agreed interpretation guideline of GlobalGAP for Indonesia the adaptation of GlobalGAP will only be feasible for a few front runners. The three levels that farmers can achieve in IndoGAP is a good way of gradually improving farmers abilities to farm according to GAP. It would however help if the highest level of IndoGAP, Prima I, is really in line with GlobalGAP. GlobalGAP is continuously moving and improving its standards, to be truly effective IndoGAP needs to follow. By implementing GlobalGAP, the development of the standard can be monitored, such that eventually IndoGAP standard can be harmonized with the international (GlobalGAP) and regional standards (ASEANGAP). With regards to the latter, ASEANGAP, this is still being developed, the role of this additional GAP system is not yet clear. It is however apparent that the way ASEANGAP standards are designed, is different again from IndoGAP as well as GlobalGAP. To avoid further confusion by farmers a clear choice needs to be made by the Indonesian government which GAP system will be the standard for Indonesian fruit & vegetable farmers.

In 2011 4 pilots were conducted, two on IndoGAP and two on GlobalGAP, with the aim to learn lessons about overcoming some of the more practical constraints. Relevant stakeholders were asked to contribute towards seeking solutions for the more general constraints. Commitments have been made by the Ministry of agriculture to take both IndoGAP and GlobalGAP further.

With regard to the four pilots, the two farmers and their farm cooperatives working towards IndoGAP have been partly successful in obtaining the Prima certificates. Even though at times they are struggling they are committed and clearly see the need and advantages of GAP.

Saung Mirwan, the first GlobalGAP pilot, succeeded in obtaining a GlobalGAP certificate (based on version 3.0), GlobalGAP number GG 4050373928988. This farm is certified according to option 1: one farmer, one certificate. The farmer Cooperative “Manunggal” is still working on the implementation of GlobalGAP. Seven farmers have decided to get a GlobalGAP certificate. This group will go for option 2: certification for a growers organization. There isn't any experience with option 2 certification in Indonesia and obtaining a group certificate definitely poses challenges.

As acknowledged by the public stakeholders of the various departments, the organisation of food safety control is very dispersed at present. Attempts to harmonise the food safety agendas of the various departments have been made, this does however need commitment from the heads of the various departments. Locating food safety in one unit would assist these efforts. The unit for food security is the most likely candidate for this.

List of abbreviations and acronyms

ASEAN	The Association of Southeast Asian Nations
CDI	Wageningen UR Centre for Development Innovation
CPCC	Control Point and Compliance Criteria
DG	Directorate General
EVD	Dutch Agency of the Ministry of Economics, Agriculture & Innovation (Economische Voorlichtingsdienst)
FAO	Food & Agricultural Organisation
FSH	Food Safety Initiative - Indonesia
GAP	Good Agricultural Practice
IPB	Agricultural University Bogor (Institute Pertanian Bogor)
IPM	Integrated Pest Management
KAN	Accreditation Authority Indonesia
MoA	Ministry of Agriculture
MoE	Ministry of Environment
NGO	Non-Governmental Organisation
NTWG	National Technical Working Group
OKKPD	Regional Food Safety Authority
Si Sakti	Sistem Sertifikasi Pertanian Indonesia
SME	Small & Medium sized Enterprises
SSS	Sayur Siap Saji (Ready to Serve Vegetables)
SOP	Standard Operation Procedure
USAID	United States of America Agency for International Development
Wageningen UR	Wageningen University & Research centre
WSSD	World Summit on Sustainable Development

Introduction¹

Good agricultural practice (GAP) has been promoted within the Indonesian horticultural sector. Uptake is very low, partly because supermarkets and exporters do not demand nor pay extra for GAP produced vegetables. The benefits of GAP and Global GAP certification are not imbedded within the horticultural chain. This leads to food entering the local market while food safety is not guaranteed. Lack of certification also limits international trade of horticultural produce.

The current certification landscape is rather confusing. There are an increasing number of labels and certificates being communicated in the modern market segment. Exporters prepare for ASEAN GAP which is expected to be obligatory in 2012 and newly acquired high-end customers like Carrefour Middle East are likely to follow with food safety requirements. Seven international certifying bodies and six national certifying bodies currently operate in the Indonesian market for training, audits and certification inspections

In order to prevent competition between the various standards and scattered food safety initiatives this proposed project aims to strengthen the capacity of Indonesian institutions to design and implement a food safety framework (including good agricultural practices and certification) for the domestic and export markets in such a manner that coherence and collaboration between the various certification schemes is guaranteed.

Indonesia, with a population of 220 million, is a large consumer market for fruit and vegetables. Consumption of fruit and vegetables is an important component of Indonesia's diet and Indonesian consumers spend a higher proportion of their food budget on fruit and vegetables compared to other Asian countries. Even though Indonesia produces 25 million tonnes of fruit and vegetables (production figure for 2007) less than 1% was exported as fresh. Import of horticultural produce, mainly fresh fruit but also garlic and shallots, is still increasing. The majority of produce is imported from China. There is also a consumer preference for imported fresh produce because its appearance is better.

Table 1: Indonesia Fruit Imports (Tonnes)

Product	1995	2004	2007	2008	2009
Oranges	15,297	50,928	23,566	28,024	19,586
Mandarins	22,654	43,279	89,125	109,598	188,956
Grapes	6,326	28,715	27,395	25,671	34,961
Apples	44,158	114,031	145,301	139,818	153,511
Pears	18,845	74,277	94,518	86,687	90,390
Durian	689	11,087	23,149	24,679	28,935
Other Tropical Fruit	304	34,073	55,504	48,069	72,270
Total	109,239	359,935	463,140	466,292	593,662

Source: BPS (Bureau of Statistics Indonesia), Catalog No.8202007

¹ To provide a coherent background to development of Good Agricultural Practice in Indonesia part of the introduction to the 2010 report (Koomen et al., 2011) is repeated.

Horticultural production and marketing in Indonesia has seen many changes in recent years (Natawidjaja et al., 2006). So have wholesalers taken a much larger share of trade, more farmers are switching to producing horticultural crops and an increased market share is taken by supermarkets (Johnson, Weinberger & Wu, 2008).

Globally the international horticultural sector has seen an escalation of standards dealing with consumer concerns like food safety, the environment, and social issues. To a large extent the development of these standards is driven by the private sector. Increasing demands of the market force producers to convert and comply with these standards. This poses a risk of exclusion of small producers who cannot make the required investments or cannot access the required knowledge (Amekawa, 2009; FAO, 2003; Swinnen & Maertens, 2007).

In Indonesia the main food safety issues on vegetables are pesticide residues and pathogenic microbes (Morris, 2008). While larger farms might have the capacity to deal with these issues, priority for small scale farmers is raising awareness. Currently a number of initiatives in the Indonesian horticultural sector, initially funded by the WSSD (World Summit on Sustainable Development) trilateral partnership, have tried to enhance systems of good agricultural practices and food safety for both domestic and export markets. This has resulted in the implementation of a GAP program for horticulture, IndoGAP. The implementation of GAP in Indonesia mainly focuses on food safety rather than the environmental or social aspects of GAP.

The control of these systems has their legal bases in various decrees i.e.

- Presidential Regulation No 24/2010 mandates the Agency for Food Security to control food safety of fresh produce;
- Government regulation No. 28/2004 regulates Food Safety, Quality and Nutrition;
- Agriculture Ministry Decree No. 48/2009 covers the GAP for Fruit and Vegetables, ammd. No. 61/2006 (GAP for Fruit).

The latter decree aims to :

1. Increase production and productivity;
2. Improve the quality of products including food safety;
3. Improve the efficiency of product's distribution;
4. Promote the efficiency of natural resources use;
5. Maintain soil fertility, environmental safety and sustainable development;
6. Encourage farmers to produce safe products in the perspective of environmental safe;
7. Accelerate competitiveness of the products either for domestic or global market;
8. Provide quality assurance for consumers;
9. Improve farmer's prosperity.

Numerous farmers have been registered, which means that farmers are implementing Standard Operating Procedures (SOPs) of IndoGAP. For each crop, and sometimes also region specific, SOP are established by the Ministry of Agriculture (MoA). The next step is to apply for certification to the competent regional food safety authority (OKKPD). OKKPD is present at provincial level and has an allocated budget for certification, all costs for certification are paid for by the provincial government.

The three levels that can be attained in IndoGAP are certified through the Si Sakti scheme (Sistem Sertifikase Pertanian Indonesia, see figure 1).

Figure 1: The different levels (Primes) of the SI SAKTI Certification System of Good Agricultural Practice in Indonesia

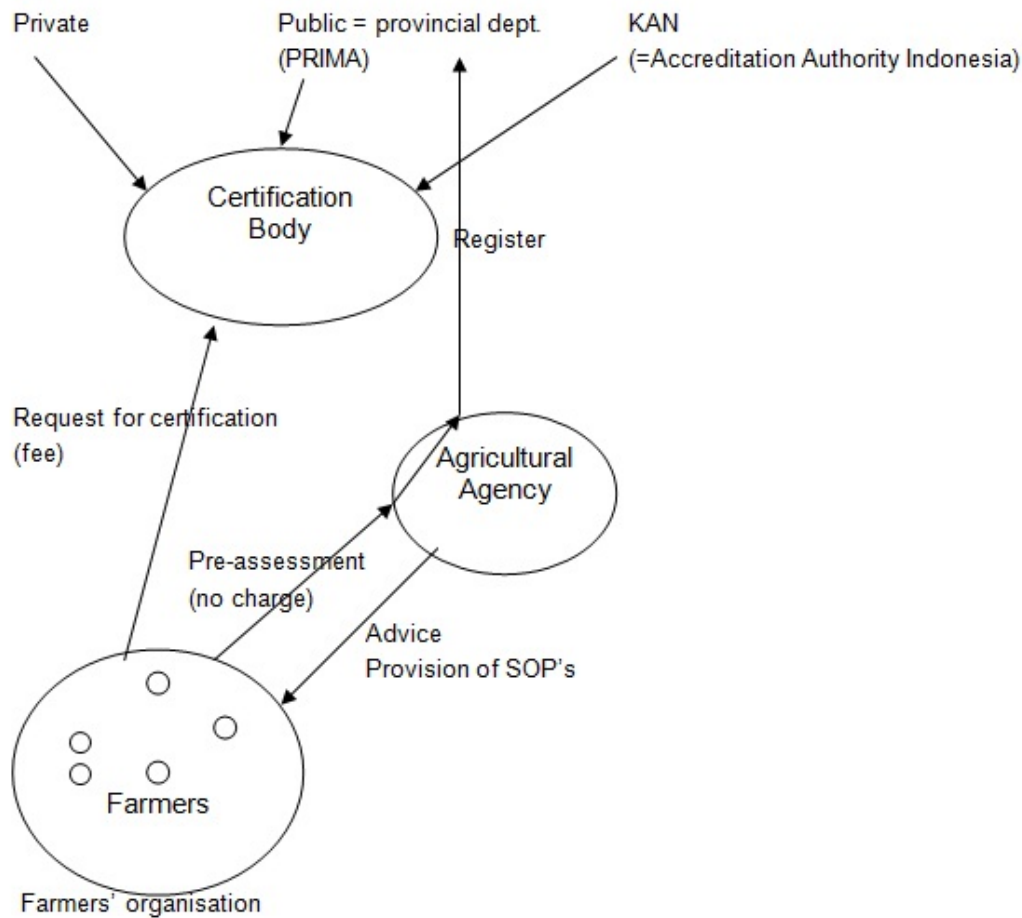
Prima I	<ul style="list-style-type: none"> • Complete application of GAP • Mandatory activities 100% • Highly recommended 90 % • Recommended 60% 	Almost Fully Compliant with GAP
Prima II	<ul style="list-style-type: none"> • Mandatory activities 100% • Highly recommended 70% • Recommended 40% 	Mostly Compliant with GAP
Prima III	<ul style="list-style-type: none"> • Mandatory activities 100% • Highly recommended 60% • Recommended 20% 	Partly Compliant with GAP

To certify and control the GAP application, the Indonesian government established a Food Safety Competent Authority at district, provincial and central level. Until 2010 about 31 provincial competent authorities have been established. The Prima II and III certificates are issued by these Competent Authorities, Prima I certificates are issued by certification bodies.

DG Horticulture prepares farmers for registration – advice is free of charge as is the assessment which indicates if the farmer or group of farmers is ready for certification. When pre-assessment has been approved the farmer (group) can register for certification with the local competent authority at their provincial department.

Many provinces have already been successful in setting up implementation and compliance systems due to active support of the Provincial government, and willingness of farmers to maintain or improve market access. The collaborative research programme Hortin (Asandi et al., 2006) has shown that small scale vegetable growers can achieve the Prime III level. However, results are mixed and further implementation and uptake of the GAP program is slow (Sulasmi et al., 2006).

Figure 2: Organisational structure IndoGAP and Si Sakti certification



Production of horticultural crops for export will need to comply with GlobalGAP which is still very new in Indonesia. With regards to the fresh fruit and vegetable sector when this project commenced only one farm, PT. Strawberindo Lestari, was GlobalGAP certified. Efforts are underway for salaca (snake fruit), mangosteen and mangoes, all export fruit.

Supermarkets, especially Sogo, Ranch Market, All Fresh, ACS, have demanded the application of SOPs and implementation of GAP. This has driven and motivated the farmers to apply GAP. However, often supermarkets have their own GAP scheme with deviations from IndoGAP.

Table 2: Number of IndoGAP registered farm (as per September 2010)

Commodity	The number of registered farm (farm unit)	
Fruits	4.713	15 Provinces 73 Districts
Vegetables & Biofarmaca	128	2 Provinces
Ornamental Plants	12	2 Provinces
Total	4.850	

Source: Department of Horticulture, MoA, 2010

Based on experiences in other countries (Valk & Roest, 2009) and observations regarding the work on subsequently IndoGAP, national (public) SOPs per crop and the GlobalGAP standards, there is space for improvement in terms of synergy, efficiency and effectiveness of these efforts. While on paper Prima I should comply with EurepGAP (now Global GAP), the number of control points, major and minor musts differ substantially (see table 3). Another development is the establishment of ASEAN GAP which aims to harmonise GAP guidelines within the ASEAN region. In 2015 there should be a single window for the whole ASEAN region of which Indonesia is part. As far as can be established there is little progress regards ASEANGAP.

Table 3: Differences in number of control points for level Prima II of IndoGAP, GlobalGAP and ASEANGAP

	Prima I (Indo Gap fruits 2006)	ASEANGAP (2006)	GlobalGAP (version 3.0 2007)
Control Points	100	226	235
Major Musts	14	Not available yet	74
Minor Musts	54	Not available yet	125
Recommendation	32	Not available yet	36
Compliance Criteria	100 % major must 60 % minor must 40 % recommendation	Not available yet	100% major must 95% minor musts

Compiled by A. Ruting, Q-Point, 2010

In the first year of this project (2010), through interviews and a key stakeholder workshop identified the following constraints as the major bottlenecks for compliance to GAP:

1. Lack of awareness by the consumer on food safety issues but also amongst other stakeholders;
2. There is no clear coordination, cooperation and commitment between and from public as well as private stakeholders;
3. Small holder farmers do find application of GAP rules difficult, educating and training these farmers in applying GAP is one of the ways forward.

1 Activities

The activities in 2011 consisted out of:

1. Pilots

To be able to refine the recommendations made during the first phase of this project four pilots were carried out, two with IndoGAP and two with GlobalGAP. The objective was to establish exactly where in the process of GAP compliance constraints are hindering the uptake of GAP. The role of the various 'actors' was also assessed.

2. Global GAP National Technical Working Group for fruit & vegetables

GlobalGAP works on the basis of providing a manual for GAP standards which can be implemented anywhere in the world. However, to be able to be of practical use, a national interpretation of the standards should be made. To assist in this process GlobalGAP advises that a national technical working group (NTWG) is set up for specific commodities. The establishment of a NTWG for fruit & vegetables was part of this project.

3. Round table discussions

To keep the dialogue going on GAP compliance several round table discussions were organised. Two aimed at establishing the NTWG, one at continuing the Food Safety Initiative – Indonesia (FSI) which serves as an advisory committee to the project and another meeting was aimed at involving the various government departments responsible for food safety. The chief aim of these meeting was to come to an agreement how to enhance GAP compliance and as such the safety of fresh produce, and discuss and clearly define responsibilities.

1.1 Pilots

Both for IndoGAP and for GlobalGAP two pilots were selected, one with a focus on fruit, the other with a focus on vegetables. For IndoGAP an analysis was made of the GAP compliance of farmer groups that had already started the process of training and registration for IndoGAP.

Pilots were selected on the following criteria:

- Dealing with GAP, participants have no objection to share knowledge as a contribution to take away major constraints to GAP compliance.
- The selected pilots represent various market segments (e.g. export value chain, modern food retail and domestic market, fresh and processed).
- The projects mostly focus on the “software” side providing training and maybe covering some initial costs with regards to sample analysis, etc. but no major monetary contribution is provided. As a prerequisite the companies and grower organization have complementary financial resources (from other donor programs or from their own resources).

For the individual farmer or company certification (option 1) experiences learned from the trajectory facilitated by both an EVD financed project and this project in the support of GlobalGAP compliance by PT Saung Mirwan was selected. For the farmer group certification (option 2) a farmers cooperative, Manunggal, producing melons was found to be interested in working towards GlobalGAP certification.

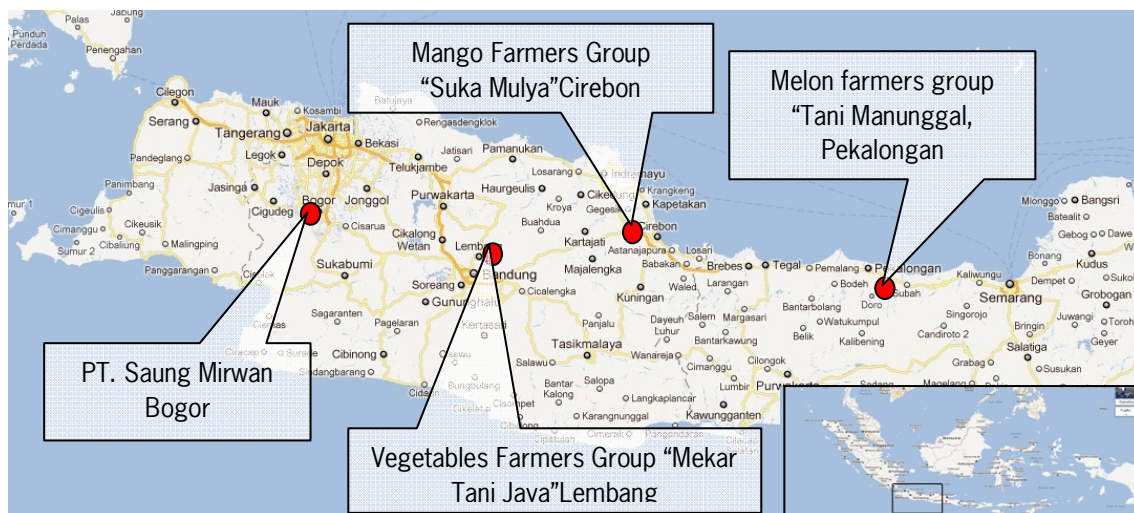


Figure 3: Map of pilot project location: Bogor, Lembang, Cirebon and Pekalongan

Below the four pilots and the lessons learned from these pilots are described on the basis of a set of pre-determined descriptions and questions.

1. Indo Gap (Ahmad Suleaman, IPB)

Mango growers, district of Cirebon, West Java

– General description

This project is located in Serdong Lor Village, sub district Sedong – District of Cirebon, West Java. The commodities grown in this pilot are mangoes mainly the variety of Gedong Gincu, but the growers also have the variety Arumanis. However, for the pilot project only the variety Gedong Gincu was considered. In Kecamatan Serdong Lor about 400 ha of mangoes is grown as “*hamparan*” system (orchard system) and 1000 ha as intercrop, mixed with other commodities including paddy.

There are several actors involved in this pilot namely, the farmer group, the association of farmer groups (GAPOKTAN), the fruit exporter (PT Sumber Buah Sae) and Asosiasi Buah Cirebon (Fruit Association of Cirebon). In Cirebon there are 5 GAPOKTAN with about 180 farmer groups. The Cirebon Fruit Association distributes the market target, local market, supermarket and export, for each GAPOKTAN.

– Profile of the pilot participants

The participant of this pilot project is a farmer group named Mango Gedong Gincu Farmer Group (*Kelompok Tani Mangga Gedong Gincu*) “Suka Mulya”. This group has 20 members and is led by Mr. Khaeruddin. He has grown mango Gedong Gincu since 2001. The total area of mango of this group is 25 ha. Besides being the chairman of this farmer group, Mr. Khaeruddin is also the chairman of one GAPOKTAN and the chairman of Fruits Association (*Asosiasi Buah*) Cirebon. The main marketing target is for export through export company PT Sumber Buah Sae to the Middle East. The total export volume is 4000 ton/year.

This farmer group received training (2007) and GAP registration (2010) from the West Java Provincial Office of Agriculture. For the certification they will apply to the Provincial Food

Safety Competent Authority (OKKPD). This OKKPD is under *Badan Ketahanan Pangan dan Penyuluhan Pertanian* Province of Jawa Barat.

– Role of the public sector in supporting IndoGAP

The implementation of GAP among the farmers and producers is the Government program, IndoGAP. Government has published the guideline of GAP, SOP books and guidelines for orchards. Competent authorities in district and at provincial levels have been established. Training was provided to the agricultural extension specialist, farmer groups, inspectors. Regarding the GAP Pilot Project, Government through the OKKPD and *Dinas Pertanian* (office of agriculture) has provided training about GAP and HACCP, piloting the implementation of GAP, supervision, registering and then certificating the farm with the PRIMA system. According to the participant, the government did also provide technical support and supplied materials for protecting the crop. The participants are still requesting the government to build cold storage (cold chain facilities).

– Training

Government Regulation Number 28 (2004) demands that farmers apply best practices in their production process in order to make sure the harvested products are safe for consumption and there is no negative impact on the environment and the farm workers. This is implemented through the application of GAP (IndoGAP) at the farm. To enable the farmers to apply the GAP principles in their agricultural practices, they should be adequately trained. Since the GAP and food safety issues are something new for the farmers, they needed training in GAP itself, post-harvest management, training to improve the production techniques, and on-farm training to obtain real experience in the application of GAP. However, so far this farmer group have received GAP training in 2007 from the government, DG Horticulture, provincial and district office of agriculture, and another training about post-harvest technology from the AMARTA Project (USAID).

From the farmer group Suka Mulya, six members participated in the GAP training. The participants perceived the training as very important but they still feel it is not adequate to implement GAP. They require additional training as mentioned above.

– List of constraints during implementation

During the implementation of GAP, the farmers noticed several constraints which made the implementation of the GAP slow. The constraints are as follows:

1. No price differentiation for registered or certified mango; This situation discourages the farmers to adopt the GAP Principles;
2. The quality of human resources (worker) is still low and this make the understanding on the importance of GAP also low;
3. The climate especially during the rainy season is not conducive for good production of the mango. During this season the fruit fly attack on their fruit is increased;
4. Poor quality of the fruit especially during the rainy season and when the fruit is ripen on the tree. During this season the number of quality fruits is low. According to Mr. Khaeruddin, the number of good quality (export) fruit during this season is only one out of five;
5. Not many farmers intend to apply GAP due to lack of proof for the effectiveness of GAP;
6. The lack of the facilities, such as cold storage, is another constraints faced by the participants.

- What was done (or not) to overcome these constraints?

So far, there is no solution to increase the price of mango produced according to GAP compared to other mangoes. Incentives are needed to encourage the farmers to apply GAP principles on their farm. To overcome the fruit fly attack, the farmers got aid from the government in the form of insect traps. They also try to wrap the fruit on the tree. To overcome the poor quality of human resources their still needs to be more training and to convince other farmers to make them willing to apply GAP. There is a need for more pilot project to demonstrate the effectiveness of GAP.

- If no solution was found, what needs to be done and by whom?

To encourage the farmers to implement the GAP, beside needing more pilots, a government policy is required which may enforce the exporter or supermarket to give a better price for the certified product. Alternatively, government could ask the supermarkets and exporters to only receive and sell certified products.

- Feedback from pilot participants

Based on the experience of the pilot participants, several feed backs were addressed as follows:

- Government or consumers need to find solution how to provide incentives to the farmers who apply GAP (like price differentiation or other incentives);
- If the modern market would buy good quality the sorting should be done on the farm, not after the products arrive at the market;
- Since the mangoes enter the international market, the application of GAP should be extended and need more pilots. In every sub-districts there should be a pilot to motivate the farmers;
- Improving the quality of human resources. More trainings with more participants are needed;
- The government should provide refrigerated trucks for transporting the product especially for export purpose.;
- The government program should arrive at the right and appropriate target;
- A training for production techniques is important.

- A basic cost-benefit analyses

A cost benefit analysis has never been done by the farmer. However, with the application of GAP the farmers acknowledged the cost of chemical input was reduced. They recognized that by implementing GAP, besides reducing the cost of production, the quality of the product is much better due to improved pruning activities. According to the exporter, the number of good quality product from GAP registered field is 80 % compared to 40% from non-compliant fields.

- Conclusions and recommendations (lessons learned)

As a conclusion from the pilot, the implementation of GAP is not really difficult and provides many benefits to the farmers. However, due to several constraints, the implementation of GAP among the farmers is slow. No price differentiation, lack of good quality workers, are some of the constraints.

It is concluded that there is a need for many demonstration plots to provide proof that GAP is effective in improving the safety, quality as well as productivity in mango production. This

important information is needed to convince other farmers who are still in doubt regards the implementation of GAP. The right i.e. most effective, target for government support and assistance needs to be considered whenever a program is launched. More training and assistance from the government is needed to improve the quality of human resources in implementing GAP.

Vegetable producers, district of Bandung, West Java

– General description

The participants of this pilot comprises of two vegetable growers. There are various kinds of vegetable grown at the two farms including japan corn, eggplant (aubergine), head lettuce, mijuna, shuniku, japan squash, japan yam, potato, hot chilli pepper, broccoli, cauliflower, pakchoi, spinach, paprika, cucumber, cherry tomato and many others. The supply chains and actors involved in this pilot are the farmers, farmer groups, and supermarket. The supermarkets Sogo, Ranch market, Papaya, All Fresh, Setiabudi, Aero Catering Service are among the supermarkets who support and request the implementation of GAP.

– Profile of the pilot participants

There are two participants involved in this pilot, i.e. Mr. Bobon with farmer group Tani Mandiri and Mr. Doyo with farmer group MekarTani Jaya. Their farms are located in Cibodas Village, sub-district Lembang, Kabupaten Bandung. The vegetable commodities grown in each farm include 25 and 68 kinds of vegetables respectively. The area of the farms are 6 ha, on a flat area for Mr. Bobon and 6.2 ha, on a hill with a 30 % slope, for Mr. Doyo.

Mr. Bobon and Mr. Doyo are two successful farmers in Cibodas, Mr. Bobon is the chairman of the farmers group Tani Mandiri and Mr. Doyo is the chairman of farmer group MekarTani Jaya. Mr. Doyo and his group are the largest supplier for vegetables in this area. On his farm there are 41 employees working. Total area grown with vegetables by the 72 member of MekarTabni Jaya is 28,2 ha, average farm size is about 3000 m². Mr. Doyo delivers 28 ton vegetables per week to the supermarkets. The group, with six packing houses, delivers in total 70 ton vegetables.

Both farms have been registered for GAP since April 2010 and Mr. Doyo has got a PRIMA 2 certification for Broccoli. He has also applied for PRIMA certification for other vegetables but unfortunately failed because there were still 3 major must criteria from a total of 14 major musts that were not fulfilled. One of the criteria which was not complied to was related to the slope of the farm land.

– Role of the public sector in supporting IndoGAP

The provincial competent authority and district office of agriculture have encouraged the farmer groups to apply GAP by providing pilot projects, training, supervision, registration and certification. The role of government is recognized by the farmer groups for providing the training, supervision and registration. In Lembang 162 blocks are GAP registered (reference date May, 2011). Currently Mr. Doyo is working on the registration of another 40 blocks.

- Training

The importance of GAP implementation on vegetables production has been recognized by the farmer groups. This is due to the training they have received. Several trainings have been provided by the ministry of agricultural and provincial agricultural office including training on HACCP (2002), Integrated Pest Management, and GAP (2004) itself. Additionally, training on post-harvest management was received from the AMARTA Project (USAID).

Mr. Doyo, as the chairman of Mekar Tani Jaya with his 72 members, realized the benefit of the trainings they received. They understood and experienced the benefit of the implementation of GAP. However, they felt the trainings provided by the government were too short and the number of participants too limited. Other trainings are needed and the farmers requested training including work ethos, techniques of environmental friendly production processes for fresh produce, and a comparative study tour to other regions and countries.

- List of constraints during implementation

Farm record keeping is one of the constraints in implementing GAP, in general the farmers did not keep adequate records. Understanding about pest and disease control has not been evenly distributed yet among the farmers. Other constraints include: the land contour with 30 % slope, the quality of human resources (poor work ethos), lack of infrastructure and facilities such as technical irrigation, road, electricity, toilet, first aid, etc.

- What was done (or not) to overcome these constraints?

To improve the quality of human resources, a continuous training was held. Every year many farmers received training on GAP. But the farmers have proposed to include a training on work ethos. As the chairmen of the farmer groups Mr. Doyo and Mr. Bobon have conducted training and socialization for the farmers through their Self Finance Center for Agricultural and Rural Training (*Pusat Pelatihan Pertanian dan Pedesaan Swadaya, P4S*). They try to find solutions for the constraints and problems they have including on the understanding about standards and the required specifications. Both chairmen have also proposed to the government about the need of GAP training for other farmers in their regions.

- If no solution was found what needs to be done and by whom?

The government should provide training and supervision on the implementation of GAP as well as continuous training on pest control management. This is important as the farmers in this region have got awareness about the importance of GAP. To motivate farmers to keep adequate keeping records is not easy. Therefore the government but also other stakeholders need to continuously provide training, assistance, and inspection.

- Feedback from pilot participants

Feedback by the two pilot participants include: a need to get supervision from the extension agent. The extension specialist needs to visit the field more often than at present. In addition, the government needs to provide financial assistance for the laboratory tests which are a requirement for registration. They also request the government to build cold storage (cold chain facilities) as well assistance in obtaining a refrigerated truck. A comparative study to other region of countries was also proposed by the participants. More importantly,

government needs to invest in irrigation as well as improving the road for transporting the product from the field or packing houses.

– A basic cost-benefit analyses

A cost benefit analysis has never been done yet by the farmers or government. However, based on the experiences of the participants, many benefits have been perceived by implementing GAP. These include:

- Teaching clean and healthy production processes;
- Economically many advantages are perceived: the cost of production is much lower, meanwhile, the price of the registered GAP products is higher and with the GAP certificate, the product is purchased by the supermarkets. Without certification the product may only be sold in the wet market;
- The products are guaranteed safe;
- Reducing the waste in the city.

– Conclusions and recommendations (lessons learned)

As conclusion from the GAP pilot on vegetables production in Lembang area, the farmer groups are capable to implement IndoGAP and receive certification. The role of the provincial government who continuously provide training and supervision on GAP as well as the role of supermarket who ask the farm to apply the GAP are very important to build the awareness about the importance of applying GAP on vegetable production among the farmers and farmer groups. The success story of the farmers who implement GAP is also important to disseminate this experience to other farmers.

To broaden and to get more farmers to implement GAP, many more trainings on GAP are required. Successful farmers should be used as resource person or instructor through their Self Finance Center for Agricultural and Rural Training (P4S). The government needs to consider providing technical assistance to help the farmers overcoming constraints they have during the implementation of GAP.

Figure 4: Impression of the two IndoGAP pilot farms.





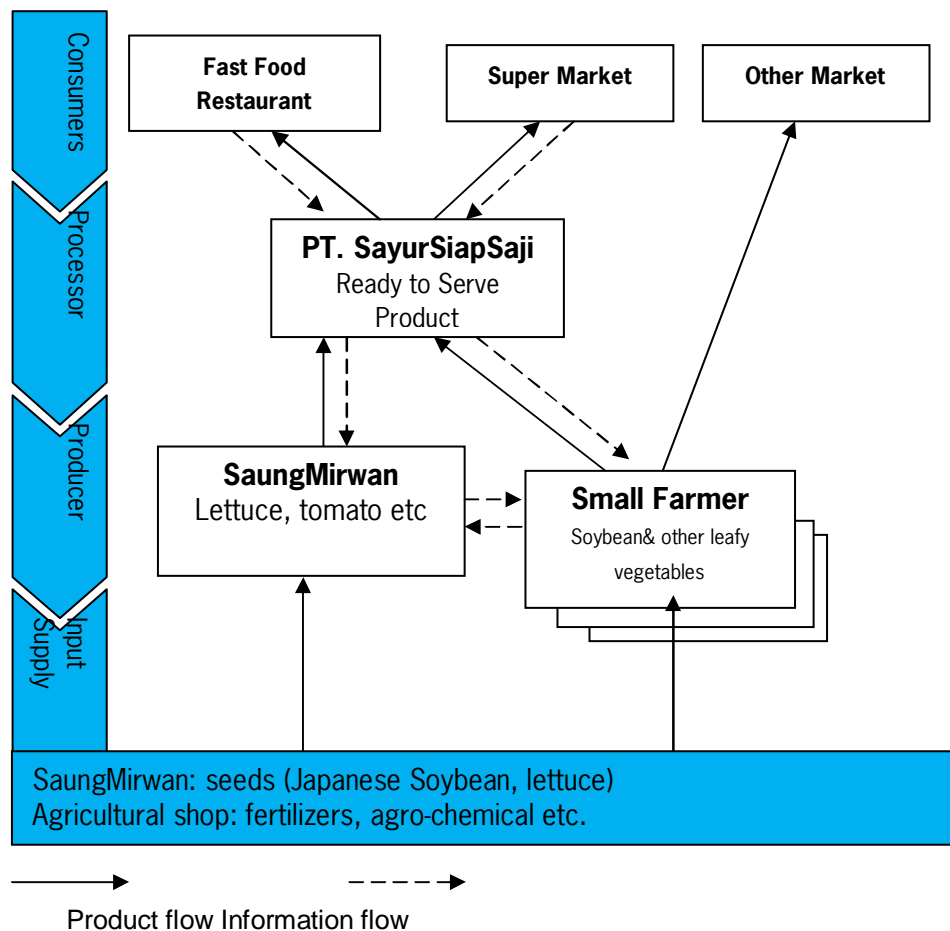
2. *Global GAP (IskandarZulkarnain, HCC)*

Vegetable production, Saung Mirwan, Bogor district, West Java

– General description

PT. Sayur Siap Saji (SSS) is a new company that focuses on ready to serve fresh vegetables. Its product is supplied to fast food restaurants such as Burger King, McDonald and to supermarkets. This company works together with numerous smallholders who are growing vegetables such as lettuce, Japanese Soybean, tomato, etc. Smallholders are organized in the form of a farmer cooperative named Setia Tani Pratama. At this times the supply is not sufficient to cover the needs of the buyers. To get continuous supply, Saung Mirwan is also dedicated to supply PT. SSS and assist smallholders i.e. provide seed, in cultivation and production management.

Figure 5: Value chain of high quality fresh produce for SaungMirwan.



Initially the pilot at Saung Mirwan was aimed at a group certification of the company which would include the smallholders farmers who are contracted as outgrowers. Since the smallholder farmers perceived the implementation of GlobalGAP as too demanding, this was, during the pilot, changed into individual company certification.

– Profile of the pilot participants

PT. Sayur Siap Saji (SSS) is a fresh vegetable supply company that focuses on Ready to Serve Products. Food safety issues are a main concern. Smallholder producers and PT. Saung Mirwan are the main suppliers of raw material for PT. SSS. Smallholder producers are organized in a farmer cooperative. There are about 60 farmers spread in various villages in Bogor Regency, these farmers are actively involved in the cooperative. The main crops of the smallholders are Japanese Soybean and leafy vegetables. Seed is supplied by Saung Mirwan. Plant protection products are bought by farmers themselves while fertilisers are bought collectively. Farmers receive technical assistance in cultivation and management of production from extension personnel of Saung Mirwan. There is a strong relationship between the company and the farmer group as well as between company and individual farmers.

The Control Union is the certification body involved. Before they were asked to conduct a GlobalGAP audit, an internal audit for the farmer group is carried out by HCC. Unfortunately, the

farmers did not comply with the GlobalGAP control points. It was considered by all parties involved, that it will take a long time and much effort to comply as a group to the GlobalGAP standard while duration of the project is limited. As an alternative solution, certification was changed from farmer group certification scheme to individual company. Saung Mirwan was appointed as candidate replacing the farmer group. The internal audit for Saung Mirwan was done by the Production Manager of Saung Mirwan, followed by the Control Union who conducted the external audit.

- Role of the public sector in supporting GlobalGAP

The public sector supports farmers that want to be trained and registered for IndoGAP but has currently no direct involvement with GlobalGAP. However, the steps that are required to become PRIMA certified do support the GlobalGAP certification. The step forward to comply to GlobalGAP, the government support program should also consider to requirement of the GlobalGAP standards, such as requirements for water quality, soil and pesticide residue testing.

- Training

Before the training program was formulated, a zero assessment was carried out to identify what was already in place and what was still needed or to be improved. Risk assessment, farm activities record keeping and application of plant protection products were the main elements that came up in the zero assessment.

To improve these matters, HCC had organized a training for preparation of certification. Topics of the training were:

1. Management Structures of Farmer Organization including legal aspects, the role and responsibility according to the GlobalGAP (part of Quality Management System);
2. Farmer Registration, to make clear which farmers in the group commit themselves to implement GlobalGAP.;
3. Risk Assessment for new sites, working conditions, waste and pollution management, and hygiene during harvest and produce handling;
4. Policy Development related to GlobalGAP control point and compliance criteria;
5. Integrated Pest Management, Plant Protection Product Handling, Fertilization;
6. General Introduction of GlobalGAP, Internal Audit;

The training were mainly delivered by HCC (IskandarZulkarnain), some topics were covered by Q-Point (Alma Ruting) and a local expert (Yos Sutyoso).

First Aid training was organized by PT. Sayur Siap Saji by hiring the local competent authority in the first aid matter. Besides training, HCC compiled a GlobalGAP Manual for this specific farm.



1. Handing over of GlobalGAP manual



2. GlobalGAP training at PT. SSS



3. Training of plant protection handling



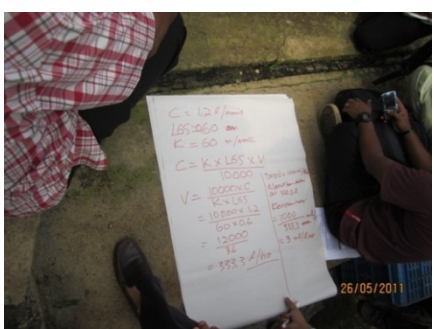
4. Exercise how to conduct internal audit



5. On field training of IPM



6. Exercise how to calibrate spray equipment



7. Calculation for calibration of spray equipment



8. Multi-Cropping lettuce and tomato

Figure 6: Training on General Introduction of GlobalGAP and Internal Audit for PT. SSS's Farmers and Saung Mirwan.

- List of constraints during implementation

Based on the observations and interview during the internal audit, the following main constraints were identified:

- Farmers (smallholder) did not see direct benefits of implementing GlobalGAP, moreover they have the feeling it creates extra work and extra costs;
- Residue testing, testing water quality, soil fertility etc. are all extra costs;
- Some control points need interpretation for local conditions, otherwise these will never be applicable to Indonesian local context, for example toilet facilities, potable water, pesticide storage facility etc.;
- Investment on sprayer equipment such as protective cloth for the farmers seem extra cost;
- Empty packaging of pesticides were not disposed of appropriately. Farmers dig a hole in the ground or burn it, but there is no recycling program;
- Lack of knowledge about the right use of plant protection products (pre-harvest interval) and IPM (integrated pest management)

Saung Mirwan has made some remark of the constraints for the GlobalGAP implementation. See Appendix 3.

Regarding to the test for water quality, pesticides residue and soil fertility, these were difficult for the smallholder producers to obtain. Facilitation by the public sector or by exporter or traders could be a solution.

- Feedback from pilot participants

There was a very clear statement from Mr. Tatang Hadinata that any certification program, including GlobalGAP, will never work unless there is a clear demand. Enforcement of Food Security Law at certain market (for example supermarket) and for certain products is also required.

- A basic cost-benefit analyses

Implementation of GlobalGAP does not mean the export market only, the domestic market is also large and has not fulfilled all food safety requirements yet. The domestic market is however changing. Retail markets will gain a bigger market share in Indonesia in the nearby future. GlobalGAP control points ask the farmers to use agro input such as fertilizers and pesticides in the correct way, right time, right quantity and quality. To achieve this, initial investment costs such as analysis and measuring or weighing equipment is needed. Once farmers can follow those requirements, then farmers will obtain benefit through efficiency of agro input use. At the same time, productivity can increase. Furthermore, the products will be recognized by the market, the position in the market will be better. By implementing GlobalGAP, farmers can save production cost, increase yield and better position in the market.

Melons, Farmer Cooperative “MANUNGGAL”, Pekalongan district, Central Java

- General description

The main produce of this farmer cooperative is melon. This group comprises of 125 farmers who are located around Pekalongan Regency, Central Java (see figure 7). There are 40 active farmers, the remaining farmers are not really active. Although melon can be grown as year-round production, in reality, farmers grow melon only once a year on the same land. To have continuous production, they move to another field. The previous field is rotated with other

crops such as long bean, maize or rice then back to melon again. In this way, according to the farmers experiences, soil fertility will be maintained. Some farmers in the group are already PRIMA-3 Certified.

The type of melon grown by this farmer group is a specific one, so called Cantaloupe which is developed by a local breeder. Sweetness is the most important quality issue, sugar content must not be less than 12% brix. Produce is distributed to the modern market via a fresh fruit and vegetables buyer. With regards to the chain, consistency of the output (quantity) is problematic. The fresh fruit and vegetable buyer requires about 2,5 tons per week.

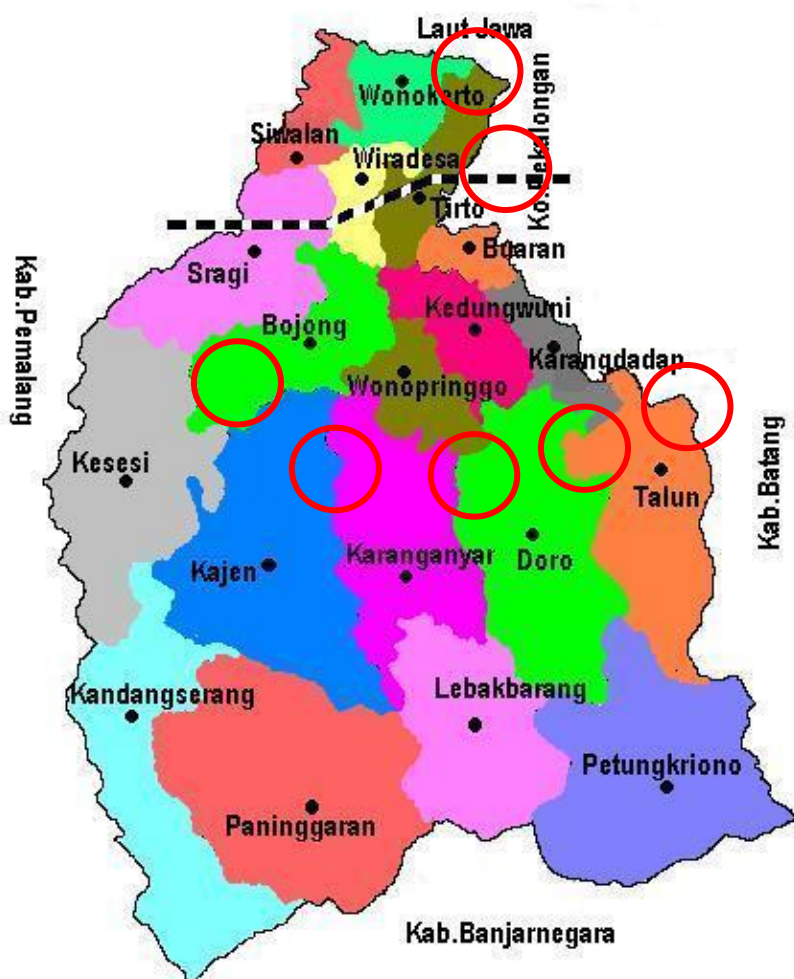


Figure 7: Map of Pekalongan Regency, Central Java

– Profile of the pilot participants

This group can fulfil criteria, the members are open minded for information and exchange of experiences. Cost of certification will be supported by Horticultural Partnership Support Program with the condition that there is system in place that can guarantee for the renewal of certified status. Farmer Group “Tani Manunggal” does not supply directly to Carrefour because the group does not has its own truck for delivering orders and the volume is also too small. Tani Manunggal does collect produce from its member to be stored in the collection center.

Only small post-harvest activities are done by Tani Manunggal such as cleaning, weighing and registering products. Sorting and grading is done by farmers during harvest. Most of the produce is delivered to Carrefour through CV. Bimandiri. CV. Bimandiri is a company that specialises in fresh fruit and vegetables and is located in Bandung. Tani Manunggal is the main source of Melon for CV. Bimandiri. Produce to the Tani Manunggal Collection Center and then delivers to Carrefour in Semarang, Bandung and Jakarta.

Once the farmers group is certified, Carrefour will give opportunity to the Tani Manunggal to develop a new local brand for certain Carrefour outlets, for example Carrefour Semarang. With this local brand, Tani Manunggal will be the sole supplier of this type of melon to the local Carrefour stores in the region.

If the members of Tani Manunggal experience problems with regards technical aspects, they can consult a seed breeder and Pakalongan University. Meanwhile, for financial issues, members of the Tani Manunggal farmer group can use credit facilities of Bank Mandiri in Pekalongan as well as CV. Bimandiri.



Figure 8: Melon Farmer Association, located in Pekalongan, Central Java

- Role of the public sector in supporting GlobalGAP

There is support and attention from the public sector, especially from the Local Competent Authority with regards to PRIMA-3 Certification. Residue level of pesticides are checked regularly but obtaining the test results takes a considerably long time. Support in form of agro input supplies is also provided by the local government.

- Training

The group has members spread around Pekalongan Regency. The area is quite big so that it is difficult to monitor and assist the members when they have problem such as with pest and diseases. On the basis of a needs assessment it was determined that capacity building and the development of a manual were needed. For the development of a quality manual and capacity building of internal audit, three training and workshops have been carried out, twice led by Iskandar Zulkarnain from HCC and one time in collaboration with Alma Ruting from Q-Point BV (Background and content of GlobalGAP, basic hygiene principles and internal auditing). Meanwhile capacity building was conducted by the Agricultural Faculty of Pekalongan University under Horticultural Partnership Support Program.

Innovative solutions such as pesticides storage were introduced and adopted by the farmers. A Quality Management System is being developed.



Figure 9: Impressions of training and workshops on GlobalGAP at the Melon farmer Association. Bottom right the innovative pesticide storage adopted by the group.

- List of constraints during implementation

The main constraint in this group with regards to the to implementation of GlobalGAP is language. Most of the farmers do not speak and read English and most of the information on GlobalGAP is in English.

- What was done to overcome these constraints?

Translation of the checklist of GlobalGAP control point (version 3.0) to Bahasa Indonesia has been done to assist farmers to understand the requirements such that they can perform a self-assessment. Intensive assistance is still needed by the farmers and the group. Development of a business plan seems crucial to enable the group to fulfil the market in term of continuity of supply. During the last training, this issue was raised and discussed amongst members. As mentioned in the GlobalGAP control point for group certification, all the produce from the members must be marketed via the farmer organization, in this case by Farmer Cooperative “MANUNGGA”.

The group has not been certified yet at the end of the project (January, 2012). Additional support is needed for this group to be able to comply to GlobalGAP and pass the audit.

- Feedback from pilot participants

Response from the modern retail is positive, but because of the need of retail for a large continuous supply if the retail wants to launch the product as national scale, it was recommended to promote the product as a local brand since production capacity is still limited.

Members of the cooperative are also positive, for example as soon as an innovative solution for pesticides storage was introduced, it was adopted by the members.

- Conclusions and recommendations

Group certification is more difficult than individual certification. More effort from group leaders and support from other parties are needed, especially support from the public sector. Public-Private Cooperation will provide a good model to put into the practice with this group. Group certification consists of a mixed group of farmers with various abilities and needs, as a consequences the way GAP is implemented will be different as well. Initial investment in human resources is absolutely important, otherwise farmers will not comply with the standard.

Once the group complies and obtains GlobalGAP certification, it will give positive impact for the Indonesian horticulture sector. Other groups with different commodities can learn from this group. When more farmer groups are becoming certified, there will be more benefit for the country, especially for the image of Indonesia Horticulture Produce, at least for the regional market.

1.2 GlobalGAP National Technical Working Group

National Technical Working Groups are established voluntarily by GlobalGAP members in countries where there is a need for clarification of implementation of GlobalGAP on a local scale. The national interpretation guidelines developed by this group are approved by sector committees and are published on the GlobalGAP website (<http://www.globalgap.org/>). The groups are established and work in close cooperation with the GlobalGAP secretariat and the sector committees and support the GlobalGAP implementation and continuous improvement based on specific area needs.

The newly formed NTWG on fresh fruits and vegetables was established for the following reasons:

- GlobalGAP believes in local multi-stakeholder support and adaptation for GAP standards within the context of national and international trade: the “Think Global, Act Local” principle are possibilities to have influence;
- With a NTWG we can support the growers, but also the traders, to strengthen our position in the international market;
- We need to harmonize IndoGAP to GlobalGAP to obtain recognition by the international market;
- Moreover, NTWG can play a bridge to connect and coordinate public stakeholder program and need of private stakeholder to fulfil market requirements on food safety issues, especially for fresh fruit and vegetables.

Establishment of Indonesian NTWG for fresh fruits and vegetables

Indonesian National Technical Working Group for Good Agricultural Practices for fresh fruit and vegetables has been established during the 2nd Round Table Discussion on May 6th, 2011. This meeting involved participants from various stakeholders such as a representative of the Indonesian Retail Association, Indonesian Fruit and Vegetables Exporter Association, Indonesian Peasant Alliance, Fruits and Vegetables Exporter, Certification Body, Bogor Agricultural University, Indonesian Vegetables Research Institute, Directorate General of Horticulture, Directorate General Agricultural Processing and Marketing, Horticultural Partnership Support Program and other related stakeholders. During the meeting, the chairman, secretary and members of the NTWG were selected, (see Appendix 1A) below for composition of the group. After a couple of initial meetings it was suggested by the chairman to expand the committee with a few additional members (see Appendix 1A).

A lesson learned from other countries is that it is appropriate for the NTWG to fall under a related ministry. In Indonesia this would be similar as for GAP, to fall under the responsibility of the MoA which is also responsible for IndoGAP. Legal status of the NTWG could be obtained through a decree of the MoA.

National Interpretation Guidelines

Based on the lesson learnt during the implementation of the GlobalGAP pilots, understanding of the control points and compliance criteria is the most critical point. As soon as the NTWG was established, its first priority was to make national interpretation guideline of GlobalGAP control point and compliance criteria for fresh fruit and vegetables.

A draft interpretation document was prepared by the secretary of the NTWG and then reviewed and revised on October 6th, 2011. As a reference, the interpretation guideline from Thailand was used. Review and revision split into three groups.

1. All Farm Base Control Point and Compliance Criteria;
2. Crop Base Control Point and Compliance Criteria;
3. Fruit and Vegetables Control Point and Compliance Criteria.

At the end of the review and revision, findings were shared. General feedback from the participants were the following:

- The interpretation from Thailand was not helpful, all groups referred back to the original GlobalGAP text;
- Interpretation is very critical, sometimes the exact meaning was lost in translation;
- Simple language should be used such that the meaning of the critical points is clear to those having to apply them (i.e. farmers)

Each group reflected on the problems that might be foreseen with implementation of the guidelines:

All farm Base:

- Risk assessment, farmers will need assistance with this;
- Record keeping.

Crops group:

- Analysis of water samples, including the costs of this.

Fruit & Vegetables group:

- Toilet facilities, should be within 500 meters of the field, this is not realistic under Indonesian conditions;
- Water quality, this should be potable water. Often this is not available;
- Packing house, what is meant by this. Is a table enough or should it minimally be a closed room. The specifications in the document seemed to be very high.

The NTWG has a role to convince that some control point need adjustment according to the local context of Indonesia. For example with regards to the toilet facilities, in tea plantations the overseer has a motorbike. He can take workers to toilet facilities within 10 minutes. It was also discussed that if there is a good foundation why some of the critical points are not applicable to the situation in Indonesia this should be communicated with Food Plus and an agreement on how to incorporate this in the guidelines agreed.

Interpretation guideline in Indonesian language has been completed, the next step is translate the interpretation to English as required by the Sector Committee of GlobalGAP (managed by FoodPlus).

Some issues regarding to the interpretation guideline and NTWG need to be solve listed in table 4 below.

Table 4

No.	Issues need to be solved	Remark
1.	Translate interpretation guideline to English	Hire professional translator, then the result reviewed in the NTWG meeting
2.	Consolidation and expansion the member	More expert from association and representative from public sector.
3.	Legality aspect of NTWG	It should be under decree Ministry of Agriculture
4.	NTWG Secretariat	For initial phase, it would be acceptable if located at secretariat General of Ministry of Agriculture rather than under one of the DG.
5.	Declaration of membership in the NTWG of GlobalGAP	Need assistance from colleagues in Europe, how proceed the membership.
6.	Submit National Interpretation guideline to Sector Committee of GlobalGAP.	Indonesian NTWG must be standby for the revision if it is asked by Sector Committee.

1.3 Round table discussions

In January 2011 the first of a series of round tables was organised (see project report, 2010). The round tables serve as a means of mobilising the stakeholders involved with GAP and food safety. In 2011 and the beginning of 2012 three round table discussions were organised.

Round Table Discussion 2, May 6th, 2011

Topic: Advisory Committee Meeting & Establishment of the GlobalGAP National Technical Working Group

IndoGAP, which falls under the responsibility of Directorate General of Horticulture, has been in place since 2004. After registration farmers can apply for PRIMA certification under the SiSakti scheme of Directorate General of Standardisation & Certification. So why, if there is an Indonesian standard in place is there a need for a Food Safety Initiative? This was the topic of a round table discussion held Wednesday 26th January, 2011 in Le Meridien hotel in Jakarta, with topics “Good Agricultural Practices & Food Safety Assurance in Indonesia’s Horticultural sector”.

It was agreed to start four pilots in 2011 whereby the objective is to take away the constraints that make compliance to IndoGAP and GlobalGAP difficult. The same partners that hosted the event will work with stakeholders along several fruit and vegetable value chains to achieve this. In this process the harmonization between the national programs of IndoGap and the international program of GlobalGAP will be supported in order to enhance both domestic and international trade.

As the follow up of the 1st Round Table Discussion, the now established advisory committee, called the Food Safety Initiative Indonesia (FSI), held its 2nd event, hosted by Horti Chain Centre with Bogor Agricultural University, Wageningen University & Research Centre and Q Point, The Netherlands. The topics covered were the establishment of an Advisory Committee Meeting and a GlobalGAP National Technical Working Group.

There were two main agendas: FSI advisory committee and GlobalGAP National Technical Working Group (NTWG) establishments. The meeting was to define tasks, roles, and responsibilities of the advisory committee, and to explore and facilitate the establishment of the National Technical Working Group (NTWG) as well. The event was attended by 22 participants.

During the meeting, Q-Point gave a presentation on the following topics:

- What is a National Technical Workgroup?
- Why should Indonesia establish a NTWG?
- Composition of a NTWG;
- Procedure to establish a NTWG.

Progress on an already started GlobalGAP pilot project (PT Saung Mirwan) was also shared with the participants.



During this 2nd Round Table Discussion, an Advisory Committee for Food Safety Initiative Indonesia (FSII) and a GlobalGAP National Technical Working Group (GlobalGAP NTWG, see section 2.2, this report) were established. Prof. Ahmad Sulaeman was elected by the participants as Chairman of the Advisory Committee. For the members of the Advisory Committee see Appendix 1B. The committee decided on the following:

Role of Advisory Committee:

- As advocacy group;
- Promoting food safety in collaboration with government, retailers and NGO;
- Linking stakeholders who are related to the agro food supply chain.

Task of Advisory Committee

- Give recommendation on selection of pilot project implementation of IndoGAP and GlobalGAP;
- Obtain ideas, suggestion, recommendation to accelerate implementation safety food assurance of fresh produces (fruits and vegetables) for government, key market actors and consumers;
- Ensure that the food safety program will achieve its goal by the end of 2014;
- Push the government that fresh produces sold in the certain market is safe (possible to be trace back);
- Define target to be achieved (Food Safety Road Map);
- Mapping and synchronize government program and private sector and other related stake holder.

Round Table Discussion 3, October 5th – 6th, 2011

The 3rd Round Table Discussion was held over two days. The first session was focussed on the role of public sector with regards to food safety. The second day was a meeting by the NTWG to review and revise the GlobalGAP national interpretation guidelines.

1. Public Sector Meeting

Introduction:

Objective of the meeting was to give the public stakeholders an opportunity to discuss their role in increased GAP compliance. The round table meeting in January which was intended by a large number of stakeholders, both public & private (see report 2010) came up with 3 recommendations, the second one was related to the public stakeholders:

“There is no clear coordination, cooperation and commitment between and from public as well as private stakeholders.”

Previously to this interviews were held to obtain more detailed insight in the constraints that are impeding full GAP compliance. With regards to the public domain the following remarks were made:

- Many government agencies are responsible for food safety but division of roles is not clear;
- BSN (SNI) 401 verification is not implemented;
- Decentralised certification by provincial departments means that conformity of implementation cannot be guaranteed;
- There is not enough technical assistance available to farmers;
- The budget for MRL testing as part of certification is not sufficient for all farmers;
- There is limited budget for certification
- Public – Private roles and responsibilities are not clear;
- Limited enforcement in place e.g.:
 - Companies can relatively easily label their produce as organic, GAP, etc., however there is no control on whether it is really applied and certified;
 - For fresh products sold through the traditional (wet) market there is no obvious control.

To start the discussion an inventory was made (see table 5) on the basis of the following question:

What is the role of your department in food safety (please be specific i.e. inspection of ... etc.)

After this a discussion was held about how the public sector could work towards assisting in improved GAP compliance. Lastly all present gave what they saw as their increased contribution to enhance GAP compliance (see table 6).

In conclusion:

- There is a need for harmonisation of activities;
- A platform for continuing discussion and exchange between public sector stakeholders needs to be set-up, this could be the (sleeping) food safety council/committee under the agency of food security;
- Budget needs to be allocated/set aside for the contributions that are mentioned in table 2.
- Disseminate outputs from the various workshops, bur especially this one to the Ministry of agriculture.

Table 5: Food safety tasks of the various MoA departments

Department	Commodity	GAP guidelines	Policy support	Training	Traceability	Surveillance & monitoring	Budgeting	Registration	Certification	Inspection	Laboratory analysis	Regional food safety authority	Harmonisation of various GAPs	Verification of certificates
Horticulture	Primary production FFV	✓	✓	✓	✓	✓	✓						✓	
Standardisation & Certification P2HP	Fresh produce	✓		✓										
BPOM	Processed produce			✓		✓		✓	✓	✓				
Quarantine	Inspection import/export fresh produce								✓		✓			✓
DKI Province	Fresh produce								✓	✓ Prima	✓			
Marketing P2HP	Fresh agricultural produce, on farm and in the supply chain					✓	✓	✓						
Food security Agency	?	✓	✓			✓					✓		✓	

Table 6: Future contributions MoA departments can contribute to enhancing GAP uptake

Department	Contribution
Horticulture	<ul style="list-style-type: none"> – Increasing quantity & quality of current activities; – Increase budget allocated to the provinces; – Promotion of up-grading to certification after farmers have achieved registration; – Pilot ASEAN GAP – Explore the possibilities of a new regulation
Standardisation & Certification P2HP	<ul style="list-style-type: none"> – Review standards & technical regulation; – Enforcement & explore labelling of fresh produce; – Facilitation of GAP certification & verification; – Training; – Testing; – Competent authority (OKKPD)
BPOM	<ul style="list-style-type: none"> – Encourage implementation of GAP; – Question the source of raw material used for processed food, is it GP compliant?
Quarantine	<ul style="list-style-type: none"> – Empowering competent authority at local level; – Dissemination of destination country requirements to exporters; – Improving public awareness (all stages); – Review of regulation related to GAP; – Increase law enforcement.
DKI Province	<ul style="list-style-type: none"> – Increase inspection frequency (enforcement); – Improve laboratory facilities; – Review both provincial and governmental regulation; – Capacity building of human resources
Marketing P2HP	<ul style="list-style-type: none"> – Market information & promotion of GAP; – Launching event; – Encourage farmer groups & associations to GAP compliance through assistance; – Sharing regulations with exporters.
Food security Agency	<ul style="list-style-type: none"> – Promotion of food safety & GAP (general); – Facilitate training of inspectors & auditors; – Data support based on monitoring; – Review/revive food safety council/committee

2. Review the Prepared National Interpretation Document.

An interpretation document for All Farm Base, Crops Base and Fruit & Vegetables, was prepared by HCC. The interpretation is based on the guideline from Thailand. After short introductions by Chairman of NTWG (Prof. Roedhy Poerwanto) and Irene Koomen, participants split into three groups. See chapter 2.2 on National Technical Working Group for the outcome of this discussion.

Final Round Table Discussion 26th January, 2012

The objective of this meeting was to discuss the outcome of the four pilots and agree on the way-forward and responsibilities of the various stakeholders.

After presentation of the findings (see chapter on pilots) and discussion the following commitments were made by the various stakeholders present:

MoA (through Sri Kuntarsi)

- will support the NTWG so it obtains a formal status
- will support not only in kind but will secure money so the group can meet and the secretariat is paid for
- will continue to work on upgrading of the laboratories
- will contact FAO for support

Retail

- has their own standards where they will keep on working on improving GAP and food safety of fresh produce
- can support training
- will look to improve communication to support awareness raising on food safety issues. Asks the other stakeholders present to do the same

Traders (including exporters)

- will coach their suppliers in proper record keeping
- will continue to work on HACCP certification of warehouses

Trainers

- can be involved in training in GAP
- pressed the importance to include young farmers

Farmers

- willing to apply GAP even though it is difficult at times. They do want a higher price and/or guaranteed market for their produce

Ministry of Environment (MoE)

- will contribute to NTWG once it has obtained an official status (i.e. recognised by the MoA)
- might be able to source UNDP funding to support the NTWG

DG export (within MoA)

- will provide training for new enterprises

Research Institutes

- will provide training
- can assist in clarifying market requirements
- but agrees NTWG needs financial support

Certification bodies

- supports a step-by-step approach
- NTWG should continue but needs additional members

It was agreed that the roundtable discussion will continue. The MoA will be the lead stakeholder supported by HCC.

2. Conclusions

In 2011 4 pilots were conducted, two on IndoGAP and two on GlobalGAP, with the aim to learn lessons about overcoming some of the more practical constraints. Relevant stakeholders were asked to contribute towards seeking solutions for the more general constraints. Commitments have been made by the Ministry of agriculture to take both IndoGAP and GlobalGAP further.

Introduction of a good agricultural practice system for the horticultural industry in Indonesia occurred only in 2004. Implementation and certification of the IndoGAP system is developing, the importance, especially for food safety is recognised. The pilot farmers that were part of this project acknowledged that their farm operations have improved since becoming involved with IndoGAP and that their impression is that, without having carried out a comprehensive cost-benefit analysis, the farm returns have increased. This is due to reduced costs of farm-inputs, mainly pesticides, and an increased price for their produce. On the down-side, training is still not sufficient and not comprehensive enough. A well designed follow-up system of initial training. Involving farmers, as well as the public as private sector is called for. Examples are field schools managed by farmer cooperatives and supported by experts but also provision of information and training provided by supermarkets themselves.

On a national scale the importance of GAP is acknowledged. However, both key-stakeholders and informants agreed that, for increased compliance to GAP concerted action between public and private players, assistance of farmers and awareness amongst market parties and consumers is required. As a first step a committee operating under the name Food Safety Initiative Indonesia has been established (see <http://www.hortichain.org/site/en/projects/bocifsii/rtd1.html>).

GlobalGAP has become the international standard and is increasingly adopted by many countries. GlobalGAP certificate is a ticket to enter the arena of the international market, especially the European market requires it. For vegetables, the Europe is not the most suitable destination because of the perishability of the product. Possibility for fruit commodities such as mangosteen and other exotic fruits are larger but need both a guarantee of food safety as well as a concerted marketing effort.

The step from IndoGAP to GlobalGAP is still large for farmers. This is so for various reasons, IndoGAP works on a commodity certification, with comprehensive SOPs to follow, while GlobalGAP works on the basis of certifying farms. Without an agreed interpretation guideline of GlobalGAP for Indonesia the adaptation of GlobalGAP will only be feasible for a few front runners. The three levels that farmers can achieve in IndoGAP is a good way of gradually improving farmers abilities to farm according to GAP. It would however help if the highest level of IndoGAP, Prima I, is really in line with GlobalGAP. GlobalGAP is continuously moving and improving its standards, to be truly effective IndoGAP needs to follow. By implementing GlobalGAP, the development of the standard can be monitored, such that eventually IndoGAP standard can be harmonized with the international (GlobalGAP) and regional standards (ASEANGAP). With regards to the latter, ASEANGAP, this is still being developed, the role of this additional GAP system is not yet clear. It is however apparent that the way ASEANGAP standards are designed, is different again from IndoGAP as well as GlobalGAP. To avoid further confusion by farmers a clear choice needs to be made by the Indonesian government which GAP system will be the standard for Indonesian fruit & vegetable farmers.

With regard to the four pilots, the two farmers and their farm cooperatives working towards IndoGAP have been partly successful in obtaining the Prima certificates. Even though at times they are struggling they are committed and clearly see the need and advantages of GAP.

Saung Mirwan, the first GlobalGAP pilot, succeeded in obtaining a GlobalGAP certificate (based on version 3.0), GlobalGAP number GG 4050373928988. This farm is certified according to option 1: one farmer, one certificate. The farmer Cooperative “Manunggal” is still working on the implementation of GlobalGAP. Seven farmers have decided to get a GlobalGAP certificate. This group will go for option 2: certification for a growers organization. There isn’t any experience with option 2 certification in Indonesia and obtaining a group certificate definitely poses challenges.

As acknowledged by the public stakeholders of the various departments, the organisation of food safety control is very dispersed at present. Attempts to harmonise the food safety agendas of the various departments have been made, this does however need commitment from the heads of the various departments. Locating food safety in one unit would assist these efforts. The unit for food security is the most likely candidate for this.

3. Recommendations

- Certification of GlobalGAP and IndoGAP will never work as long as there is no demand from the market. Intervention from the regulator with regard to food safety issues must consider a way to solve the problem as well as enforce the Food Security Law which states that everybody has a right to safe food. The Ministry of Agriculture should take a clear stance here and take action to enforce the Food Security Law.
- Attempts to harmonise the food safety agendas of the various departments have been made, this does however need commitment from the heads of the various departments. Locating food safety in one unit would assist these efforts. The unit for food security should take the lead.
- To avoid further confusion by farmers a clear choice needs to be made by the Indonesian government which GAP system will be the standard for Indonesian fruit & vegetable farmers. The best way forward is to synchronize IndoGAP to the relevant GlobalGAP control point and compliance criteria such that once farmer complies to the highest level of IndoGAP standard he/she also complies to GlobalGAP.
- Streamlining IndoGAP with GlobalGAP should involve farm certification instead of commodity certification as is currently the case for IndoGAP certification. The SOPs should be a guideline and not a directive where without adhering to the SOP an IndoGAP certificate cannot be obtained.
- Interpretation and translation in to Bahasa Indonesia of GlobalGAP (version 4.0) Control Point and Compliance Criteria (CPCC) is strongly recommended such that (smallholder) farmers can understand GlobalGAP guidelines and apply them.
- Even though a system for supporting farmers to obtain the necessary laboratory results, this is not sufficient for all farmers but also laboratory capacity is still limited. Investment in this capacity and assistance to farmers in obtaining test results need to be increased
- The Ministry of Agriculture should take responsibility and give full support to the NTWG.
- IndoGAP and GlobalGAP are certification schemes for primary producers. To truly ensure food safety a chain approach should be developed.
- Traceability is one of the compliance criteria of GlobalGAP. A traceability system which is applicable to the Indonesian context needs to be designed and implemented.
- The market (both the retail and domestic market) requires safe food, this demand is however not very clear and strong. Consumer awareness about food safety is in Indonesia only just developing. Consumers and traders, including supermarkets, should work together with the Ministry of Agriculture to agree on realistic food safety standards and jointly work towards adhering to these standards.
- Small farmers need intensive assistance and training to comply to IndoGAP and even more so to GlobalGAP. Up till now a small number of farmers have been trained. A strategy to reach more farmers should be designed. Both farmers, public and private sector actors should be involved in designing this strategy.

- Apart from supporting the implementation of GAP, farmers need access to a good infrastructure such as cold stores, road and transport. Either supplied by the government, supported through small loans or through investments by traders and supermarkets.

References and resources

- Amekawa, Y. (2009) *Reflections on the Growing Influence of Good Agricultural Practices in the Global South*. J Agric Environ Ethics 22:531–557
- Asandi, A.A., Schoorlemmer, H., Adiyoga, W. Dibyantoro, L. Voort, M. van der, Nurhartuti & Sulastrini, I. (2006) *Development of a Good Agricultural Practice to improve food safety and product quality in Indonesian vegetable production*. PPO Wageningen pp. 90
- FAO (2003) *Incentives for the adoption of Good Agricultural Practices*. FAO GAP Working Paper Series no. 3 pp.34
- Johnson, G.I., Weinberger, K. & Wu, M. (2008) *The vegetable industry in tropical Asia: Indonesia – an overview of production and trade*. AVRDC Publication 08-712 pp.72
- Koomen, I., Boselie, D., Dewayanti, R., Zulkarnain, I. & Suleaman, A. (2011) Analysis of constraints for compliance to Good Agricultural Practices by the horticultural sector in Indonesia, Project Report for 2010. Centre for Development Innovation, Wageningen University & Research Centre. pp. 22
- Morris, R. (2008) *Food safety research in Indonesia: a scoping study and ACIAR's response*. ACIAR Canberra pp. 67
- Natawidjaja, R.S., Noor, T.I., Perdana, T., Rasmikayati, E. Bachri, S. & Reardon, T. (2006) *Restructuring of agrifood chains in Indonesia*. See: http://www.regoverningmarkets.org/resources/se_asia/restructuring_of_agrifood_chains_in_indonesia
- Sulasmi, S., Tarwuti, D.N., Suleaman, A., Stoetzer, H., Roest, J. van der (2006) *Monitoring and evaluation report horticultural produce*. Rikilt, pp. 43
- Swinnen, J.F.M. & Maertens, M. (2007) Global supply chains, standards and the poor: some conclusions and implications for the government policy and international organizations. In. *Global Supply Chains, Standards and the Poor* (ed. J.F.M. Swinnen) CAB International Oxford
- Valk, O. van der & Roest, J. van der (2009) *National benchmarking against GlobalGAP; Case studies of Good Agricultural Practices in Kenya, Malaysia, Mexico and Chile*. LEI report 2008-079, pp.67

Appendix 1A

Proposed new composition of the NTWG

Chairman	Prof.Dr.RoedhyPoerwanto	Bogor Agriculture University
Secretary	IskandarZulkarnain	Horti Chain Centre
Members	Ahmad Sulaeman	Asosiasi Masyarakat Peduli Keamanan Pangan
	Winaryo Suyono	Control Union
	Dr.NikardiGunadi	Indonesian Vegetable Research Institute
	Wahyudi Hidayat	Hypermart / APRINDO
	Nelly Saptayanti	DG Horti
	Muhammad Nurudin	Indonesian Peasant Alliance
	Hasan Widjaja	Indonesia Fruits and Vegetables Exporter Association
	Andjar Rochani	DG Agricultural Processing & Marketing
	Gan Gan Nigantara	PT. Alamanda
	M. Hariyadi Setiawan	Horticultural Partnership Support Program
Possible additional members	Witono Adiyoga	Indonesian Vegetable Research Institute
	Komar Mulya Wibawa	Exporter
	Davy Rusli	Producer & Trader
	Representative of HKTI	
	Representative of DG Horticulture	
	Representative of DG PPHP	
	Representative of Food Security Agency	
	Representative of OKKP Pusat	
	Representative of quarantine	
Host	Horti Chain Centre	Horticultural Supply Chain Dev. Center
Secretariat	Secretariat General of Agricultural Ministry	

Appendix 1B

Composition of the advisory committee for the Food Safety Initiative – Indonesia

1. Prof.Dr. Roedhy Poerwanto (IPB)
2. Dr. Nikardi Gunadi (IVEGRI)
3. Winaryo Suyono (Control Union)
4. Wahyudi Hidayat (PT. Matahari Putra Prima / APRINDO)
5. Hasan Widjaja (AESBI)
6. DG P2HP
7. DG Horti
8. Komar Muljawibawa (Exporter)
9. Nita (Food Security Agency)
10. Horti Chain Centre
11. Dr. Muhammad Syukur (Breeder)
12. Muhammad Nurudin (Indonesian Peasant Alliance)

Appendix 2

GlobalGAP certificate PT.SaungMirwan

CONTROL UNION CERTIFICATIONS
MEMBER OF CONTROL UNION WORLD GROUP



GGN: 4050373928988
CERTIFICATE No: C817902GAP-01.2011
GLOBALGAP REGISTRATION No: CU 817902



CERTIFICATE

General Regulations Globalgap IFA V 3.1-March 2010
Option 1
Fruit and Vegetables

Issued to:

PT. Saung Mirwan
Jl. Cikopo Selatan 134,
16750 Bogor,
West Java INDONESIA

Control Union Certifications declares that the production of the products mentioned on this certificate
has been found to be compliant in accordance with the standard:

GLOBALG.A.P IFA Control Points and Compliance Criteria Version 3.0 April 2009

products	GLOBALGAP (EUREPGAP) CERTIFICATE No	Produce handling	Harvest excluded	No. of production sites
Baby leaf salad crops	00020-KFVNL-0003	Yes	No	1
Lettuce	00020-KFVNP-0003	Yes	No	1
Tomato	00020-KFVNH-0003	Yes	No	1

Valid from : 25 October 2011
Valid until : 24 October 2012

Declared by:
On behalf of the Managing Director
Authorized by: Ranawake, Mr. R.A.R.
(Roshan)

Certifier

Control Union Certifications
P.O. Box 161
8000 AD Zwolle
The Netherlands
<http://www.controlunion.com>
certifications@controlunion.com
tel.: +31(0)38-4260100

GLOBALG.A.P.

Date of certification decision
25 October 2011
Printed on: 25 October 2011

The actual status of this certificate is always displayed at <https://database.globalgap.org>



1 of 2

CONTROL UNION CERTIFICATIONS

Appendix 3

Remarks from Saung Mirwan on GlobalGAP Critical Control Point

Global Critical Control Points

Topic according to GlobalGAP manual	Actions and support provided by PT 3 S / Saung Mirwan to farmers Bogor and Garut	Further support needed by the farmers
1. Record Keeping/Internal Assessment	<ul style="list-style-type: none"> – Data collection and recording of activities – Internal audit by PT 3S. – Corrective action for non-conformances 	<ul style="list-style-type: none"> – Most farmer are not familiar with data recording, further training and controlling is necessary
2. Site History	<ul style="list-style-type: none"> – Register the production plot (using GPS as reference) – Creating map of production plot 	<ul style="list-style-type: none"> – Some farmer do not own the plot, instead they rent it. How to help farmer buy their own land legally? (Need some investment) – Recording site history.
3. Site Management	<ul style="list-style-type: none"> – Risk assessment and management plan to minimise all the risk 	<ul style="list-style-type: none"> – How to influence farmers not to use land which is risky (erosion, pollution)
4. Healthy and Safety	<ul style="list-style-type: none"> – Health and safety procedure 	<ul style="list-style-type: none"> – Risk assessment for safe and healthy working condition – Health and safety equipment (Need some investment, e.g. fire control equipment, first aid kit)
5. Training	<ul style="list-style-type: none"> – Training on chemical handling and machinery handling 	<ul style="list-style-type: none"> – Health and safety training
6. Hygiene	<ul style="list-style-type: none"> – Hygiene procedure 	<ul style="list-style-type: none"> – Hygiene implementation (Need some investment, e.g. clean water, washtafel, toilet) – Hygiene procedure for subcontractor and visitor
7. Hazard and First Aid		<ul style="list-style-type: none"> – Training on hazard (eq. fire hazard) – Accident and emergency procedure
8. Protective Clothing/Equipment		<ul style="list-style-type: none"> – Protective clothing, masker etc.
9. Worker Welfare		<ul style="list-style-type: none"> – Local minimum wage is not yet met by the farmers – Farmers don't have data on their workers (no recruitment procedure, no worker's record) – Farmers don't have minimum facilities for their worker (Need some investment, eg. clean food storage area, dining area, hand washing, drinking water)

The horticultural industry in Indonesia is progressively moving to apply Good Agricultural Practices with the aim of producing sustainably as well as guaranteeing food safety. While the Ministry of Agriculture has put a lot of effort in assisting farmers to comply to the national IndoGAP and become Si Sakti certified uptake has been slower than expected. This study has tried to identify the constraints for compliance to GAP such that with this knowledge incentives for GAP compliance can be formulated.

Through interviews and a key stakeholder workshop the following constraints were identified as the major bottlenecks for compliance to GAP:

- a) Lack of awareness by the consumer on food safety issues but also amongst other stakeholders;
- b) There is no clear coordination, cooperation and commitment between and from public as well as private stakeholders;
- c) Small holder farmers do find application of GAP rules difficult, educating and training these farmers in applying GAP is one of the ways forward.

Recommendation from 4 pilot studies, the establishment of a national Technical Working Group for GlobalGAP and rounds table meetings were formulated.

More information: www.cdi.wur.nl

