

## Final Regional Forum of the Swedish-supported Programme “Towards a Non-toxic South East Asia”



November 27-29, 2018, Hotel Sukosol, Bangkok, Thailand.

This report was developed by staff/consultants of **Asia-Pacific Rural and Agriculture Credit Association (APRACA)** and submitted to FAO within context of agreed deliverables for Letter of Agreement (LOA/RAP/2018/59)

## Executive Summary

The final regional forum of the Swedish supported programme on the theme “Towards a non-toxic South East Asia” was held in Bangkok, Thailand from 27-29 November 2018. The meeting was jointly organized by the FAO Regional Office for Asia and the Pacific, The Field Alliance (TFA), Pesticide Action Network-Asia Pacific (PAN-AP) and the Swedish Chemicals Agency (KemI). Close to 130 participants, representing regional Programme partners, academia, industry representatives, Civil Society Organizations (CSOs), and the representative of eight government departments of South East Asian/ASEAN countries participated in the meeting.

The activities during this three-day event included presentations and discussions on a range of issues related to management of pesticides and other chemicals in the region. In the first day, the activities included a high-level dialogue on chemical management in the region and lessons learned from the past programme activities. This was followed up with a poster exhibition by the programme partners presenting achievements. Parallel sessions on the themes dealing with pesticide management and chemical management (industrial and consumer chemicals) were held during the second and third day. The Regional Forum aimed to review and summarize the accomplishments of pesticide management and chemical management in the region resulting from a 10-year collaboration of this Regional Programme supported by the Government of Sweden, which is due to end in December 2018. The meeting also aimed to identify implementation challenges faced and new priorities and strategies to strengthen chemicals management in the future.

Participants were involved during presentations and follow up discussions through question-answer rounds, participated in exhibitions of poster presentations, and took part in working exercises and group discussions. Country-wise priorities for action plans were identified to prioritize future interventions and explore the future avenues of collaboration. With satisfaction, participants and programme partners look forward to the future continued collaboration on the subject towards a non-toxic ASEAN region.

The highlights of the discussion from the first day of the meeting are:

- The regional forum meeting opened with a welcome remark by the senior dignitaries from the Embassy of Sweden, the Royal Thai Government and the Swedish Chemicals

Agency. In their welcome remarks, all the senior dignitaries applauded the achievements of the project and emphasized the need for the continuation of the work in order to overcome future challenges with respect of pesticide and chemical management in the region. Further, it was stated that the project objectives are very much in line with the SDGs and contributed to achieving SDGs targets from the regional perspective.

- The speakers of the meeting emphasized that addressing sound chemical management in the region will ensure not only environmental and health benefits but also new business opportunities. However, challenges remain that will need to be addressed.
- The forum meeting also emphasized that regional and global cooperation is key to sound chemical management. This is important as chemical management issues tend to be cross- boundary. A chemical banned in one country can well be in use in a neighbouring country, illegally enter –and subsequently be used in- that same country and thereby potentially have a negative impact on health and the environment.
- Some of the key concerns in relation to chemical management that were raised during the forum discussions are: (1) inter-ministerial coordination as many different ministries are involved in the management of chemicals, (2) the need for increased capacity for risk assessment of pesticides (including monitoring for post-registration fate and impact of registered pesticides on health and environment) and other chemicals, more particularly in the context of South East Asian countries, and (3) Establishment of systems for sustainable financing, and (4) enforcement and regional cooperation. The forum meeting was called to discuss these key concerns and identify the solution for these concerns.

During day two, the forum was divided into two parallel sessions, one on the issues of pesticide management- focusing more on agroecology and agrobiodiversity approaches as foundation for *sustainable* intensification of crop production, the second parallel session had a focus on issues related to general chemical management, more particularly on issues of mercury management and Minamata convention. Key highlights of day two are:

#### Session on pesticide management

- School children and pregnant women are the most vulnerable to the negative health impacts of exposure to HHPs. Studies conducted in different geographical regions

indicate higher levels of HHPs in blood and urine samples collected from children and pregnant women living close to the farmlands.

- The proper management of container waste remains another serious concern from a risk reduction perspective. Most countries in the South East Asia region do not have a clear mechanism for safe disposal of waste containers. In addition, a lack of clarity remains in responsibilities of private sector and Ministries of Agriculture and Environment about the disposal of waste containers, making the issue more complex.
- The agroecology-based projects in the region have demonstrated that the IPM (Integrated Pest Management) is one useful and effective approach to address pesticide risk reduction. Studies suggested that farmers following IPM have reaped significant benefits, including economic gains, primarily through reduced use of agrochemical inputs.
- Quality education and awareness must be part of the solution to deal with the challenges of pesticide management and promotion of less chemical-intensive farming. Farmer's Field Schools are a very useful tool for capacity building in this regard, with a proven track record of successful adoption of IPM and good pesticide risk reduction practices.
- Further attention to strengthening pesticide registration process, with a focus on de-registration of Highly Hazardous Pesticides (HHPs) is needed. Equally important is the post-registration monitoring and assessment of fate of pesticides once registered. The real life exposure to multiple pesticides once in use and their negative impacts on health and environment are often ill understood and underestimated.

#### Session on chemical management

- Key challenges for the successful implementation of Minamata convention in the region are: (i) Establishment of monitoring programmes, (ii) Identification of imported mercury added products, (iii) Guidelines for sound environment storage, (iv) Inter-ministerial and inter-departmental coordination, (v) translation of local legal and technical documents in English language, (vi) Absence of data availability, (vii) Inadequate cooperation from industries, and (viii) Capacity building of monitoring staff in the region.
- The industry is one of the key stakeholders in sound chemical management and should be included in the dialogue process. For industries, harmonization of laws on chemical will be useful. In addition, improved inter-agency coordination is also a useful step for sound chemical management in the region.

The last day began with a parallel session followed by a common session on pesticide and chemical management. The key highlights of the last day are:

- The key achievement of the current project in the region are: (i) IPM has gained attention in mainstream agriculture, promoting the development of better enabling policies and regulations and facilitating substantial investments in capacity building and quality education of smallholder farmers in particular, (ii) Mobilization of substantial numbers of farmers and farmer trainers for promotion and development of agroecology-based sustainable intensification of crop production, (iii) the project motivated many farmers and farmer trainers to adopt low chemical use in agriculture, (iv) the shift of national agriculture policy towards IPM, (v) updating of pesticide laws and regulations, including lists of banned pesticides and (vi) awareness and skills related to identification, registration and better management of Highly Hazardous Pesticides (HHPs).
- With regard to pesticide management, the challenges in the region are: (i) inter-agencies coordination, (ii) integration of different legislation and regulations, (iii) cross-border movement of banned pesticides and HHPs, and (iv) continued investments and quality control for scaling out IPM farmer training efforts so that more farmers can make the much-needed transition towards less-chemical-intensive crop production and benefit from adoption of more productive and rewarding farming systems.
- Regarding chemical management, the priority areas where the future collaboration should focus on are: (i) GHS implementation and harmonization of technical and legal documents, (ii) Regional action on phasing out of hazardous chemicals, (iii) more research on the health impact of hazardous chemicals, (iv) establishment of chemical database, (v) dialogue between government, civil society and industries, and (vii) sharing information and guidelines in English language.

## **Background**

The Swedish-supported regional Programme “Towards a Non-toxic South-East Asia” was launched in 2007 with an overall aim to contribute to reduced health and environmental risks from chemicals through better management of agricultural, industrial and consumer chemicals and sustainable intensification of agricultural production. The programme covers the Mekong Region countries: Cambodia, Lao PDR, Myanmar, Thailand and Vietnam as well as the Yunnan, Guangxi and Hainan provinces in China. The Swedish Chemicals Agency (KemI) is coordinating the programme and it is implemented in collaboration with regional partner institutions, the Food and Agriculture Organization of the United Nations (FAO) Regional Office for Asia and the Pacific and the CSO partners, Pesticides Action Network Asia and the Pacific (PANAP) and the Field Alliance (TFA).

Since the beginning of the programme, regional meetings have been organized by programme partners in order to review progress, share information and experiences among countries in the region, inform on recent developments and trends in the management of pesticides, industrial and consumer chemicals and discuss strategies for future interventions and activities in order to achieve the objectives of the programme. Whereas each of the regional and country programme partners has its own distinctive, albeit complementary, implementation role in this joint regional Programme, these meetings have acted as a regional forum for exchange and have facilitated a dialogue on GO-NGO collaboration for better chemical management and risk reduction. These meetings have also served as important forums for inter-ministerial dialogue and networking as well as for the involvement of and sharing of programme results with other concerned actors and stakeholders.

The current 2nd phase of this regional programme is coming to completion in December 2018 and partners therefore wished to gather counterparts and concerned stakeholders to summarize the accomplishments and lessons learned from more than 10 years collaboration, to highlight remaining challenges for the region and discuss ideas, priorities and strategies for continued work to strengthen chemicals management and reduce health and environmental risks from pesticides, industrial and consumer chemicals.

For this purpose, a final regional meeting of the Swedish-supported Programme “Towards a Non-toxic South-East Asia” was held in Bangkok, Thailand, November 27-29, 2018.

## Objectives

The overall objectives of this meeting were:

- Share highlights of achievements and impact resulting from programme interventions, from 2007 to 2018;
- To highlight needs, opportunities and challenges for continued work on chemicals and pesticide management;
- Discuss how the region can move from awareness to action for sound management of chemicals and achievement of the Sustainable Development Goals;
- Present and discuss findings from selected innovative project components;
- Enable meetings and networking between and among concerned stakeholders.

## Participants

A total of 129 people participated in the meeting. Staff from Programme implementing partners (KemI, FAO, PANAP, TFA) and their national networks were present as well as other professionals from multilateral organizations such as the UN Environment, World Health Organization, USAID. Professionals from various non-governmental organizations in the South East Asia region also participated and contributed to the meeting discussion. Furthermore, national and international research institutions and academia based in Thailand (e.g. Chulalongkorn & Mahidol University, AIT) and Europe (Raoul Wallenberg Institute, Leipzig University/Leopoldina) also took part in the meeting. Staff of the Embassies of Sweden and Norway were also present. In addition, government representatives from Programme participating countries; Thailand, China, Cambodia, Myanmar, Lao PDR, Vietnam. The Government of Singapore supported the participation of several delegates. The private sector was represented by chemical industry representatives (e.g. Chemical Industry Council of Malaysia, Thailand, Vietnam and Myanmar pesticide industry). The full list of participants and their organization/country affiliations is attached in this report as **Annex 3**.

## **Activities and events of the final regional forum meeting**

**Day one: Tuesday, 27 November 2018**

### *The high-level segment*

The high-level segment included an opening session of the meeting, moderated by Mr Richard Gutierrez. The high-level segment opened with a welcome remark by Mr Staffan Herrström, Ambassador of Sweden to Thailand. This was followed by a welcome remark by Dr Tares Krassanairawiwong, Secretary-General of the Food and Drug Administration, Ministry of Public Health of the Royal Thai Government. Ms Nina Cromnier, Director General of the Swedish Chemical Agency (KemI), also welcomed the forum participants on behalf of the Swedish Chemical Agency. The opening session concluded by welcome remarks from representatives of all regional programme implementing partners: Ms Jenny Rönngren (KemI), Mr Jan Willem Ketelaar (FAO-RAP), Ms Sarojeni Rengam (PANAP), and Mr Marut Jatiket (TFA). The regional partners gave a short expose of the programme for the period of 2007 to 2018, presented component results and concluded with a short film, highlighting achievements of the entire regional programme.

Mr Herrström, in his welcome remark, expressed his pleasure taking part in this Regional Forum. He gave a short introduction of how the programme was inducted in the South East Asia region. He expressed his concerns about significant increases in the use of chemicals in the region and argued that many chemical substances have adverse health impacts. He highlighted that the health and environmental costs related to indiscriminate use of these chemicals is very high. He expressed satisfaction that significant results have been achieved since the inception of the programme, particularly in terms of improvements in institutional capacity, upgrading of local laws and regulations/standards up to the international level and the introduction of new and effective measures for better chemical management and safety. He highlighted the programme's support for large-scale training at the grassroots level resulting in more and more farmers of the region adopting sustainable agriculture. He mentioned that Sweden is interested in the theme of non-toxic South East Asia because it has clear links to the realization of the Sustainable Development Goals (SDGs). He acknowledged that there is a continued need to address issues and challenges related to chemical management for safeguarding human health and the environment. Environmental pollution both in urban and rural areas not only threatens human health and the environment but also results in high economic cost. This has implications for the much-needed global effort of poverty reduction.

These were some of the concerns behind Sweden's engagement in promoting better chemical management in the South East Asia region. He lauded the significant achievements of the programme but expressed concerns that still many challenges remain. In conclusion, he praised the hard work of KemI and expressed gratitude to regional collaborating partners and implementation networks at national/local levels. Particularly for Thailand, he expressed that Thailand will continue to encourage ASEAN to address the issue of working towards a non-toxic environment under the tenure of their leadership in ASEAN in 2019.

In the welcome remarks by Dr Tares Krassanairawiwong, he expressed gratefulness to KemI and other collaborating partners for working closely in the programme. Related to non-toxic chemical management, he applauded the efforts of the collaborating partners and expressed his satisfaction with the work done and results achieved. He said that outcomes for period 2007-2018 included that Thailand has recognized the importance of chemical safety and regulations. As a result, the country has implemented the national safety plan in chemical management. In the process, Thailand has been putting her efforts in the development of a database and management plan for highly-hazardous chemicals. Further, he expressed his hope that the outcomes of the regional collaboration will help in international chemical management. Concluding his welcome remarks, he pointed out that Thailand will be keen to contribute their effort in the regional forums.

Ms Cromnier said that there have been 11 years of effort of working on the concept of a non-toxic Southeast Asia, with good results achieved. In these 11 years, however, both production and consumption of chemicals have increased in the region. Many identified risks to human health and the environment result from use of pesticides. This is not only negatively impacting on human health and environment of the region, but also jeopardizing economic opportunities in the region. For instance, because of the growing toxicity related to chemical residues in the food produced in the region, the export of agriculture products is jeopardized, resulting in economic losses in the region. She emphasized that addressing sound chemical management in the region will ensure that countries can better benefit from business opportunities. In her concluding remarks, Ms Cromnier expressed thanks to the collaborating partners for their long-term engagement and for achieving impressive programme results.

After welcome remarks by the representatives of the regional partners, a high-level dialogue was initiated with individual presentations and followed by a panel discussion.

### *The high-level dialogue*

A high-level dialogue with the theme “From awareness to action” was initiated and moderated by Mr Gutierrez. A panel of six speakers convened representing various international organizations involved in chemical management in South Asia and South-East Asia.

Dr Nalinee Sripaung, Deputy Director of Bureau of Occupational and Environmental Disease (Ministry of Public Health, Thailand), delivered a presentation on “Taking the lead on sound management of chemicals within the ASEAN region”. The presentation covered sources of chemicals in the food chain, health surveillance and health data system from the perspective of occupational environmental disease. The presentation also focussed on the issue of capacity building of health surveillance from the occupational environmental disease in the ASEAN countries and presented an overview of the progress made so far. In Thailand, the BOED (Bureau of Occupational Environmental Disease) is the nodal agency, under the Ministry of Health, to address the issue of health surveillance in coordination with the local pollution control authorities. For ASEAN countries, the capacity building on health surveillance and occupational environment aspects have been organised with the ASEAN member countries. The other important points discussed were a focus on the importance of capacity building workshops to develop an inter-country knowledge sharing platform. The special focus was on the development of the Special Economic Zones of the ASEAN countries.

Ms Jenny Rönngren delivered a presentation on “ASEAN priorities on chemicals management”, on behalf of the ASEAN Secretariat (since no representative from the Secretariat was able to attend the Forum). She informed the forum that the ASEAN Working Group on Chemicals and Waste (AWGCW) was created in 2015. This serves as an important platform for regional cooperation and partnership on the management of chemicals and waste. The working group is currently chaired by Thailand. The 2017 ASEAN joint declaration on hazardous chemicals and waste management urges the ASEAN member states to continue its cooperation for minimized health and environmental impacts from chemicals. Reiterating the continued interest of ASEAN on the subject, she informed that the current work plan of the ASEAN Working Group on Chemicals and Waste contains activities related to capacity building through forums and workshops on emerging issues that are in line with international conventions. In this context, the ASEAN Working Group on Chemical Waste will have a possibility for more joint collaboration to work on activities as mandated by AWGCW.

Ms Marjon Fredrix, Agricultural Officer (Plant Production Division, FAO) presented the FAO's perspective on pesticide management in Asia. Her presentation focussed more on describing achievements of the past activities and future challenges. She discussed that the Asian countries, in the last 30 years, were the hot spot of increased use of chemical fertilizers and pesticides. This provided the rationale for the development and promotion of Integrated Pest Management (IPM). In the last 10 years, the Southeast Asia region benefitted from a number of FAO-led initiatives to promote IPM, including farmer training on Agroecology and an ecosystem-based approach to manage crop pest and diseases, building on natural biological control and application of bio-pesticides and improved pesticide management as a last resort. Significant progress has been made in this direction towards sustainable agriculture management. She suggested that the region has achieved a lot, but the challenges have also multiplied tremendously. There is a need to have a meaningful inter-sectoral collaboration to understand the complexity of the interaction of agriculture and environment, including post-registration monitoring for assessing the fate of pesticides in the environment. Presently we do not know much about it. She said there is a need to engage more with rural communities and policymakers for useful and enabling policy initiatives and incentives for scaling out IPM and sustainable intensification of agricultural production. In conclusion, she emphasized again that remarkable progress has been made on the issue of better agrochemical management and IPM promotion, but major challenges remain that will need to be addressed in support of greening agriculture.

Dr Dechen Tsering, Regional Director (UN-Environment, Asia and Pacific), presented on "The UN perspective on sound management of chemical in Asia". She said that the UN mandate is to safeguard the environment under the precautionary principle. In this context, Asia Pacific is an important region because of increased economic activity and resulting chemical use albeit with serious negative health and environmental concerns. She said, nearly 140,000 chemicals have been introduced in the global environment. The SDGs (particularly Goal 12) recognizes this as an important issue to address in relation to environment and health issues. She emphasized the need for more cross-border cooperation because communities have come closer together and the transfer of hazardous substances is real. She said there has been a lot of progress in this direction. However, challenges remain too, particularly related to continued growth in the use of chemical inputs in the agricultural sector.

Ms Nina Cromnier spoke about global challenges and the need for global action. She focussed her discussion on a global dimension of chemicals management. She said, if we have a global

decrease in the use of hazardous chemicals, this will be a win-win situation for all. She gave examples of SDGs which are related to sound chemical management. The last decade, there has been a dramatic shift of the global chemicals production. Asia is now the largest producer as well as consumer of chemicals, with China accounting for almost 40 % of global chemicals sales in 2016. She discussed that not only the production has become more global but also the trade of chemicals, both as chemical products as such and also as chemicals in articles such as toys, textiles, electronics etc. Existing legislation is not always fit for this type of transformation, particularly in the era of e-commerce where consumers can purchase goods directly from the producing country. Ms Cromnier also gave an overview of the Strategic Approach to International Chemical Management (SAICM), an international policy framework to encourage sound chemicals management. She said the main objective of SAICM is to foster cooperation and collaboration across different stakeholders to frame policy strategies, their objectives and scope as well as financial provisioning for the implementation of sound chemical management under the precautionary principle. In this context, the Fourth Inter-ministerial Conference on Chemical Management (ICCM4) was held to review the 2020 goal and ICCM5 is about addressing these issues beyond 2020.

The high-level dialogue also included a perspective from the Civil Society Organizations (CSOs) on chemical management, presented by Mr Jayakumar Chelaton (Executive Director, Thanal and representing PAN-AP). Mr Jayakumar took the forum on a journey of nearly 20 years of farmers' struggle for a ban on Endosulfan in Kerala (State in the south of India), cumulating in the eventual banning of the use of this pesticide. He said this was possible because the state government was supportive. This encouraged the state government to demand the implementation of provisions of the Stockholm convention in the entire country. However, the government cannot alone completely phase out of hazardous chemicals. He used an example of the use of Paraquat in the country, which is a toxic herbicide. A total ban of Paraquat was not possible because of a number of avenues of accessibility of the chemical, making it hard for the governments to completely phase out the use of this herbicide. He then used the example of Yavatmal district in Maharashtra (a state in the Western part of India), where pesticides are applied in the Bt-cotton farms. Some of these pesticides are banned in Switzerland but exported and applied in India. With these examples, he emphasized the importance of moving away from pesticide dependency and for farmers to adopt agro-ecological management practices, including IPM, to address the challenges posed by the indiscriminate use of pesticides in Indian agriculture. He mentioned the Zero Budget Farming

initiative, led by the government in Andhra Pradesh. In India alone there is a potential that nearly 20 million farmers adopt agroecology, which will have a greater impact on safeguarding the global environment. In this context, he said that there is an opportunity for global cooperation and for the promotion of a toxic-free environment while achieving SDGs through mainstreaming agroecology and better sharing of information and knowledge. This calls for constructive collaboration, networks and engagement with the grassroots organizations.

The high-level dialogue concluded by the presentation of the film on Asia environment enforcement award, followed by a panel discussion, with the panel of the above speakers, except Ms Rönngren (moderated by Mr Gutierrez). Mr Gutierrez posed the following question to all panel member: What are the major challenges and opportunity that might not have been able to present in your presentation?

In response to the above question, Mr Jayakumar said that the main problem is that we do not have closed boundaries as far as transfer of chemical is concerned. In such a context whatever achievement you make, you need to see this in a bigger context and explore the means of cooperation with the external environments. Dr Tsering said phasing out the subsidies in chemicals might be a useful approach. She added that the focus of future interventions should be more on agricultural extension and education in order to encourage farmers to reduce the use of agrochemicals. Ms Sripaung said banning of chemical is not possible unless alternatives are available. Ms Fredrix suggested that there should be a shift in our narrative to consider the use of pesticides as a problem rather than a solution. She said this narrative needs to change from a current focus on strengthening law enforcement agencies to the farmer in the field. On the issue of a shift in the narrative, Mr Jayakumar suggested that pesticides should be considered as poison rather than a medicine.

The second question posed to the panel related to the implementation challenges of SAICM and how it can be made a success. Ms Cromnier responded that a framework of knowledge sharing is important, she added that we should have long-term policies rather than a shorter-term agenda to address the issues related to chemical management.

In response from the question from the audience on the harmonization of national legislation system in relation to standards. All the panel was in agreement that this is an important step and more efforts are required to address the issue.

In the end, the moderator asked for a one sentenced message from the panel members (Dr Tsering had left the panel early). In response, Dr Sripaung said “non-toxic management is our

responsibility”, Ms Cromnier said, “keep up the engagement of working in the area of chemical management”, Ms Fredrix said “rethink what else we can do”, and Mr Jayakumar said “Identify avenues how to engage people. Try to bridge the disconnected. Good quality education seems to be vital step forward!”.

### **Presentation of project partners (Day 1- afternoon session)**

The afternoon session commenced on the theme of “Learning from the past- looking into the future”, moderated by Mr Gutierrez. This was structured as 15 minutes presentation by the regional partners, followed by an overview of global chemical outlook II, and SAICM beyond 2020.

#### ***Presentation of regional partners***

Mr Ule Johansson (from KemI) touched upon 5 main issues, (1) The need for national co-operation and co-ordination since chemicals management is a cross-ministerial issue and responsibility, (2) The need for dividing responsibilities between government, private sector and civil society, (3) The need to secure sustainable resources / financing for chemicals management (4) The need to start enforcing existing legislation and make sure that all stakeholders take their responsibility for sound management of chemicals and (5) Regional cooperation for exchange of experiences and work sharing. In the context of future plans, Mr Johansson suggested increased efforts to implement and use the globally harmonised system for classification and labelling of chemicals (GHS) as an important step. Once it is legalised, the industry or the producer has the responsibility to classify and label chemicals and inform the user through labels and safety data sheets. This process will benefit all stakeholders and enable risk mitigation measures as well as more informed choices on chemicals.

Mr Ketelaar, representing FAO-RAP, mentioned that the Programme has trained so far 80,000 farmers and more than 1,800 extension workers through participation in season-long IPM Farmers Field Schools and Training of Trainers. Among other benefits, IPM-graduate farmers have reduced pesticide use by more than 50% and have entirely stopped use of WHO Class I pesticides as confirmed by science-based external impact assessment studies. For the future outlook, he said that better enabling policies, incentives and investments in good quality farmer education are needed so as to ensure more farmers can adopt IPM and make the transition towards more sustainable agriculture. In the end, he showed a short video featuring Lao rice farmers who had successfully adopted sustainable rice intensification practices and achieved good results in terms of increased land productivity, cost reductions through more efficient

resource use and higher farm profits following participation in Save and Grow Farmers Field Schools. Ms Rengam and Mr Jatiket also showed a short video on farmer's opinion in relation to the use of pesticide and problems associated with this.

An overview of the Global Chemical Outlook II (GCO II) was presented by Ms Kakuko Nagatani-Yoshida (from UNEP Bangkok). She described GCO is an important document that demonstrates global chemical intensification and promotes sound chemical management as an economic case. This is very useful for providing policy inputs both at global and regional levels. In this context, the second GCO will be launched in the first quarter of 2019, possibly in the UN Environment Assembly (UNEA). The GCO II will have four parts, the first part will deal with global context, trends and development, the second part will provide a review of chemical management and beyond 2020, the third part will focus on policies and governance issues, and the fourth part will discuss activities for achieving SGDs. The focus of the report is more on the implementation of 2020 goals, including legislation. Successful implementation will depend upon regional participation and collaboration. She discussed global work towards phasing out of the lead in paints. Because of joint efforts by government and non-government organisations working on the issues, there has been a success in the reduction of use of lead in paint. A template law has been developed on a global level to support countries' development of regulation of lead in paint and the phase-out of such products.

Ms Anna Fransson (KemI) provided a background on the expectation of SAICM beyond 2020. The focus also after 2020 will be to ensure sound management of chemical and waste. She focussed her presentation on the process of Beyond 2020 and expectations on the process and outcome. She said that the co-chairs of the intersessional process on Beyond 2020 are expected to publish a draft report that will cover issues related to the protection of human health, well-being and environmental safety. She added that in this process, regional cooperation and consultation is important to find issues and gaps between countries in terms of chemical management and related legislation and practices. For Beyond 2020, she added that the process is needed which also covers details of the multi-stakeholder and multi-sectoral engagements at international, national and local levels.

The session concluded with an announcement of the poster exhibition session, jointly arranged by KemI, PANAP, TFA, and FAO.

*The poster Exhibition session*





**United Nations**

Food and Agriculture Organization of the United Nations

### IPM-PRR PROGRAMME IN CHINA

**PESTICIDE RISK REDUCTION (GCP/RAS/229/SWE: 2007-2018)**

**FARMER EDUCATION:**  
Promotion of Integrated Pest Management (IPM) to:

- eliminate pesticide overuse
- reduce reliance on pesticides
- end use of WHO Class I pesticides

**REGULATORY CONTROL:**  
Strengthened governance for regulatory control of the importation, distribution and use of pesticides

**RESULTS:**

- 79,932 (1-99% female) Farmers and 1,735 Extension workers trained in IPM and Pesticide Risk Reduction through season-long and short-duration Farmers Field Schools and Training of Trainers
- Community leaders and pesticide shops: Enforcement of new laws and regulations leads to improved storage practices and reduction in licensed shops

**LASTING IMPACT:**

IPM-FFS farmers in 2015 report reduced pesticide use by 4.6 Kg a.i./ha and a major decline in pesticide poisoning cases (10% of interviewed farmers in 2015 compared to 70% in 2008). Impact resulted from adoption of IPM and risk reduction measures as well as virtual elimination of highly-hazardous pesticides (HHPs).

KEMI

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### VIETNAM FFS

**Achievements**

- Operational since 1992
- Implementing agency Plant Protection Department
- Farmers and school students trained: 1,249,400 (13% female)
- MARD Decision in 2013 on the promotion of application of IPM, period from 2015 to 2020 (PPD Decision in 2018 outlines standards and modules for FFS and TTS. MARD Decision in 2016 on a plan for verticalizing rice sector to increase efficiency of rice production and trade in which target for FFS by 2020 over 80% of the area should be under IPM. MARD Decision in 2016 on promotion of application of biological measures on control benefits period 2015-2020
- Cooperation with the Ministry of Education and Training to promote FFS through community learning center and secondary school in rural area

**Progress:** Outlines standards and modules for FFS and TTS has been issued by MARD. A manual for provinces in financial planning.

**Monitor:** Annual survey (radio walk, unspaced team survey)

**Progress of institutionalization FFS**

Year	1992	1997	2001	2005	2009	2013	2015
Number of FFS	1	10	20	30	40	50	60
Number of farmers	100	1,000	10,000	100,000	1,000,000	1,200,000	1,249,400

Government budget allocations for nation-wide scaling out Farmers Field Schools

Year	1992	1997	2001	2005	2009	2013	2015
Allocation (USD million)	0	0	0	0	0	0	0

**Priorities for FFS institutionalization**

**In the coming year:**

- Develop of FFS national standards
- Share further experience of regional analysis and better integrated learning systems of food bank
- Strengthened governance to promote sustainable crop intensification systems of rice region

**United Nations**

Food and Agriculture Organization of the United Nations

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KEMI

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### Capacity Building for Sprayed Prevention and Management of Cassava Pink Borer (CPB) in Lao PDR

**Biological Control: Ministry of Management of Pesticides (MMP) (Phnom Penh, Cambodia) in Lao PDR**

**Challenges:** a major crop for human - animal food and starchy products

**Importation, cross trading and field release of parasitoid *Alphitobius* sp.**

**Training of Farmers and Curriculum Development for Farmer Field Schools on Cassava pest agriculture practices and natural management of Cassava Pink Borer**

**Support:** KEMI, Sweden





## **Day 2: 28 November 2018**

Day 2 activities were arranged in form of two parallel events, focusing on themes of issues of pesticide and issues of industrial and consumer chemicals. Activities of the day in each event is divided into pre- and post-lunch sessions.

### ***Parallel sessions on pesticide management***

The first part of the parallel session was focussed on the protection of vulnerable communities from exposure to Highly Hazardous Pesticides (HHPs). The PANAP moderated session was planned with presentations related to current progress in the monitoring of pesticides and a presentation on the results of pesticide monitoring from selected countries in the GMS region. This was followed by a panel discussion. The second part of the parallel session was on the role of agroecology for greening agriculture. The session, moderated jointly by Dr. Kris Wyckhuys and Mr. Kevin Kamp, presented successful stories from the field based on Programme results achieved by regional and national partners, a summary of outcomes/recommendations resulting from the recently held ALiSEA Agroecology regional forum, a presentation on agrobiodiversity conservation and sustainable utilization based on TFA interventions from selected countries of the region, a case study/video on Green Rice Landscapes in Lao PDR based on FAO intervention, a presentation of the proposal and rationale for the ASEAN Initiative on Soil Health, and a European perspective on improved risk assessment for post-registration fate of pesticides and impact on health and environment, presented by Mr. Matthias Liess/Leipzig University/Leopoldina.

### ***Session on the protection of vulnerable communities from HHPs***

The first part of the session was a presentation from a panel of Dr Vanvimol Patarasiriwong, (Department of Environmental Quality Promotion, Thailand), Dr Pornpimol Kongtip (Mahidol University), and Dr Jutamaad Satayavivad, Chulabhorn Research Institution. This part of the session was moderated by TFA Regional Coordinator, Mr Jatiket.

Dr Patarasiriwong presented a study of exposure of pesticides and residues identified based on students' blood samples based on consumption of school lunches. Evidence of pesticide residues in local vegetables and fruits in Thailand was also presented and discussed. The study has observed the presence of organophosphate insecticides. According to the study, on an average, 87 % of the population in Thailand are exposed to organophosphates and children are particularly vulnerable to it. Generation of awareness by promoting knowledge about the

effects of the use of insecticides and pesticides is one of the recommendations of the study. The presentation also suggests the capacity building regarding reducing exposure to pesticide impacts and emphasis on awareness for chemical-free consumption behaviour.

Dr Knogtip delivered a presentation on the observations of studies conducted to understand the impact of a pesticides on pregnant women and newborn babies, showing the results of a longitudinal study conducted in Thailand. The results showed that the pregnant women living close to agricultural farm areas are most affected by the exposure of pesticides. The exposure of pesticide might result in cancer and neurological health effects. In conclusion, the presentation calls for better awareness of all consumers in related to the risk posed by the use of pesticides.

***Session on pesticide container waste: results from pilot activities in Cambodia, Laos and Vietnam, future development and collaboration.***

This session focused on the management of pesticide container waste, which is one of the serious problems of the region. The session is sharing experiences of pilot studies from Cambodia, Laos and Vietnam to identify lessons learned from the pilot studies. Three presenters; Ms Pan Sadovy (ATSA, Cambodia), Ms Chanthaly Syfongxay (LURAS, Laos), and Mr Ngo Tien Dung (ICERD, Vietnam) delivered their presentations during the session.

Ms Sadovy presented the current status of use of pesticide waste containers in Cambodia, which is a serious concern. She informed that there is no measure to dispose of such containers at this stage in Cambodia. Ms Syfongxay described current waste container disposal situation in Laos. Both Ms Sadovy and Ms Syfongxay suggested that education, as well as awareness programme, are helpful for reduced risk associated with disposal of waste containers. Ms Syfongxay added that more studies are needed at this juncture to deal with the issues on better disposal of pesticide containers waste. Mr Dung presented the efforts of Vietnamese government departments on the issue of waste disposal and container transport, through a public-private partnership. In Vietnam, different departments are active in training of farmers for disposal of pesticide waste and incinerating the pesticide waste containers. Mr Dung suggested that pesticide companies should be responsible for the disposal of pesticide waste containers.

The next session was about current issues of the pesticides, the session was moderated by Ms Deeppa Ravindran (PANAP). The session started with a short film on a case study from Cambodia about pesticides in schools. This was followed by a discussion on the key highlights

on the recently launched report on rights of poison and sharing experiences of CPAM mobile application. The session concluded by a discussion on a legally-binding treaty on HHPs.

Ms Ravindran presented the key highlights of the recently released report on rights of poison. The key highlights are:

1. Access to education is one of the concerns of low awareness related to risk due to pesticides among farmers;
2. Many farmers use back sprayers for pesticides. Leakage of pesticides from back sprayers are a major health risk to them;
3. Farmers are not using protective covers such as long sleeves, masks or boots either due to not being able to afford or lack of awareness. Another concern is the prevailing hot environment which is making wearing of protective cover difficult;
4. In terms of health impact, farmers using pesticide have complained about a headache, blurred vision, nausea, skin rashes, and breathing difficulties. Breathing difficulties are common among children exposed to pesticides;
5. There are around 49 types of HHPs found in the GMS region. Most of them are very toxic and highly hazardous.

Further, Ms Ravindran described the use of CPAM (Community-based Pesticide Action Monitoring), which is a mobile-based application to monitor issues related to pesticide application in a farmer's field. Mr Maran Perieanen (Pravada Studios) shared the application of this methodology. The aim of CPAM is to raise awareness, document and monitor the pesticide application in the community. Ms Rengam shared that one of the challenges in using CPAM application is a translation of it in the regional level, which is currently in progress. She also presented a proposal on a legally binding treaty on HHPs. The treaty aims to deal with the issues of HHPs, in term of strong regulation and laws. The proposal is preliminary at this stage and proposed to seek suggestion in terms of phasing out and listing of HHPs. She called for support for dealing with HHPs. According to her, pesticide manufacturer should be responsible for selling, which she proposed to be declared as poison. Phasing out of the HHPs is one of the main issues of the proposal. The legally binding treaty is the need of the hour because pesticides do not have boundaries and therefore, a strong regulation across boards will be useful to deal with the issues of pesticides. The proposal is an important step to charting out a course for a legally binding agreement. The main motto behind pushing forward the agenda of the proposal that everyone has a right to be born and live pesticide free, and linking the issues related to a

pesticide with human rights. In the concluding part of the session, Ms Ravindran invited all the participants to support the PANAP campaign on the pesticide. She also informed that from next year the campaign will emphasize the implementation of a legally binding treaty.

Highlights of the discussion include the following-

- The current rate of application of a pesticide in the South East Asia region is very alarming. A pesticide (Paraquat) that is banned in the European region is currently in use in the region. There are high to very high rates of pesticide exposure on human both in rural and urban areas.
- Agroecology is a unique opportunity in the context of the current situation when there are more than 60% of the loss of biodiversity in environmental systems.
- One of the main outcomes of the FAO project was to set up agrobiodiversity as an important approach in the mainstream of agricultural activities in the project locality. The main learning of the project activities is that eco-agriculture-based programmes need a mobilization of resources as well as identification of alternatives for chemical inputs in the agricultural fields. More pilot studies are required to have a large-scale impact on agrobiodiversity initiatives.
- Annually, more than 10 million tons per pesticides are applied in the World. On a spatial scale, an average of 15 Kg per square feet is the rate of application of different types of pesticides. Increased use of pesticide has caused the reduction of biodiversity in many places in Europe. The presence of pesticides in streams has led to a reduction of self-purification potential of streams, mainly due to the reason that pesticide wiped out some of the pests that treat stream water. Many times, risk assessments are conducted in laboratories, but these risk assessments might not relate to the actual field condition primarily due to a reason that species in labs are less sensitive than when they in the environment. Having poor sensitivity in lab tests results in failure of risk assessments if the sensitivity of the species with respect to pesticides is not understood appropriately.
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- Poor soil health condition is one of the serious issues in the ASEAN region. A large section of the population still lives on the degraded land in the region. Green revolution in the region has also contributed to soil degradation in the region. Due to unsustainable agricultural practices, a large section of land in the region is under severe to very severe degraded land. Soil management is, therefore, an important process that could provide more benefits than other activities. This is one of the reason, that ASEAN policymakers have a focus on issues of improved soil health measure as a step towards sustainable agriculture. In this regard, ASEAN government are active in training and capacity building for better soil health management.

### ***Parallel sessions on industrial and consumer chemicals***

The first part of the parallel session was focussed on mercury management and implementation of the Minamata Convention. In the first session, there was expert's presentation on the range of issues, moderated by Ms Rönngren. The second session was focussed on updates on current status and priorities for chemical management in the region. This session had a presentation from the country representatives and was moderated by Mr Johansson.

### ***Session on Industrial and consumer chemicals: Mercury management, implementing the Minamata convention.***

The session began with a short update from the Minamata convention focussing on COP2 (The 2<sup>nd</sup> meeting of the Conference of Parties) by Ms Fransson. The convention was signed in 2013, at present, it has 101 parties and 128 signatories. In CoP2 a decision was taken to place the Minamata secretariat in Geneva. The CoP3 is expected to be held in November 2019 in Geneva. The CoP2 decided on and discussed issues among others relating to (1) Effectiveness evaluation including monitoring programmes, (2) Harmonization of customs code, (3) guidelines of the sound environmental storage, and (4) thresholds for the purpose of identifying mercury waste. Ms Fransson added that information related to the convention and its meetings are continually published in the website <http://www.mercuryconvention.org>. She encouraged the participants to also access the reports from meetings at <https://www.iisd.org/>.

Mr Ramon San Pascual delivered the presentation on “Results from a pilot project implemented by Health Care Without Harm”. Mr Pascual presented a case study involving two hospitals of Vietnam in relation to their use and handling practices of mercury-added products. The highlights of the presentation were, (1) Many health care staff still prefer mercury thermometers since they are perceived more reliable and because there are sometimes battery-

related problems with the digital thermometers, (2) There are available alternatives to mercury-containing measuring devices. Awareness and education are important for successful phase-out of these products.

Mr Gutierrez delivered a presentation on “Results of a pilot project on ASGM, implemented by Ban Toxics”. Mr Gutierrez presented the case of Artisanal Small-scale Gold Mining, ASGM, in Cambodia. In his presentation, Mr Gutierrez began with an introduction to issues of ASGM, followed by a discussion on ASGM in Cambodia and how it relates to the ASGM in other countries of the region. The key highlight of the presentation of Mr Gutierrez was that there is an opportunity of mercury-free gold mining the region, particularly in the case of ASGM. Mr Gutierrez argued that mercury-free mining provides better opportunities and high-quality gold extraction. However, the awareness on the alternative techniques for the extraction of gold in the region is very low and there is a need to pursue the issue.

Ms Aurus Kongphanich (from Food and Drug Administration of Thailand) delivered a presentation on “Experience from the implementation of Minamata convention in Thailand”. The first part of her presentation gave an overview and introduction to the convention from the perspective of Thailand. She informed the participants that in Thailand the pollution control department is the focal point that deals with the issues related to the convention. The second part of her presentation focused on the issues of awareness generation and capacity building. She said that the management of mercury in the waste is the main concern in Thailand. Keeping this in view, Thailand has set up a national implementation fund to assess the impact of mercury exposure. In addition, Thailand is ready with regulation to address issues of chemical waste management in health care.

Mr Le Viet Thang (Vietnam Chemical Agency) gave an overview of the implementation of the Minamata convention in Vietnam. In Vietnam, Ministry of Industry and Trade is the national focal point for the Minamata convention. Mr Thang informed that the use of mercury in gold mining and mercury-added product are main concerns in Vietnam. One key challenge is limited human and financial resources for the implementation and enforcement of the convention. Vietnam currently lacks specific regulation of the life cycle management of mercury. The country is experiencing difficulties to estimate emissions from industrial sources. Identification of mercury-containing products is another challenge.

In the last presentation of the session, Ms Nagatani-Yoshida delivered the last presentation of the session on “Minamata initial assessment in the region”. She first gave an overview of the

current status of Minamata convention. She then presented case studies of three countries; Cambodia, Pakistan, and Philippines in relation to Minamata Initial Assessment (MIA). MIA is the first step towards the implementation of the convention, which on an average takes two years to complete. She called for a global partnership on the issues of tackling mercury issues.

***Session 2: Industrial and consumer chemicals: Updates in current status and priorities for chemical management in the region***

Country wise presentation on updates on the current status and priorities of chemical management were made during the session. This was followed by a presentation of the industry representative. Each country presentation was concluded by the identification of five priority issues in relation to chemical management.

Thailand presented how issues of chemical management figures out in the new constitution and the 2036 vision plan. The five priority areas in relation to chemical management are, (1) Development of chemical act, (2) creation of national-level chemical agency to coordinate chemical management issues in the country, (3) Identification and establishment of regional mechanism to address common problems, (4) Capacity development from EU and ASEAN countries in terms of defining labels and classification of GHS. These include updating of Thai recommendation on GHS 2007, harmonizing different version, and regional level coordination of GHS implementation, and (5) Implementation of Minamata convention.

Cambodia presented the progress made so far in the implementation of chemical management. A number of laws and policies has been introduced in the country, but there remain challenges especially dealing with the issue of illegal imports. Inter-departmental and inter-ministerial coordination is still a challenge. Other challenges are, (i) lacking the capacity to enforce regulation, (ii) absence of data and information management system, (iii) inadequate cooperation from industries, and (iv) insufficient financial resources. The five key priority areas are, (1) Finalization of draft law/regulation and enforcement, (2) Strengthening lab capacity and existing coordination mechanism for sound chemical management, (3) Updating national profile on chemical, (4) Identification and management of mercury-contaminated sites in ASGM, and (5) Development and dissemination of practical guidelines for hazardous chemical management.

Myanmar's presentation of current status and its priorities towards chemical management revealed that the challenges of Myanmar are very similar to the other countries of the region in terms of inter-minitrial coordination, lack of capacity, insufficient knowledge and data, illegal

trade etc. The key priority areas identified by the country representatives are, (1) Capacity building, (2) Organization of Legal enforcement, (3) Addressing the issue of financial constraint, (4) Master plan for the chemical management, and (5) Amendments and updating the laws and regulations. In addition to these priority areas, Myanmar would like to cooperate with other ASEAN countries in terms of harmonizing their chemicals management system.

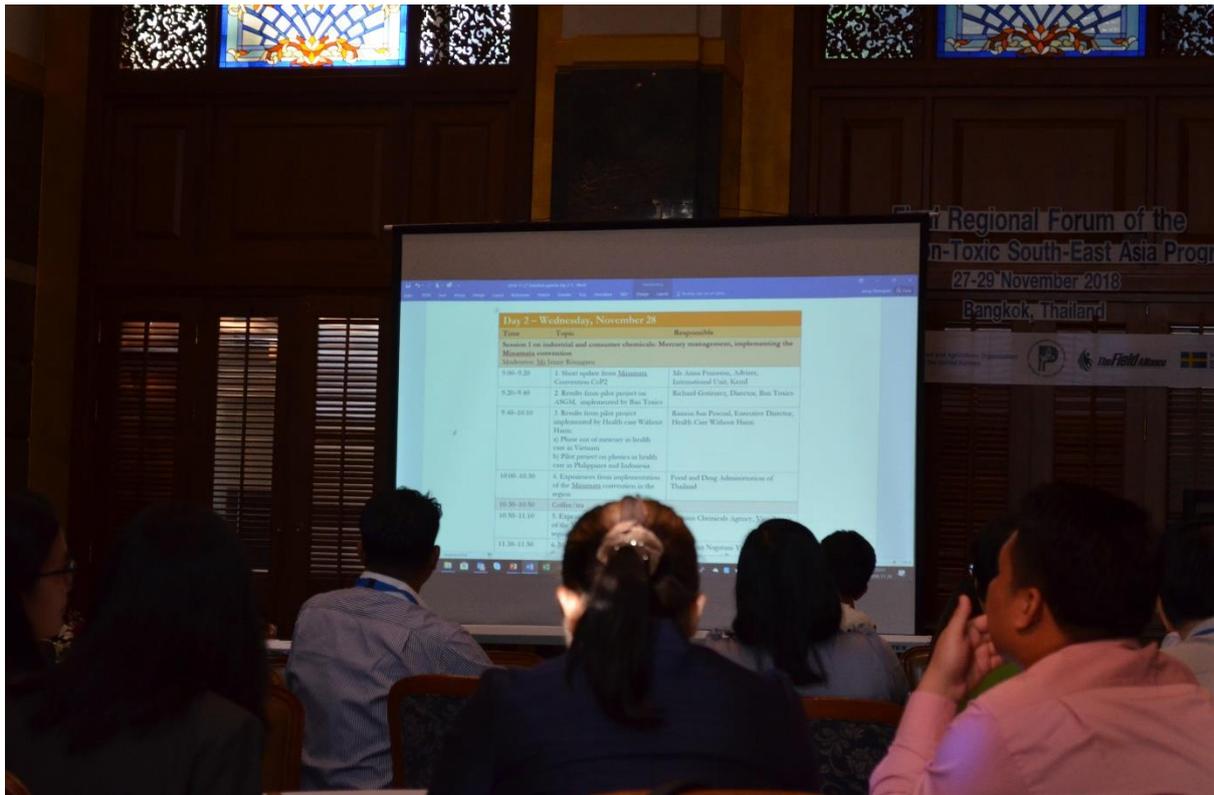
Vietnam presented updates on the progress from 2007 to till date. The main focus of the period was to frame law on chemical development and establishment of national chemical inventory. The country representative presented on the organization structure of chemical management on the Vietnamese government. The presentation also touched upon the efforts done so far in order to address issues of inter-ministerial coordination. The key priority areas of Vietnam are, (1) Revision of law and finalization for a legislative framework for Chemical management of whole life cycle, (2) Division of responsibilities and coordination, (3) Openness in the administrative procedures – to make public so that stakeholders can participate, (4) Enforcement, (5) Information sharing in the national database.

Lao PDR in its short oral presentation informed that soil chemical management is a concern for the state. The key priority areas are, (1) chemical inventory and database management, (2) Classification and labelling of chemicals, and (3) Formulation of the national action plan.

Singapore (who participated for the first time in the regional Forum) presented the current approach of management of hazardous chemicals in the country. The key priority areas are, (1) Dealing with the issues of introduction to the new chemicals- an update of new chemicals, (2) Handling hazardous installations, and (3) Translating the national scale to the common English language. This is useful for them to understand the issues related to the management of chemicals. In addition, Singapore informed that on chemical management it would like to cooperate with other ASEAN countries, particularly in setting up of institutional help desk for government to government cooperation.

The representative from chemical industries council in Malaysia, who represent the upstream chemical industries, presented their view on chemicals management. In the oral presentation, the industry representative stressed that the regulation of the upstream chemical industries will have a wide-ranging positive impact on the environment. Harmonization of regulation and laws is useful for the private sector and saves resources. Key challenges that industries are facing is lack of inter-agencies and inter-industrial coordination in the region, more work is needed in this aspect. Industries are looking forward to a single window clearance system within the

ASEAN region. Industry supports the protection of human health and the environment, in this regard, there is a lot of room and opportunity to working together with the government. Harmonization of chemicals legislation within ASEAN would be beneficial with regards to the non-territorial nature of chemical transportation. Understanding of different version of regulation will help not only industries but also government agencies.



### **Day 3: 29 November 2018**

Day 3 started with two parallel sessions, which were followed by a common session for all participants where conclusions from day 2-3 sessions on pesticides and chemical management were presented. This was followed by closing remarks as well as the announcement of the end of the forum.

#### ***Parallel session on pesticides: continued discussions on “learning from the past and looking into the future”***

The session was moderated by Ms Marjon Fredrix and Alma Linda Abubakar-Morales and began with a brief introduction to the upcoming FAO project final evaluation team. Mr Omar Awabdeh (FAO-OED) delivered a presentation on plan for the FAO project evaluation. The objective of the FAO project evaluation is to understand the value added as well as progress made by this FAO regional project. The evaluation of the current project is based upon two key issues: (1) pesticide management as a governance system in the region and changes led by the project in the last 5 years, and (2) IPM technologies and uptake of it in the field level for ecological and economic benefits. He introduced the FAO expert team who will follow up with the evaluation exercise.

The main task for the project evaluation is to make an assessment of what changes and measures have been implemented with project support in the last 5 years (2013-18) and what were results thereof? For this, the development of a legal framework is an important part but the implementation and enforcement of regulations and legal provisioning is equally important. The monitoring processes, dialogue between government and CSOs, information base, the presence of reference documents are important and useful tool for the evaluation of the FAO projects. The evaluation will also focus on transformative changes that have happened in the field and that can be attributed to the project activities. How has the project changed farming knowledge and practices? Is there any impact on socio-economics? How project beneficiaries will transfer their knowledge and experience to others? Is the change leading to equity and opportunities? These are some of the key questions which are the main driver project evaluation.

The next part of the session was a **panel discussion** with country government representatives on achievements and challenges for pest and pesticide management. The members of the panel are, representing the six countries that are part of the programme: Do Hong Khanh (Ministry

of Agriculture and Rural Development, Vietnam), Mr. Myint Thaung (National Education Policy Commission, Myanmar), Mr. Souliya Souvandouane (Regulatory Division/DOA, Ministry for Agriculture and Forest, Lao PDR), Mr. Yang Puyun (NATESC, Ministry of Agriculture, China), Ms. Jirapan Thongyord (DOA, Ministry of Agriculture and Cooperatives, Thailand), Mr. Ngin Chhay (Director General, GDA, Ministry of Agriculture Forestry and Fisheries, Cambodia). The session was jointly moderated by Ms Abubakar and Ms Fredrix.

The session began with an introduction on progress of development of country status report on pest and pest management, implemented in six countries in the South East Asia/Greater Mekong Subregion. The session is focused on discussions related to these status reports.

The highlights of the points, in response to the question about key achievements of the regional project “*Towards a Non-Toxic South East Asia*”, are:

- The IPM programme has gained attention from all section of society and people came together to address issues of pest management. The activities led to the formation of farmer field school to educate farmers on good agricultural practices in the region. In Cambodia, the biggest achievements are that the outcome of the programme has been able to mobilize 300,000 farmers, 3,500 farmer trainer, and around 1,000 IPM trainers in the country. In addition, the programme activities have inculcated the practice of low chemical farming in Cambodia without compromising the economic gains.
- In Vietnam, there has been a significant reduction of chemical application in farms. This is one of the understood outcomes of the programme activities.
- In Chine, the programme activities have led to more green development and sustainable agriculture in the country and the inclusion of IPM as the main policy measure.

The question about achievements sound pest management programme in the past 5 years was also asked to representatives from Laos, Myanmar and Thailand. The key highlights of the response from the panel are:

- Updating pesticide management law/regulation
- Updates on the list of pesticides for regulating the bans,
- Modification on existing law identifying children and pregnant women are vulnerable and are restricted to enter into the agricultural field
- Capacity building of inspectors for implementation of regulations.

The third question is for Laos, China, and Vietnam to respond, and the question was about the challenges of moving towards sustainable and greener agriculture. Country wise response is as follows:

- China: The biggest challenge is recognising IPM in the mainstream activities in China. In addition, inter-ministerial and inter-departmental coordination is also an important challenge towards sound chemical management practices, particularly in the context of China.
- Lao PDR: There are a number of legislation for chemical management, but the challenge is how to integrate this into one set of law, the other challenge in Laos is that education level of the farmer is low, therefore, education and awareness is the important and challenging issues in the country. In addition, a limited resource mainly in terms of an enforcement agency is another challenge making the sound pesticide management hard to implement.
- Vietnam: There are three key challenges towards sustainable agriculture: (1) climate change which has effect in crop and agriculture, (2) convincing farmers to use less pesticide and implementing approaches of IPM because most farmers in the country are small farmers, and (3) increasing cost of inputs in agriculture leaving less room to realize the economic profit. In addition to the challenges not country-specific, but move beyond boundaries are the serious topic to be addressed for the sustainable agriculture in the region.

The fourth question is for Cambodia, Myanmar, and Thailand, and the question is about a key point in strengthening the collaboration with different sectors and partners towards sustainable agriculture. The highlights of the response are:

Myanmar realizes that cooperation and collaboration are very important. Especially, where a number of ministries are working on the same theme. Inter-ministerial and inter-department is the key point for the success of the project. This could be partly resolved by improving the capacity of the people involved in different offices. In addition, the cross-border movement is also a serious challenge that needs coordination with neighbouring countries. Myanmar is banking on external agencies/consultants such as FAO and KemI for providing technical assistance, legal support, and capacity building. Collaboration with CSOs and NGOs is also a key aspect that needs to be explored so that these agencies can strengthen the project outcomes.

In Thailand, the key point is bringing different partners in order to make law enforcement effective.

For Cambodia, the key points are (1) coordination of ministry of health in Cambodia, which seems to be a challenging aspect. The main concern with the ministry of health is the identification of appropriate methodology and conducting the monitoring of pesticide residue in the human body, (2) the second challenge is coordination with the ministry of environment for storage and disposal of unwanted pesticides. This is outside the mandate of the ministry of agriculture and this requires close coordination with the ministry of environment, (3) the third challenge is illegal trading of pesticide neighbouring countries, this is also beyond the mandate of the ministry of agriculture. The ministry of commerce and economics and finance are the main ministries dealing with the issue. This is an important aspect of building coordination with them.

Ms Fredrix summarized the key issue discussed in the session. The highlights of the summary are:

- Remarkable achievements of Integrated Pest Management programmes have been reported, ranging from a shift in policy, developing strong and nationwide IPM programme implementation networks, improved human capacity, innovation, developing biological control systems, including for invasive crop pest species, broadening crop systems under IPM and helping farmers develop market linkages.
- Countries have made progress in terms of imposing a ban on HHPs, although many South East Asian countries have faced a number of challenges in order to make the ban effective. A lot of effort has gone in framing legislation to deal with harmful pesticides issues.

Post coffee/tea break discussion was focussed on a dialogue on how pesticide management can be strengthened. Collaboration and cooperation is vital for achieving this outcome. Keeping this in mind, this session was designed for the countrywide group on the identification of country or regional priorities for pesticide management. This parallel session on pesticide management concluded with an expression of the continued need for sharing, exchange, collaboration to strengthen efforts on pesticide management.

***Parallel session on industrial and consumer chemicals: continued discussions on “learning from the past and looking into the future”***

The session was moderated by Mr Johansson and covered two presentations on issues related to phasing out of chrysolite asbestos and updates from ASEAN working group on chemical wastes. This was followed by country-wise group exercise on the identification of activities and their priorities in terms of implementation.

Dr Tipicha Posayanonda (from National Health Commission Office in Thailand) delivered a presentation on “Experiences from phasing out chrysolite asbestos in Thailand”. The presentation was divided into two aspects, the first one on the issue related to the policy framework on multisectoral governance for health, and the second part covered a case study on asbestos phasing out in Thailand. Dr Posayanonda informed that the National Health Act, 2007 in Thailand lays the foundation of participatory policy framework advocating for the involvement of all concerned stakeholders. The participatory process is implemented in Thailand by constituting the National Health Assembly (NHA), who has members including major stakeholders dealing with health issues. She advocated that the NHA is useful for addressing complex issues on policy formulations. This is especially useful in health policy as it is a challenging and conflicting issue.

Dr Nappaporn Tangtinthai (Pollution Control Department, Ministry of Environment and Natural Resources, Thailand) presented updates from the ASEAN working group on chemical waste (AWGCW). She gave an introduction of AWGCW and a brief note about the member institution of the AWGCW. She also informed the participants that Thailand is chairing the working group until 2019. Myanmar will host the next annual meeting of the working group (in February/March 2019).

Ms Rönngren gave an overview of possible continued collaboration and support from KemI in the region. She informed that the intended project phase is from 2019 to 2023. The focus will be a support to government authorities responsible for the management of chemicals and all ASEAN countries will be invited to be part of the new project. Support to the ASEAN Secretariat is also foreseen. KemI intends to have a project manager stationed in the region to facilitate coordination and communication with the countries as well as the implementation of activities. KemI has prepared an initial project proposal and shared it with Sida (Swedish International Development Cooperation Agency) for funding. Sida will hopefully reach a decision during the first half of 2019.

Since it is important for the project scoping to identify priorities of the countries in the region, an exercise to identify the priority areas of participating countries was made. Ms Rönngren gave an introductory background of the group exercise, which focussed on the five broader themes, (1) Phase-out of the most hazardous substances, (2) Information exchange in chemical management, (3) Enforcement of chemical legislation, (4) Development of legislation and (5) Regional cooperation and alignment, As a part of the group exercise each country was asked to identify suitable activities related to each overall theme and then set up their priorities.

The group exercise was followed by a short discussion on the outcomes of the group exercise, moderated by Mr Johansson. The session concluded after the discussion.





Themes	Activities	Philippines	Industry	Vietnam	Thailand	Singapore	Myanmar	Lao PDR	Cambodia
Regional Collaboration	GHS implementation and harmonization/alignment	H	H	H			H	H	
	Regional action on phase out of the mercury and mercury-added products	H					H	H	
	Regional forum for sound management of chemicals		H		H		M	H	
	Harmonization of regional regulations	M	H	H			L		
	Joint research for the hazardous chemical health impacts	H		H			M	H	
Information exchange on chemicals (GHS database, etc)	Establishment of the chemical data base chemical safety and health and environment enforcement dimension at regional level			H	H		H	H	
	Develop regional/country implementation plan to promote right to know and right to be informed on impacts and risks from chemicals				M				M
	Regional platform to adoption of common platform on health and environmental impact assessment	M			M				M
Enforcement of chemical legislations	Procedure for EIA process tool (i) Food and beverages (ii) Sugar and other related sectors	M							M
	Common guidelines for emission	L							H
	Chemical management: capacity building of laboratories and training of laboratory inspectors	H		H			H		H
	Technology for law enforcement	H		H	H	H			M
	Database on relevant contact points								H
	Regional working group to oversee legislation	M							M
Phase out of hazardous substances (Mercury, asbestos, etc.)	Survey monitoring and imports	M			M			H	H
	Monitoring and evaluation	L							
	Data base dissemination to govt and private sector	M			H				
	Draft of regulation and guidelines	L		H				H	H
	Monitoring of health impact on phasing out of mercury	H							H
Development of legislation	Regional forum and global working groups			H			H	H	H
	Dialogue between government and industry		H	H					H
	Training and workshop						M		
	Sharing information/guidelines in English		H			H		H	
	Develop legislation/policy agenda covering 3-5 years period and share it in regional level	H	H				H	H	
<b>Legends</b>									
No priority identified by country representatives									
High priority activity		H							
Medium priority activity		M							
Low priority activity		L							

Figure: Summary of the outcome of the group exercise on setting up priorities for the future.

## **The concluding session**

The concluding session was common for both pesticide and chemical management. There was a short presentation of key highlights and conclusions of the parallel sessions of day 2 and 3. This was followed by closing remarks by the regional partners.

Ms Deeppa Ravindran (Programme coordinator, PANAP) delivered a short summary on “protection of vulnerable communities from Highly Hazardous Pesticide (HHPs)”. She described the key highlights of the session were, (1) Children are the most vulnerable group of exposure of pesticides and education play an important role on addressing children’s vulnerability to pesticide exposure, (2) empowering community organisation, creation of network of farmers and focus on the women leaders are some of the key steps to reduce the pesticide vulnerability, (3) linking farmers to market and Public awareness and awareness for food safety and health is also important steps, (4) Documentation of highly hazardous pesticides and their impact in the region is a useful step towards protection of vulnerable communities. In addition, there was a discussion on a range of activities for the protection of the vulnerable communities. These include need towards alternatives to pesticides, actions at the national level on agroecology and organic agriculture, packaging and labelling of pesticides and capacity building of the communities.

Ms Fransson summarized the key highlights of the session on mercury management and implementation of the Minamata Convention. She gave an overview on the list of topics delivered in the session, these included a short overview of CoP II, with a focus on issues related to guidelines, storage, waste thresholds, and contaminated sites. There were presentations on the issues of mercury or mercury-added products exposure in hospitals and the mercury use in the ASGM sector. In the session, Vietnam shared their efforts on implementation of Minamata and alternative waste management.

Mr. Kevin Kamp summarized the key highlights of the session on agroecology in support of greening agriculture as follows, (1) a presentation on the overview of outcomes and the recommendation on the agroecology futures regional forum, (2) a presentation of successful case study on agroecology from Vietnam, (3) a case study (through a video) on Green Rice Landscapes in Lao PDR that demonstrated the successful implementation of Save and Grow Farmers Field Schools and results thereof, and (4) various other presentations on opportunities in agroecology and better awareness and management of agrobiodiversity to generate significant income and marketing, and employment.

Mr Johansson presented an overview of the session on updates on current status and priorities for chemical management in the region. He said there has been a significant improvement on the regulation of chemicals in the region. Although, there are still some challenges in line. Most countries have implemented or have a draft implementation plan ready for issues related to the Rotterdam Convention and the Minamata convention. Classification and labelling of chemicals need more attention. Another challenge that should be prioritized is the issue of inter-departmental and inter-ministerial coordination as well as the institutional cooperation at the regional level.

In terms of chemical management, information sharing is the key challenge on the issue. There is a need of common sharing platform in the region. Labelling is another important issue, there has not been desired progress. At the regional level, there is a need of specific agreement platform for the regional information sharing.

Closing remarks were delivered by the regional partners; Ms Rengam (PANAP), Mr Jatiket (TFA), Mr Ketelaar (FAO) and Ms Rönngren (KemI). All partners expressed their common feeling that the programme had given them a lot of learning opportunities and expressed the positive hope for future collaboration. With the closing remarks, the final regional forum within the framework of the regional programme “Towards a non-toxic Southeast Asia” was concluded.

# **Annexures**

## **Annexure 1: Concept note on Regional Forum meeting Final Regional Forum of the Swedish-supported Programme “Towards a Non-Toxic South-East Asia”**

The Swedish-supported regional Programme “Towards a Non-toxic South-East Asia” was launched in 2007 with an overall aim to contribute to reduced health and environmental risks from chemicals through better management of agricultural, industrial and consumer chemicals and sustainable intensification of agricultural production. The programme covers the Mekong Region countries: Cambodia, Lao PDR, Myanmar, Thailand and Vietnam as well as the Yunnan, Guangxi and Hainan provinces in China. The Swedish Chemicals Agency (KemI) is coordinating the programme and it is implemented in collaboration with the Food and Agriculture Organization of the United Nations (FAO) Regional Office for Asia and the Pacific, Pesticides Action Network Asia and the Pacific (PANAP) and the Field Alliance (TFA).

Since the beginning of the programme, regional meetings have been organized by programme partners in order to review progress, share information and experiences among countries in the region, inform on recent development and trends in the management of pesticides, industrial and consumer chemicals and discuss strategies for future interventions and activities in order to achieve the objectives of the programme. Whereas each of the regional and country programme partners has its own distinctive, albeit complementary, implementation role in this joint regional Programme, these meetings have acted as a forum for exchange and have facilitated a dialogue on GO-NGO collaboration for better chemical management and risk reduction. These meetings have also served as important forums for inter-ministerial dialogue and networking as well as for the involvement of other concerned actors and stakeholders.

The current phase of this regional programme is coming to completion in December 2018 and partners, therefore, wish to gather counterparts and concerned stakeholders to summarize the accomplishments and lessons learned from more than 10 years collaboration, to highlight remaining challenges for the region and discuss ideas, priorities and strategies for continued work to strengthen chemicals management and reduce health and environmental risks from pesticides, industrial and consumer chemicals.

For this purpose, a final regional meeting of the Swedish-supported Programme “Towards a Non-toxic South-East Asia” is scheduled to be held in Bangkok, Thailand, November 27-29, 2018. The overall objectives of this meeting will be to:

- Share highlights of achievements and impact resulting from programme interventions, from 2007 to 2018;
- To highlight needs, opportunities and challenges for continued work on chemicals and pesticide management;
- Discuss how the region can move from awareness to action for a sound
- management of chemicals and the achievement of the Sustainable Development Goals;
- Present and discuss findings from selected innovative project components;
- Enable meetings and networking between and among concerned stakeholders.

**Organising and Funding Body:**

The meeting will be organized and hosted jointly by all regional partners, KemI, FAO, TFA and PANAP, within the on-going regional programme funded by the government of Sweden.

**Dates and Location:**

The Meeting will be held in Bangkok, Thailand (Sukosol Hotel), for 2.5 days (not including travel), November 27-29, 2018.

## Annexure 2: Final agenda of the forum meeting

### Agenda, day 1

Time	Activity	Responsible
8.30–9.00	Registration	FAO/TFA
<b>Opening of the Forum</b> Moderator: Richard Gutierrez		
9.00–9.10	Welcome remarks by the Government of Sweden	Mr Staffan Herrström, Ambassador of Sweden to Thailand
9.10–9.20	Welcome remark by host country	Dr Tares Krassanairawiwong, Secretary General of the Food and Drug Administration, Ministry of Public Health of Thailand
9.20–9.25	Welcome remarks by the Swedish Chemicals Agency	Ms Nina Cromnier, Director General of the Swedish Chemicals Agency
9.25–9.35	Welcome remarks by programme management and short exposé of the programme 2007-2018 (screening of a short film)	Representatives from all regional partners: Ms Jenny Rönngren, Swedish Chemicals Agency Mr Jan Willem Ketelaar, FAO Ms Sarojeni Rengam, PANAP Mr Marut Jatiket, TFA
9.35–10.00	Coffee/tea break, incl. group photo	
<b>Part 1: From awareness to action (high-level dialogue)</b> Moderator: Richard Gutierrez		
10.00–10.15	Taking the lead on sound management of chemicals within in the ASEAN region	Dr. Nalinee Sripaung, Deputy director of Bureau of Occupational and Environmental Diseases, Ministry of Public Health of Thailand
10.15–10.30	ASEAN priorities on chemicals management	Ms Jenny Rönngren (Swedish Chemicals Agency), on behalf of the ASEAN secretariat
10.30–10.45	The FAO perspective on pesticide management in Asia	Ms Marjon Fredrix, Agricultural Officer, Plant Production and Protection Division, FAO
10.45–11.00	The UN perspective on sound management of chemicals in Asia	Dr Dechen Tsering, Regional Director for UN Environment Regional Office for Asia and the Pacific
11.00–11.15	Global challenges calls for global action	Ms Nina Cromnier, Director General of the Swedish Chemicals Agency
11.15–11.30	CSO perspective on chemicals management	Mr Jayakumar Chelaton, Executive Director of Thanal
11.30-11.45	Chemicals management and protection of human rights	Mr Baskut Tuncak, UN special rapporteur on HR and toxics, (via video link from Geneva) tbc
11.45–12.30	Panel discussion on how to move from awareness to action for a sound management of chemicals and achievement of the Sustainable Development Goals	Above speakers.

12.30–13.45	Lunch Kamolporn, 1 <sup>st</sup> floor	
<b>Part 2: Learning from the past – looking into the future</b> Moderator: Richard Gutierrez		
13.45–14.45	Lessons learned and plans for the future. Short presentations by each regional partner (15 minutes each)	Mr Ule Johansson, Swedish Chemicals Agency Mr Jan Willem Ketelaar, FAO Ms Sarojeni Rengam, PANAP Mr Marut Jatiket, TFA
14.45–15.00	Global Chemicals Outlook II	Ms Kakuko Nagatani-Yoshida, UN Environment Bangkok
15.00–15.15	SAICM beyond 2020	Ms Anna Fransson, Swedish Chemicals Agency
15.15–15.45	Coffee/tea break	
15.45–16.30	Poster exhibitions and networking The Greenery, 1 <sup>st</sup> Floor	All
16.30–18.30	Welcome cocktail hosted by the Swedish Chemicals Agency Premkamol, 1 <sup>st</sup> floor	

## Agenda, day 2: Parallel session on pesticide management

Day 2 – Wednesday, November 28		
Time	Topic	Responsible
<b>Session 1 on pesticides: Protection of vulnerable communities from Highly Hazardous Pesticides (HHPs)</b> Moderator: Andrew Bartlett		
9.00–10.00	Monitoring of pesticide residues in school children, consumers and farmers and future collaborations.	Moderator: Marut Jatiket, TFA Panelists: - Video presentation, LURAS, Laos - Dr. Vanvimol Patarasiriwong, Department of Environmental Quality Promotion, - Dr. Pornpimol Kongtip (Mahidol University), - Dr. Jutamaad Satayavivad, Chulabhorn Research Institution,
9.45–10.20	Pesticides containers waste management. Results from pilot activities in Cambodia, Laos and Vietnam, future development and collaboration.	Moderator: Mr Marut Jatiket, TFA Panelists: - Pan Sodavy, ATSA, Cambodia - Chanthaly Syfongxay, LURAS, Laos - TBC, Pollution Control Department, TH - Mr. Ngo Tien Dung, ICERD, VN
10.20–10.40	Coffee/tea	
10.40–12.00	Short Film : Pesticides in Schools, Case Study in Cambodia	Panelist:- Deeppa Ravindran, PANAP

	<p>Launch: Of Rights and Poisons: Accountability of the Agrochemical Industry</p> <p>CPAM Mobile Application: Sharing and Testing</p> <p>Legally binding treaty on Highly Hazardous Pesticides</p>	<p>Maran Perieanen, Pravada Studios</p> <p>Sarojeni Rengam, PANAP</p>
12.00–13.30	Lunch	
<p><b>Session 2 on pesticides: Agroecology in support of Greening Agriculture</b> Moderator: Dr Kris Wyckhuys</p>		
13.30 - 14.00	<p>Stories from the field: Women working towards a Non Toxic Environment in South East Asia</p> <ul style="list-style-type: none"> <li>- Video Screening</li> <li>- Discussions &amp; Learning's</li> </ul>	PANAP and local partners
14.00 - 14.30	<p>Agroecology: Outcomes of/Recommendations resulting from the ALiSEA Agroecology Futures Regional Forum, including session on Agrochemicals</p> <p>Case Study of successful agroecology work in Vietnam</p>	<p>Moderator: Kris Wyckhuys</p> <p>Dong Hong Khanh, Vice Chief of Plant Protection Division of Plant Protection Department, VN</p>
14.30 - 15.00	<p>Agrobiodiversity, sustainable conservation and utilization (examples from Cambodia, Laos and Vietnam).</p>	<p>Moderator: Kevin Kamp (TFA)</p> <p>Panelists: Pan So Davy, ATSA, Cambodia Bandith Keothongkam, Sole RDS, Laos Chinda Milayvong, TABI, Laos Ngo Tien Dung, ICERD, Vietnam</p>
15.00–15.30	Coffee/tea	
15.30 – 15.45	<p>Case Study: Green Rice Landscapes in Lao PDR – Communicating Results for Policy Support and Investments for Scaling Out (screening of short film)</p>	Phoukaothong/Vornthalom Chanthavong, Lao FAO/National IPM Programme team
15.45 – 16.00	ASEAN Initiative on Soil Health	Jesse Binamira
16:00 – 16:30	<p>Improving Risk Assessment for a Sustainable Crop Protection– A European perspective with Global Relevance</p>	Matthias Liess, Ecotoxicologist Helmholtz Centre of Environmental Research Leipzig/Leopoldina
16.30	End of day 2	

## Agenda, day 2: Parallel session on Chemical management

Day 2 – Wednesday, November 28		
Time	Topic	Responsible
<b>Session 1 on industrial and consumer chemicals: Mercury management, implementing the Minamata convention</b>		
Moderator: Ms Jenny Rönngren		
9.00–9.20	1. Short update from Minamata Convention CoP2	Ms Anna Fransson, Adviser, International Unit, KemI
9.20–9.40	2. Results from pilot project on ASGM, implemented by Ban Toxics	Richard Gutierrez, Director, Ban Toxics
9.40–10.10	3. Results from pilot project implemented by Health care Without Harm: a) Phase out of mercury in health care in Vietnam b) Pilot project on plastics in health care in Philippines and Indonesia.	Ramon San Pascual, Executive Director, Health Care Without Harm
10.00–10.30	4. Experiences from implementation of the Minamata convention in the region	Thailand
10.30–10.50	Coffee/tea	
10.50–11.10	5. Experiences from implementation of the Minamata convention in the region	Vietnam Chemicals Agency, Vinachemia
11.30–11.50	6. Minamata Initial Assessments in the region	Ms Kakuko Nagatani-Yoshida, UN Environment Bangkok
11.50–12.15	Questions/discussion	All
12.15–13.30	Lunch	
<b>Sessions 2 on industrial and consumer chemicals: Updates on current status and priorities for chemicals management in the region</b>		
Moderator: Mr Ule Johansson, Swedish Chemicals Agency		
13.30–13.50	7. Thailand	
13.50–14.10	8. Cambodia	
14.10–14.30	9. Myanmar	
14.30–14.50	10. Lao PDR	
14.50–15.10	11. Vietnam	
15.10–15.30	Coffee/tea	
15.30–15.50	12. Singapore	
15.50–16.30	Questions/discussion	
16.35	End of day 2	

### Agenda, day 3: Parallel session on pesticide management

Day 3 – Thursday, November 29		
Time	Topic	Responsible
<b>Parallel sessions 3 on pesticides: Continued discussions on “learning from the past and looking into the future”</b>		
Moderator: AlmaLinda (Dada) Abubakar and Marjon Fredrix (on behalf of FAO RAP)		
9.00-9.15	Introduction of FAO project evaluation team and mandate	FAO RAP
9.15 – 10.15	Achievements and Challenges for pest and pesticide management – highlights of status reports	Panel discussion with country government representatives (status reports)
10.15 – 10.30	Lessons learned from the ground (CSO)	PANAP
10.30–10.45	Coffee/tea	
10.45 – 11.30	Priorities on pest and pesticide management at country and regional level	Group work
11.30–12.00	Feedback from the group work – common priorities and mechanisms for continued collaboration and exchange	All
12.00–13.15	Lunch	

### Agenda, day 3: Parallel session on Chemical management

Day 3 – Thursday, November 29	
Time	Topic
<b>Parallel sessions 3 on industrial and consumer chemicals: Continued discussions on “learning from the past and looking into the future”</b>	
Moderator:	
9.00–9.20	13. Experiences from phasing out chrysotile asbestos in Thailand
9.20–9.40	14. Updates from the ASEAN Working Group on Chemicals and Waste, AWGCW
9.40–9.50	15. Continued collaboration with the Swedish Chemicals Agency in the region
9.50–10.50	Group discussion on setting priorities for the future
10.50–11.10	Coffee/tea
11.10– 12.00	Feedback from the group work-setting common priorities for continued regional collaboration and exchange
12.00–13.15	Lunch

### Agenda, day 3: Closing session

Time	Topic
13.15–14.00	Short presentations of conclusions from the parallel sessions on pesticides, industrial and consumer (5 minutes per representative) <ul style="list-style-type: none"><li>• Protection of vulnerable communities from Highly Hazardous Pesticides (HHPs)</li><li>• Mercury management, implementing the Minamata convention</li><li>• Agroecology in support of Greening Agriculture</li><li>• Updates on current status and priorities for chemicals management in the region</li><li>• Common priorities and mechanisms for continued regional collaboration and exchange (pesticides)</li></ul> Common priorities and mechanisms for continued regional collaboration and exchange (industrial and consumer chemicals)
14.00–14.15	Closing remarks from regional partners
14.15	End of Forum
14.15-15.15	Discussion/conclusion between regional partners (KemI, FAO, PANAP and TFA)
Post Meeting	Possibility for continued discussions between partners

### **Annexure 3: List of participants**

No.	Name	Organization/Country
1	Åsa Hedén	Embassy of Sweden in Bangkok
2	Louise Herrmann	Embassy of Sweden in Bangkok
3	Staffan Herrström	Embassy of Sweden in Bangkok
4	Dechen Tsering	UN Environment, Regional Office for Asia and the Pacific
5	Kakuko Nagatani-Yoshida	UN Environment, Regional Office for Asia and the Pacific
6	Ying Su	UN Environment, Regional Office for Asia and the Pacific
7	Inkar Kadyrzhanova	UN Women, Regional Office for Asia and the Pacific
8	Liviu Vedrasco	WHO, Southeast Asia Regional Office
9	Mark Childerhose	USAID Regional Development Mission for Asia
10	Richard Gutierrez	Ban Toxics
11	Reynaldo San Juan	Ban Toxics
12	Jashaf Shamir Lorenzo	Ban Toxics
13	Ramon San Pascual	Health Care Without Harm
14	Sue May	Chemical Industry Council of Malaysia
15	Jenny Rönngren	Swedish Chemicals Agency
16	Ule Johansson	Swedish Chemicals Agency
17	Anna Fransson	Swedish Chemicals Agency
18	Nina Cromnier	Swedish Chemicals Agency
19	Hanna Johnsson	Raoul Wallenberg Institute

20	Victor Bernard	Raoul Wallenberg Institute
21	Siren Sletten Borge	Royal Norwegian Embassy in Bangkok
22	Tipicha Posayanonda	National Health Commission Office of Thailand
23	Chea Leanglmy	Ministry of Environment, Cambodia
24	Sophal Laska	Ministry of Environment, Cambodia
25	Be Seak Meng	Ministry of Agriculture, Forestry and Fisheries, Cambodia
26	Khiev Vichet	Ministry of Industry and Handicraft, Cambodia
27	Im Nara	Ministry of Environment, Cambodia
28	Yatkeo Phoumidalyvanh	Ministry of Agriculture and Forestry, Lao PDR
29	Phoumy Kanya	Ministry of Agriculture and Forestry, Lao PDR
30	Viengsamay Syleuxay	Ministry of Health, Lao PDR
31	Souvanny Keothanongkham	Ministry of Industry and Commerce, Lao PDR
32	Thonglanh Singhadouangpanya	Ministry of Industry and Commerce, Lao PDR
33	Win Win Mar	Ministry of Natural Resources and Environmental Conservation, Myanmar
34	Mar Mar Thi	Ministry of Natural Resources and Environmental Conservation, Myanmar
35	Wai Zin Oo	Ministry of Industry, Myanmar
36	Aung Kyaw Oo	Ministry of Agriculture, Livestock and Irrigation, Myanmar
37	May Myat Mon	Ministry of Natural Resources and Environmental Conservation, Myanmar
38	Suzanna Yap	National Environment Agency, Singapore
39	Felicia Lim	National Environment Agency, Singapore
40	Fong Wai Kit	Environmental Health Institute, Singapore
41	Saran Watanatada	Ministry of Agriculture and Cooperatives, Thailand

42	Yongyuth Phaikaew	Ministry of Agriculture and Cooperatives, Thailand
43	Thanatorn Yoadsomsuay	Ministry of Industry, Thailand
44	Chananya Onsri	Ministry of Industry, Thailand
45	Napaporn Tangtinthai	Ministry of Natural Resources and Environment, Thailand
46	Chalalai Rungruang	Ministry of Natural Resources and Environment, Thailand
47	Neeranuch Arpajarus	Ministry of Public Health, Thailand
48	Panita Charoensook	Ministry of Public Health, Thailand
49	Yaowares Oppamayun	Ministry of Public Health, Thailand
50	Aurus Kongphanich	Ministry of Public Health, Thailand
51	Pitchaya Iamsumang	Ministry of Public Health, Thailand
52	Natchanok Buaphiba	Ministry of Public Health, Thailand
53	Pornsri Khlanguise	Ministry of Public Health, Thailand
54	Chrin Weeraoransith	Chemical Industry Club, The Federation of Thai Industries, Thailand
55	Nalinee Sripaung	Ministry of Public Health, Thailand
56	Pisakan Vareekhajornkiad	Ministry of Public Health, Thailand
57	Nguyen Van Thanh	Ministry of Industry and Trade, Vietnam
58	Le Viet Thang	Ministry of Industry and Trade, Vietnam
59	Vu Thi Houg	Ministry of Environment, Vietnam
60	Bui Khanh Toan	Ministry of Health, Vietnam
61	Dinh Phuong Thao	Vietchem Company, Vietnam
62	Ms Pan Sodavy	Agricultural Technology Services Association (ATSA)
63	Ms Teu Chandy	National Network for Development of Food security and Safety in Cambodia

64	Mr Bandith Keothongkham	Rural Development Sole Co. Ltd.
65	Dr Lamphoune Luongxay (Mr)	Director of the Division Basic Vocational Skills Promotion Division, NFE Laos, MoET
66	Ms Chanthaly Syfongxay	Laos Upland Rural Advisory Services (LURAS)
67	Ms Chinda Milayvong	The Agrobiodiversity Initiative (TABI), Laos
68	Mr Joern Kristensen	Myanmar Institute of Integrated Development (MIID)
69	Dr Phyu Sin Thant (Ms)	Myanmar Institute of Integrated Development (MIID)
70	Mr Ngo Tien Dung	Initiative for Community Empowerment and Rural Development (ICERD)
71	Mr Nguyen Khac Kien	Initiative for Community Empowerment and Rural Development (ICERD)
72	Ms Ta Thi Binh	National Institute of Occupational and Environmental Health, MOH
73	Mr Nguyen Xuan Thuy	Director General, Continuing Education Department, Ministry of Education and Training (MoET)
74	Heru Setyoko	FIELD Foundation, Indonesia
75	Jutamaad Satayavivad	Chulabhorn Research Institute, Thailand
76	Pornpimol Kongtip	Mahidol University, Thailand
77	Vanvimol Patarasiriwong	Department of Environmental Quality Promotion (DEQP) Training Centre, Thailand
78	Kevin Kamp	The Field Alliance
79	Marut Jatiket	The Field Alliance
80	Parika Maneeprem	The Field Alliance
81	Jantima Mahasaranond	The Field Alliance
82	Vu Cong Lan	Center for Sustainable Rural Development (SRD)
83	Tong Chanthiang	The Cambodian Center for Study and Development in Agriculture (CEDAC)
84	Bounlap Pathilah	Sustainable Agriculture & Environment Development Association (SAEDA)
85	Choiya	Sustainable Agriculture & Environment Development Association (SAEDA)

86	Dr. Romeo Quijano	PAN Philippines
87	Jayan Chelaton	Thannal, PAN India
88	Yang Hong Yan	Pesticide Eco Alternative Center (PEAC)
89	Deeppa Ravindran	PAN Asia Pacific (PANAP)
90	Sarojeni Rengam	PAN Asia Pacific (PANAP)
91	Maran Perianen	Pravda Studios
92	Thúy Nguyễn Kim	Research Centre for Gender, Family and Environment in Development (CGFED)
93	Pham Huong Thao	Research Centre for Gender, Family and Environment in Development (CGFED)
94	Ngin Chhay	General Directorate of Agriculture (GDA), Ministry of Agriculture Forestry and Fisheries (MAFF), Cambodia
95	Moch Chantha	Department of Agricultural Legislation (DAL), Ministry of Agriculture Forestry and Fisheries (MAFF), Cambodia
96	Chou Cheythyryth	General Directorate of Agriculture (GDA), Ministry of Agriculture Forestry and Fisheries (MAFF), Cambodia
97	Srun Khema	General Directorate of Agriculture (GDA), Ministry of Agriculture Forestry and Fisheries (MAFF), Cambodia
98	Yang Puyun	National Agro-technical Extension and Service Center, Ministry of Agriculture, China
99	Zhu Xiaoming	National Agro-technical Extension and Service Center, Ministry of Agriculture, China
100	Dong Le	FAO China
101	Souliya Souvandouane	Department of Agriculture, Ministry of Agriculture and Forestry, Lao PDR
102	Phoukaothong Sykaisone	Department of Agriculture, Ministry of Agriculture and Forestry, Lao PDR
103	Khamphoui Louanglath	FAO Lao PDR
104	Vornthalom Chanthavong	FAO Lao PDR
105	Seng Raw	Ministry of Agriculture, Livestock and Irrigation, Myanmar
106	Win Than	Ministry of Agriculture, Livestock and Irrigation, Myanmar
107	Myint Thuang	FAO Myanmar

108	Supaluck Klubnuam	Department of Agriculture Extension (DOAE), Ministry of Agricultures and Cooperatives, Thailand
109	Anut Buranapanichpan	Department of Agriculture Extension (DOAE), Ministry of Agricultures and Cooperatives, Thailand
110	Jirapan Thongyord	Department of Agriculture (DOA), Ministry of Agricultures and Cooperatives, Thailand
111	Areepan Upanisakorn	FAO Regional Office for Asia and the Pacific
112	Do Hong Khanh	Plant Protection Department (PPD), Ministry of Agriculture and Rural Development (MARD), Vietnam
113	Le Thi Ha	FAO Vietnam
114	Jesse Binamira	Asian Soil Health Institute, Philippines
115	Abha Mishra	Asian Center of Innovation for Sustainable Agriculture Intensification (ACISAI)
116	Marjon Fredrix	FAO Headquarters
117	AlmaLinda (Dada) Abubakar	FAO Regional Office for Asia and the Pacific
118	Matthias Liess	Ecotoxicologist, Helmholtz Centre of Environmental Research, Leipzig/Leopoldina
119	Halimi Mahmud	FAO Regional Office for Asia and the Pacific
120	Kris A.G. Wyckhuys	Academia Entomologist, Vietnam
121	Aung Swe	Head of Corporate Affairs and Special Project, Myanma Awba Group
122	Mongkon Tianponkrang	FAO Regional Office for Asia and the Pacific
123	Tattanakorn Moekchantuk	FAO Regional Office for Asia and the Pacific
124	Jan Willem Ketelaar	FAO Regional Office for Asia and the Pacific
125	Zhang Wei	FAO Regional Office for Asia and the Pacific
126	Leena Nisawatthanun	FAO Regional Office for Asia and the Pacific
127	Omar Awabdeh	FAO Evaluation Team
128	Gero Vaagt	FAO Evaluation Team
129	Seemantinee Khot	FAO Evaluation Team

## **Annexure 4: Abbreviations/Acronyms**

KemI: Swedish Chemical Agency

FAO: Food and Agricultural Organization

PANAP: Pesticide Action Network Asia Pacific

AASGM: Artisanal and Small-scale Gold Mining

TFA: The field alliance

CSO: Civil Society Organizations

GO-NGO: Government Organization-Non-Government Organisations

SDG: Sustainable Development Goals

BOED: Bureau of Environmental Disease

AWGCW: ASEAN Working Group on Chemical waste

UNEP: United Nations Environment Programme

SAICM- Strategic Approach to International Chemical Management

ICCM: Inter-ministerial Conference of Chemical Management

CoP- Conference of Parties

MIA- Minamata Initial Assessment

GHS: Globally Harmonized System

HHP: Highly Hazardous Pesticides

IPM: Integrated Pest Management

GCO: Global Chemical Outlook

ATSA: Agriculture Technology Services Association

TABI: The Agro-Biodiversity Initiative