



**Asia-Pacific
Economic Cooperation**

**APEC Workshop Report on
Commercialization and Popularization
of Research and Market-based
Innovations through Policy Translation**

**APEC Policy Partnership on Science, Technology and
Innovation**

June 2016

APEC Project: PPSTI 02/2015S APEC Workshop on Commercialization and Popularization of Research and Market-based Innovations through Policy Translation

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Executive Summary

The APEC Workshop on “*Commercialization and Popularization of Research and Market-based Innovations through Policy Translation*” was held on 8-10 June 2016 in Manila, Philippines. The workshop is part of the Philippine commitment to support the Asia-Pacific Economic Cooperation’s (APEC’s) initiatives toward innovation driven-development to promote regional science and technology collaboration, cross-fora cooperation and coordination for Policy Partnership on Science, Technology and Innovation (PPSTI).

The project arose from the recognition that APEC, in particular, the PPSTI could maximize the use of its research and development (R&D) and science, technology and innovation (STI) by translating those into policies. The workshop which endeavors to bring all STI activities into the policy agenda by strengthening the capability of APEC member economies on policy translation and advocacy of policies into actions was participated in by experts, speakers, Philippine officials and delegates from APEC member economies such as: People’s Republic of China; Indonesia; Malaysia; Mexico; Papua New Guinea; The Philippines; Russia; Thailand; and The United States.

Along with the delegates from APEC economies, the first day of the workshop was participated in by Philippine representatives from the national government agencies (NGAs), industry and private organizations, the academe and media partners who learned the process of policy translation through the sharing of expert resource persons.

The second and third day of the workshop enabled the delegates to walk through the process of policy translation guided by experts from the different economies. The workshop initially focused on health, however, the process of policy translation discussed among the delegates was a “basic process” envisioned to cut-across topics and agenda for translation. The workshop provided a venue for the delegates to discuss and share their experiences in the process of translating S&T innovations into policy which widened the horizon of the delegates on how different economies performed in the area of policy translation.

The major output of the workshop is a policy statement which has been approved and agreed upon by the APEC member economies which highlighted the need to translate STI into policy options and recommendations and bridge the gap towards crafting of policies and laws. The developed policy statement will be forwarded to the PPSTI for endorsement and discussion of the APEC leaders. These efforts are envisioned to institutionalize support for similar innovative activities which focus on the contribution of science and technology in the economic development of the economy.

Introduction

Innovation represents an important pathway in improving quality of growth, promoting economic and social development to address challenges and achieve prosperity in the Asia-Pacific region and beyond. Successful commercialization and popularization of innovations through policy translation brings a technology from the laboratory to the field where it can benefit the people and the society.

The APEC as the “*premier forum for facilitating economic growth, cooperation and prosperity for the region*” generated various researches and innovations which could be translated into market-based policies. In line with the PPSTI mission, the Philippines stands one with other member economies in promoting an enabling environment for innovation, and enhancing regional S&T connectivity with the hope to strengthen Asia-Pacific partnership and jointly shape future developments in policy translation.

As a forum for policy exchange and dialogue, the PPSTI plays an important role in fostering collaboration and synergy among APEC member economies in our efforts to bring science, technology, and innovation to the forefront of our development efforts. The PPSTI provides a platform for engaging government, academe, and the private sector in fruitful discussions to formulate policy recommendations to enhance innovative capacity and promote an environment that nurtures innovation.

Given this platform, the important role of STI as an engine of economic growth and social progress particularly in helping make micro, small and medium-scale enterprises (MSMEs) become more active players in the innovation ecosystem should all the more be emphasized. Thus, the translation of STI into tangible and actionable policies will further strengthen one of the components of the APEC Leaders’ Growth Strategy of promoting innovation policy and research cooperation toward inclusive growth.



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Workshop

The APEC Workshop was held in Dusit Thani Hotel, Manila, Philippines on 8-10 June 2016. It was attended by 124 delegates from nine member economies (People's Republic of China; Indonesia; Malaysia; Mexico; Papua New Guinea; The Philippines; Russia; Thailand; and The United States).

Session 1

Welcome and Opening Remarks

Dr Carol M. Yorobe

Undersecretary for Regional Operations, Department of Science and Technology, The Philippines

The delegates of the workshop were recognized including the delegates from the APEC member economies namely People's Republic of China; Indonesia; Malaysia; Mexico; Papua New Guinea; The Philippines; Russia; Thailand; and The United States, as well as other Philippine representatives from government agencies and international organizations, regional offices, industry partners and media.

According to Usec. Yorobe, the workshop is a realization of the Philippine's commitment to support the APEC's initiative towards innovation and research and development to promote regional science and technology collaboration, cooperation and coordination; and that the Policy Partnership on Science, Technology and Innovation (PPSTI) could maximize the use of R&D and STI by translating the results of these projects into policies. She said that the PPSTI provides platform for engaging government, academe and the private sector in fruitful discussion to formulate policy recommendations to enhance innovative capacity and promote the environment that nurtures innovation.

In her speech, Usec. Yorobe gave examples of STI and R&D activities that fostered translation of data into policies. One of these was the Department of Science and Technology (DOST) National Nutrition Survey (NNS) conducted by the Food and Nutrition Research Institute (FNRI) that provided data and information that led to the formulation of the Sin Tax Law, Philippine Fortification Act of 2000, Presidential Proclamation No. 958 or The Decade of Healthy Lifestyle, National Policies for Infant and Young Children to name a few. Also, another demonstration of the STI activities was the initiation of the creation of the APEC PPSTI Coral Garden during the 5th APEC PPSTI Meeting in Boracay, Philippines on May 2015.

Lastly, she described the workshop as a demonstration of support to the Philippine's initiative to promote evidence-based policy-making within the PPSTI and the APEC as a whole. She wished everyone a productive workshop and expected that the delegates of different APEC member economies would share their experiences in policy translation in their respective economy that can be used in formulating policy statements which can be forwarded to the APEC-PPSTI for endorsement and adoption.

Rationale and Objectives of the Workshop

Dr Mario V. Capanzana

Director, Food and Nutrition Research Institute, Department of Science and Technology and APEC PPSTI Focal Person, The Philippines

Dr Capanzana presented the Rationale and Objectives of the Workshop. He introduced the PPSTI as an APEC forum for STI policy partnerships which support cooperation among stakeholders on STI particularly those coming from the government, private sector and academe. PPSTI's vision by 2025 is to contribute to APEC's goal of achieving innovative economic growth. Its mission is to support the development of Science & Technology (S&T) cooperation as well as effective science, technology, and innovation policy recommendations in APEC through collaboration between government, academia, private sector and other APEC fora.

The important use of evidence-based researches and science and technology innovations as basis for public policies and the PPSTI's researches and innovations may serve valuable inputs to policies are the rationale of the workshop. The workshop aimed to strengthen the capability of APEC member economies for policy translation and advocacy; provide a forum to share and discuss the APEC member economies' experiences and best practices in translating health and nutrition innovations to policies; and bring the PPSTI R&D and STI to the policy agenda. The priority focus of the workshop activity is on health.

Video Presentation

An audio-visual presentation of APEC PPSTI 5 Coral Garden launching in Boracay, Philippines last 2015 was shown to the APEC delegates and participants. The provision of new technology to propagate corals has been one of the initiatives of DOST through its council, the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD).

Group Photo

Group photo of the delegates were taken at the stage and at the lobby of Dusit Thani Hotel.

Overview of Translating R&D to Policy

The session introduced the delegates on the significance and the process of translating R&D and STI to policy and how this accelerated the commercialization and popularization of innovations. Learnings were obtained from the Philippines' policy development agenda specifically, on health policy agenda.

Ms Brenda R. Mendoza

Director, Trade, Services and Industry Staff, National Economic and Development Authority, The Philippines

She presented the Philippine Policy Development Agenda which envisioned for an inclusive growth for the medium term to attain reduction of poverty and rapid increase in employment. She presented the key strategies for the Philippine Development Plan Midterm Update. The strategies are macroeconomic stability, boosting competitiveness, infrastructure investments, human resource development through social services and protection, access to financing and promotion of education, science and technology to attain high productivity. The translation of research policy which requires an alignment with the overall policy framework was emphasized.

Dr Lilibeth C. David

Undersecretary, Office for Policy and Health Systems, Department of Health, The Philippines

Dr David presented the Philippine Health Policy Agenda. She talked about the Department of Health (DOH) vision for the Filipino people by 2040. The *AMBISYON NATIN* 2040 stated that by year 2040 the Filipino people will enjoy a stable and comfortable lifestyle, secure in the knowledge that they have enough for their daily needs, unexpected expenses, and that they can plan and prepare for their own and their children's future.

She emphasized that the most urgent constraints in the Philippines are jobs, poor healthcare, petty corruption and government inefficiencies. The vision for the people is that no Filipino will die because of not being able to afford the cost of healthcare while the vision for the country is "Affordable high quality education and healthcare". By 2040, all Filipinos shall enjoy longer and healthier lives, with minimal socio-economic and geographic disparities in health status, which are comparable to residents of high-income countries. Filipinos are empowered and active participants in healthcare and secured with the knowledge that accessing quality health service does not depend on one's capacity to pay and will not lead to impoverishment. Also, the health system remains dependable in times of disaster; and the system is designed to minimize vulnerabilities to communicable disease threats and lifestyle risks. This is addressing health and not just healthcare.

Dr David discussed the seven key strategies in healthcare reforms and these are: 1) sharpen roles and avoid overlaps; 2) pool resources into a single fund; 3) make guarantees explicit; 4) enable guarantees to be delivered; 5) ensure guarantees are received; 6) focus on core functions; and 7) strategic human resource and succession planning.

Towards the end of her presentation, Dr David highlighted the "Key Takeaways":

1. Health is identified as one of the main constraints, specifically health expenditures
2. Policies have already been laid out to address the financial protection concern, but needs to be implemented thoroughly. Agents need to be held accountable.
3. DOH needs to work with other sectors to enact policies that change the built environment and make it easy for people to be healthy.

Dr Fely Marilyn E. Lorenzo

Professor, Department of Health Policy and Administration, University of the Philippines Manila

Dr Lorenzo discussed about knowledge translation, its models, goals to policy and beyond, challenges and examples. She said that knowledge translation is about the interactions or effective exchanges of providers and users of research. It is also about considerations of context and capacity and moving policy into action.

She identified and discussed the six opportunities from research cycle where knowledge translation could occur:

- I. Defining research questions and methodologies
- II. Conducting research (participatory research)
- III. Publishing research findings in plain language and accessible formats
- IV. Placing research findings in the context of other knowledge and socio-cultural norms
- V. Making decisions and taking action informed by research findings
- VI. Influencing subsequent rounds of research based on the impact of knowledge use

Dr Lorenzo also cited the Ottawa Model of Research Use and its six elements namely the evidence-based innovation, potential adopters, practice environment, implementation of interventions, adoption of innovation and outcomes resulting from implementation of the innovation. Policy change cycle is iterative and interactive and that the policy actions can be continued, modified or terminated.

In her presentation she added that there are important ideas in Promoting Action on Research Implementation in Health Services (PARIHS) and these are:

- a. Level and nature of evidence to be used (hierarchy of evidence; consensus of experts; patient preference and experience)
- b. Context or environment in which the research is to be placed (culture, leadership, evaluation)
- c. Research implementation process (negotiation, consensus development, conflict management, enablers of application)

Dr Lorenzo also discussed the Lavis framework for knowledge transfer wherein five questions were to guide organization in developing a more effective knowledge transfer process.

1. What should be transferred to the decision makers?
2. To whom should research knowledge be transferred?
3. By whom should research knowledge be transferred?
4. How should research knowledge be transferred?
5. With what effect should research knowledge be transferred?

Inspirational Message

Ambassador Laura Quiambao-del Rosario

Undersecretary, Department of Foreign Affairs, The Philippines

Ambassador del Rosario started her message by congratulating DOST for the APEC Workshop and for being a very active department. She mentioned that the focus of the APEC last year was on S&T in higher education.

She believes that there should be an investment on the human capital development basically on the fields wherein researcher and experts can localize solutions and innovations to respective problems.

Ambassador del Rosario emphasized that in APEC, they have included a chief science advisor whose main role is to advise the president on how policy should be done in which it is geared towards uplifting the life of the people and contributing to economic development. It is in this way the scientists could take part in the decision process of the government.

She stated that for STI to succeed, the government should have development growth support to help the researchers and scientists; and those of them in the government must be aware of the role they should play. In the Philippines, most of the scientists are now working together with the country's bright cabinet secretaries on the fields of agriculture, health and climate change.

Through APEC Philippines together with the other economies, continuous efforts are being pushed in changing the economic environment and achieving authentic growth towards the cornerstone for regional dialogue.

Sharing of experiences on the process of translation of STI activities to policy: Focus on Health

Dr William G. Padolina

Academician, National Academy of Science and Technology, Department of Science and Technology, The Philippines

Dr Padolina presented how S&T is vital for good governance, stability and human capital. He explained that technically skilled population is a pre-requisite for economic and wealth sustainability, and well-being.

He noted that the usual dilemma of a scientist in terms of policy is what position to take – to be an honest broker or to be an advocate. However, it cannot be denied that the magic hand is held by the politicians. Researchers could only suggest but the ultimate decision maker is still the politician.

There is a persistent and very compelling inequality worldwide especially on the chasm between the formal and informal economies, the widening gap between skilled and unskilled workers, the growing disparities in health, education and opportunities for social, economic and political participation.

Access to new technology should be of public good but it is inconsistent with the pressure that is being experienced by public research institutions where they have become self-sustaining and they have been forced to behave to some extent like private corporations.

Dr Padolina mentioned the One Health Approach which is a multi-sectoral effort which brings together physicians, osteopathic physicians, veterinarians, dentists, nurses and other scientific – health and environmentally related disciplines.

He enumerated the new tools and technology like imaging techniques, rapid high throughput genome sequencing and chemometric methods for analyzing biological molecules and high speed/capacity computing.

Genetics interacts with environment and environment interacts with genetics. This is why climate change has become a concern in these present times. The environment is the source of stimuli to trigger organism to react.

There is always a chance to analyze secondary information. But there is no use if you have big data when you don't have enough resources to keep it.

Dr Padolina shared a striking point where he emphasized that “a country's advantage comes from its choices, not from the DNA of its people. Choices are not accidental events, but deliberate decisions.”

Existing policy concerns on the demand side are STI and critical policy issues affecting health and well-being discussed by Dr Padolina. He emphasized the issue on biosecurity where its major concern is the protection of the economy as well as the environment. As a general concern, it includes food safety, bioterrorism and invasion by exotic species. Then, he added the issue on food security that encompassed accessibility of affordable and acceptable quality of food, beyond self-sufficiency. It also involves trade or the exchange of foods. In effect, trade impacts on quantity and quality of foods. It involves trans-boundary movement of materials both fresh and processed, living and dead. Finally, internal transport involves movement of food materials across local boundaries. With this, it can be said that a country cannot secure its food on its own. The APEC is a very ideal vehicle to provide food security and economic community.

Dr Padolina said that organic farming is in need of a science. It should have standards such as the limit use of “chemicals” and no Genetically Modified Organisms (GMOs). The source of feeds for livestock and poultry was also mentioned. He cited a very interesting irony referring to those who oppose genetically modified crops but not the use of genetically modified drugs.

Mr Martin Bettelley

Deputy Country Director, United Nations World Food Programme (WFP), The Philippines

Mr Bettelley started his presentation about his experience on the process of translation of STI activities to policy by citing malnutrition rates based on the United Nations Children’s Fund (UNICEF) data for the year 2013. Almost 17,000 children aged under 5 years die everyday. Almost 35 to 45 percent of all child mortality is attributed to malnutrition in particular. A quarter of the world’s children are stunted, while less than 10 percent are suffering from wasting. And around 15 and 16 percent suffer from underweight and low birth weight, respectively.

In response to the aforementioned statistics, there have already been a lot of global movements and recommendations such as the Scaling Up Nutrition (SUN), the First 1000 days, The Zero Hunger Challenge, The International Conference for Nutrition (ICN) 2 and the Rome Nutrition Declaration to solve nutrition issues.

The WFP have developed a lot of products such as the Wawa Mum and Acha Mum. They were locally developed in Pakistan. In 2010, Wawa Mum which means “good food” was developed to prevent acute malnutrition among children 6 to 23 months. In 2011, another product called Acha Mum, meaning “pleasant food”, was developed for the treatment of Moderate Acute Malnutrition. In 2012, WFP and the DOST-FNRI came into an agreement for the local development of a fortified complementary food targeting children 6 to 36 months called “Momsie”. The technology used in this project was adopted by local producers and are now distributed in some areas of the Philippines.

Ms Maria Lourdes A. Vega

Chief, Nutrition Policy and Planning Division, National Nutrition Council – Department of Health, The Philippines

Ms Vega described the Philippine nutrition situation today. There is an increased level in stunting and wasting that requires better actions as well as the increasing adult overnutrition. But the good news of the 2015 survey is the decreased level on the child's overweight and obesity. She also presented the causal model of malnutrition and emphasized the important link between inadequate dietary intake and the role of science and technology in improving food quality.

The three primary focus of the Philippine Plan of Action for Nutrition from 2011-2016 includes promotion of Infant and Young Child Feeding (IYCF), maternal nutrition and food fortification. There are studies under food fortification on technology development, market field trials, shelf life and efficacy. Rice fortification is an on-going research project.

The family food pack of the Department of Social Welfare and Development (DSWD) was improved through the assistance of FNRI to make it more age-appropriate for young children. One of the recent developments of this project is the automation of food pack preparation. However, the uniformity of container sizes should be considered for ease of packing.

Ms Vega raised the NNC's future plans of considering local product development such as complementary foods, nutritious snack foods, and supplementary feeding. She has also mentioned the impact of the production of these food products on local farmers. The recommendation is to use products that will benefit the local farmers. She also stated that in 2012, the Philippines had already

adopted the World Health Organization (WHO) growth standards measuring the height of children. The NNC board has been discussing now about how the local height board should be developed; and they are exploring other materials that will be used aside from wood that are more environment-friendly.

Some S&T opportunities in nutrition that should have a conscious and deliberate alignment with the development goals include the following:

1. Food supplementation for pregnant women
2. Locally produced ready-to-use therapeutic and supplementary foods
3. Reducing fat content of animal foods
4. Processed foods with lower sodium, sugar and fat formulations
5. Specific food technologies such as root crops
6. Income generating technologies for home-based, small-scale settings
7. Better, affordable salt iodization machines

One of the S&T opportunities in nutrition is the use of locally-produced ready-to-use therapeutic (RUT) and supplementary foods for the management of acute malnutrition. However, the challenge would be if it is worthwhile to invest on the production of RUTF when it is only going to be used in the Philippines and if there is enough market for this.

Open Forum

Dr Eduardo P. Banzon

Senior Health Specialist, Asian Development Bank, The Philippines

As facilitator of the panel discussion, Dr Banzon started by summarizing some key points from the three speakers during the sharing. He highlighted the role of policymakers as decision makers from Dr Padolina's presentation. He mentioned the product development discussed by Mr Martin Bettelley as part of the WFP. Then, he shared his particular interest on food fortification as shared by Ms Vega.

A question raised by Dr Banzon to the three panelists was about the most difficult obstacles they encountered from policy-making. Ms Vega shared her experience in the difference of opinions and preferences of scientists in the field which is very challenging in the instance of implementing or deciding for a project. Dr Padolina cited three important factors that influence decisions. First, one must be able to provide a picture of the state of the nation such as producing evidence that malnutrition is indeed present or worsening. He said that politicians are wary of accepting negativity especially at the top level. So make sure that you have a solid basis for doing that, then argue if you do not do anything. Second would be the conflicting priorities of agencies. The priorities of Food and Agriculture Organization may not be the priorities of the Department of Health. Lastly, there is also the issue on sustainability. The priorities of each agency or department can be greatly influenced by the interests of the secretaries. Dr Padolina emphasized that these problems cannot be solved overnight. The transition from one administration to another is another important factor in deciding for programs.

Dr Banzon initially asked the experiences of the APEC economies on policy translation which later drove the discussion on sugar taxation and diabetes.

Dr Promkhatkaew shared Thailand's experience on fortifying sauce, salt and cup noodles. Dr Noro expressed the PNG's concerns to be along the lines of getting knowledge products into the market and how to bring all key players together, saying that S&T is still a "baby" (having been there for about two years). When queried on the prevalence of diabetes in Mexico, Ms Perea said they have a lot of issues on diabetes in their economy. Based on Ms Perea's response, Dr Banzon said that it was diabetes prevalence that drove the sugar tax in Mexico.

For Mr Bettelley, there will be no product restriction, but the need to issue laws on labeling [is pushed], for example sugar content. Dr Corazon VC. Barba, Nutrition Consultant of the WFP opined that we should make sure that there is evidence to back up legislations. For example, food consumption is low or at least show that there is correlation between sugar intake and overweight or obesity. Look at the equation: Is it physical activity or origins of malnutrition or non-communicable diseases?

Ms Vega's stand on this issue [on sugar taxation] was primarily focused on the lack of data to show that sugar will increase [prevalence of] diabetes. But what she knows is that increased consumption of sugar can contribute to obesity because it adds to the calories. In response to the sugar tax, Dr Padolina raised the question of who is going to control one's sugar consumption and tax it. For him, it would be very hard to imagine how it is going to be implemented and monitored.

A question was raised from the audience about how to meet the time requirement of policy-making. Particularly, Dr Acuin asked about how to reconcile as a researcher the time constraints and how data that are of quality can be delivered. Dr Padolina gave two options. First was human capital. Meaning, more people should be involved in doing the survey while the second was through technology. Dr Banzon, however, raised the concern on the very slow internet speed in the country. It would be hard to capture data at an instant. Ms Vega also added that the problem in data collection lies on the issue of connectivity. There are areas in the country that have almost no internet connectivity. The people collecting data in the remote areas still need to go to the center of the province that has access to the internet. But Ms Vega pointed out the most important realization in relation to data collection stating that the purpose of conducting a survey very often may be defeated when the government does not even do anything to make a difference in the current nutrition situation.

Dr Banzon also asked the presenters how they can convince the private sector to adopt the science and technology that they are working on. Mr Bettelley answered that the main problem of private sectors would be the supply and demand for the sustainability of the product. He mentioned that there are no platforms from the government to ensure that they will have a concrete demand. For Dr Padolina, issues on reliability of [supply of] raw materials and the lack of buffer or stockpile during emergency should be recognized.

A question on good practices for funding research and financing official sustainable development assistance was raised. According to Dr Anthony Sales of DOST Region XI financing of knowledge products can be done using different modalities which are:

- a. through private sector investments
- b. through loans (for research)
- c. whether portions of (sin) tax will be given for R&D
- d. legislate financing for research
- e. through the official development assistance (ODA) in terms of financing of sustainable efforts

Dr Padolina, on the other hand, opined that one modality cannot be singled out. He thinks investments in R&D should include [investments] in human capital such as [financing] scholarships. For example, a thesis problem should be one that is relevant to the Philippines or one that seeks solution to a problem that is local.

In terms of infrastructure projects, Dr Padolina cited the constraints in public funding and where the private sector can invest. Currently, the procurement law is "one size fits all". Thus, he had his hopes that the public-private partnership program could also include R&D.

Mr Bettelley, on the other hand, mentioned that in order for the private sector to sell their product, it should have a strong business case. As for the government side, they can provide incentives such as tax incentives for the product.

The last issue that was raised was with regard to public goods. According to Ms Vega, the notion of public good should drive “who will invest”. She said that the private sector would only invest if there is something for them in it – then, there would be conflict of interest. Ms Vega emphasized that she is not saying that this should stop the discussion. You just have to “watch out for frames of mind...open the door and just be clear with your boundaries.”

Dr Banzon wrapped up with the following important points:

1. more money for STI that should be translated to policy
2. invest in human capital for research and for the translation of these researches into results
3. if money will deliver results, then it would come

In addition, policies in APEC should be driven from public-private partnerships by STI, thereby justifying investments in STI and that choices need to be made using the nutrition lens.

Program Synthesis

Dr Cecilia Cristina S. Acuin

Chief Science Research Specialist, Food and Nutrition Research Institute, Department of Science and Technology, The Philippines

Dr Acuin was tasked to synthesize the proceedings for the first day of the workshop. She started by stating the rationale and objectives of the workshop as presented by Dr Capanzana, stating that through this workshop, the outputs that will be produced may hopefully call everyone to action. The objective of this workshop is to share and discuss the experiences of the participants on policy translation in their respective economies. This workshop also had an emphasis on health.

Dr Mendoza and Dr David presented the Philippine Policy Development Agenda and the Philippine Health Policy Agenda. The most important point to be considered is that the translation of research policy requires an alignment with the overall policy framework. Dr Acuin highlighted this because this is a recurrent need. Researchers should have to work within the policy framework.

Dr Lorenzo presented the framework about the different models of knowledge translation. The first one was how research can be incorporated which the researchers and policymakers can work on. The other one was about the realization that policy change cycle is something that is both iterative and interactive. For instance, the usual thinking of a researcher once he or she is done with a project is to proceed immediately to the next. However, that is not the kind of thinking of policymakers. Research is only part of the cycle. It could be exasperating on the part of the researcher but policymakers would always ask for previous researches which they think are relevant. Researchers can view this as an opportunity instead of considering it as irrelevant.

Dr Lorenzo also discussed the policy cycle. There are many ways that the policy-making might end. The decision of the policymakers might be to continue the policy, modify it or terminate it. As part of policy-making, stakeholders should also be considered apart from the policymakers because they can actually shake the way policymakers think. *“What is the policy cycle and where does research fits in?”*

Accordingly, we need to be ready for “iteration” and look at this as opportunities, Dr Acuin said.

From Dr Padolina's sharing, Dr Acuin pointed out the issue on inequity or inequality as the most compelling problem we face now. It is inevitable that there would always be a division in every economy. The way scientists should do their research is to not only come up with a result but instead come up with a result that will address this inequality. In this regard, Dr Acuin also emphasized the access to data because it is part of the responsibility of the researchers, not the policymakers, to ensure that people have equal access to data.

Dr Padolina also discussed the critical policy issues. To give emphasis, Dr Acuin pointed out the National Unified Health Research Agenda with researches that are aligned with the development goals. Another striking quote from Dr Padolina was his statement "A country's advantage comes from its choices, not its DNA."

Mr Martin Bettelley and Ms Vega both shared how science and technology have been included in some of the efforts of their organizations. Mr Bettelley talked about their exclusive alignment with the development goals and its translation into global actions which led to their decisions about product development. On the narratives of Ms Vega, her most compelling statement was a statement that goes back to the objective of the workshop that there should always be an alignment with the development goals, in this case, country goals.

Closing Message

Dr Jaime C. Montoya

Executive Director, Philippine Council for Health Research and Development, Department of Science and Technology, The Philippines

Dr Montoya commended all the delegates for making time to be part of the workshop. He admired the participants' commitment and desire to realize the PPSTI vision, that by 2025, APEC will have achieved innovative economic growth through PPSTI's efforts.

In Dr Montoya's message, he stated that innovation represents an important pathway in improving quality of growth, promoting economic and social development to address challenges and achieve prosperity in the Asia-Pacific and beyond. Successful commercialization and popularization of innovations through policy translation brings a technology from an idea to the real world where it can provide value to the society.

In line with the PPSTI's mission, the Philippines stands one with other member economies in promoting an enabling environment for innovation, and enhancing regional S&T connectivity. The Philippines is determined to strengthen Asia-Pacific partnership and jointly shape future developments in policy translation.

Dr Montoya thanked the people who made the workshop a success through each participant's valuable contributions and active participation as well as the organizers who worked hard for the event. He wished everyone good health, success, and fruitful discussions.

Welcome and Networking Dinner

The workshop delegates were ushered to the Mezzanine where dinner was served. A quartet serenaded the delegates with relaxing and entertaining music.

Session 2

Opening Statement

Ms Julieta B. Dorado

Supervising Science Research Specialist, Food and Nutrition Research Institute, Department of Science and Technology, The Philippines

Ms Dorado welcomed the foreign, as well as, the Philippine delegates. She mentioned that the number has lessened from yesterday's 117 to 60 participants, who will be undergoing/experiencing the process of analysis of cases in the afternoon session. It was reiterated that the workshop is a realization of the PPSTI's efforts to institutionalize policy translation into policy agenda, and it aims for the R&D and STI to lead to policy translation and inclusion in the policy agenda of the APEC economies.

Ms Dorado mentioned that although the focus of the workshop is on health, the process of policy translation formulation is basic cutting across different topics or areas. The next session will be sharing of the economies' experiences in policy translation, the best practices and the challenges in policy translation faced by the economies.

Policy Partnership on Science, Technology and Innovation (PPSTI): Programs and Projects

Dr Mario V. Capanzana

Director, Food and Nutrition Research Institute, Department of Science and Technology and APEC PPSTI Focal Person, The Philippines

Dr Capanzana presented the background of the PPSTI and its programs, talking about its vision and mission; how it achieves its goals and priorities; how it works; and the APEC organizational structure.

He also reported on the summary of the activities and accomplishments of the PPSTI 5 meeting conducted last 16-18 May 2015 in Boracay, Philippines, as well as, the PPSTI 6 meeting held last 10-12 August 2015 at the Philippine International Convention Center (PICC), Manila, where the following were endorsed: newly-elected Subgroup Chairs and Vice-Chairs, the 2015-2025 Strategic Plan, and the PPSTI Policy Statement initiated by the Philippines.

Also mentioned were the continued exploration of the potential cooperation with APEC Business Advisory Council (ABAC) who became a PPSTI official member last year, and the long-term mechanism of APEC centers. He also presented the on-going PPSTI projects related to internet economy (Internet of Vehicles which has two phases, and the APEC Smart City Forum and Exhibition on Information Technology) and projects related to health. Finally, Dr Capanzana discussed the challenges in APEC PPSTI initiatives and the importance of the policy translation workshop.

Sharing of experiences on the process of translation of STI activities to policy: Focus on Health

Six economies (The Philippines; Papua New Guinea; Thailand; Malaysia; The United States; and Mexico) shared their experiences on the process of translation of STI activities to policy focusing on health.

Dr Carmencita D. Padilla

Chancellor, University of the Philippines Manila

Dr Padilla talked about newborn screening (NBS) as a universally accepted public health program aimed at early identification of infants who are affected by certain genetic, metabolic, or infectious diseases.

She showed the different cycles (process) the NBS went through in its 20-year journey starting from the formulation of the problem and the need, to policy formulation, policy adoption, policy implementation and policy evaluation. Dr Padilla said that the NBS in the Philippines started as a research in 24 Metro Manila Hospitals in 1996, and in 1999, the DOH adopted the program.

Dr Padilla talked about the issuance of the Administrative Order in 2000 on the nationwide implementation of the program, the filing of NBS bill in both the Senate and Congress, the Enactment of the Republic Act (RA) 9288 in 2004, the opening of five NBS Centers (Central Luzon, Metro Manila, Southern Luzon, Visayas and Mindanao), the inclusion of NBS into the PhilHealth Newborn Care Package, the creation of a committee on the Use, Retention and Storage of Residual Dried Blood Spots, and the availability of the expanded newborn screening in 2014, highlighting the 77 percent NBS coverage.

She said that NBS is currently available in more than 6,000 health facilities and rural health units in the country. It was emphasized that all NBS components are evaluated using the adopted evaluation scheme from the United States, the Performance Evaluation and Assessment Scheme (PEAS), the results of which were used to come up with strategies to improve the program implementation.

Dr Padilla ended her presentation by showing the different instruments used for the national implementation of the NBS which include political, media, civil society and economic instruments.

Dr Jeffrey Noro

Director for Policy, Papua New Guinea, Science and Technology Secretariat, Papua New Guinea

Dr Noro discussed “Creating a policy environment to shift Papua New Guinea’s (PNG) economy from a wholly resource based economy to a knowledge based society”. He shared that there was no investment in STI for many years in PNG and there was a huge policy gap to support knowledge and innovation.

According to Dr Noro, a lot of research was done but the research results were not communicated, making it difficult to develop policy. He said that the PNG Science and Technology Council was established in 1992 to look into the said problem. However, it was only in 2013 that the National Executive Council (NEC) through the NEC Decision 219/2013 recognized that the PNG needed to embrace a science and technology framework that would support a modernization pathway into the future and the need to hold a National Research Agenda Workshop to realign all research agencies and statutory bodies, prioritize research needs of the country, and develop a strategic plan.

Dr Noro also talked about the importance of partnership with the different sectors (e.g. government, government agencies, statutory bodies, research bodies, industries and private sectors and international partners), the five key strategic areas to focus to ensure a sustainable future through STI, the current key performance priorities and some of the funded R&D projects in PNG. He also mentioned the challenges being faced including information gaps, problem in management systems, need for legislative amendments, Monitoring & Evaluation (M&E), and industry partnerships.

As a way forward, Dr Noro shared the short term outcomes of PNG’s policy focus from 2016-2050 and

he ended by saying that by 2050, he hoped that 'PNG will have a scientifically proficient economy'.

Dr Duanthanorm Promkhatkaew

Medical Scientist Advisor Chief, Department of Medical Sciences, Ministry of Public Health, Thailand

Dr Promkhatkaew talked about “Experiences in implementation of Medical Science Innovation to Health Policy by Thailand’s Department of Medical Sciences”. She described the role of the Ministry of Public Health, the structural organization and the agencies attached to it including the Department of Medical Sciences, the number of hospitals under the ministry. Likewise, she talked about the functions of the Department of Medical Sciences, the attached agencies, and some of the department’s experiences on innovations that could be translated into health policy or national practices.

Dr Promkhatkaew provided detailed description of the four programs being implemented in the Department of Medical Sciences which include ‘Prevention of Mother-to-Child-HIV Transmission during childbirth’, mentioning that as of yesterday (8 June), the WHO officially announced Thailand being Mother-to-Child-HIV Transmission free (1.9 percent prevalence). The other programs presented were the ‘Screening of HLA alleles in Thai patients prior to treatment of drugs which can cause Stevens-Johnson Syndrome (SJS) and toxic epidermal necrolysis (TEN); Herbal drug development into Thailand National List of essential medicines; and Thailand Neonatal Screening Program’. Dr Promkhatkaew mentioned the two on-going development projects namely Down’s Syndrome and Congenital Adrenal Hyperplasia. She ended her presentation by citing other development output and innovations which include 22 testing kits for food testing, vaccine development, Good Manufacturing Practices (GMP) Stem cell preparations and development of pathogen testing.

Dr Md. Fauzi Md. Ismail

Principal Assistant Secretary, Ministry of Science, Technology and Innovation, Malaysia

Dr Ismail put emphasis on the importance of making money out of the R&D activities based on his presentation on “Articulating STI into Policy in a Malaysian perspective”. He discussed the STI landscape in Malaysia which is composed of four main stages, starting from the existing policy to allocating funds needed to conduct R&D leading to commercialization. He mentioned that Malaysia aims to build conducive environment for research and development and industry development while leveraging on the country’s existing areas of strength that is incorporated in three phases: Phase 1 (2005-2010): Capacity Building; Phase 2 (2011-2015): Science to Business; and Phase 3 (2016-2020): Global Business.

Dr Ismail also presented the achievements in terms of biotechnology such as 41 percent increase in investment realized, 26 percent increase in revenue and increase approved investment from 2011 to 2014. Finally, he shared three issues experienced in translating STI into policy which include: majority of the policies are STI related and the problem comes in the integration of these policies, monitoring of outcome, and the use of resources; there are many priority areas resulting to difficulty in allocating funds; and the negative global competitiveness.

Mr Vance Y. Hum

Chief Executive Officer, I.M. Systems Group, The United States

Mr Hum’s presentation was about “Public/Private Perspective on the Process of Translating STI Activities to Policy - A Holistic Approach”. Looking at the premises of the workshop, he gave emphasis on the following keywords- commercialization, popularization, and market-based. He said that these words stand out as the connections from what the public sector wants and how the private sector complements, suggesting the potential for economic benefits to researcher and innovator, in exchange for social benefit and public’s well-being.

From the private sector's view, Mr Hum believed that policy is created to break down trade barriers, stimulate economic growth, improve the level of playing field for small businesses and find opportunities to support research and development. APEC was set up as policy driver for innovation and for policymakers to consider outcomes of system-wide approach. He then cited a research he was involved in the 1980's where they won in all the three phases, however, they were not able to influence policymakers to incorporate the controversial regimen into the insurance payment protocol. He said that it is usually the problem with small businesses. With the changing time, healthcare is now one of the priorities of policymakers.

Mr Hum mentioned that public-private partnerships (PPP) can play an enormous role in advancing policies. He said that the private sector recognizes the need to re-invest in the future and believed that the small businesses should be involved and be part of the policy discussion.

He introduced his company, I.M. Systems Group, Inc. (IMSG) that specializes in advising government agencies in predicting, preparing for and responding to natural and man-made disasters. He said that IMSG supports Key Environmental Intelligence for a Wide Range of Applications. Finally, Mr Hum shared the IMSG Proposed Process for STI to help form meaningful policies supporting Transition Research to Operations (R2O) benefiting all APEC regions.

Ms Marina Viridiana Garcia Perea

Deputy Director, International Productive Consortia on Innovation, National Council on Science and Technology, CONACYT, Mexico

Ms Perea talked about the importance of innovation and how the National Council of Science and Technology in Mexico does commercialization and popularization of research and market-based innovations. She shared the 2015 Global Competitiveness Report in Asia Pacific, as well as, in Latin America where Mexico ranked 57th. One of the issues in the 12 pillars of competitiveness is innovation. In Mexico, there was an improvement in fostering innovation, business sophistication and financial market, but failed in the first pillar, the institutions. She said that one of the problematic factors of doing business is 'access to finance' particularly in defining program in research and development. As part of the public policy, Mexico is trying to align with the international framework of development, the Global Innovation Index Conceptual Framework.

Ms Perea presented Mexico's National Development Plan for 2013-2018 mentioning the general objective, national goals and transversal strategies. She also discussed the different innovation-related policies and strategies: increase domestic expenditure on research and development in order to get 1 percent of the Gross Domestic Product (GDP); foster knowledge transfer from academy to industry; foster local STI vocations to stimulate regional development; increase access to finance for innovation and patent creation; foster Information and Communication Technologies (ICT) sector development and ICT adoption; and foster innovation through public procurement. She said that these are part of the programs that Consejo Nacional de Ciencia y Tecnologia (CONACYT) fund to support the products of development. The importance of working with other economies and forming linkage with APEC was recognized.

Ms Perea also mentioned the requirements for the program funding support application and the different funding components including innovation in business and entrepreneurs; international cooperation for development and technological innovation; and technological development and innovation for sectors. Finally, she shared the results of some of the projects that the CONACYT is supporting.

Open Forum

Dr Fely Marilyn E. Lorenzo

Professor, Department of Health Policy and Administration, University of the Philippines Manila

Dr Lorenzo facilitated the open forum by engaging the presenters to answer her two questions regarding the best practices to share with other APEC economies, and the difficulties/challenges in knowledge translation to policy and commercialization that needed to be addressed.

In response, Dr Padilla, delegate from the Philippines, said that the best practice would still be the people who are dedicated and continue working despite the limitations in the economy. In her opinion, the best practice to put forward is the partnership of government and academe for specific projects. The challenge is in attracting people to do research because the salary is not competitive with business sector.

Dr Noro expressed that their best practice in Papua New Guinea would be self-reflection, looking at what the society needs, what the people need and to find the answer. It is also identifying the problems across all sectors. To move forward, PNG needs people who are innovative and investments in terms of infrastructure, as well as, in training of people.

Dr Promkhatkaew of Thailand shared her opinion that the best way to search for an innovation to implement into practice to policy, is to have the policymakers give it directly to the people who made the innovation. Another way is for other agencies to establish the projects or do the R&D. She emphasized the importance of the contribution of other institutions in implementing the projects, particularly contributions from the industries.

Dr Ismail mentioned that Malaysia's best practice would be in terms of good governance, good direction particularly in STI, while the challenge is having too many agencies needing a lot of funding support.

Mr Hum responded that the USA is mostly known in R&D. The investment is through the support given to the research and development activities. The US government has been very supportive of the small and medium enterprises (SMEs). The presence of the STI program is very helpful however, in some commercial areas the program is not available forcing the innovator to go outside. The difficulty is that one success is equal to 10 failures.

Ms Perea talked about Mexico's investment in research and development and the availability of institutions that provide funding support. The challenge is that some institution is funding the same kind of project resulting to the duplication of support given. She emphasized the importance of working together to avoid the situation.

Dr Lorenzo further asked on what advice the discussant can give to other APEC economies on how to translate knowledge to commercialization.

Dr Ismail answered that the focus should be commercialization rather than doing basic research. It is important to create jobs and do research that has commercial value.

Dr Padilla recommended that the government and funding agency to have more faith in the young ones. For commercialization purposes, the government should consider products that will benefit the public, as well as, the economy.

Mr Hum provided a different slant wherein he said that the government does not compete with the private sectors, what it does is to make the research available for licensing. He added that the government should invest in their people, train them particularly the 'millenials' (next generation).

Dr Lorenzo emphasized three important points learned from the discussion: 1) there should be a teamwork, team of experts in every field; 2) balance in basic and applied research; and 3) partnership particularly with private sectors.

Dr Lorenzo ended the morning session by expressing her appreciation to the six economies for sharing their ideas and experiences on policy translation.

Case Study Discussion of Policy Translation of STI activities

Case Study on Stunting

The group was facilitated by Dr Cecilia Cristina S. Acuin from the DOST-FNRI. The members included: Dr Md. Fauzi Md. Ismail from Malaysia, Ms Marina Viridiana Garcia Perea from Mexico, Ms Maria Lourdes A. Vega (NNC-DOH), Ms Rowena Layugan (DSWD), Dr Maria Patricia V. Azanza (DOST-ITDI), Mr Erwin Don Racasa (DOST-NRCP), Ms Luz B. Tagunicar (DOH), and two documenters: Ms Ma. Anna Rita M. Ramirez and Ms Dovie G. Domiquel, both from the DOST-FNRI.

The workshop started by giving a global perspective of stunting and what could probably cause this. As workshop facilitator, Dr Acuin asked the foreign delegates to give a brief description of the nutrition problem in their economy. To get the global perspective of stunting, Ms Perea and Dr Ismail of Mexico and Malaysia, respectively, were asked on the nature/extent of stunting in their economy. According to Ms Perea, stunting and malnutrition are likely to be observed in the city/urban areas because access to healthy food is more possible in the rural areas. To address malnutrition, Ms Perea said that schools have policies like provision of breakfast for schoolchildren such as cookie, grainy bar and milk that are almost free. In Malaysia, however, Dr Ismail said that stunting is not a problem; the problem is more on the lifestyle-related diseases such as overweight and obesity.

Dr Acuin stated that stunting and poverty are closely linked, citing food insecurity and poor environment. Prevalence of stunting has been persistently high for the last two decades in the case economy, which was later mentioned as the Philippines.

And what has the economy been doing about this? According to Ms Tagunicar of the DOH in the Disease Prevention Bureau [has been involved with the] promotion of IYCF; the promotion of supplementation; micronutrient powder for anemia as well as interventions for pregnant and lactating women. There are also issuances of guidelines in calcium supplementation among women (with the increase in pre-eclampsia) and the revision of prenatal guidelines such as assessment of nutritional status (of pregnant women). The DOH also introduce nutritional assessment and interventions for chronically malnourished and for acute malnutrition.

Dr Azanza of the DOST-ITDI set the tone and clarified discussion points such as:

- a. What percent of the Filipino population is stunted? ~ 30 percent
- b. And we want a policy that would decrease the percentage --- that translates to about a decrease by 40 percent? --- up to 2025?

Dr Ismail suggested to look at other economy experiences on their rate of reduction (in malnutrition) to be realistic about it. Dr Azanza suggested to calibrate Asian capability with our (economy's) capability. Regarding the difference of the Philippines with its Asian neighbors who have shown marked reduction in the prevalence of malnutrition, Ms Tagunicar mentioned that these economies' form of government is not decentralized and that local government units (LGUs) have varying capacity and approaches are different from area to area. Talking to the APEC leaders, according to Ms Tagunicar, is a good idea.

According to Dr Azanza, if the LGU does not have an appropriation of funds to address malnutrition, (the projects) cannot be carried out. While she cited that the budget for gender and development or GAD can be used to address maternal health, Ms Vega of NNC-DOH mentioned that the use of the GAD budget requires the identification of health issues with gender concern.

In analyzing the trend of prevalence of malnutrition presented by Ms Vega, Dr Ismail noted that between 1989 and 1993, there was a steady reduction in the prevalence of malnutrition. The centralized function of the DOH then was cited to be responsible for this.

According to Ms Vega, prevalence of stunting in the Philippines has already gone down since 2005 but still needs further interventions. Standard interventions are available but sectoral approach are considered necessary with regards to the geographical areas where there is high food insecurity such as disaster-prone regions (Bicol and Visayas); Muslim areas with peace and order conflict; and urban slums experiencing extreme poverty. Ms Vega also said that government programs missed out on the focus on the first 1000 days of the child (from the womb to a child's 2nd year of life) where studies have shown that infants inside the womb could also experience stunting (intrauterine growth retardation) if not given enough care. Dr Azanza of the Philippines mentioned that being on the food technology sector, consideration of the first 1000 days of the child was not their priority because they were not aware of this.

Dr Acuin said that there is great variability in program implementation and there is no assessment at the governance level. To which Dr Azanza asked if the group have something to work with. Ms Perea suggested the construction of resilience programs for disaster-prone areas and to look at best practices.

Ms Vega said that there are clear nutrition items in the program. Best practices are supportive local chief executives, persistent nutrition action officers and there is multi-sectoral focus on nutrition, for example the focus of the agricultural sector on food supply and planting of flood-resistant crops.

After the group has settled down in a free-wheeling discussion of the overview of the problem, what could be causing this and the measures taken to address the problem, a more structured discussion of the case following the workshop guide questions commenced.

Case presentation started with defining stunting and the Philippine government's goal of achieving the global target of 40 percent reduction on the prevalence of stunting by 2025. Based on the case report "stunting" was defined as height for age <-2 standard deviation from the median of WHO Child Growth Standards among children under 5 years of age. Over the past two decades, stunting in children has been a long-standing problem with 30-33 percent prevalence.

The unavailability in program and policy implementation after the decentralization in 1992 was noted in the causal modeling of stunting. Also, there were higher rates (of stunting) in areas with peace and order problems and disaster-prone areas.

Factors contributing to stunting according to the UNICEF model are food consumption of mothers (during pregnancy) and child during the first 1000 days, child care, and management of childhood illness. Stunting and poverty are also found to be closely linked (food insecurity; poor environment).

In analyzing the cause of stunting, Dr Azanza asked whether it is consumption or the lack of consumption of rice. She reminded the group to discuss within the parameters of our framework, for example the UNICEF model, specifically food consumption, child care and management of childhood illnesses. Next, Dr Azanza asked whether there are programs addressing the pregnant women, suggesting further that the group get to the mother through the health system.

Ms Rowena Layugan, Social Welfare Officer III of the Department of Social Welfare and Development (DSWD), called the attention of the group on the DSWD's crafting of the National Decade Plan for the Filipino Family where the department's areas of focus are: solo parenting, early pregnancy, surrogacy, gender-based problem and elderly abuse. She called for the strengthening the mechanism [for its implementation] at the regional offices.

Potential policy issues for translation in the case of stunting: Food consumption such as diets of mothers during pregnancy was cited as one pathway towards the development of stunting, according to Dr Acuin. More specific issues are the households' dependence on rice, the diets of infants and implications on regions often visited by disasters.

In the course of the discussion, the participants agreed to focus on the first 1000 days. Not everyone in the group has full knowledge of the concept of first 1000 days. Dr Azanza was clarified that counting of the first 1000 days starts *in utero* or while mothers are pregnant.

1. As such, the improvement of maternal health, particularly during pregnancy, is given priority. Some programs addressing maternal health are iron-folic acid supplementation and prenatal visits as one conditionality of the Conditional Cash Transfer (CCT) programs for the poor households. Teen pregnancy should also be addressed.
 - a. Make special provisions for teen pregnancy. Dr Azanza raised whether programs can include education for kids.
 - b. Make stunting an issue in the Reproductive Health policy. According to Dr Azanza, "it is there, the programs are there, you just have to articulate it". Ms Vega said that the nutrition component [of the law] be strengthened.
 - c. Package for maternal care, focusing on stunting in the Philhealth program. Propose a special provision for stunting (include mothers who are malnourished). Policy experts should push for stunting as a "disease" (in order for it to qualify for inclusion in the Philhealth package), according to Dr Azanza. Dr Acuin said that we have the data. "Everything you earned in S&T you lose in stunting", just to emphasize the problem. A dedicated year for maternal health can also be pushed. According to Dr Acuin, if a stunted child is identified, additional resources should be provided. "Find them [the stunted children], apply [the interventions] in a consistent way. Ms Layugan said that sectoral representatives should talk amongst themselves.
2. On the first year of life ---

Data shows that 80 percent of infants/neonates are initiated to breastfeeding within the first hour of birth.

- a. There is no program for complementary feeding, according to Dr Acuin. Ms Vega countered that there is (such a program) which is behavior-based. However, there are no resources for adequate complementary feeding. Ms Layugan said they have the *Kapit-bisig Laban sa Kahirapan*- Comprehensive Integrated Delivery of Social Services (KALAHI-CIDSS).
- b. Intersectoral collaboration and the LGU environment underlie sustainability of programs.
- c. Dr Ismail shared that in Malaysia, jobs-creation drives the economy; however Gross Domestic Product (GDP) is not a good indicator to use since there is no trickle-down effect of these economic gains.

- d. There are existing policies on breastfeeding such as the RA No. 10028, the regulation of marketing of breastmilk substitutes (Milk Code), breastfeeding in the workplace and breastfeeding rooming-in policy and essential newborn care as some key features. Related to RA 10028, the NNC is trying to develop a model to cater to other women in the informal sector. Dr Ismail said the use of an image model and the creation of a movement to promote breastfeeding can be tapped. Breastfeeding support system in the Philippines includes peer counselors and the incorporation of breastfeeding (concepts) in the curriculum as stipulated in RA 10028, according to Ms Vega.
- e. Include breastfeeding in the K to 12 curriculum [in the Philippine education system], in the health profession curricula plus counselling during pregnancy.
- f. “Give science to the people”, according to Dr Ismail. “What is science for them”. Consider branding to position it [breastfeeding].
- g. Dr Azanza mentioned that complementary feeding in the Philippines ranges from what is bought and what is prepared at home; that [complementary feeding] is not enough and that complementary foods should be affordable. She asked whether we have programs on this. Dr Azanza said that studies on the quality of foods given to babies should be conducted. Ms Vega reiterated that development of complementary foods should consider affordability. Dr Ismail suggested the use of social media such as the Facebook and image modelling to promote breastfeeding and the preparation of foods for kids. The use of technology by introducing concepts in the social network is suggested as strategy. Important components of breastfeeding are counselling and education, the provision of convenient, affordable and nutritious alternatives and the creation of support groups/clubs.
- h. Ms Vega said that villages can be divided in “n” number of households where each group should be managed by health workers. Dr Acuin raised the issue of sustainability in the creation of support groups. These [groups] should be supported by the government. Look back at the Rural Improvement Club or RIC experience where there was a partner-support from the agriculture sector. Dr Azanza, however, cautioned that what worked before may not work now and that we may become disruptive. Instead, we can tap the social network.

Dr Ismail reiterated the need to create and promote through Facebook group account (like the Breastfeeding *Pinay*, according to some participants) --- to make it interactive; infographics may also be used. Dr Azanza asked if these can be incorporated in the existing FNRI programs.

The group agreed to make stunting a central issue for all government policies. Dr Azanza raised that this has not been part of the equation in the food industry. The food industry are more concerned with [the promotion of] good manufacturing practices or GMP in the home and the Hazard Analysis Critical Control Point (HACCP).

After the discussion on stunting, Dr Acuin requested delegates from Mexico and Malaysia to describe the current nutrition problem in their respective economies. Some issues in Mexico are the population’s preference for sugar and the issue on junk food. Malaysia is number 1 in the obesity problem in Asia, mainly due to lifestyle. There is no time to exercise and to engage in sports. Sugar is very cheap in Malaysia as rice is expensive. Healthy foods are more expensive; junk foods are less expensive in Mexico and Malaysia. The Malaysian government acts poorly in these issues, according to Dr Ismail. Dr Acuin suggested giving incentives for the transport of fruits and vegetables. Ms Vega emphasized breastfeeding and complementary feeding as basic interventions to address overweight and obesity problems.

Stunting is not just a function of quality of food choices, but more of the economic access to food.

Facilitating factors in the translation of policy were identified as:

- a. the existing health and nutrition policies and programs (i.e. existing policies on breastfeeding and policies for infants and young children);
- b. supportive local chief executives, persistent nutrition action officer; and
- c. multi-sectoral focus on nutrition

Hindering factors in policy translation were also identified as:

- a. the local government units;
- b. some policies that have not been fully implemented;
- c. potential interventions that are still being developed
- d. variability in program and policy implementation after the decentralization of government in 1992

Policy options were developed after studying the case which include:

- a. making special provision for teen pregnancy;
- b. making stunting an issue in the reproductive health programs;
- c. propose a special focus/provision for stunting (ex. Philhealth's package for maternal care should focus on stunting);
- d. pushing for stunting as an essential outcome to be pursued by all ministries and departments because stunting predisposes to non-communicable diseases and diminishes productivity;
- e. include breastfeeding in the K to 12 curriculum;
- f. using technology to introduce concepts in the social networks;
- g. making stunting a central issue for all government policies;
- h. strengthening of counseling and education on complementary feeding using appropriate forms and medium of communication;
- i. provision of convenient, affordable, nutritious alternatives to commercial complementary foods; and
- j. the revitalization of support groups/clubs/volunteers(ex. Rural Improvement Clubs (supported by agriculture extension)

Expected intermediate and long term outcome of policy options are improved quality of diets and reduction in stunting prevalence.

Finally, policy statement was formulated based on the policy options made:

- a. The first 1,000 days is the golden window of opportunity to stop stunting because beyond this period, its effects may be irreversible.
- b. Legislate the policy that will enable the programs for the first 1,000 days to be implemented in a consistent and sustainable way throughout the country.

Case Study on Malaria

The group was facilitated by Dr Fely Marilyn E. Lorenzo of the University of the Philippines Manila. The members included: Mr Djunaedi from Indonesia, Dr Jeffrey Noro from Papua New Guinea, Mr Sherwin Nones (PPSTI), Dr Annabelle Briones (DOST-ITDI), Ms Kristine Dominique Zamora (DOST-PCHRD), Dr Oscar Gutierrez, Jr. (FDA-DOH), Mr Ray Angluben (PSFI), Ms Maylene Beltran (DOH), and two documenters: Ms Mary Grace Gasco (DOST-ITCU) and Ms Charina A. Javier (DOST-FNRI).

Dr Fely Lorenzo gave a brief summary of the case study explaining that it was a study they were commissioned to do in 2005. She asked the participants from Indonesia and Papua New Guinea to share their experiences in their respective economies. Mr Djunaedi said that in Indonesia, both adult men and women are affected as well as indigenous peoples and adolescents. Likewise, Dr Noro mentioned that many of the malaria patients in PNG live in subsistence level, thus, affecting their quality of life. He added that malaria patients both have to deal with the illness and the effect of the drug. He further discussed that most of the people do not know what specific Malaria type is being treated. There are also many cases of incomplete treatment in terms of how drug supplies get to the people and their drug resistance. He also shared that he was once a malaria patient. The prevalence of malaria in PNG has not changed much over the years.

Dr Lorenzo asked Mr Ray Angluben of Pilipinas Shell Foundation to give a background on the current situation of malaria in the Philippines and their experience in promoting malaria elimination in the country. Dr Lorenzo said that the Philippines is moving towards complete elimination of malaria but surveillance is important.

Mr Angluben shared that in the Philippines, several strategies are done particularly treating of malaria through early stage of diagnosis and treatment, vector control through mosquito nets and spray, environmental awareness by cleaning the physical environment, and social mobilization through raising of awareness in the use of mosquito nets.

He continued on sharing the current situation of malaria elimination program in the Philippines, having 13 provinces in control phase. However, in 2015, cases increased from 4,000 to 8,000. In Palawan, an increased from 3,000 to 7,600 cases, 900 of which were repeated cases, were recorded. It was identified that causes could be partly due to indoor residual spray distributed a bit late and "lapses" in the spraying method or seldom use of mosquito net. There were also cases not detected or reported. Moreover, 50 percent of cases in Palawan were found in children, of which imply possible transmission within the household or community. It was found out that adults did not have themselves tested. There is also a possible reservoir from asymptomatic or untested individuals such as monkeys, i.e. Knowlesi species in new cases.

Mr Angluben shared other possible causes of the increase in cases such as difficulty of treatment in terrain differences or topography issues in forested area where indigenous peoples live. The movement of people in areas with mining activities, wetlands, spring or riverlets, banana catchments may also cause transmission of disease from vector to host. He further mentioned that a non-infected mosquito can also be a vector of malaria through an infected host.

Mr Angluben also reported that there are non-compliance issues in the treatment process and non-observance of Directly-observed Therapy (DOT) strategy in remote areas. He also mentioned that prophylaxis is recommended only for travelers not of residents in endemic areas and there is a vaccine possibly available in 2017 in the Philippines and other economies. Among the other strategies seen to address malaria are modification of mosquitoes like having sterile or mutant mosquitoes and spatial repellants tested to ward away mosquitoes.

The Philippines practices a 1-3-5 policy that is an electronic information system. It has a centralized system and is being managed at the national level. The 1-3-5 policy means a case is reported on Day 1. At Day 3, the case investigation is conducted and a response should be made at Day 5. However, this strategy is not effective in endemic areas.

Lot testing is done by the DOH that involves random collection and analysis of active ingredient and therapeutic efficacy surveillance undertaken every two years. Mr Angluben said that there are no environmental effects of synthetic spray reported so far. To prevent resistance of mosquitoes to the

drugs, the two strategies should not be combined at the same time (indoor residual spray and mosquito nets).

Mr Angluben explained different drug treatments and durations such as treatment for malaria with *P. vivax* species that has latent phase in the liver. Thus, a 15-day treatment is needed as compared to other species which can have shorter treatment duration. Mr Angluben mentioned that the gold standard diagnostic method is conducted in about 400 village microscopies in the Philippines. However, there was no policy on access to village-level diagnosis. He reiterated that there is no exact definition or clear interpretation of “malaria-suspect case” except having fever for two weeks and travelled from a malaria-endemic area. There are also issues to Rapid Diagnostic Test (RDT) sensitivity.

Mobilization of local government and engaging local government chief executives are among the other areas of concerns identified by the group.

After the sharing, Dr Lorenzo asked the participants to identify three key problems that they think need to be addressed. There were fifteen key problems identified, with similar responses grouped together, namely:

1. Vector control
2. RDT and prescription of the right drugs tools
3. Training according to standards
4. Advocacy to government regarding the costs of malaria treatment
5. Availability of drugs or vaccines
6. Awareness of community regarding the effects of spray to the environment and the need to take complete treatment as well as availability of non-toxic insecticides
7. Cost-effectiveness of malaria treatment & sustainability
8. Information system for malaria not in place and functional
9. Incidence mapping
10. Complete adherence to treatment guides such as compassionate service providers
11. Access to information and village-level diagnosis
12. Compliance to treatment and consideration of cultural nuances, translation to guides at the local-level (operational guidelines)
13. Mobilization of and providing resources to local government
14. Sustainability of the Malaria Control Program at the national and local level
15. Surveillance according to stratification of endemicity in terms of prevalence and magnitude

These were then classified into three key problems, combining items that were related to each other. The final three key problems that the group worked on were cost-effectiveness and sustainability of Malaria Control Program including treatment, training, accessibility and availability of drugs/vaccines; access to information and compliance to treatment; advocacy and communication strategies such as awareness of community; and surveillance according to stratification of endemicity.

In terms of government response, the policy is already in place, particularly “Elimination of Malaria by 2030 and zero malaria cases by 2025”. There is also a national strategic plan for 2016-2020, National Malaria Control and Elimination Program and Malaria Manual of Procedures, although, there are implementation and quality issues. Local government implementation is not enough, e.g. short administrative windows.

On the other hand, there are no policies yet or no new programs that have been implemented in Papua New Guinea. There is no change in the reduction of malaria probably due to implementation challenges. For Indonesia, there is a malaria elimination program supported by global fund with free

medication and increase surveillance in diagnostic tests. There is also a manual of procedure.

After identifying the gaps, there were three research options proposed such as research on non-toxic insecticides or gadgets that are not harmful to humans and other animals adapted to community resources, research on herbal anti-parasitic treatments, and research on natural deterrents to mosquitoes such as neem trees, citronella plants, and eucalyptus.

Finally, the delegates recommended nine policy options that the Philippines and other APEC economies can adopt to eliminate malaria in the region. These were:

1. The Government make vaccines accessible (free) and available by 2017
2. Revisiting the outpatient malaria package in the National Health Insurance Program (NHIP) in areas where it is needed and provide incentives for areas with zero malaria cases (incentivize or disincentivize RHUs)
3. Re-orientation of healthcare providers about the definition of malaria suspect-case and to screen the suspects
4. Provide incentives for local people or family members who take care of complete treatment (from diagnosis to Directly-observed Therapy, Short-course (DOTS); link with conditional cash transfers or other social safety net programs
5. Monitoring and evaluation of the Malaria Control Program
6. Real-time identification and reporting of cases through Telehealth/SMS and partner with telephone companies (Telcos) and link with mapping
7. Use of social media for advocacy and awareness among healthcare providers and local executives; use of local materials appropriate for indigenous peoples
8. Advocate for prophylactic treatment for malaria for travelers going to endemic areas
9. Include Malaria Control Program as part of the requirements of DILG in the awarding of good housekeeping seal with financial rewards among the LGUs

Case Study on Family Planning

The group was facilitated by Dr Carlo Irwin A. Panelo, Associate Professor of the University of the Philippines Manila. The members included: Dr Francisco A. Soria Jr. from PhilHealth, Dr Artem Nikishov from Russia, Ms Ruoqi Xing from the People's Republic of China, Ms Jeanne Bernas (DOH), Ms Ana Ciaren Itulid (DOST-PCHRD), Ms Renia Corocoto, (DOST-NRCP), Ms Joy Jimena (DSWD), Ms Elizabeth Epis (NCFF), Ms Teresa S. Mendoza (DOST-FNRI), and two documenters: Ms Emily O. Rongavilla and Dr Marie T. Bugas, both from the DOST-FNRI.

The discussion started with the background of the case study on family planning.

Progestin subdermal implants (PSI) with brand names Implanon and Implanon NXT, is a modern family planning method that offers a three year protection for women. It comes in the form of hormone-containing rods that are inserted under the skin, which are surgically removed after three years or whenever warranted. It was granted certificates of product registration from the Philippine Food and Drug Administration (FDA) after meeting quality and safety requirements (non-abortifacient).

The initial stocks of PSI were donated by the United Nations Fund for Population Administration (UNFPA) to the DOH for use during pilot implementation in selected sites (intended to test the acceptability and logistical requirements as a new family planning program method).

Findings were used as inputs to the drafting of a DOH Administrative Order that prescribed specific guidelines for its use. The product was included in the National Formulary that allowed its procurement and distribution using government funds. It was introduced in the market in 2011.

The Alliance of Pro-life in the Philippines sued the DOH for the use of the PSI for it causes abortion. Shortly thereafter a temporary restraining order (TRO) was issued by the Supreme Court which prohibited the DOH and its agents from promoting and administering Implanon and Implanon NXT.

The potential policy issues for translation identified from the case study were:

1. Access to information concerning the product in general (This could be an evidence or consumer/client information)
2. Extent of stakeholders' involvement/consultation implementation (What is the minimum requirement?)
3. Legal challenges to government programs
4. Stakeholders support/political constituency (Looking for allies in the enemy camp)

The facilitating (promote) factors to policy translation were:

- a. Knowledge on the policy and evidences backing the policy
- b. Support from scientific institutions

The hindering (block) factors to policy translation were:

- a. Illiteracy, ignorance, lack of education
- b. Absence of scientific body that supports and acts on the policy
- c. Political, socio-cultural norms
- d. Doctrines imposed by the church

The identified mechanisms needed to facilitate the translation to policy were:

- a. From the start (planning phase), identify partners and tap stakeholders (including both those who support and oppose the policy)
- b. Need to invest in generation and gathering of evidence (funding support for research)
- c. Provide the best evidence/full documentation to support the policy
- d. Promotion of "science culture" in the country
- e. Advocate the policy and implement it correctly
- f. Prescribe minimum parameters/criteria/standards for public consultations in policies
- g. Designate an arbiter on scientific issues concerning health (review, deliberate and resolve policy issues and to limit biases)

The policy statements derived from the case study were:

1. Call for the Supreme Court to immediately resolve the case against the DOH and the FDA on the continuous use of Implanon and Implanon NXT
2. Set minimum requirement/criteria/standards for consultation for policy change
3. Designate a body to collect and review evidence to resolve policy issues in health

Case Study on Newborn Screening

Chancellor Carmencita D. Padilla, the facilitator of Newborn Screening (NBS) group welcomed the participants of the workshop. Everyone introduced themselves and the institution they represent. The members of the NBS group included: Dr Duanthanorm Promkhatkaew (Thailand), Mr Vance Y. Hum (USA), Ms Barbara Michele de Guzman (DOH), Ms Jessica Marie Suerte (DOST-PCHRD), Atty. Emerson Cuyo (DTI), Ms Ellen Ruth Abella (NNC-DOH), Ms Mona Carina Montevirgen (DOST-STII) and Mr Frederick Blancas (IMI). Rapporteurs were Clarita R. Magsadia and Rowena V. Viajar both from the DOST-FNRI.

The workshop started by identifying potential policy issues on newborn screening (NBS) which included: insurance coverage, funding, cost of the service, NBS coverage, capacity building by educating health professionals and its implementation.

In 2015, among actual live births only 77 percent of the newborns were screened. The group agreed to focus on policy issue on coverage, citing that it is important to acquire the remaining 23 percent deficit in coverage of NBS to help ensure the right of children to health, survival and full development as normal individuals.

The group discussion proceeded to identify facilitating factors to the policy issue identified. Foremost among the facilitating factors is the existence of a law. RA 9288 or “An Act Promulgating a Comprehensive Policy and a National System for Ensuring Newborn Screening” was passed in 2004. With RA 9288, it is ensured that every baby born in the Philippines is offered the opportunity to undergo NBS. Another facilitating factor is that fee for the screening procedure is covered by the Philippine Health Insurance Corporation (PHIC). Payment for the service is included in the benefit package of all PHIC members, assuming that parent/s of the newborn child is a member of the PHIC. In any case, DOH pays for indigent families who cannot afford the fees. Also, the presence of NBS services is a requirement of the DOH and the PHIC for licensure or accreditation of all health facilities/institutions. This makes sure that every health facility in the country would offer this service or they will not be granted license to operate. With the DOH as the lead agency for its implementation, it was made sure that a comprehensive, integrative and sustainable national NBS system is in place. Education is provided to relevant stakeholders as well as the mechanism for: collection, transport, biochemical screening, reporting of results, tracking and confirmatory testing if needed, administration of drugs and/or medical surgical management, and/or dietary supplementation to counter adverse effects of heritable conditions and monitoring and evaluation are established. The presence of a yardstick competition in coverage of NBS among local government units also makes possible the increase in NBS coverage. A good example is the Cordillera Administrative Region (CAR) which consists mostly of mountainous and hard to reach areas but has registered 90 percent coverage. It goes with the saying, “If there’s a will, there’s a way to implement the program”.

The non-mandatory nature of RA 9288 was seen as hindering factor in achieving 100 percent coverage of newborn screening. The law was seen as lenient as it states “*The National Newborn Screening System shall ensure that every baby born in the Philippines is offered the opportunity to undergo newborn screening . . .*” The group felt that making NBS mandatory to all newborns would have helped out achieve higher coverage. Access to health facilities because of the distance is another hindering factor, the Philippines being composed of several islands with mountains ranges, lowlands with narrow coastal strips, rivers and streams with seasonal flow. One has to cross mountains, rivers and plains at times taking hours to reach a health facility. This could also be one of the reasons why some prefer home deliveries instead of going to a health facility, thereby missing to avail of NBS. Another hindering factor in achieving higher coverage is lack of awareness and understanding of parents and caregivers on the benefits of NBS. Either parents were not properly informed or limitation of the health professional to impart to the parents/caregivers the value of subjecting the newborn child to NBS.

Mechanisms on how to achieve the increase in newborn screening coverage were discussed by the group. Initially, it was suggested that the demography of the 23 percent deficit be studied. Study the profile, knowing the target, location and language, changing the strategy and promotion will help plan strategies on how to reach them and employ appropriate interventions. Also, it will be a great help to link with the DOH and Local Government Unit (LGU) to map out the people, services, and numbers of health facilities to get closer to the people. It would also help to utilize existing infrastructures in setting up additional health facility for hard to reach areas. To help achieve 100 percent health facility-based deliveries, PHIC have to cover even the non-members, tie up with the LGU or penetrate the local

health board to come up with a policy to cover all the indigents. It was also suggested to include NBS in the point of care enrollment package program of the Philhealth. Likewise, the DOH which has an office on health promotion should be more vigilant in health promotion identifying education as a major strategy in promoting NBS. The Center for Health Development (CHD) should strengthen their health promotion activities and assist in educating the community on the value of NBS. Furthermore, engaging collaboration with the government agencies, private sectors and other stakeholders was suggested. The Department of Interior and Local Government (DILG) can provide support mechanisms in reaching out to the community. Improvement of road network by the Department of Public Works and Highways (DPWH) can facilitate travel to address concerns on transportation and distance reaching health facilities. Inclusion of the topic on NBS by the Department of Education (DepEd) in the Grade 8 curriculum. The Department of Social Welfare and Development (DSWD) may strengthen research and health promotion to improve awareness of parents on NBS through their family development sessions in the *Pantawid Pamilyang Pilipino* Program (4Ps). The 4Ps is a national government program that provides conditional cash grants to the poorest of the poor to improve the health, nutrition, and the education of children aged 0-18. Continuing research is possible with research grants from Philippine Council for Health Research and Development-Department of Science and Technology (DOST-PCHRD). More research collaborations with the Food and Nutrition Research Institute (DOST-FNRI) particularly on food-based interventions to develop low protein food items for babies with positive cases like congenital hypothyroidism and phenylketonuria (PKU). And finally, DOSTv which is DOST's own television channel, can help disseminate information.

Several government options to help achieve 100 percent coverage were identified: strict implementation of the RA 9288 and encouraging 100 percent facility-based deliveries; amendment of RA 9288 making newborn screening mandatory and inclusion of the provision for research; tapping the local health boards to advocate for local legislation; and improvement of local health facilities.

The group's policy statement: *"This policy aims to guarantee that every Filipino child will reach their full potential by ensuring that all newborn Filipino children will be saved from the complications of genetic, metabolic or infectious conditions by the year 2020 through 100 percent NBS coverage".*



Session 3

Recapitulation of Day 2 activities

Ms Julieta B. Dorado

Supervising Science Research Specialist, Food and Nutrition Research Institute, Department of Science and Technology, The Philippines

Ms Julieta B. Dorado commended Day 2 as fruitful and productive in terms of workshop outputs and social activity. She gave a rundown of the second day's presentations starting with the morning session with PPSTI programs and objectives presented by Dr Mario V. Capanzana, video presentation of the APEC PPSTI Coral Garden as an example of translation of research into policy and sharing of experiences of the six economies on translation from research to policy. Dr Carmencita D. Padilla showed the different processes that the 20-year journey of newborn screening in the Philippines had underwent. Dr Jeffrey Noro's sharing was about creating a policy environment in Papua New Guinea from a resource based to a knowledge based economy. Dr Duanthanorm Promkhatkaew talked about the experiences of Thailand's Department of Medical Sciences in implementing medical research to policy. Dr Md. Fauzi Md. Ismail presented articulating STI into policy in a Malaysian perspective leading to commercialization. Mr Vance Y. Hum of USA pointed out three key terms namely commercialization, popularization and market-based. Ms Marina Garcia Perea of Mexico talked about why innovations matter for a competitive economy. In the afternoon, there were four breakout sessions where case studies on newborn screening, family planning, malaria and stunting were discussed. Finally, the day ended with a sumptuous dinner and fun cultural presentation at Barbara's Restaurant in Intramuros, Manila.

Presentation of workshop outputs and agreements on policy statements

Case Study on Newborn Screening

Ms Ellen Ruth S. Abella

Nutrition Officer IV, Nutrition Surveillance Division, National Nutrition Council – Department of Health, The Philippines

Ms Abella presented their output based on the guide questions. The potential policy issues identified and discussed were insurance coverage, cost, program coverage, capacity of health professionals, and implementation issues particularly education on newborn screening (NBS).

She enumerated the facilitating factors for newborn screening namely existing laws, which are flexible; NBS is covered by Philhealth with bundled and unbundled mechanism; NBS as part of the requirement for licensure and accreditation of health facilities; the system is in place; yardstick competition on regional performance (LGU Health Scorecard); and study experience of CAR and Batanes which are considered as geographically challenged areas.

Ms Abella also identified the hindering factors for NBS particularly non-mandatory nature of the law; access to services e.g. distance of health facility; capacity e.g. awareness of parents and caregivers on value of NBS and limitation of health professionals in providing information on the benefits of NBS; and the proportion of mothers that still prefers home deliveries.

She then discussed the mechanisms that can improve the policy such as studying the demographics of the 23 percent who did not undergo NBS, mapping potential users and facilities, targeting 100 percent facility-based deliveries e.g. Philhealth to cover non-members and utilize existing infrastructure to set up health facility, include NBS in point of care enrollment of PhilHealth, maximize presence of local health board, strengthen health promotion e.g. look at the profile of the 23 percent who are not availing

the NBS and develop key messages according to their characteristics. Last but not the least mechanism mentioned is to engage other stakeholders such as DILG for support mechanisms at the LGU, DPWH for road network in terms of access, DepEd for education such as including NBS benefits in Grade 8 lessons, DSWD in terms of health promotion particularly among the 4Ps beneficiaries, DOST for research grants, research collaboration, information dissemination through DOSTv, DOST's own television channel, and private sector for collaterals.

Ms Abella read the group's policy statement "*This policy aims to guarantee that every Filipino child will reach their full potential by ensuring that all newborn Filipino children will be saved from the complications of genetic, metabolic or infectious conditions by the year 2020 through 100 percent newborn screening coverage.*"

Lastly, she also presented some government options such as maintaining status *quo* which is 100 percent facility-based delivery to improve the current 77 percent performance and cover 23 percent deficit, amendment of the legislation to make newborn screening mandatory, lobby for local legislation at the LGU, and stronger policies from lead implementing agencies to DOH regional offices.

Case Study on Malaria

Dr Oscar Gutierrez, Jr.

Health Education Promotion Officer V & OIC, Policy Planning, Food and Drug Administration – Department of Health, The Philippines

Dr Gutierrez presented the output explaining that the group did a little deviation from the discussion format. He gave a brief background of Malaria problem in the Philippines, Indonesia and Papua New Guinea. He reported that there were 13 key problems identified by the group which were ranked and streamlined into three namely: (1) cost-effectiveness and sustainability of Malaria Control Program including treatment, training, accessibility and availability of drugs/vaccines, access to information and compliance to treatment; (2) advocacy and communication strategies such as awareness of community; and (3) surveillance according to stratification of endemicity.

Dr Gutierrez then mentioned the existing policies and programs based on the sharing of different economies such as the Philippines having the policy of elimination of malaria by 2030, while, there are no policies or programs implemented yet to address malaria in Papua New Guinea.

He presented the group's proposed policy and research options. Their research options include studies on non-toxic insecticides or gadgets that are not harmful to humans and other animals adapted to community resources, herbal anti-parasitic treatments, and natural deterrents to mosquitoes such as neem trees, citronella plants and eucalyptus.

They recommended nine intermediate and long-term outcome of policy and research options namely:

1. government making vaccines accessible and available for free by 2017;
2. revisiting the outpatient malaria package in the National Health Insurance Program (NHIP) in areas where it is needed and provide incentives for areas with zero malaria cases, that is, incentivize or disincentivize Rural Health Units (RHUs);
3. re-orientation of healthcare providers about the definition what a malaria suspect-case is and to screen the suspects;
4. providing incentives for local people or family members who take care of complete treatment (from diagnosis to DOTS) such as linking with conditional cash transfers or other social safety

net programs;

5. monitoring and evaluation of the Malaria Control Program;
6. real-time identification and reporting of cases through Telehealth/SMS and partner with Telcos and link with mapping;
7. use of social media for advocacy and awareness among healthcare providers and local executives and local materials appropriate for indigenous peoples;
8. advocacy for prophylactic treatment for Malaria for travelers going to endemic areas; and
9. including Malaria Control Program as part of the requirements of DILG in the awarding of good housekeeping seal with financial rewards among the LGUs.

Case Study on Family Planning

Dr Francisco Soria, Jr.

Vice President, PhilHealth, The Philippines

Dr Soria shared the different cases of economies on family planning. He said China is moving away from one-child policy, Russia gives incentives to families with more than two children while the Philippines is moving towards the opposite direction.

He then discussed the issues encountered by the Philippines in promoting modern family planning methods such as the pending legal case on progestin subdermal implants (PSI) filed by the Alliance of Pro-life in the Philippines against the Department of Health. The case affects access to information concerning the product, extent of stakeholders involvement/consultation implementation, legal challenges to government programs, and stakeholders support or political constituency.

Facilitating factors mentioned were knowledge on the policy and evidences backing the policy, and support from scientific institutions. On the other hand, hindering factors to policy translation identified were illiteracy, ignorance, lack of education; absence of scientific body that supports and acts on the policy; political and socio-cultural norms; and doctrines imposed by the church.

Dr Soria then mentioned the mechanisms needed to facilitate the translation to policy. From the start or planning phase, identify partners and tap stakeholders including both those who support and oppose the policy. Likewise, there is a need to invest in the generation of evidence, and to advocate the policy and implement it correctly e.g. works do not stop at publication and lobby for unbudgeted laws. Prescription of minimum parameters/criteria/standards for public consultations in policies, and designation of an arbiter on scientific issues concerning health to review, deliberate and resolve policy issues to limit biases, were also suggested.

Dr Soria reported the policy statement developed by the group namely, call for the Supreme Court to immediately resolve the case against the DOH/FDA on the continuous use of Implanon and Implanon NXT; set minimum requirement/criteria/standards for consultation for policy change; and designate a body to collect and review evidence to resolve policy issues in health.

Case Study on Stunting

Ms Luz Tagunicar

Supervising Health Program Officer, Child Health Division, Department of Health, The Philippines

Ms Tagunicar started by saying that stunting should be included in the policy statements of the other case studies.

Among the problem areas identified by the group were slow decline in the reduction of stunting in the Philippines which is still of high public health significance, contributory factors of stunting such as food consumption of mothers particularly during pregnancy and of children; childcare practices; and management of childhood illness. They also acknowledge that stunting and poverty are closely linked to food insecurity.

She said that what the government wants to do is achieve global target of 40 percent reduction in stunting by 2025 and recognize the first 1,000 days as the golden window of opportunity to break intergenerational malnutrition.

The facilitating factors identified by the group were harmonization and scaling up of existing health and nutrition policies and programs e.g. existing policies on breastfeeding and existing policies for infants and young children; supportive local chief executives; persistent nutrition action officer; and multi-sectoral focus on nutrition. However, the hindering factors were having LGUs not prioritizing nutrition projects, policies that have not been evenly implemented, potential interventions are still being developed, and variability in program and policy implementation after decentralization in 1992.

Ms Tagunicar enumerated the proposed policy options of the group namely, making special provision for teen pregnancy; making stunting an issue in the reproductive health programs; propose a special focus/provision for stunting e.g. PhilHealth's package for maternal care should focus on stunting); push for stunting as an essential outcome to be pursued by all ministries and departments because stunting predisposes to NCDs and diminishes productivity; include breastfeeding in K-12 curriculum; use social media technology to promote desired IYCF practices among mothers and caregivers; provision of convenient, affordable, nutritious alternatives to commercial CF; and revitalization of support groups/clubs/volunteers such as the rural improvement clubs.

The policy statements developed by the group were *"The first 1,000 days is the golden window of opportunity to stop stunting because beyond this period its effects may be irreversible"* and *"Legislate the policy that will enable the programs for the first 1,000 days to be implemented in a consistent and suitable way throughout the country."*

Advocating and Communicating policies for Action

Dr Eduardo P. Banzon

Senior Health Specialist, Asian Development Bank, The Philippines

Dr Banzon discussed the assumption of policy-making and how policy and decision makers are viewed as uninterested or [are] too busy to read, thus, reaching hasty conclusions. He further explained that this is being compounded by the view of policymakers that researchers avoid policy implications of findings, prone to follow what is the fad, excessively use of technical jargon, generate inconclusive generalities about broad theoretical matters, and have little appreciation of real problems and data needs. He said there is a need to overcome these views of both researchers and policymakers.

According to Dr Banzon, it is recognized that policy-making is not linear, thus, it is important to find the window of opportunity where politics, problems and solutions meet, and moving the spheres of policy

learning, agenda setting and coalition building together.

He highlighted how agenda setting should be done by getting issues gain momentum and maintaining the attention of media, public, and policymakers through clear, measurable indicators; presence of policy champions; feasible policy or program alternatives including the do-nothing alternative; attention-focusing events such as press conferences, public events and one-on-one meetings with policymakers.

Dr Banzon further mentioned the importance of understanding the mindset of policymakers e.g., looking into value for money and working within the budget.

He also emphasized the need to understand the mindset of journalists who are: curious but not necessarily expert in any topic, deadline-driven, favor themes of conflict and change, and crave certainty. He also mentioned a few guidelines for talking points and the use of new platforms such as blogs, video interviews and social media in using media to help set the agenda.

For coalition building, Dr Banzon recommends adopting an integrative and whole-of-government approach such as avoiding silos, thinking of convergence and actively looking for synergies.

On policy learning, he suggested crafting clear policy communication messages which are: [should be] derived directly from the data, and help decision makers to understand policy implications and to make grounded policy recommendations.

Mr Vance Y. Hum

Chief Executive Officer, I.M. Systems Group, Inc., The United States

Mr Hum reminded that government does not sell economy to each other, rather they sell business among them. He emphasized that laws set the parameters on how the 21 economies deal with each other, making everything equal. Mr. Hum said that PPSTI, previously known as the International Scientific Knowledge and Working Group (ISTWG), was in the bottom layer of the APEC structure and did not involve economics. The formation of the PPSTI prompted the ABAC to come back to the organization. He highlighted the need to know where business communities stand in the STI public sector. He gave an example on the use of science-based technologies to understand diseases.

Mr Hum said that private sector represents other resource and that they do not speak in behalf of the government, but speak for themselves. He mentioned the importance of the private sectors forming transitional partnerships between the public sectors and academia to maximize and integrate a multi-disciplinary approach to advocate the best solutions for the world's problems. He cited examples of these partnerships.

He emphasized that private sectors need to implement S&T in the business and trade industry to enhance collaborative efforts and partnerships with the economies. Mr Hum shared the learning he had in the 2011 APEC dialogue which is "promotion of one's ideas and interests across borders is a primary and continuing challenge". Finally, he said that it is important to know who the customers are, how they work and what they like to do.

Ms Frances Fatima Cabana

Deputy Director, System Information Office, University of the Philippines

Ms Cabana presented "Advocating a sense of identity, pride and community through the one university, one UP policy." She described how the University of the Philippines (UP) communicates its mandates, policies, and research results to the world. She said that with one UP policy, there is common standard of excellence, harmonized systems which makes use of comprehensive media and

communication program dubbed as “UP-*Pabatid Bayan*”. She said that the UP System Information Office gathers and disseminates information internally and externally through the communication framework which is anchored on the institution’s mandate.

Ms Cabana showed the different forms of communication media the UP used which included traditional media, new media, speeches & messages, branding, community, policy papers as well, citing examples of each form. She emphasized that repetition is important. She emphasized that repetition and the use of branding in all forms of communications are important to achieve impact.

Mr Djunaedi

Staff, National Institute of Health Research and Development, Ministry of Health, Indonesia

Mr Djunaedi presented “Translation research into policy”. He shared the experience of the National Institute of Health Research and Development (NIHRD) in transforming data into action and doing research for policy. He enumerated and described briefly the different programs and activities of NIHRD such as the National Health Survey, thematic research, research innovation (vaksin) and operational research (registry diseases). Mr Djunaedi said that in doing research for policy, the activity started with identification of the problem, giving problem solution and providing policy option for policymakers.

He mentioned the situation in Indonesia where policy is related to the political issues, there is minimum utilization of research result both for popularized and commercialized research result, and there is no connection between research process and policy process focusing only on publications. He explained that the goal of NIHRD included proposed Intellectual Property Right and advocacy of research result and to achieve the goal they use “Client-Oriented Research Activity” (CORA) which they have implemented as an approach recently.

Mr Djunaedi gave examples of programs that translates research results into policies such as RISKESDAS (community-based survey), human development health index (HDHI) where local government units (LGUs) were ranked, and RIFASKES. Mr Djunaedi said that the “key of success” is research into action. He also mentioned some of the challenges faced by the NIHRD including number of human resources available, culture of preparation of policy brief not optimal and researcher focused only on the research phase itself, as well as, budgeting.

Open Forum

Ms Teresita Marie P. Bagasao

Country Director, Joint United Nations Programme on HIV & AIDS (UNAIDS), The Philippines

She gave a summary of the key points the speakers highlighted such as having diverse stakeholders, recognition of target audience and their involvement, making sure that policies are acted upon, the role of business sector in policies on STI, importance of repetition and consistency of the message. She then asked the panel discussants, “What major challenges did you experience that you have to overcome in advocating the policy into action? And what is the outcome?”

Ms Cabana said that for UP System, the major challenge was human resource because they have a one-man web team and they have difficulty hiring personnel because the salary is not competitive. She said that in spite of this, they were able to manage through the internal policy of using UP mail, where social media was used resulting in higher enrollment of students.

For Indonesia, according to Mr Djunaedi, the major challenge was bureaucracy, having different systems of government. To overcome this, they conduct national and district level conferences where

they present the community-health survey results discussing the problems and the solutions. The results helped in the implementation of national policies at the local level.

Mr Hum said that in the US, the business sector is not allowed to participate in the policy development but they support the players who do it. For example, to accelerate the development of policy on climate change, they took a Memorandum of Understanding (MOU) with a university, and the government responded with the result of the research.

The facilitator said that private sector involvement is context-specific.

Dr Banzon on the other hand, distinguished the incentive environment in the private sector from the government which are non-innovative and have the tendency to be as conservative as possible. Thus, if you want government to adopt research into policies, you have to look at the incentive regime and allow mistakes to facilitate adoption of the results.

Dr Ismail added that research should produce something that can be commercialized or something to improve the well-being of the people. It should be a tool in translating to improve the socio-economic status of the people, bringing science to people.

Engr Tallon of the Filipino Inventors Society commented that he hopes they could do more innovations with the support from DOST and APEC.

In response to popularizing research, Ms Cabana said that they also have to change the mindset of researchers and scientists who are social media adverse. They did appreciation course for them, they link them to the media, and emphasize to them that what they are doing is for public service.

Mr Hum also added that engaging the private sector is very important because the private sector understands the needs of the community and they can facilitate for the policies. He said that ABAC is there to support. The private sector has money, the product and the expertise, and it is important to use these resources.

Dr Banzon also pointed out that another area that has emerged as gold standard in health is the randomized control trials (RCTs) where you cannot adopt the technology. A lot of inventors don't do RCTs, thus, the challenge unique in health is in trying to find balance between safety and trying to speed up innovation.

Ms Bagasao wrapped up the discussion by saying that the context may change but the drive for innovation and the drive for seeking better lives for people are constant. She summarized the session with a different meaning for APEC which is: **A** for advocacy for action, **P** for platforms and partnerships, **E** for end-result, and **C** for communication.

Synthesis

Ms Teresa S. Mendoza

Planning Officer IV, Food and Nutrition Research Institute, Department of Science and Technology, The Philippines

Ms Mendoza summarized the third day sessions which included sharing of experiences of different economies on translating research into policies focusing on health, workshop output presentations highlighting key problems identified, facilitating and hindering factors enumerated and policy statements or recommendations proposed. She also mentioned some key points on strategies to effectively advocate and communicate research into policies.

Plenary Agreements on the Draft Policy Statement

Ms Julieta B. Dorado

Supervising Science Research Specialist, Food and Nutrition Research Institute, Department of Science and Technology, The Philippines

Ms Dorado presented the draft one-page policy statement which resulted from the 3-day workshop and she requested the economies and participants to comment on each statement including the introductory statement. Upon discussion, the resulting statements were as follows:

The APEC Workshop on “*Commercialization and Popularization of Research and Market-based Innovations through Policy Translation*” endeavors to bring all STI activities into the policy agenda by strengthening the capability of APEC member economies on policy translation and advocacy of policies into actions. Based on the activities of evidence-based policy analysis of cases, through sharing of experiences and best practices of APEC economies on policy translation (People’s Republic of China; Indonesia; Malaysia; Mexico; Papua New Guinea; The Philippines; Russia; Thailand; and The United States), the delegates are encouraged to bring to their respective economies the following policy recommendations:

1. Ensure that all STI activities of APEC economies incorporate policy recommendations for social benefits and commercial applications;
2. Align the STI agenda of the APEC economies with global and national development goals;
3. Sustain dialogue among the STI community and policymakers;
4. Legislate mechanisms for financing and other means of support for research and development, including investments in human capital and human resource development. This includes investing in young researchers and facilitating their research to retain adequate human capital in APEC economies;
5. Ensure a balance of basic and applied research in order to maximize knowledge development and translation to policy, programs or commercial products;
6. Create investment opportunities to commercialize knowledge products through loans, incentives, public-private partnerships and/or venture financing;
7. Enable succeeding activities within and among the APEC member economies to incorporate periodic reviews of STI-based policies; and
8. Strengthen the capacity of APEC member economies via PPSTI in translating STI activities to policies and actions.

Closing Remarks

Dr Vicente Y. Belizario

Undersecretary, Health Office for Technical Services, Department of Health, The Philippines

Dr Belizario commended the realization of PPSTI’s effort to institutionalize policy translation of research to policy agenda. He recognized the need of changing the health landscape and forwarding the importance of maximizing research and development to address the continuing challenges in the health sector. He also mentioned the World Health report highlighting the role of research in addressing questions and the call for effective national health research systems for each member economy. He reiterated the need to strengthen the research capacity of each APEC member to promote collaborative research and technology transfer. Dr Belizario said that major challenges of the health sector can be better addressed in a community of nations which is what an APEC platform creates.

Appendix 1 - Agenda

APEC Workshop on Commercialization and Popularization of Research and Market-based Innovations through Policy Translation

8-10 June 2016
Manila, Philippines

8 June 2016

Session 1

- 8:00-9:00 **Registration**
- 9:00-9:30 **Welcome and Opening Remarks**
Hon. Mario G. Montejo, Secretary
Department of Science and Technology
The Philippines
- Rationale and Objectives of the Workshop**
Dr Mario V. Capanzana, Director
Food and Nutrition Research Institute Department of Science and Technology and
APEC PPSTI Focal Person, The Philippines
- Video Presentation**
APEC PPSTI Coral Garden
- 9:30-9:45 **Group Photo/Coffee Break**
- 9:45-11:45 **Overview of Translating R&D to Policy**
Philippine Policy Development Agenda
Ms Brenda R. Mendoza
Director, Trade, Services and Industry Staff
National Economic and Development Authority, The Philippines
- Philippine Healthy Policy Agenda*
Dr Lilibeth C. David
Undersecretary, Office for Policy and Health Systems,
Department of Health, The Philippines
- Process of Policy Translation*
Dr Fely Marilyn E. Lorenzo
Professor, Department of Health Policy and Administration,
University of the Philippines
- 12:00-13:15 **Lunch Break**
- 13:15-13:30 **Inspirational Message**
Ambassador Laura Quiambao-del Rosario
Undersecretary, Department of Foreign Affairs, The Philippines
- 13:30-16:30 **Sharing of experiences on the process of translation of STI activities to policy: Focus on Health**

Dr William G. Padolina
Academician, National Academy of Science and Technology,
Department of Science and Technology, The Philippines

Mr Martin Bettelley
Deputy Country Director
UN World Food Programme, The Philippines

Ms Maria Lourdes A. Vega
Chief, Nutrition Policy and Planning Division
National Nutrition Council, The Philippines

Panel Discussion

Facilitator: Dr Eduardo P. Banzon
Senior Health Specialist, Asian Development Bank, The Philippines

16:30-17:00

Synthesis

Dr Cecilia Cristina S. Acuin
Chief Science Research Specialist
Food and Nutrition Research Institute
Department of Science and Technology
The Philippines

Closing Message

Dr Jaime C. Montoya
Executive Director, Philippine Council for Health Research Development,
Department of Science and Technology, The Philippines

17:00-20:00

Welcome and Networking Dinner

Masters of Ceremonies

Richard Burgos
Director, Science and Technology Information Institute,
Department of Science and Technology, The Philippines

Dr Milflor S. Gonzales
Supervising Science Research Specialist
Food and Nutrition Research Institute
Department of Science and Technology
The Philippines

9 June 2016

Session 2

8:30-9:00

Opening Statement

Ms Julieta B. Dorado
Supervising Science Research Specialist
Food and Nutrition Research Institute
Department of Science and Technology
The Philippines

9:00-9:30

**Policy Partnership on Science, Technology and Innovation (PPSTI):
Programs and Projects**

Dr Mario V. Capanzana, Director,
Food and Nutrition Research Institute
Department of Science and Technology and
APEC PPSTI Focal Person, The Philippines

9:30-9:45

Coffee Break

9:45-12:00

**Sharing of experiences on the process of translation of STI activities to
policy: Focus on Health**

The Philippines

Dr Carmencita D. Padilla
Chancellor, University of the Philippines Manila

Papua New Guinea

Dr Jeffrey Noro
Director for Policy, Papua New Guinea Science and Technology Secretariat

Thailand

Dr Duanthanorm Promkhatkaew
Medical Scientist Advisor Chief, Department of Medical Sciences
Ministry of Public Health

Malaysia

Dr Md. Fauzi Md. Ismail
Principal Assistant Secretary, Ministry of Science, Technology and Innovation

The United States

Mr Vance Y. Hum
Executive Chief Officer, I.M. Systems Group

Mexico

Ms Marina Viridiana Garcia Perea
Deputy Director, International Productive Consortia on Innovation,
National Council on Science and Technology, CONACYT

Panel Discussion

Facilitator: Dr Fely Marilyn E. Lorenzo
Professor, Department of Health Policy and Administration, University of the
Philippines Manila

12:00-13:00	Lunch Break
13:00-15:30	Case Study Discussion of Policy Translation of STI activities
	Workshop/Breakout sessions
	Stunting Facilitator: Dr Cecilia Cristina S. Acuin
	Malaria Facilitator: Dr Fely Marilyn E. Lorenzo
	Family Planning Facilitator: Dr Carlo Irwin A. Panelo
	Newborn Screening Facilitator: Dr Carmencita D. Padilla
15:30-16:00	Coffee Break
16:00-16:45	Continuation of discussion on Policy Translation
17:00-19:00	APEC Dinner/Business Meeting (Barbara's, Intramuros, Manila)

Master of Ceremonies:

Ms Maria Elena A. Talingdan
Senior Science Research Specialist, Philippine
Council for Industry, Energy and Emerging
Technology Research and Development,
Department of Science and Technology,
The Philippines

10 June 2016

Session 3

8:30-8:45

Recapitulation of Day 2 activities

Ms Julieta B. Dorado
Supervising Science Research Specialist
Food and Nutrition Research Institute,
Department of Science and Technology
The Philippines

8:45-10:00

Presentation of workshop output and agreements on policy statements

10:00-11:45

Advocating and Communicating policies for Action

Dr Eduardo P. Banzon
Senior Health Specialist, Asian Development Bank, The Philippines

Mr Vance Y. Hum
Chief Executive Officer, I.M. Systems Group,
The United States

Ms Frances Fatima Cabana
Deputy Director, System Information Office
University of the Philippines

Mr Djunaedi
Staff, National Institute of Health Research,
Ministry of Health, Indonesia

11:45-12:00

Synthesis

Ms Teresa S. Mendoza
Planning Officer IV, Food and Nutrition Research Institute,
Department of Science and Technology, The Philippines

Plenary Agreements on the Draft Policy Statement

Ms Julieta B. Dorado
Supervising Science Research Specialist
Food and Nutrition Research Institute
Department of Science and Technology
The Philippines

Closing Remarks

Dr Vicente Y. Belizario
Undersecretary, Health Office for Technical Services,
Department of Health, The Philippines

Master of Ceremonies:

Ms Maria Elena A. Talingdan
Senior Science Research Specialist, Philippine Council for Industry, Energy and
Emerging Technology Research and Development,
Department of Science and Technology,
The Philippines

Appendix 2 - Speakers

Hon. Mario G. Montejo

Secretary, Department of Science and Technology, The Philippines

On June 2010, President Benigno Aquino appointed Mario G. Montejo as the Secretary of the Department of Science and Technology (DOST). Secretary Montejo worked on redesigning DOST policies, aiming to increase the country's science and technology capabilities. Secretary Montejo believed that by doing this, the country would be able to produce diverse and world-class products, processes, and services, which can be enjoyed by the Filipinos.

Among his most notable programs in the DOST are the Automated Guideway Transit (AGT) project, the mosquito Ovicidal/Larvicidal trap, and the Nationwide Operational Assessment of Hazards (NOAH).

Secretary Montejo graduated from the University of the Philippines (Diliman) in 1975 with a Bachelor of Science in Mechanical Engineering degree. He was a recipient of the 2011 Distinguished Alumnus in Science and Technology Award which was given by the UP Alumni Association (UPAA) and was also recognized as one of the "100 Outstanding Alumni Engineers of the Century" by the UP College of Engineering during the UP centennial celebration in 2010. Before joining the government service, Secretary Montejo was president of several engineering-related firms.

Since his appointment in 2010, Secretary Montejo has initiated policies which focus on developing technology-driven programs to address persistent national problems, countryside development, healthy competition among industries and the efficient delivery of government, and social services.

Secretary Montejo also aims to work on the important role of Information and Communication Technology (ICT) towards a "Smarter Philippines".

Ambassador Laura Quiambao-del Rosario

Undersecretary, Department of Foreign Affairs, The Philippines

Ambassador Laura Q. del Rosario took her oath as Foreign Affairs Undersecretary for International Economic Relations before President Benigno Aquino III at Malacanang Palace on 3 October 2011.

Ambassador del Rosario rose from the ranks, after passing the Foreign Service Officers examination in 1979. She served as the Philippines' Ambassador to Vietnam (2007 to 2009) and India (2003 to 2007), to Nepal as non-resident Ambassador and was earlier assigned to Vienna, Singapore, and Washington DC.

Before assuming her current position, Ambassador Del Rosario served as Foreign Service Institute Director, a post she held in concurrent capacity along with her present duties until 2012.

Ambassador Laura Quiambao-del Rosario is currently the Undersecretary for International Economic Relations at the Department of Foreign Affairs and she was the Philippine Senior Official for APEC from 2011 to 2014. In 2015, she was the Chair for the Senior Officials' Meetings of the Asia Pacific Economic Cooperation (APEC) during the Philippines' host year.

She was given the Gawad Mabini – *Dakilang Kamanong* (Grand Cross) from President Benigno S. Aquino III in 2012. She received the Legacy Award from the Government of Angeles City, Pampanga in 2014 for her service in government during the 50th of the Founding of Angeles City. In 2016, she was conferred as Eminent Fellow to the Council of Fellows of the Development Academy of the Philippines.

Dr Mario V. Capanzana

Director, Food and Nutrition Research Institute, Department of Science and Technology and APEC PPSTI Focal Person, The Philippines

Dr Mario V. Capanzana is currently the Director of the Food and Nutrition Research Institute, Department of Science and Technology. He is a Chemical Engineer who has chosen to share his knowledge and skills in the field of food and nutrition as his contribution to the country's development. He painstakingly pursued further studies in the field of food science and technology. He obtained a Post Graduate Diploma in Applied Food Science and Technology from Hawkesbury Agricultural College in Richmond, New South Wales, Australia as an ASEAN Protein Project Scholar and a Master of Science Degree in Food Technology from Mysore University, Mysore, India as a Colombo Plan Scholar. His quest for higher learning never waned. In 1996, as a culmination of his diligence, perseverance and self-sacrifice in achieving his goals and upgrading his competence and capability, he was awarded his Ph.D. in Food Science from the University of New South Wales in Australia as an AUSAID Fellow. He has been working with the Food and Nutrition Research Institute (FNRI), Department of Science and Technology for more than 30 years where he started as a Science Research Associate and rose from the ranks.

AS A RESEARCHER IN THE FIELD OF FOOD AND NUTRITION, his interest is on Food Fortification, Functional Foods, Technology Transfer and Food Quality and Safety, Food Product Development. He is also the Project Director of the FNRI's 8th National Nutrition Survey (NNS). The NNS is the biggest and comprehensive survey on food and nutrition the Philippines. He has contributed significantly in the crafting of the Food Fortification Law in the Philippines. He has several patent and utility models credited to his name as an inventor.

He has published scientific and technical papers in international and local journals. Likewise, he presented scientific papers in international and national scientific gatherings.

AS AN EDUCATOR: As if his scientific preoccupation is not enough, he still finds time as an academician teaching food engineering and food technology subjects in several Metro schools at one time or another. He also serves as thesis adviser and member of Advisory Committee. He was a faculty of the Asian-European International Master's Programs in Food Science and Technology under the SEAMEO/SEARCA, ENSIA-SIARC (Paris) Program. He chaired the crafting and formulation CHED Memo Order No. 45. Series of 2006: Standard for Bachelor of Science in Food Technology Program in the Philippines.

AS RECIPIENT OF AWARDS: He has won for himself several awards in recognition of his outstanding research works: international, local and institutional. He is a Fellow of the Philippine Association of Nutrition. He received the KALA award from the Local Government Unit of Calauag Quezon for his community service and professional accomplishments.

COMMUNITY INVOLVEMENT: Dr Capanzana is the former President of the Philippine Association of Nutrition (PAN), President elect and Founding Member of the University of New South Wales Alumni Association – Philippine Chapter. He is also the former President of the DOST-PICHE Chapter, President/Convenor of the Food Science and Technology Council; a member of the Philippine Association of Food Technology (PAFT). He is married with two children.

Ms Brenda R. Mendoza

Director, Trade, Services and Industry Staff, National Economic and Development Authority, Philippines

She coordinates with other agencies in the formulation as well as the evaluation of plans, policies, programs and projects in the trade, industry and services (including tourism) sectors as well as on science and technology as these relate to the sectors that the staff covers. She provides inputs and technical support in the formulation of policies and/or positions on issues and concerns related to industry, services, trade and investments. She also provides technical support to the lead negotiators of trade in services chapters of trade agreements being negotiated by the Philippines. Ms Mendoza holds a BS Chemical Engineering and a Master of Arts degree in Economics from the University of the Philippines.

Dr Lilibeth C. David

Undersecretary, Office for Policy and Health Systems, Department of Health, The Philippines

For more than 23 years, she has been experienced in health policy development, working on health sector macro policies investment plans, technical public health programs and policies, health budgets and performance reports. Her notable achievements included her pioneering efforts to develop 36 health reform policies on public health, hospital development, financing, regulation and health governance, in securing an ADB Policy Loan for the Philippine Government in 2005-2005. She has also led the development of a Monitoring and Evaluation System for Equity and Effectiveness (ME3), which includes Scorecards for LGUs, for DOH and for donors, to assess progress of health sector reforms and Millennium Development Goals. She is the editor for the National Objectives for Health and the technical editor for the Health Sector Reform Monograph Series No. 4 in the Department of Health, Philippines.

A doctor of Medicine, Ms Lilibeth David also holds a Masters in Public Health from the University of the Philippines, and a Masters in Public Management from Lee Kuan Yew School of Public Policy, National University of Singapore.

Dr Fely Marilyn E. Lorenzo

Professor, Department of Health Policy and Administration, University of the Philippines-Manila

She is a registered nurse and holds graduate degrees from UP Manila (Master of Public Health) and from the University of California at Berkeley (Doctor of Public Health). She was the founding Chair of the MA Health Policy Studies program Health Sciences track (MAHPSHS) and continues to participate in the teaching of the MAHPS courses (1998-present) as well as in the MHA and MPH programs. She was also the founding Director of the Institute of Health Policy and Development Studies of the National Institutes of Health and led the work there from 1999 to 2006.

Dr Lorenzo is active in national and international research, consultancies and policy development aiming to link all these three areas together. Among her recent national and international research projects which she has mostly led as principal investigator are in the areas of Health Human Resource development specifically in Health Human Resource Master Planning; HRH Assessment in TB laboratory and treatment center networks; Nursing Development and Health worker migration, Climate Change and Health; Healthcare Reform and Financing, Health Systems Strengthening; Tobacco Control; and Burden of Disease calculations. Current policy research and analysis undertakings are on NCD Care Pathways and Benefit Packages determination; Valuation of Climate Change Adaptation and Health and Reconfiguring PHC in the Philippines towards UHC. Dr Lorenzo also contributed substantially to HRH and health sciences education through the WHO-led Transformative Health Sciences Education and the CHED-led Outcomes Based Education efforts.

Dr Lorenzo has been a recipient of numerous awards. Among the most important ones are the Solita V. Sotejo Medallion of Honor, University of the Philippines Nursing Alumni Association, International, USA 2009; Centennial Professional Chair Award, University of the Philippines Manila, 2008; Outstanding Book Award "Healthcare Factbook" NAST 2006; Gems Award "Burden of Illness: Malaria in the Philippines" UPM 2005; Professional Award in Nursing, University of the Philippines Alumni Association- 2005; Most Distinguished Alumna in Nursing, UP Manila Alumni Association, 2004; Most

Distinguished Alumna, UP College of Nursing-2004; Most Outstanding Alumna in Research UP College of Public Health-2001; Most Outstanding Alumna in Education UP College of Nursing – 2000.

Dr William G. Padolina

Academician, National Academy of Science and Technology, Department of Science and Technology, The Philippines

Dr William G. Padolina is currently a Senior Fellow of the Southeast Asian Center for Graduate Study and Research in Agriculture (SEARCA). At present, Dr Padolina is the Chairman of the Board of Directors of Euromed Laboratories Philippines, Inc. and sits in the Board of Trustees of the Philippine Institute for Development Studies. He is also the Project Manager of the Philippine-California Advanced Research Institutes Project of the Philippine Commission on Higher Education.

He served in the cabinet of President Fidel V. Ramos and President Joseph Estrada as Secretary (Minister) of Science and Technology from 1994-1999. He is an Academician and was the former President of the Philippine National Academy of Science and Technology (2013-2015). He was a full Professor of Chemistry (1987-1999) at the University of the Philippines Los Baños (UPLB) and Vice-Chancellor for Academic Affairs at UPLB (1989-1992). He was elected President of the 40th General Conference of the International Atomic Energy Agency in 1996. He was Deputy Director General of the International Rice Research Institute from 1999 to 2011. In 1968, Dr Padolina earned his Bachelor of Science in Agricultural Chemistry (*magna cum laude*) from UPLB and in 1973 obtained his Ph. D. in Phytochemistry from the University of Texas at Austin.

Mr Martin Bettelley

Deputy Country Director, UN World Food Programme, The Philippines

Martin came to the Philippines from his last posting in Peshawar, Pakistan where he was the Head of the Area Office covering a wide range of Programme activities such as school-feeding, livelihood projects, relief and nutrition. He has under his belt over 25 years of experience working for humanitarian organizations. He has been involved and participated in many of WFP's large scale emergencies worldwide. He is an Engineer from the UK and began his career in transport and logistics for both Save the Children and Oxfam in Ethiopia and Uganda. In 1988, he worked for the British Government's Official Development Assistance (now known as Department for International Development) when he was seconded to WFP in Ethiopia supporting large transport fleets to transport food. He has vast WFP logistics experience in addition to his programme knowledge and has been posted in various areas in the field such as Sudan, Haiti and Pakistan as well as at WFP's headquarters in Rome and the regional office in Uganda.

Ms Maria Lourdes A. Vega

Chief, Nutrition Policy and Planning Division, National Nutrition Council, Department of Health, The Philippines

Maria Lourdes A. Vega finished her Master of Science in Nutrition at the University of the Philippines, Diliman, Quezon City in 2005 with her thesis, "Determining Factors Associated with Infant Feeding Practices among Urban Poor Women – Focus on Breastfeeding". She obtained her Bachelor of Science in Community Nutrition from the same university in 1976.

Currently, she is Nutrition Officer V Chief of the Nutrition Policy and Planning Division of the National Nutrition Council, Department of Health in the Philippines. She was awarded as Ten Outstanding Leaders in the Nutritionist-Dietitian Profession by the Nutritionist-Dietitians Association of the Philippines (NDAP) in 2005 and Fellow on Nutrition Advocacy by the Philippine Association of Nutrition (PAN) in 1996.

Dr Eduardo P. Banzon

Senior Health Specialist, Asian Development Bank, Philippines

He was formerly President and Chief Executive Officer of the Philippine Health Insurance Corporation (PhilHealth); Regional Adviser for Health Economics and Financing of the World Health Organization-Eastern Mediterranean Regional Office (WHO-EMRO); Health Economist in WHO-Bangladesh; and Senior Health Specialist for the World Bank.

He was a Clinical Associate Professor of the University of the Philippines (UP) College of Medicine; Research Associate Professor of the UP-National Institutes of Health; a faculty member of the Ateneo Graduate School of Business; and adjunct faculty in the Asian Institute of Management and Ateneo School of Government.

After completing his medical studies in UP College of Medicine in 1992, he worked as a community health physician and community organizer with the Philippine Rural Reconstruction Movement, the International Institute of Rural Reconstruction, the Institute for Maternal and Child Health, and Botika Binhi. He also holds an MSc in Health Policy, Planning and Financing from the London School of Economics and the London School of Hygiene and Tropical Medicine.

Dr Cecilia Cristina S. Acuin

Chief Science Research Specialist, Food and Nutrition Research Institute, Department of Science and Technology, The Philippines

She was the Secretariat Coordinator from 2009 to 2014 and Consultant of the Universal Healthcare Study Group, University of the Philippines National Institute of Health (UPNIH). She is one of the board members of the Philippine Association of Nutrition and is the former chair of the Food and Nutrition Committee of the Philippine Academy of Family Physicians (PAFP). Dr Santos-Acuin has authored a number of research papers and publications on maternal and child health nutrition in international peer-reviewed journals including the Textbook of Family Medicine Volume 1 - Principles, Concepts, Practice and Context in 2014.

Dr Acuin received her Doctor of Medicine from the University of the Philippines College of Medicine (UPCM) and completed her Residency Training in Family Medicine at UPCM-Philippine General Hospital. She received a Master of Arts in Medical Anthropology as a Fulbright Scholar from the University of Connecticut, USA and PhD in Nutrition from Cornell University, USA.

Dr Jaime C. Montoya

Executive Director, Philippine Council for Health Research and Development, Department of Science and Technology, The Philippines

Jaime C. Montoya, MD, MSc, PhD, CESO III has spent more than 20 years working on infectious diseases and public health. He is a highly trained Infectious Disease Specialist with MSc and Diploma in Clinical Tropical Medicine from the London School of Hygiene and Tropical Medicine, MSc in Bioethics from the University of the Philippines and a PhD in Medicine from the Juntendo University School of Medicine, Tokyo, Japan. He holds a Doctor of Medicine degree from the University of the Philippines.

He is also a public health expert with extensive experience in program implementation of tuberculosis control and control of emerging infections through several years of consultancy work at the Department of Health (DOH) particularly during the Severe Acute Respiratory Syndrome (SARS) epidemic in 2003. As an international expert, he successfully formed the Association of Southeast Asian Nations (ASEAN) Network for Drugs, Diagnostics and Vaccines Innovation (ASEAN-NDI) with the help of ASEAN and WHO-TDR. He is a recipient of numerous awards in the fields of medical research, education, medical writing, medical society leadership and community service.

At present, he is the Executive Director of Philippine Council for Health Research and Development of the Department of Science and Technology (DOST-PCHRD). He is also a professor at the University of the Philippines (UP) Manila College of Medicine.

Ms Julieta B. Dorado

Supervising Science Research Specialist, Food and Nutrition Research Institute, Department of Science and Technology, The Philippines

Ms Julieta B. Dorado is a Supervising Science Research Specialist in the Nutrition Intervention, Evaluation and Policy Section of the Department of Science and Technology-Food and Nutrition Research Institute (DOST-FNRI). She is a development communication BS and MS graduate from the University of the Philippines at Los Baños. She has completed sociology course work in the University of the Philippines, Diliman.

Her research experience and participation includes valuative studies, development and testing of nutrition intervention packages and models, evaluation of nutrition interventions and programs, advocacy, communication and nutrition education researches. Her strong passion for researches on social behavior stems from her involvement in the conduct of studies on impact evaluation of nutrition interventions, formative researches and case studies on maternal and child nutrition.

Dr Carmencita D. Padilla

Chancellor, University of the Philippines Manila

Dr Carmencita D. Padilla had major contribution in setting up the genetic services at UP Manila in 1990. She is currently servicing patients from different parts of the country, clinical services housed at the Department of Pediatrics, the Philippine General Hospital (PGH), and laboratories (cytogenetics, newborn screening, molecular genetics, biochemical genetics) housed at the Institute of Human Genetics, National Institutes of Health.

Also, she has contributed in setting the newborn screening services in the Philippines in 1996 which is currently available in 5000+ hospitals and birthing centers in the country. She is responsible in setting the Fellowship program in Clinical Genetics (2000) and MS Genetic Counseling (2011) at the UP College of Medicine. Moreover, she set the Philippine Genome Center in 2009. It is a research unit of the UP System with 5 programs (health; agriculture, livestock & fisheries; biodiversity; forensics & ethnicity; ethics, legal and social issues) and 2 core facilities (DNA sequencing core facility and core facility for bioinformatics). She is responsible for crafting and lobbying for Newborn Screening Act of 2004, the legal basis of the implementation of the comprehensive newborn screening program in the country and responsible for crafting and currently lobbying for the passage of the Rare Disease Act of the Philippines.

Dr Jeffrey Noro

Director for Policy, PNG Science and Technology Secretariat, Papua New Guinea

The PNG Science and Technology Council and Secretariat was established in 2013 following an NEC decision 219/2013. As the Director of the newly formed Policy Division, his job is to ensure that all policy matters for the PNG Science and Technology Council and the Secretariat are developed and implemented accordingly. These policy matters include; Strategic Plan, Corporate Plan, Science and Technology Policy Framework, and other policies that will ensure PNG through the Council to embrace science and technology. It is also his responsibility to ensure that all policies developed and adopted by the Council are implemented across all sectors of the PNG so that Science, Technology and Innovation can have a positive impact on the lives of PNG citizens and the economy as a whole. Currently, they have developed the National Research Agenda that identifies PNG's Priority Research Focus Areas in line with the PNG Vision 2050. They are also in the process of conducting public consultation workshops to draft the National Science and Technology Strategic Plan 2016-2020. Both documents were submitted to the National Executive Council in November 2015. He also volunteers as an Ambassador with the PNG-Australia Alumni Association (2015-2017) and have been involved in Leadership Dialogues and Corporate Breakfast Discussions. Strategy Execution and Shared Values are examples of management tools he acquired during his tenure as an Ambassador and consistently use them in leadership and management of the Policy Division as the head.

Dr Duanthanorm Promkhatkaew

Medical Scientist, Department of Medical Sciences, Ministry of Public Health, Thailand

She finished her Bachelor of Science in General Science at the Faculty of Science, Chulalongkorn University, Thailand in 1981. After which, she completed her Master of Science in Biochemistry at the Faculty of Science, Mahidol University, Thailand in 1985 and Doctor of Philosophy in Medical Science 2001, Osaka University Medical School, Osaka University, Japan in 2001. Being a principal investigator in many research projects and a laboratory head to study molecular epidemiology of pathogenic microorganisms, vaccine candidate constructions immunogenicity in small animals, vaccine process development and medicinal plant research by utilizing techniques of genetic engineering, molecular biology, biotechnology, bio-process, cellular technology, immunology, microbiology including hepatitis B vaccine, HIV vaccine, influenza vaccine, and enterovirus-71 vaccine. She also studied on the activity of medicinal plant against pathogenic viruses to search for anti-viral lead compound. She has authored numerous publications and patented inventions including BCG vaccine and Recombinant BCG vaccine.

Dr Md. Fauzi Md. Ismail

Principal Assistant Secretary, Ministry of Science, Technology and Innovation, Malaysia

Dr Md. Fauzi Md. Ismail was born in Pahang, Malaysia. He obtained a Bachelor Degree in 2002 and Master of Science in 2004 from the Universiti Utara Malaysia. In 2015 he received his PhD from Universiti Teknologi Malaysia in the area of Strategic Planning. From 2005 to 2011, Md. Fauzi worked in the National Institute of Public Administration (INTAN) Malaysia doing training, capacity building and research project. While in INTAN, he was sent to Maldives and East Timor to serve as a consultant for capacity building program. He left INTAN in 2011 to become a full time PhD student until 2015. In 2015, he joined the Planning Division in the Ministry of Science, Technology and Innovation (MOSTI) and responsible for policy development and coordination. Md. Fauzi also keen on research and his interest are public policy and strategy. He has published in international journals and presented papers at both and local conferences.

Mr Vance Y. Hum

Chief Executive Officer, I.M. Systems Group, Inc., The United States

Vance Y. Hum is the CEO of I.M. Systems Group, Inc. (IMSG). IMSG brings together the best science, engineering, and management skills to successfully implement environmental and climate change programs. Headquartered in Rockville, Maryland, IMSG is present in over 35 locations worldwide and has over 500 subject matter experts in various disciplines such as remote sensing, geographic information system (GIS), information technology, and geophysical, marine, and atmospheric sciences.

Mr Hum's experience includes over 10 years as a consultant to the investment banking community, highlighted by his role as Senior Technical Advisor to Oppenheimer & Co., Mergers and Acquisitions Department. He serves on the Board of Directors of the Monte Jade Science & Technology Association, DC Chapter, mentoring the next generation of Asian-American entrepreneurs and SMEs in science and technology.

Mr Hum was a host committee member of the Asia-Pacific Economic Cooperation (APEC) 2011 forum, where he was on the Energy Policy and Food Security Support Groups. In 2015, Mr Hum was appointed APEC Policy Partnership on Science, Technology and Innovation (PPSTI) Subgroup Vice Chair for Innovation.

As a member of the APEC Energy Policy Working Group, he has represented the small, medium and micro-sized enterprises (SMMEs) for the U.S. business community, with a particular interest on business and trade matters relating to the nuclear and alternative energy market segments. His APEC advocacy is to provide subject matter expertise on issues relevant to climate change and the technologies and policies affecting the U.S. position on trade matters around energy. Currently, there is a void in the Energy Working Group in the technical expertise in some of these areas. This void has offered the opportunity for Mr Hum to lend his climate change expertise in nuclear and alternative energy coupled with his knowledge of the SMME community to voice this community's interest in APEC issues and policies. Mr Hum has worked with APEC world leaders, i.e. APEC members in developing countries, preparing to meet the challenges of adopting ideas such as nuclear energy and

alternative energy mechanisms as a suite of balanced solutions to meet their respective APEC or international commitments and goals. This is particularly relevant since the Fukushima event in Japan and the nascent quality of alternative energy technology have not had much current public policy backing and/or is at the moment centered in controversy. Mr Hum's role has been to reduce the marginalization of these critical topical areas to the suite of proposed energy strategies.

Ms Marina Viridiana Garcia Perea

Deputy Director, International Productive Consortia on Innovation, National Council on Science and Technology, CONACYT, Mexico

Ms Marina Viridiana Garcia Perea finished her Bachelor's degree on Law with specialization on International Law. Consequently, she finished her Master's degree on International Cooperation for Development.

Currently, she works for the National Council on Science and Technology, CONACYT as Deputy Director of International Productive Consortia on Innovation. She is in charge of international joint projects with counterpart agencies of CONACYT such as the:

- CDTI of Spain (Center for Industrial Technologic Development)
- BPI France (Public Bank of Investment)
- BMBF of Germany (Federal Ministry of Education and Research)
- NSF of US (National Science Foundation)
- British Council and Newton Fund of the UK
- Matinop, Agence for Innovation of Israel

She has been working for more than 10 years on projects of the federal government, mainly with international counterparts, the European Union among them.

Mr Djunaedi

Staff, National Institute of Health Research, Ministry of Health, Indonesia

Mr Djunaedi currently works at the National Institute of Health Research and Development, Ministry of Health of the Republic of Indonesia. He graduated from the Faculty of Public Health, Indonesia University in 2013. He is also a member of the Data Management Team of the Ministry of Health from 2011 to present.

Dr Carlo Irwin A. Panelo

Chief of Party, Health Policy Development Program, The Philippines

Dr Carlo Irwin A. Panelo is the Chief of Party of the Health Policy Development Program, a USAID-funded policy support project implemented by UP econ Foundation, Inc. Prior to joining HPDP, he served as executive assistant to the Secretary at the Department of Health, was consultant to international institutions such as World Bank (WB), World Health Organization (WHO), United States Agency for International Development (USAID), was research fellow at the University of Tokyo School for Medical Sciences and Thailand Ministry of Public Health analyzing impact of health reforms, and is a published researcher on clinical and health economics studies.

Dr Panelo is a graduate of the UP College of Medicine where he is now an Associate Professor teaching Clinical Economics, Health Policy and Research Methods at the Department of Clinical Epidemiology. Dr Panelo also obtained an MA in Economics at the UP School of Economics.

Ms Teresita Marie P. Bagasao

Country Director, Joint United Nations Programme on HIV and AIDS (UNAIDS), The Philippines

She has been with UNAIDS from 1996, serving as Manager of the Asia Pacific Leadership Forum (APLF) on HIV/AIDS and Development based in Bangkok from 2005 to early 2008 and as Chief, Partnerships UNAIDS Geneva, overseeing work with civil society and private sector from 2001 to April 2005. This involved working with various stakeholders in formulating evidence informed policies and translating these into action. Before joining UNAIDS, Ms Bagasao headed a non-government organization that worked with government, civil society and private sector on maternal-child health, and reproductive/sexual health related issues. She has been involved in the HIV and AIDS response since

late 1987 contributing to the development and support of a number of domestic regional NGO networks working on HIV and AIDS and their participation in national and regional policy-making bodies.

She is a graduate of BS in Social Work from the University of the Philippines in Diliman, Quezon City and completed a Masters in Arts in Psychology from the Ateneo de Manila University in Loyola Heights, Quezon City.

Ms Frances Fatima Cabana

Deputy Director, System Information Office, University of the Philippines

She serves as a thought partner to the Vice President and Assistant Vice President for Public Affairs on the following key areas: conceptualization of the University's policy-oriented publication, the UP Forum; development and coordination of public affairs programs of the University; and management of the University of the Philippines System Information Office (UPSIO) human resources, information technology, finances, facilities and special projects.

Concurrently, Ms Cabana serves as a lecturer at the National College of Public Administration and Governance (NCPAG), University of the Philippines, Diliman, teaching Office and Systems Management.

Ms Cabana graduated cum laude with a Bachelor of Arts in Public Administration degree from NCPAG, University of the Philippines, Diliman in April 2006. She has also received several recognitions during her undergraduate years such as Dean's Lister, College Scholar for three semesters and University Scholar for one semester. She holds a Master of Science degree in Urban Management and Development, Major in Managing Urban Governance at the Institute for Housing and Urban Development Studies, Erasmus University Rotterdam, the Netherlands.

Currently, she is finishing her thesis at the School of Urban and Regional Planning, University of the Philippines.

She has been exposed to different projects on public policy development, health policy and planning, public private partnership, anti-corruption, good governance indicators, project development and management, aid management, and capacity building, among others.

Dr Vicente Y. Belizario, Jr.

Undersecretary, Health Office for Technical Services, Department of Health, Philippines

Dr Vicente Y. Belizario, Jr. is currently Undersecretary for Technical Services of the Department of Health, on secondment from the University of the Philippines Manila where he is Professor 12 in the Department of Parasitology, College of Public Health. He was former Vice Chancellor for Research and Executive Director of the National Institutes of Health in the same university. He is also University Scientist III of the UP System and an Adjunct Professor of Global Health in the University of Pittsburgh School of Medicine.

Dr Belizario earned his Bachelor of Arts degree (Humanities Pre-Med) *cum laude* and his Doctor of Medicine degree from UP Manila. He obtained his Master of Tropical Medicine and Hygiene degree from the Uniformed Services University of the Health Sciences (USUHS) in Bethesda, Maryland, U.S.A. through a fellowship from the World Health Organization (WHO). He received training in clinical tropical medicine from the Hospital for Tropical Diseases, Faculty of Tropical Medicine, Mahidol University in Thailand.

Among his more important health researches and publications are in the areas of clinical trials on anthelmintics, anti-filarial drug combinations and different single doses of praziquantel for schistosomiasis japonicum, field epidemiological studies on malaria, and development and testing of strategies for malaria control. He has also led scientific work related to epidemiology and control of intestinal helminth infections, lymphatic filariasis, pulmonary paragonimiasis and other foodborne parasitic zoonoses, the so-called neglected tropical diseases (NTDs) or infectious diseases of poverty. A number of his research findings have provided evidence and bases for national and global policy on NTDs. His study group's War on Worms campaign and advocacy in school age children which was developed and tested in Western Visayas and Davao Regions paved the way for the Essential

Healthcare Program of the Department of Education (DepEd) and the DOH National School Deworming Day in all public schools nationwide, providing morbidity control through school-based, school teacher assisted delivery of mass deworming to all school children nationwide. He has published more than 70 scientific articles in peer-reviewed national and international journals. A member of Editorial Board of the Acta Medica Philippina, the National Health Science Journal, he was also former Editor and is now an Adviser of the Southeast Asia Journal of Tropical Medicine and Public Health. He is Editor and Contributor of three editions of the bestselling Philippine Textbook of Medical Parasitology. The latest edition, renamed as Medical Parasitology in the Philippines, was launched late last year.

In the area of international health, Dr Belizario has served as a member of the Research Strengthening Group (RSG) of the UNICEF/UNDP/World Bank/World Health Organization Special Programme for Research and Training in Tropical Diseases (WHO-TDR) and a member of the Scientific and Technical Advisory Committee (STAC) of WHO-TDR. He had a short stint at the WHO Regional Office for the Western Pacific as Technical Officer for Neglected Tropical Diseases. He is currently a member of the Soil-transmitted Helminthiasis (STH) Advisory Committee in the Task Force for Global Health, Atlanta, Georgia, U.S.A. and Chair of the Monitoring and Evaluation Workstream of the Global STH Coalition. He is also Vice-Chair and country representative in the Steering Committee of the Forum for Ethics Review Committees in Asia and Western Pacific (FERCAP).

A Physician, Medical Parasitologist, Teacher, Scientist, Public Health Practitioner, Dr Belizario, currently serves as Undersecretary of Health, providing oversight to the Technical Services Cluster, which includes Disease Control and Prevention, Epidemiology, and Health Promotion.

Ms Teresa S. Mendoza

Planning Officer IV, Food and Nutrition Research Institute, Department of Science and Technology, The Philippines

Ms Teresa S. Mendoza was a recipient of the Philippines Bases Conversion and Development Authority (BCDA) project for Capacity Building on Science, Technology and Innovation in Korea and Japan in May and June, 2014 respectively, and in Canada in January, 2015. She won 2 Outstanding Research Awards in Food and Nutrition given by Department of Science & Technology in 1988 and 1992. Also, she won four (4) research awards in the Scientific Poster Exhibit Contests given by the PCHRD, DOST in 1991-1992 and authored and co-authored several research publications published in both international and local referred journals, e.g. International Reference Standards (IRS) Handbook and Manual and The Philippine Reference Standards (PRS) Handbook; Her work publications on the PRS & IRS handbooks has been adopted by several agencies and organizations, e.g. Compendium of Philippine Medicine, MIMS Clininotes on Pediatrics, National Nutrition Council, Department of Health, UNICEF, Nestle Baby Book, Wyeth Philippines, Westmont Pharmaceuticals Inc., to name a few. She served as Resource Person/Speaker in scientific trainings, fora and lectures and as Nutrition-Dietetic Board Reviewer, editor of the Growth Monitoring and Promotions (GMP) Guidelines developed by DOH for implementation at the local level, and attended and participated in several international and local conferences; and Currently, she is the Planning Officer of the Food and Nutrition Research Institute, Department of Science and Technology (DOST-FNRI).

Mr Richard P. Burgos

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With over 30 years of progressive responsibility in large international, multinational and national organizations for such areas as corporate communications, public relations, marketing, brand management, corporate social responsibility, corporate governance, risk management, events management, publications, speech craft and general office management, Director Richard P. Burgos exhibits a keen appreciation of the role of effective communications and collaboration at the processor, individual contributor, team and leadership levels within a connected, globalized environment.

He brings this appreciation to create added value, which has been evident in his contributions to the organizations that he works for, including the International Crops Research Institute for the Semi-Arid Tropics, an international research for development center based in Hyderabad, Telangana, India; Enchanted Kingdom; some of the world's leading IT companies such as IBM, HP, and Sun

Microsystems; the Department of Science and Technology; and the University of Negros Occidental-Recoletos where he began his career as a Spanish language instructor.

Along with being the Director of the Science and Technology Information Institute of DOST, he is an active member of the International Public Relations Association, and a volunteer for the NGO *Bahay Tuluyan*, and supports programs to help blind children acquire computer literacy skills through Resources for the Blind Inc., and Adaptive Technology for the Rehabilitation, Integration and Empowerment of the Visually Impaired.

Dr Milflor S. Gonzales

Supervising Science Research Specialist, Food and Nutrition Research Institute, Department of Science and Technology, The Philippines

Dr Milflor S. Gonzales is a nutrition communication specialist at the Food and Nutrition Research Institute of the Department of Science and Technology (DOST-FNRI). She leads in the development and conduct of nutrition information campaigns; development and production of information, education and communication (IEC) materials, exhibits and AV presentations; editorship of technical papers, newsletters, annual reports, media releases; and oversees the conduct of media networking. She represents DOST-FNRI in various communication-related projects and activities undertaken by other government and private offices. She also serves as trainer, resource person, lecturer, and critic in communication-related activities. She was awarded by the DOST for her outstanding commitment to Science and Technology public information.

She finished AB Broadcast Communication, MA Communication (Communication Research) and Ph.D. Communication at the University of the Philippines, Diliman, College of Mass Communication. Dr Gonzales is a consistent awardee of UP-Diliman's *Katibayan ng Kagalingan* (Certificate of Academic Excellence) as University Scholar and College Scholar for her MA and PhD studies. She is a lifetime member of the international honor society of Phi Kappa Phi, one of the oldest and most respected academic honor societies in the world.

Ms Maria Elena A. Talingdan

Senior Science Research Specialist, Philippine Council for Industry, Energy and Emerging Technology Research and Development, Department of Science and Technology, The Philippines

Maria Elena A. Talingdan graduated from the University of the Philippines in 2010 with an MS degree in Technology Management. She finished a degree in Bachelor of Arts in Communications in 1982 at the University of Santo Tomas. She joined the information unit of PCIEERD in 1982 and gaining over 25 years of experience in science information promotion, dissemination and communications work (writing press releases, newsletters, technical reports, annual reports, conduct of press conferences, information, education and communication campaigns (IECs), and strong media relations and linkage. Being in a research and development Council, also conducts project conceptualization, project proposal preparation, management and monitoring, technology diffusion

Currently, she is with the Information Group, Office of the Executive Director (IG-OED) handling information dissemination, corporate branding and social media. Among her achievements, she was given the Hall of Fame Awardee – Outstanding Employee (Technical Support Category) for 3 consecutive years. She was also recognized as the Outstanding Information Officer Awardee (2008, 2009) by the Philippine Science Journalist Association.

She is an experienced, long-time emcee/moderator or facilitator in both local and international conferences, agency activities, S&T dialogues, and outside events. She has participated and presented papers and projects in international conferences like Grey Literature (US and Luxembourg) and in the 2015 APEC Young Scientists Workshop in Science Communication in the 21st Century in Malaysia, as well as local seminars on communications.

Currently, she is the Public Relations Officer of the DOST Science Media Core and a member of the DOST Special Communication Task Force and other committees within PCIEERD.

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Appendix 4 - Documentation Photos



Dr Carol Yorobe delivered her opening remarks



Dr Mario Capanzana explained the rationale and objectives of the workshop



Dr Fely Marilyn Lorenzo, Dr Lilibeth David and Ms Brenda Mendoza (from left) discussed the significance and the process of translating R&D and STI activities to policy and how this accelerated the commercialization and popularization of innovations



Delegates asked questions during the open forum



Dr Mario V. Capanzana handed the token of appreciation to **Ambassador Laura Quiambao-del Rosario** for delivering her inspirational message



Dr William Padolina, Mr Martin Bettelley and Ms Maria Lourdes Vega (from left) shared their experiences on the process of translation of STI activities to policy focusing on health



Dr Cecilia Cristina Acuin synthesized the proceedings of the workshop



Dr Jaime Montoya delivered the closing remarks



Representatives from six APEC member economies (The Philippines; Papua New Guinea; Thailand; Malaysia; The United States; and Mexico) shared respectively their experiences on the process of policy translation



A breakout session was organized for the four case study groups (stunting, malaria, newborn screening, family planning) for thorough discussions and drafting of the APEC 2016 Policy Statement



Representatives from the different case study groups presented their outputs based on the guide questions for the workshop



Group photo of all delegates in the APEC Workshop at the lobby of Dusit Thani Hotel

Appendix 5 - Working Committee

Program Leader: Mario V. Capanzana, PhD

Project Overseer: Julieta B. Dorado

Members

Ma. Anna Rita M. Ramirez
Rowena V. Viajar
Divorah V. Aguila
Kathleen Mae L. De Guzman
Cecilia Cristina S. Acuin, MD, PhD
Jund Rian A. Doringo
Georgina S. Caraig
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Clarita R. Magsadia
Teresita R. Panelo
Marie T. Bugas, PhD
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