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Feature Article

Promotion and Enhancement of the Environmental Impact Assessment System

The EPA has been revising the Environmental Impact Assessment (EIA) system to make it more effective in screening development activities and to increase the efficiency of review and public credibility of the system. Various improvement strategies and practical measures have been proposed in recent years. For policy setting and implementation, improvement of the EIA system and ensuring timely EIA review procedures are the two main directions. Efforts to improve administrative procedures have also been ongoing.

Environmental protection and economic development should be regarded as having equal importance for Taiwan's long-term benefit. The *Environmental Impact Assessment Act* (環 境影響評估法), promulgated in 1994, regulates all development activities, mandates that environmental considerations be included during the planning stage of projects, and bans violators from continuing their activities. The goal is to achieve sustainable development.

Improvement of the EIA system

Aiming to make the EIA system more effective in screening development activities and to increase the review efficiency and public credibility of the system, the EPA in recent years has been working on continually upgrading the system. Efforts have included formulating enhancement strategies and carrying out measures. The resulting achievements, revisions, planning directions, and timetables are as follows:

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(1) Announcement of the revised Standards for Determining Specific Items and Scope of Environmental Impact Assessments for Development Activities (開發行為應實施環境影響評估細目及範圍認定 標準) on 11 April 2018: The revision reexamined the levels of environmental impacts brought about by development activities. Activities with larger impacts are required to undergo EIA, while those with smaller impacts are to be regulated by industry competent authorities and relevant regulations. The area of development in EIA applications and accumulated developed area will be regarded according to the same scale lest developers divide up a development area into smaller portions for the purpose of their EIA application. Moreover, the amendment also looked into and put into consideration issues of public concern, each government department's suggestions, relevant regulation revisions, and problems that have arisen from actual implementations.

(2) Announcement of the revised Environmental Impact Assessment Enforcement Rules (環境影響評 估法施行細則) on 11 April 2018: In this revision, EIA competent authorities' jurisdictions and responsibilities were reviewed and amended. Regulations in Article 16-1 of the Environmental Impact Assessment Act concerning development activity permission that can be granted by the industry competent authority were deleted. This was to push developers to fulfill their obligation to submit analyses of the differences between pre-development environmental conditions and conditions at the time when development permission was granted, as well as a strategy evaluation report. Also, conditions for EIA document changes have been clarified to better suit practical enforcement needs.

(3) Implementation of EIA improvement measures: The EPA continually reviews and improves administrative procedures and immediately revises them if it does not require going through legislative procedures. The EPA has summarized all problems concerning current EIA processes into three areas: improvement measures for ongoing administrative operations; further improvement of administrative procedures; and improvement measures for planned implementations. For old EIA cases, the EPA held an EIA Case Exit Mechanism and Old EIA Case Supervision Principle Meeting with local environmental protection bureaus on 10 May 2019. The meeting examined: ordering developers of approved EIA cases to submit documents, such as analyses of differences in environmental conditions and reviews of response measures; and EIA statements and response measures according to Article 16-1, Article 18, and Article 23 of the Environmental Impact Assessment Act, which aim to mitigate the impacts of development activities. In addition, starting from



🔼 The 353rd meeting held by the Environmental Impact Assessment Review Committee, EPA



Onsite observation for the EIA of the Third Runway of Taiwan Taoyuan International Airport

1 June 2019, when the EPA and local governments held EIA review committee meetings to review EIA statements or preliminary EIA reports, the conclusion of reviews for approved development activities must include the following provision, based on Article 93 of the *Administrative Procedure Act* : if the development activities of the case have not started within 10 years after the announcement of the review conclusion, the review conclusion shall become null; the developer can extend the validity of the review conclusion once if the case is approved by the industry competent authority and passed on to the EPA; the extended period shall not be over five years.

Ensuring timely EIA review procedure

(1) From 20 May 2016 to 20 March 2019, the EPA held 53 EIA review committee meetings and reviewed EIA statements or preliminary EIA reports for 56 EIA cases, of which 42 passed the review, ten entered the second EIA stage, and four were denied permission for development. In addition, the EPA reviewed the analyses of differences in environmental conditions (including reviews of response measures) for 103 cases. Of these, 97 cases were approved after revisions, four reapplied for EIA, one was returned to its industry competent authority, and one application for modification was disapproved.

(2) The EPA upheld the principle that EIA project groups hold a maximum of three preliminary review meetings to rectify and enhance document quality and review efficiency. As for concluded cases, a total of 124 cases paid fees and submitted required documents after 20 May 2016. Of these, 123 received recommendations and conclusions, which were later submitted to the committee for delivery of final decisions during the three preliminary review meetings held by the project groups. Only the 11th Analysis Report on Differences in Environmental Conditions of National Freeway No. 5 Construction EIA Case underwent four preliminary review meetings before the committee could make a final decision based on the suggestions and conclusions. This case was about modifying the control measure related to opening the Pinglin Traffic Control Center's special lane for 4,000 non-local vehicles per day, which was highly controversial as it involved protection of Feitsui Reservoir's water quality.

(3) The EPA formulated and implemented the *Opinion-Gathering Meeting and Onsite Observation Plan* (專案小組意見陳述會議及現場勘察計畫). Before a project group's review meeting is convened, public hearings are held at a development location to gather opinions from the public and civic organizations in advance. Developers and relevant agencies are asked to respond with written statements, and the EPA oversees responses to individuals and civic organizations. Between August 2016 and March 2019, a total of 42 opinion-gathering meetings and observation operations were conducted on 54 EIA cases so as to provide opportunities for concerned citizens and organizations to express their opinions nearby, without having to make long-distance trips.

(4) The EPA conducted the consultation on strategic environmental assessment for the establishment (including expansion) of science parks in 2018, setting a reference and benchmark for individual EIA cases.

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Future outlook

In the future, the EPA will continue to improve administrative procedures by making immediate adjustments unless a legislative procedure is required, so as to set up clear and efficient EIA system goals. The following are administrative procedures that need further improvement:

 If issues involving legal responsibilities of different competent authorities arise in the middle of EIA procedures, the EPA will delegate the tasks so that the EIA operations can focus on reviewing the environmental issues.

- 2. The role of the committee members and experts will be strengthened by having their suggestions fully discussed within the project group. The EPA will be responsible for documenting committee members and experts' suggestions and tracking developers' actual responses in order to enhance review efficiency.
- When outside audience members speak during EIA reviews, order is to be maintained for meetings to proceed smoothly.

EIA

2019 Taiwan-EU Environmental Impact Assessment Seminar

The 2019 Taiwan-EU Environmental Impact Assessment Seminar, organized by the EPA and the European Economic and Trade Office (EETO), took place in Taipei on 14 October. Invited speakers included two European experts: Ms. Marcela McAndrew, the Legal and Policy Officer of the EU's Directorate-General for the Environment; and Dr. Claudio Fossati from the Interdisciplinary Center for Bioacoustics and Environmental Research, Department of Earth and Environment Sciences of the University of Pavia. They provided many insights to Taiwan's experts and scholars regarding environmental protection and green energy by sharing and exchanging experiences on strategic environmental assessment (SEA) and offshore wind energy.

This was the first EU-Taiwan EIA Seminar jointly held by Taiwan and the EETO. Taiwan EPA Minister Chang and EETO head, Mr. Filip Grzegorzewski, gave speeches at the opening ceremony. European experts Ms. Marcela McAndrew, the Legal and Policy Officer of the EU's Directorate-General for the Environment, and Dr. Claudio Fossati from the Interdisciplinary Center for Bioacoustics and Environmental Research, Department of Earth and Environment Sciences of the University of Pavia in Italy, were also in attendance as special topic speakers, promoting substantive exchange and forging friendly relations between Taiwan and the EU. Approximately 150 people in total attended, with more than ten scholars and experts from Taiwan and the EU, approximately ten representatives from EU country offices in Taiwan, about 60 people from industry and consultant companies, and about 70 attendees from Taiwan government offices and state-owned businesses.

On the issue of underwater noise generated by offshore wind energy, Dr. Fossati pointed out that offshore wind power construction between the shoreline and deep water will indeed generate underwater noise. However, the actual impact on marine life is still a new area awaiting further research. Although there are no unified global regulatory standards thus far, the impacts of offshore wind farms on marine organisms should still receive greater concern and be mitigated. Therefore, applying underwater noise research to reduce environmental impacts caused by the establishment and operation of offshore wind power facilities has become an important research direction.

On the same topic, Secretary General Su-Chen Weng of the Bureau of Energy of the Ministry of Economic Affairs, and General Director Yie-Zu Hu of the Green Energy and Environmental Research Laboratories of the Industrial Technology Research Institute talked about Taiwan's policy goals and development technology concerning offshore wind power. They also discussed and exchanged ideas with the European experts concerning underwater noise.

In recent years, the EPA has continued to promote



🛆 2019 Taiwan-EU Environmental Impact Assessment Seminar

SEA and has conducted consultations on SEA for offshore wind power and new establishment (including expansion) of science parks. The SEA mechanism can be used to formulate planning references for development activities and EIA review standards, in order to enhance EIA efficiency. The EPA expects that by organizing this seminar, Taiwan will learn from EU experiences about approaches to SEA so as to improve its own system. Moreover, European research on underwater noise can be used as a reference to enhance the review efficiency of EIAs for offshore wind power in Taiwan.

Air

Technology Applied to Trace Pollution Sources in Southern Taiwan and Stop Deterioration of Air Quality

On 1 November 2019, the Fourth Meeting of the air quality Southern Response Team was held, not only conducting routine reports on weather forecasts, air quality and response measures, but also focusing on recent abnormalities detected by monitoring stations in Chiayi, Annan and Daliao at certain times of the day. The team planned to utilize technical approaches such as backward trajectory, remote satellite sensing, 3D LiDar, and pollutant composition and feature analysis to trace pollution sources and eliminate air pollution problems.

Facing the challenge of poor air quality, which is prone to occur during fall and winter in Taiwan, the EPA has since October 2019 been holding a weekly Inter-regional Cooperation, Prevention, and Response Team Against Air Pollution Meeting, involving the five southern counties and cities of Chiayi County, Chiayi City, Tainan City, Kaohsiung City, and Pingtung County. Besides providing air quality forecasts for the coming week as a reference for regional governments, the meetings also analyze any abnormalities detected in the previous week in an attempt to eliminate pollution sources and protect air quality.

The EPA stated that it has been examining air quality monitoring data since weekly meetings began in October, and it has since found abnormalities detected by several monitoring stations at specific times of the day. For example, both Chiayi and Daliao monitoring stations detected higher sulfur dioxide concentration around midnight, and Annan station recorded higher concentrations for all pollutants. Besides using the usual meteorological data to determine pollution sources, advanced scientific methods such as backward trajectory, remote satellite sensing for burning sites, 3D LiDAR, and analyses of pollutant composition and characteristics have been introduced to track pollution sources, so as to effectively deter illegal pollution emissions.

Responding to higher concentrations of particulate

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pollutants detected at Xingying station in October 2019, the EPA appointed the Southern Branch of the Bureau of Environmental Inspection to conduct inspections of construction projects, steel industry facilities, asphalt plants and other local stationary sources. A total of 23 inspections have been carried out, of which eight cases were reported. Also, responding to high concentrations of PM_{2.5}, PM₁₀, and sulfur dioxide detected by Daliao station during early mornings, the Environmental Bureau of Kaohsiung City prioritized inspections of burning facilities around that station.

In light of this, the EPA discussed carrying out interregional joint inspections with all environmental protection bureaus in southern counties and cities, and planned to conduct monthly inspections of key pollution sources from November on, in an effort to prevent further deterioration of air quality.

Control and Evaluation

The air quality this season is better than it was the year previous. The average $PM_{2.5}$ concentration in southern Taiwan detected by local automated monitoring stations so far this year (the 43^{rd} week) was $20.7\mu g/m^3$, lower than the average concentration of $21.5\mu g/m^3$ recorded during the same period last year.

In addition, the EPA coordinated with the Ministry of Economic Affairs and Taiwan Power Company to curtail loads and cut emissions at Hsiehho, Taichung, and Hsinta Power Plants. On 30 and 31 October 2019, a total load curtailment of 207,678,000 kWh was achieved, resulting in emission reduction of 78.6 metric tons of SOx, 85.9 metric tons of NOx, and 7.4 metric tons of total suspended particles (TSP), or roughly 23.4% of daily pollution emission generated by all power plants in Taiwan.

First National Enterprises Environmental Award Honoree List Unveiled

The EPA has been giving the Enterprises Environmental Protection Award for 28 years to promote enterprises to implement corporate social responsibility. However, the award system was largely modified this year, with its name changed to the "National Enterprises Environmental Protection Award". This year's ceremony was held at CKS Memorial Hall on 8 November 2019, with EPA Minister Tzi-Chin Chang personally presenting awards to all 2019 honorees, comprising a total of 38 enterprises that received three excellence awards, seven gold awards, 12 silver awards and 16 bronze awards. Apart from these, 18 enterprises also received nomination awards.

The participating enterprises had to go through preliminary, second, and final review stages. The environmental protection achievements of all 67 participating enterprises this year were summarized by the EPA. With respect to environmental management, 64 enterprises promoted green supply chains or green marketing, 50 announced corporate social responsibility reports, and 21 received green building certifications. With respect to energy and resource conservation, the enterprises saved over 200 million kWh of electricity and 14.79 million metric tons of water, cut down 3.6 million metric tons of carbon emissions (equivalent to the annual carbon absorption of 9,260 Daan Forest Parks), and collected more than 360,000 metric tons of rainwater. As for compliance with the government's environmental policies, the enterprises have contributed NT\$3.76 billion in green procurement and adopted 34 public restrooms and 29 kilometers of coastline, with 31,087 people participating in beach clean-ups.

The EPA noted that the three enterprises that won the excellence award have all received the honorary awards after having received the previous Enterprises Environmental Protection Award for three consecutive years. They were: First Commercial Bank; Bali Refuse Incineration Plant in New Taipei City, which commissions Onyx Ta-Ho Environmental Services Co., Ltd. for operations and management; and, Southern Taiwan Science Park Bureau (Tainan Science Park Resource Recycling Center). They reentered the competition this year with continued outstanding environmental protection performance, and were thus recognized by the award committee members.

As for the activities of award recipients, First Commercial Bank promoted green finance, setting an education base in its Wanhua Branch to promote green finance and environmental education. Bali Refuse Incineration Plant not only uses green energy but also recycles bottom ash to manufacture retaining wall bricks, permeable bricks, and road pavement materials. Southern Taiwan Science Park Bureau established a smart system to properly dispose of waste, striving for pollution prevention and reduction.

As for honorary awards, they were given to three enterprises that have received silver awards (or higher) for three consecutive years. They were: the Tainan plant of ChipMOS Technologies Inc.; Wafer Plant III of Vanguard International Semiconductor Corporation; and Yongkang Waste Recycling (Incineration) Plant in Tainan City, which commissions Onyx Ta-Ho Environmental Services Co., Ltd. for its operation and management. entered the competition for the first time this year and received the gold award, established a Sustainability Center and actively promoted low-carbon campuses. It was selected as one of the top 100 green universities worldwide for three consecutive years. The Zhongli Plant of Delta Electronics Inc., the silver award recipient, promoted green supply chains and set up a checking and counseling team for environmentrelated materials in products, asking its suppliers to comply with environmental requirements. Its projector and lighting equipment products were also certified with the Green Mark and Energy Labels. All of the aforementioned are outstanding enterprises dedicated to environmental protection, well-deserving of these accolades.

At this honoring event, the EPA gave special thanks to all awarded enterprises for their support and contribution to environmental protection. The EPA stated that besides the government's efforts, it needs corporate and public participation to make Taiwan better. It is hoped that other enterprises can be inspired by and follow the fine examples set by the award recipients to progress together and strive for the common good.

Information about the award ceremony and awarded enterprises can be found at http://aeepa.epa.gov.tw.



🔼 The 1st National Enterprise Environmental Award winners

Apart from the above, Nanhua University, which

Air

Draft of Restricted Activities for Air Quality Control Preannounced

On 15 October 2019, the EPA preannounced the draft of the *Restricted Activities for Air Quality Control* to prevent air quality deterioration during the fall and winter months when air quality is typically poor. According to the draft, from October to March every year, certain activities are prohibited when the PM10 or PM2.5 concentrations are predicted to reach the first catagory of alert level (AQI 151-200) for at least two consecutive days. Until the air quality improves to the level classified as the second catagory of alert level (AQI 101-150), the following activities are forbidden: using leaf blowers, mixing bituminous concrete, paving roads, demolishing buildings, loading and unloading cement raw materials in port areas, outdoor spray painting or sandblasting, and cleaning boilers and liquid VOC storage tanks.

Based on the existing *Regulations Governing Emergency Measures to Prevent Severely Deteriorated Air Quality*, emission reduction measures are to be taken once air quality is expected to reach a severely deteriorated state (AQI > 200). However, after evaluating the current regulations and implementation results, the EPA has decided that it would be more effective to conduct pollution source control at an earlier stage.



During a discharge of cement clinker, visible particulate pollutants fill the air.

International Cooperation

Past monitoring data has shown that air pollution in Taiwan is mainly caused by the high $PM_{2.5}$ and O_3 concentrations, which currently exceed the limit values of the air quality standards. In addition, the weather and topographic conditions way also aggravate the accumulation of pollutants in the environment.

To avoid addition pollution during the months with poor air quality and safeguard public health, the draft was formulated to prohibit seven categories of activities (11 activities in total) that produce extreme amounts of particulate pollutants and volatile organic compounds (VOCs). Local environmental protection bureaus will be in charge of the supervision and inspections. Regular violations are subject to a penalty ranging from NT\$1,200 to NT\$100,000, while commercial plants can be fined between NT\$100,000 and up to NT\$5,000,000 per violation. Through the new regulations, the EPA aims to raise public awareness and participation in air quality improvement.

Taiwan and Japan Sign Environmental MOU

On 30 October 2019, Taiwan and Japan signed a memorandum of understanding (MOU) on environmental protection cooperation in Tokyo. On behalf of their respective countries, the head of the Taiwan-Japan Relations Association (TJRA) I-jen Chiou and Chairman of the Japan-Taiwan Exchange Association (JTEA) Mitsuo Ohashi signed the agreement. EPA Counselor/Executive Secretary Shyh-Wei Chen and Deputy Director General of the Japan's Ministry of Environment Yasuharu Ueda witnessed the signing ceremony.

Following the Agreement on the Transfer and Disposal of Hazardous Wastes signed in 2005 and the Taiwan-Japan Bilateral Environmental Meeting in 2015, the signing of the MOU marked an important milestone for the bilateral environmental cooperation between the two countries. The MOU was jointly drafted by the TJRA and the JTEA and was finalized after going through multiple reviews by both side's environmental departments. With the purpose of strengthening environmental communication and information exchange, the pact has been signed and is now officially in effect.

The MOU covers collaboration in the following fields: environmental education, environmental impact assessment, air quality control and monitoring, marine pollution control, waste management and recycling, climate change mitigation and adaptation, ecolabelling, environmental laws and regulations, hazardous chemical management, and soil remediation. To enhance environmental communication and information exchange, the pact also includes the arrangement of the Taiwan-Japan Bilateral Environmental Meeting, which will be held annually or biennially by either country in turn.

The MOU was the result of the long-term cooperation between Taiwan and Japan and the mutual anticipation of deepening their ties in environmental protection and restoration. Through the MOU, the two countries are seeking consensus on global environmental issues and striving for environmental protection in the Asia-Pacific region.

Waste

2019 Taiwan Circular Economy Summit Kicks Off

n an effort to step up the promotion of circular economy, Taiwan Circular Economy Week jointly hosted by the EPA and the Ministry of Economic Affairs (MOEA) kicked off with the 2019 Taiwan Circular Economy Summit on 15 October 2019 in Taipei. Participants of the meeting, including government officials and authorities of the field from the UN, Finland and multiple allied nations, gathered together to share their insights on circular economy and its applications for plastics, construction and solar energy.

The EPA also had the honor of hosting Janez Potočnik, Co-chair of the UNEP International Resource Panel and world-renowned expert on circular economy, who participated in the summit for the first time. He spoke on the UN's Sustainable Development Goals (SDGs) and strategies for increasing resource efficiency to achieve a circular economy. As Finland holds the rotating Presidency of the Council of the European Union for the second half of the year, Mona Arnold, Principal Scientist of VTT Technical Research Centre of Finland, also attended the meeting as Finland's representative and spoke on their goal to become the leading country in circular economy through effective waste management schemes.

The EPA expressed appreciation for the generosity of its foreign guests for sharing their experiences in circular economy applications and policy development. Other feature speakers and their topics were as follows:

1. Masanobu Ishikawa, founder of Gomi Japan, spoke about the implementation experiences on plastic bottle recycling in Japan.

- Han Tran Viet, head of the Environmental-Economic Department of the Environmental Science Institute of Vietnam, explained Vietnam's management policies for plastic waste.
- Olaf Blaauw, Senior Strategic Consultant of Delta Development in the Netherlands, shared detailed experiences on promoting circular economy in the construction industry.
- 4. Felix Koh, head of the Industrial Paper Department of Asia Pulp and Paper in Indonesia, highlighted the successful applications of broken-down paper containers for reuse purposes, which provided Taiwan more options for paper container recycling and reuse.

In addition to the experts and scholars of the field, the EPA also invited some iconic companies and organizations, including: Taiwan Circular Economy Network, Plastic Industry Development Center, Unilever, Taiwan Concrete Institute, Taiwan Construction Research Institute, Taiwan Steel Union, the Chinese Institute of Environmental Engineering, Taiwan

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🔼 2019 Taiwan Circular Economy Summit jointly hosted by the EPA and the MOEA

Photovoltaic Industry Association, Chen Ya Resource Technology Corp., and TÜV Rheinland. The meeting mainly revolved around topics such as plastic waste reuse, circular construction and the reuse of reclaimed aggregate materials, and solar panel recycling.

In order to accomplish economic growth without sacrificing the environment, Taiwan has shown strong dedication in the promotion of circular economy with the implementation of the *Resource Recycling and Reuse Plans* and the passing of the *Circular Economy Development Plan.* The EPA's final goal is to achieve zero waste and pollution by 2050. Moreover, to gain the competitive advantages in the pursuit of green economy, companies have been voluntarily forming green deals and have established a total of five major circular economy alliances in Taiwan.

International Cooperation

Taiwan to Promote Environmental Education in Asia-Pacific

Co-organized by the Taiwan EPA and the USEPA, the 2019 Global Environmental Education Partnership (GEEP) Conference was held on 14 October 2019 in Lexington, Kentucky, USA. Participants of the conference included 38 environmental education specialists and scholars representing governments and NGOs from 14 nations. The main purpose of the conference was to discuss the establishment of an environmental education network in the Asia-Pacific region and to verify details for the next Asia-Pacific Environmental Education Symposium.

The conference was co-hosted by the Taiwan EPA and the USEPA with participants of government officials, experts and scholars from 14 countries: Australia, Botswana, Canada, Denmark, Finland, India, Japan, Kenya, Russia, Malaysia, Mexico, New Zealand, the US, and Taiwan. Taiwan's delegation consisted of two environmental education experts and was led by Tsung-Yung Liu, Director-General of the EPA's Department of Comprehensive Planning.

At the opening ceremony, Director-General Liu pointed out that Taiwan, located in the center of

Asia-Pacific, played a key role in the international communication across the area from various aspects, such as economic development, education and culture. Therefore, the next Asia-Pacific Environmental Education Symposium will serve the important purposes of establishing sustainable relationships with other Asia-Pacific countries and promoting environmental education in the region. Taiwan would also utilize this opportunity to share its successful experience in environmental protection and education and help raise environmental literacy. Additionally, to expand environmental education capacity in the region, the EPA worked with Taichung City Government to establish GEEP's Asian center, which will open in December 2019. Hence, representatives from Taichung City Government also attended this GEEP conference to help promote sustainable development through global environmental education and connect regional education networks. With the assistance of the Ministry of Foreign Affairs and the American Institute in Taiwan, the Taiwan EPA and the USPEA have developed a strong bond through their cooperation over the past 25 years. With this conference, the Taiwan EPA's goal is to expand global partnership in environmental education and carry out the promotion of Taiwan's New Southbound Policy.

Environmental Education

Volunteer Appreciation Event Draws 2000 Participants in Yunlin

The EPA and the Yunlin County Government jointly held the 2019 National Outstanding Environmental Volunteer Meeting in Yunlin County on 26 October 2019. The purpose of the event was to promote environmental education in an entertaining way and show appreciation for volunteers' service. Both EPA Minister Tzu-Chin Chang and Yunlin County Commissioner Li-Shan Chang were present at the opening ceremony to convey their gratitude to volunteers and cheer for them during the competition. More than 2,000 volunteers from 22 counties/cities participated in the event, during which they fully displayed their enthusiasm and knowledge in environmental protection.

The event this year was held in Yunlin County, also known as "Taiwan's granary" and "agriculture capital." At the ceremony, EPA Minister Chang explained that volunteer work can be divided into seven major categories: environmental education, carbon reduction, greening, river remediation, environmental cleanups, recycling, green lifestyle and consumption. Environmental protection is a global concern and people of Taiwan should not be left out. Taiwan has seen an increase in environmental volunteers, who play an important role in the implementation of environmental policies. Local environmental agencies have more than 3,700 volunteer teams, which consist of over 180,000 volunteers.

With the volunteers' assistance and the collaborative contribution between central and local governments, the EPA will continue striving for the safeguard of public health and improvement of the citizens' quality of life.

Environmental Sanitation

EPA Holds 2019 Pest Control Workshop

The EPA held the 2019 Conference and Workshop on Environmental Agents and Vector Management on 25 October 2019. Ten government representatives and experts in the field of public health and safety, agriculture and pest control were invited to exchange their practical experiences in pest control with the use of environmental agents. The EPA also invited Stephen L. Doggett, Director of Medical Entomology at NSW Health Pathology of Westmead Hospital in Australia, to speak on current international practice in pest management.

The EPA explained that environmental agents are often chemicals used directly in people's households and can cause harmful effects to human health. Therefore, proper management and safe use of environmental agents have become an important topic. During the workshop, Err-Lieh Hsu, Professor Emeritus from the Department of Entomology at National Taiwan University, and Professor Hsiuhua Pai from the National University of Kaohsiung talked about pesticide development and test results of pesticides' impact on insects, respectively. The EPA also invited the following experts to share their

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knowledge on the control of common household pests such as ants, litchi stink bugs and bed bugs: Chung-Chi Lin, Professor from the National Changhua University of Education; Huang-Lung Hsu, Chairman of the Changhua Pest Control Association, and experts from Australia. In addition, representatives from health and agricultural units gave presentations on the research results of related subjects.

practices and work on developing environmental agents that are more environmentally friendly. To avoid pesticide poisoning and other potential health risks, the EPA recommended the public to adopt natural pest control measures and only use chemical pesticides when necessary. Through this workshop, the EPA aimed to stimulate the information exchange among the industry, government and academia and utilize the information for policy making and industrial development.

The EPA encouraged businesses to study international



2019 Conference and Workshop on Environmental Agents and Vector Management held in Taipei



Amendments to Waste Disposal Act Enforcement Rules Announced

The Waste Disposal Act Enforcement Rules were recently amended to strengthen the management of general waste disposal facilities and to better complement the Waste Disposal Act. The revisions expanded the scope of responsibilities of local environmental protection bureaus regarding the management of general waste disposal facilities. Additionally, detailed regulations on the treatment priorities of different waste types have been added to the rules for practical execution.

The main points of the amendments to the *Waste Disposal Act Enforcement Rules* include:

- 1. Expanding the scope of responsibilities of county environmental protection bureaus regarding the management and allocation of general waste disposal facilities, and adjusting the obligations of government agencies at all levels.
- 2. Defining the "surplus capacity" stated in Article 28 paragraph 6 of the *Waste Disposal Act* and calculation methods for practical management.

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