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千葉大学大学院園芸学研究科

Graduate School of Horticulture, Chiba University



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●Report

Sharing the experiences on the implementation of environmental horticulture in Indonesia

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Abstract

This article touches upon the current activities of applied Environmental Horticulture in Bogor Agricultural University, Indonesia. Activities are Agro-Education Tourism (AET) and Integrated Plant Clinic Car Program. IPB operates two major services to support profession development of landscape architects who graduated from IPB. Services are Public Consultation service and Expertise Certification Service.

Introduction

Graduated from doctoral program at Chiba University in 1997, Bambang Sulistyantara is a faculty member of Faculty of Agriculture, Bogor Agricultural University Indonesia and briefly explains his experiences in his own country. With the background of a landscape architect and planner, in this paper he describes his experiences in the field of environmental horticulture.

I am very happy to have a chance for us to meet together in this symposium. Of course this is with a hope that the ideal purposes stated in the first symposium last year can be realized. The purpose of the symposium contains great expectation for scientific development and application of technology within the scope of environmental horticulture in wide understanding.

Educational background

My first chance to attend Chiba University started from the master's program in 1991 and continued to the doctoral program in 1994. I graduated both programs at The Laboratory of Urban Environmental Design (Toshi Kankyō Dezaīn), beginning with the guidance of Prof. Sadatoshi Tabata and continuing in the guidance of Prof. Yoritaka Tashiro. I finished the doctoral program in March 1997.

I am very grateful to all the supervisors who gave me opportunities and directed me to get the education at the Chiba University. I also thank all the teachers involved in the process of my education.

In the next section, I describe several experiences that illustrates the implementation and development of science and technology related to the scope of environmental horticulture in my own country.

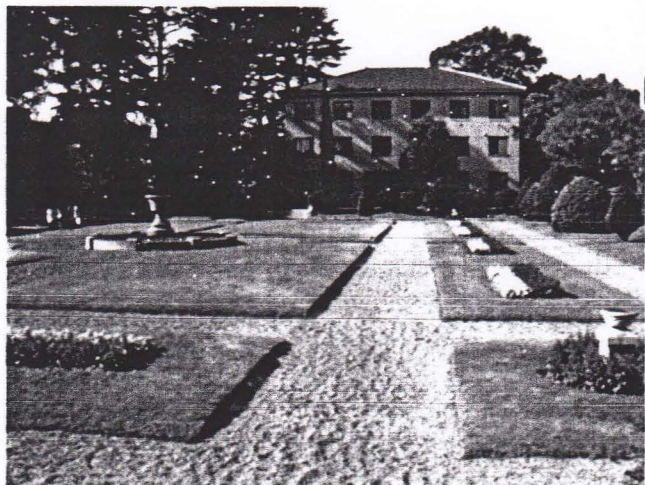


Figure 1. View of laboratory of Urban Landscape Design at Faculty of Horticulture, Chiba University



Figure 2. View of Faculty of Agriculture, Bogor Agricultural University (IPB), Indonesia

Current position

Since completing the education program at Chiba University, I immediately returned to duty as lecturer and faculty staff at the Faculty of Agriculture, Bogor Agricultural University (IPB). In particular, today I teach at the Department of Landscape Architecture, Faculty of Agriculture, Bogor Agricultural University. The Department of Landscape Architecture at Bogor Agricultural University is the largest of its kind in Indonesia, and was the first (since 1999) to offer a Graduate Program of Landscape Architecture leading to a Master's Degree.

As faculty staff, I arrange the time to perform cooperative activities with other relevant institutions, those are the Jakarta City Park and Cemetery Office and the Ministry of Public Works. In the Jakarta Park and Cemetery Office I share the time for the membership of Advisory Board within it. The task of this section is to assist the Head Office in arranging the annual activity program for development plan and evaluation system of parks in Jakarta. Included in this duty is to evaluate landscape site design competitions, which the advisory board gives approval before construction begins.

Part of my activities also includes helping the City Park Office of various cities in Indonesia provide advice and recommendations for landscaping development in their respective regions. Indonesia covers a wide area and has a high diversity. Each area has unique characteristics and must be handled individually, so that recommendations and development suggestions can not be given in a general form.

Besides the City Park Office, I have also been often asked to work cooperatively with the Ministry of Construction of the Republic of Indonesia, especially from LPJK (Lembaga Pengembangan Jasa Konstruksi/ Construction Services Development Board). Through this institution we have prepared many important documents of ethic code for the construction service in landscape construction work. World of construction services in Indonesia is derived from and protected by Law number 18 year 2000 (Undang-Undang no. 18/2000) about Construction Service.

By the law, it is stated the necessity to develop certified construction



Figure 3. Contribution to Ministry of Construction of the Republic of Indonesia

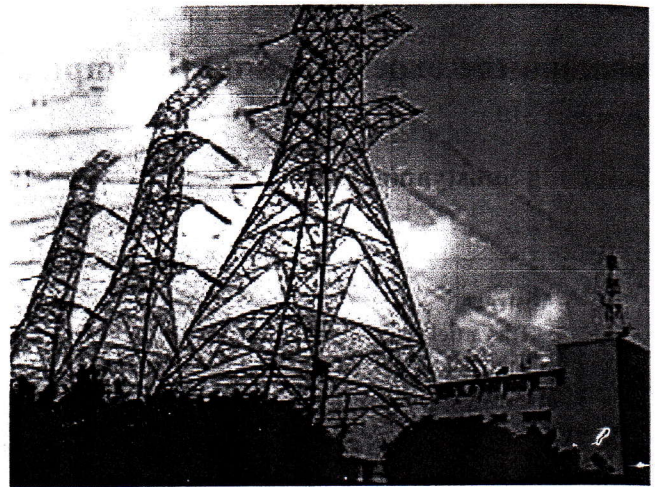


Figure 4. The extra high voltage line

experts. In 2003, LPJK accredited ISLA (Indonesian Society of Landscape Architects) to issue expertise certificates for its members. ISLA members who had been certified have a qualification as an expert in construction planning, execution and supervision of landscape construction work.

The Ministry of Environment is another office which often invites me to assist in the preparation of environmental impact assessments, because I am a member of national commission for national park impact assessment. This commission has a duty to direct and control the construction development that is spreading into the national park area. Usually in the national park we find obstacles to the development of public facilities like the extra high voltage air lines, where the line network splits the national park area. Therefore, it is necessary to carefully study the line network because it will have a great risk toward biota, habitat and ecosystem that exist within the national park.

Role in educational development

Below, I will describe some related activities in the field of educational development. Most of the time, I conduct educational activities because of my status as a faculty staff. But what I meant here is the other activity of extra-curricular field.

AET-IPB

Since 2004, I have been entrusted by the President of Bogor Agricultural University as a Chairman of Agro-Education Tourism Management Team. The activity's name is Agro-edu-tourism, abbreviated as AET of IPB. Activity of this tourism is essentially a new model and the only one conducted in Indonesia that empowers college faculty to provide educational services for the public.

The purpose of AET of IPB is to improve the image of agriculture education in Indonesia in general and IPB in particular. Since the eco-



Figure 5. Elementary students enjoying AET program

conomic crisis that struck Indonesia around 1998, there has been a decrease in interest to study in the field of agriculture, resulting in a signif-

icant impact and closing of some agricultural faculty in various places in Indonesia. This situation also occurred to IPB. In order to prevent this decrease of agricultural education image, IPB has been eagerly evaluating and changing its curriculum system, and performing various promotional activities. AET is one of strategic activity for IPB to promote, as well as to increase the interest for applicants.

The AET development concept is very simple, it uses the assets owned by IPB to provide service to the public through giving practical knowledge and technology. Of course, the community needs to know the secret of science and technology in agriculture in worldwide definition. The focus of the activity is to target students from kindergarten to high school. As a regional area, the target group is focused on schools located around Jabodetabek (Metropolitan and hinterland of Jakarta, Bogor, Depok, Tangerang and Bekasi). However, the AET welcomes the visiting of tourism education from schools outside the Jabodetabek.

IPB-AET activities have been supported by all the stakeholders of



Figure 6. Students enjoying AET program at Insect Museum



Figure 8. Other students get experience on hydroponic culture at Greenhouse



Figure 7. Another student gets experience at Faculty of Husbandry



Figure 9. Students of High School Other students get experience on plant nursery

agro-edu tourism on the campus of IPB, which has laboratories embedded in every department. Formerly, some attractions for tourism at department have not to be ready to become the potential object to sale for tourism activities, because not every department has a capability to advantage the opportunities. Herewith, the role of Management Team of IPB-AET is to support every department to explore the tourism attraction through the using of facilities that are available in each laboratory. The AET Management Team helps to formulate tourism program packages, and then sale to many school.

Many schools from kindergarten through high school are interested in the AET program. This is due to the fact that in every school there are subjects in the curriculum that require the students to participate in practical activities or fieldtrips. Some schools are already sufficiently equipped with facilities, but generally there is a limitation of practicum facilities in many schools, so the fieldtrip program is important to improve the understanding of the subject and is considered a priority. For example, in order to deepen the subjects of Biology and Environmental Science, the AET lets students see and practice at IPB, so that they will be interested and more easily understand the lesson material. In the visit to IPB, the students take a tour package associated with those lessons, for example by conducting visit to Insect Museum, Arboretum Faculty of Forestry, and study the animal life and poultry in the Faculty of Animal Husbandry.

Today, IPB-AET activity is well-known by many other universities in Indonesia, and some want to be supervised to develop a similar AET program at their owned universities. AET is very pleased to share its experience with other universities or colleges, because the main objective is to increase the interest of students to study agriculture. The more universities that run the AET program, the quicker the AET mission will be accomplished.

The Directorate General of Higher Education of the Ministry of

Higher Education has supported AET activity since 2010 by providing multi-year grant (until the year 2012) for the development of entrepreneurship at Institutions of higher education.

Integrated Plant Clinic Car

Integrated Plant Clinic Car, Faculty of Agriculture IPB is a tool to provide services to the public to perform analytical tasks in the field of agriculture, including aspects of soil fertility, agronomy and horticulture technique, plant health, and analysis of green open space and service to make landscaping design. This car is also equipped with tools for the socialization of agriculture, including for screening films at night. Thus, this facility is like a laboratory that is ready to serve anytime and anywhere.

Procurement of the Integrated Plant Clinic Car (IPCC) was in 2009, so that this year it has been running for two years. The procurement was sponsored by the Directorate General of Higher Education of The Ministry of National Education through a competitive grant with a program to increase the image of agricultural education at universities.

With the integrated plant clinic car the Faculty of Agriculture of IPB is expected by society to take the advantage in agriculture aspects as much as possible in the form of an agriculture advisory service with lower cost. Experts involved in the clinic car consist of several faculty staffs in the Faculty of Agriculture IPB, encompassing four departments.

IPCC is programmed to be ready to respond if called from the community. Most consultations would rarely involve all four departments. Sometimes activity is only about plant health problem, so that the more urgent issue is the readiness of the lecture team from the Department of Plant Protection and Department of Agronomy and Horticulture.

If there is a need for special consultation of Gardening Service concerning the design and garden health, the lecture team from Depart-

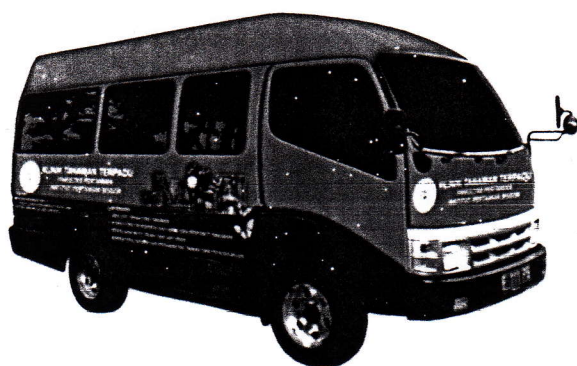


Figure 10. Integrated Plant Clinic Car as a mobile clinic owned by Faculty of Agriculture IPB



Figure 11. Integrated Plant Clinic viewed from the front



Figure 12. Activity at Professional Social Service at Rural Area

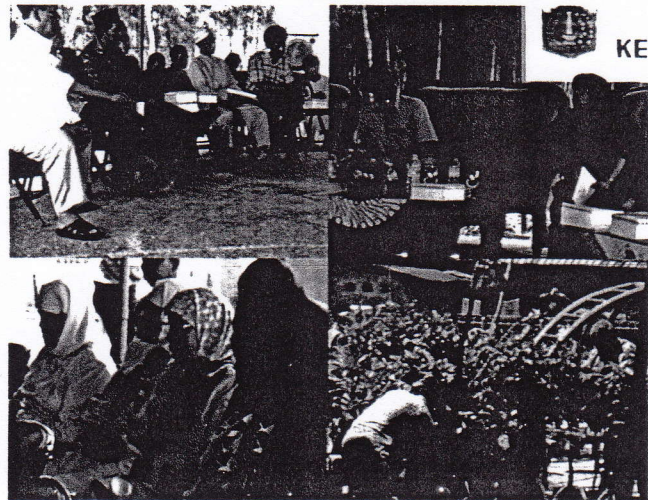


Figure 15. Neighborhood park participation at East Jakarta



Figure 13. Activity at Professional Social Service at Rural Area by students at Faculty of Agriculture IPB



Figure 16. Encouraging the power from local government in manage water resource at Kuningan West Java

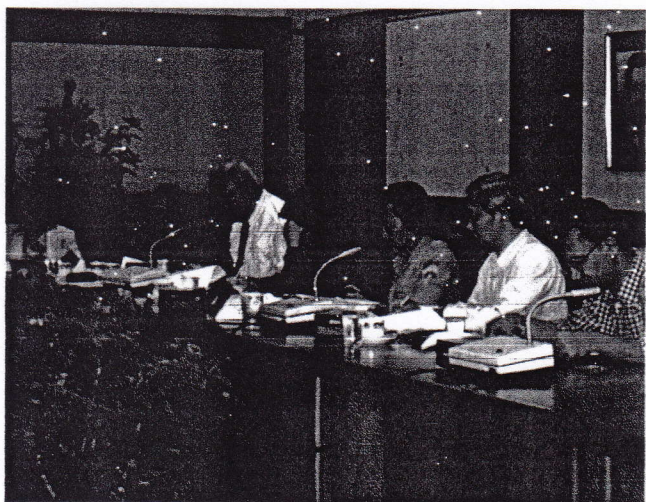


Figure 14. Activity for public consultation services at Jakarta Municipal Government

ment of Landscape Architecture and Department of Plant Protection is more preferred for readiness to serve. The service mechanism of using IPCC is set by Clinic Car Secretariat at Faculty of Agriculture, IPB. Specifically, I myself am involved in a lecture team that is responsible in the management service field of Landscape Architecture.

IPCC is also very useful in supporting KKP (Kuliah Kerja Profesi Professional Social Service Work). In this situation, IPCC provides service to many rural communities integrated with program of agricultural development at each rural area. Surely many local governments are very enthusiastic with the presence of IPCC in their respective regions.

The role in profession development

In the professional world of landscape architecture, I have some op-



Figure 17. Encouraging the power from local community in manage and funding community park at Bogor City, West Java; People using their own community park



Figure 18. Process of expertise certification for the member of ISLA (Indonesian Society of Landscape Architects)

portunities to participate in public consultation and expertise certification.

Public Consultation Service

Some local governments ask for my help as an expert in planning for the development of parks and green open spaces. The most frequent request comes from the provincial government of DKI Jakarta. Of course there are also many requests as an expert from other local governments located outside of Java Island. Besides, I have been requested to supervise planning consultant agencies. In general, I am involved as an expert in planning and designing of various landscape works, including landscape master plan work and making DED (detailed engineering design). The duty as an expert in both local government and consultant agencies is not binding, but only under a contract agreement for completion of the job.

Expertise Certification Service

Since 2009, I have been assisting the National Executive Board of Indonesia Society of Landscape Architect (ISLA/ Ikatan Arsitek Lanskap Indonesia) and I have the duty as a Chairman of The Expertise Certification Board (Chairman of BSA/ Badan Sertifikasi Keahlian). BSA is an independent body that was established by the ISLA to provide expertise certificates for ISLA members. As cited above, ISLA has been accredited to issue certificates of expertise.

The Expertise Certification Board (BSA) domicile is in the national capital of Jakarta. An ISLA member who proposes the expertise certificate should fulfill the registration document through their respective local board. The Local Board is provincial-level administrators. BSA will conduct a verification test to evaluate documents and make any correc-

tion toward self-assessment by each applicant. In advance, BSA publishes expertise certificates to applicants who complete the requirements, and classifies them into categories of expertise provided. Experts who have already been certified are ranked into three levels, Young Expert, Middle Expert and Senior Expert. To achieve the higher expertise additional value of the landscape architectural work is required.

The Expertise certificate is needed to find construction service work in Indonesia. The certificate is even valid internationally. Someone who will work in the field of landscape architecture construction service abroad must submit their expertise certificate in Indonesia first. In Indonesia, these certificates must be owned by someone who will be involved in construction work, especially jobs that involve planning and or construction of public facilities and managed by central and local government. The period of validity of the certificate is 3 years, and must be extended before expiring. At the time of extending the valid period, the expert can increase their expertise rating, as long as satisfied with work values required.

In this regard, I myself am currently also involved in the SKKNI (Indonesian National Work Competence Standard) for Open Space Planner. Preparation of the SKKNI is conducted under the authority of Human Resources and Construction Development Agency, Ministry of Public Works of the Republic of Indonesia. Later, the standard for open space planner should be re-evaluated to raise its expert competency. So the above mentioned is a short brief on my experience and work in the area of environmental horticulture in my own country. I hope the vessel of communication between us currently can enrich my daily duty, both on campus and off campus. I would like to thank all of my teachers who helped and bring me toward very wide duties and responsibilities

and gave a large benefit for the progress of my nation.

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総説

- 水瀬彩子：江戸時代（1603-1868）における日本の花卉園芸の発達（英文）…………… 1
宍戸雅宏：Plant disease management in protected horticulture（英文）…………… 7
石井麻有子，岩崎 寛：病院の歴史と変遷に基づく緑化空間への影響に関する研究—日本と欧米に着目して—…………… 19
丸山敦史，高垣美智子，村田義宏，櫻井直人，小島三佳，菊池眞夫：大学農場生産の経済的評価—果樹生産とジャム加工について—…………… 27

論文

- Imre VANÓ, 坂本一憲, 犬伏和之：ツツジ科植物からの dark septate endophyte の分離とそれらの分子系統関係（英文）…………… 41
伊藤善一，丸尾 達，石川正美，前田ふみ，鈴木智之，大場由貴，篠原 温：種子精選が種子繁殖型 *F₁* イチゴ (*Fragaria* × *ananassa* Duch.) 種子の発芽に及ぼす影響…………… 49
松浦元樹，田川彰男，小川幸春：画像計測を利用した食品素材の弾性的特性値評価—煮熟されたダイコンおよびニンジンのポアソン比計測—…………… 55
加藤 茂，犬伏和之：光合成細菌を含む市販の微生物資材による湛水土壌からのメタン生成抑制効果（英文）…………… 61
Alam Syed SARTAJ, 坂本一憲, 犬伏和之：トマトの生育とフザリウム萎凋性病害に及ぼす *Penicillium* sp. EU0013 株の接種の影響（英文）…………… 69
齋藤政則，篠山浩文，齋藤明広，知久和寛，安藤昭一：スキ落葉から分離した *Pestalotiopsis* 属糸状菌が生産するカテコール配糖化酵素の精製と諸性質…………… 75
塚越 覚，犬塚沙織，北条雅章，池上文雄，武永早苗，中尾千草，瓜生 登，萩原俊彦，青木仁史，花村高行：ダイコン品種の葉膳素材としての適性評価…………… 81
谷 光燦，田代順孝，木下 剛：中国古典園林における意境と空間要素の関係に関する研究—小説「紅樓夢」の「瀟湘館」を事例として…………… 87
沖津 進, Valentina E. Prikhodko, 松島未和, 犬伏和之：ウラル山脈南東部アルカウム生態保護区周辺の植生景観（英文）…………… 97
水野大樹，竹崎大悟，安田正次，百原 新，沖津 進：千葉大学園芸学部松戸キャンパスにおけるシダ植物フロアと生育状況…………… 103
竹崎大悟，水野大樹，安田正次，百原 新，沖津 進：千葉大学園芸学部松戸キャンパスにおけるコケ植物フロアとそれらの生態分布…………… 111
溝田俊之，大江靖雄：農業経営分析の展開と実践的農業経営分析構築上の課題…………… 117

資料

- 瀬畑美穂，菅 洋平，牧田美希，宮越 洋，林 克彦，真田宏夫，江頭祐嘉合：品種の異なるハト麦の食物繊維，総ポリフェノール含量について…………… 131

報告

- 佐藤啓威：千葉大学附属図書館松戸分館所蔵「江戸・明治期園芸書コレクション」の画像電子化・公開について…………… 135

特集

- Environmental Horticulture International Forum
木庭卓人園芸学研究科長の前書き（英文）…………… 143
田代順孝：“Bulletin of International Environmental Horticulture Studies”への締結報告（英文）…………… 145
Bambang Sulistyantara：環境園芸学のインドネシアにおける実施報告（英文）…………… 149

研究業績

博士学位論文

REVIEW

- Nagase, A. : Japanese floriculture development in the Edo period (1603-1868)…………… 1
Shishido, M. : Plant disease management in protected horticulture…………… 7
Ishii, M. and Iwasaki, Y. : Effect to green space in the hospitals based on the history and transition of the hospitals—Focus on Japan and Western Countries…………… 19
Maruyama, A., Takagaki, M., Murata, Y., Sakurai, N., Kojima, M. and Kikuchi, M. : An economic evaluation of university farm's production : the case of fruit and jam production…………… 27

ARTICLE

- Vanó, I., Sakamoto, K. and Inubushi, K. : Phylogenetic relationships among non-pathogenic isolates of dark septate endophytes from *Ericaceae* plants…………… 41
Ito, Y., Maruo, T., Ishikawa, M., Maeda, F., Suzuki, T., Ohba, Y. and Shinohara, Y. : Effects of seed grading on seed germination of seed propagation type of *F₁* hybrid strawberry (*Fragaria* × *ananassa* Duch.)…………… 49
Matsuura, M., Tagawa, A. and Ogawa, Y. : Evaluation of elastic properties for tissue of agricultural products by means of digital imaging assisted method—Measurement of Poisson's ratio for a tissue of boiled Japanese Radish and Carrot—…………… 55
Kato, S. and Inubushi, K. : Suppression effects of commercial microbial materials including phototrophic purple bacteria on methane production in submerged soil…………… 61
Alam, S., Sartaj, Sakamoto, K. and Inubushi, K. : Effect of *Penicillium* sp. EU0013 inoculation on tomato growth and Fusarium wilt…………… 69
Saito, M., Shinoyama, H., Saito, A., Chiku, K. and Ando, A. : Purification and characterization of catechol-xylosylating enzyme from *Pestalotiopsis* sp. SRA isolated from fallen leaves of Japanese Cedar (*Cryptomeria japonica*)…………… 75
Tsukagoshi, S., Inuzuka, S., Hohjo, M., Ikegami, F., Takenaga, S., Nakao, C., Uryu, N., Hagiwara, T., Aoki, H. and Hanamura, T. : Evaluation of Japanese radish cultivars in terms of medicinal properties for “Yakuzen” dishes…………… 81
Gu, G., Tashiro, Y. and Kinoshita, T. : The study on the connection of the element of space and the yijing of the Chinese classic garden—The case of the xiaoxiangguan in the novel “A Dream of Red Mansions”…………… 87
Okitsu, S., Prikhodko, V.E., Matsushima, M. and Inubushi, K. : Vegetation landscape around the Arkaim eco-preserve, southeastern Ural, Russia…………… 97
Mizuno, T., Takezaki, H., Yasuda, M., Momohara, A. and Okitsu, S. : Fern flora and habitats of ferns in the Matsudo Campus, Faculty of Horticulture, Chiba University…………… 103
Takezaki, H., Mizuno, T., Yasuda, M., Momohara, A. and Okitsu, S. : Bryophyte flora and ecological distribution of bryophytes in the Matsudo Campus, Faculty of Horticulture, Chiba University. …… 111
Mizota, T. and Ohe, Y. : Exploring a framework on practical farm management analysis: evolutionary review on the quantitative studies…………… 117

NOTE

- Sebata, M., Suga, Y., Makita, M., Miyakoshi, Y., Hayashi, K., Sanada H. and Egashira, Y. : Contents of dietary fiber and total polyphenol in nineteen varieties of Adlay (*Coix lacryma-jobi* L. var. *ma-yuen* Stapf)…………… 131

REPORT

- Sato, H. : Notes on the digital imagery of “Horticulture book collection on Edo-Meiji era in Matsudo Branch Library Chiba University” and its open to public in website…………… 135

Environmental Horticulture International Forum

- Koba, T. : Foreword…………… 143
Tashiro, Y. : Notice on the launch of the “Bulletin of International Environmental Horticulture Studies”…………… 145
Bambang S. : Sharing the experiences on the implementation of environmental horticulture in Indonesia…………… 149

Research Outcomes

Doctoral Thesis

