

Native Plants Marketing by Entrepreneurs in the Landscaping Industry in Japan

Yuki Hara

Abstract—Entrepreneurs are welcomed to the landscaping industry, conserving practically and theoretically biological diversity in landscaping construction, although there are limited reports on corporative trials making a market with a new logistics system of native plants (NP) between landscaping companies and nurserymen. This paper explores the entrepreneurial process of a landscaping company, “5byMidori” for NP marketing. This paper employs a case study design. Data are collected in interviews with the manager and designer of 5byMidori, 2 scientists, 1 organization, and 18 nurserymen, fieldworks at two nurseries, observations of marketing activities in three years, and texts from published documents about the business concept and marketing strategy with NP. These data are analyzed by qualitative methods. The results show that NP is suitable for the vision of 5byMidori improving urban desertified environment with closer urban-rural linkage. Professional landscaping team changes a forestry organization into NP producers conserving a large nursery of a mountain. Multifaceted PR based on the entrepreneurial context and personal background of a landscaping venture can foster team members' businesses and help customers and users to understand the biodiversity value of the product. Wider partnerships with existing nurserymen at other sites in many regions need socio-economic incentives and environmental reliability. In conclusion, the entrepreneurial marketing of a landscaping company needs to add more meanings and a variety of merits in terms of ecosystem services, as NP tends to be in academic definition and independent from the cultures like nurseryman and forestry.

Keywords—Biological diversity, landscaping industry, marketing, native plants.

I. INTRODUCTION

THE biodiversity provides important resources which supports many aspects of human life. The National Biodiversity Strategy of Japan 2012-2020 [1] was agreed to create the socio-economic mainstream over preserving and sustainably using biodiversity. In this socio-economic mainstream people know well multi relationships and skills between daily lives and biodiversity.

NPs is one of the natural materials which a landscape industry, a research institute, a museum uses to control the artificial environment for better biodiversity [2]. The definition of NP in Japan includes at the gene level under the convention on biological diversity several institutionally certified rules which enterprises open the information on sites where they collect and produce plants, and which stakeholders can choose and plant under their agreement at a targeted landscaping site [2]. Landscaping with NP needs not only wider participation from diverse stakeholders such as scientists, industries, local

governments, residents and NPOs, but also complex arrangements of a project [3].

Private landscaping companies arrange many social matters through economic solutions. They participate in a project as their CSR on their own main business, and try to get both domestic and international biodiversity certifications on a site of a project [4]-[6]. A landscaping company in Japan applies NPs to a set of biodiversity conservation techniques [7] and to public relations about biodiversity into citizens in a city [8]. Nurserymen and seed companies are traditional but new actors who make a new collaborative model of producing and distributing NP towards landscaping by professionals [7], [9], [10]. House makers create new brands like "Gohon no ki" (meaning "five trees") by Sekisui House [11] or "Harmonic Plants" through the greening business by Sumitomo Forestry [12].

Back to the discussion of the National Biodiversity Strategy of Japan 2012-2020, the essential practice is marketing. Previous research focused on the best way of making more economic growth over creating better urban landscapes with biodiversity with the production and distribution of NP [13], [14]. However, two obvious problems exist in creation of the socio-economic mainstream. Firstly, existing companies face difficult borders to enter biodiversity markets and cannot expand those businesses [15], [16]. Existing companies need different open channels to enter the markets. Secondly, and basically, lack of studies on management of landscaping industries causes immature understanding how their marketing is tested on residents or agricultural and forestry industries that are not familiar with biodiversity and NP. According to these two academic problems, this paper studies on marketing processes and contents how a landscaping company creates its business model and arranges stakeholders and existing companies into the new biodiversity market with NP.

II. METHODOLOGY

A. Research Framework

Although previous studies do not specify the flow of analysis, but merely list the items to be analyzed, this paper established a framework to study on landscaping companies in three steps: management, marketing, then production of NP.

The first step, the management, is composed of thirteen indexes such as site planning, landscaping design guidelines, actual construction and management, brief handover, and maintenance planning and operations [17]. In this management, very few landscaping companies produce plants in-house [18], and almost companies choose out-sources production. A landscaping company needs to establish a trusting relationship

Yuki Hara is with PEN Limited, Fujisawa, Kanagawa, Japan (phone: +81-90-5492-8427; fax: +81-466-53-8464; e-mail: yukih@manyoraku.co.jp).

to ensure good quality of the plants with nurserymen, whom some abandon producing the plants midway in favor of their core business [19]. Therefore, the management of landscaping companies needs to be divided into two types of analysis: a core business of landscaping and the establishment of relationships and out-sourced business structures with nurserymen producing NP.

The second step, marketing, is a key measure on the first agenda of the National Biodiversity Strategy of Japan 2012-2020 [1], and is put on an essential element in the development of landscape companies. No previous paper defined the marketing in business of a landscaping company, thus this paper defines "marketing" as the act of connecting citizens of consumers, with producer group of companies, communities and areas while receiving and disseminating information about the value of the management of a company, and its products and services [20], it is often called "public relations" (hereafter abbreviated "PR"). The reception and dissemination of information in PR includes a variety of forms, both print and digital, such as newspapers and videos, as well as events, learning and other experiences. In particular, marketing of the region works as an urban-rural linkage [21] that relates among the livelihoods of producers of NP, a landscape company, and the end users of residents who live at the site where the NP is landscaped by the company. Thus, the second step of survey analyses two types of PR: the one is support for each project through marketing, and the other is promotion by the urban-rural linkage which enhances the understanding of the biodiversity among the stakeholders and relevant business of the company.

The third step, based on the analysis of the first and second phases, methods and challenges in making new relationships with nurserymen near to the construction site are analyzed to respond to a market that has expanded across the country with the growth of landscape architecture companies.

B. Methods

This paper employs the case study under Eisenhardt [22]. Previous researches on landscaping industry studied the geographical factors of industrial clusters in one area [23] and modernisation process along statistic and institutional framework [24], and no paper discussed its relationship with biodiversity and NP. Thus, a case study is suitable to use a series of surveys to develop an understanding of a subject and to build a theory. The study constructs a minimum logic to derive a theory with contents from previous research. This hypothetical logic can be modified as clearer understanding develops from the progress of the surveys. A target case is selected along the purpose of the research and the hypothetical logic.

The case studies were selected based on three axes along the research framework: The first axe was a company that recovers the urban environment. The second axe was an urban-rural linkage business making an interaction between urban residents who take NP into their gardens and rural NP producers to promote more understandings of biodiversity conservation. The third axe was the core business with NP landscaping for

economic development and environmental conservation in rural areas. A landscaping company "5byMidori" is selected in three awards for environmental businesses in Japan of the Eco Japan Cup [25], the Environmental Communication Award [26] and the Eco Products Award [27].

Basic data sets and methods collecting the data are text on the website of 5byMidori [28], interview for Ikumi Miyata, the CEO of 5byMidori and Michio Tase, the landscaping designer, and observation at some events by 5byMidori and meetings with Yazawa Nursery and business stakeholders. The first step collects more data from an article of Eco Japan Cup, a business textbook by MM incubation partners (Figs. 1 and 2). The second step collects the PR articles of some magazines and newspaper about 5byMidori. Totally, 62 press releases of 46 different types were issued between autumn 2002 and December 2013 (Table I). Magazines are categorized by year of publication, media type, subject matter, content and editorial tone of the articles. The target readership is divided into two categories: "professional" and "general" related to landscaping, and "other general" into magazines, newspapers and books (including reports), based on the assumption of a difference in circulation. The content is categorized into corporate strategy, organizational and personal views, and services. The tone of the description is a method of analyzing the indirect impact of the expression, given that direct measurement of the impact on readers is difficult. The third step collects interviews for Jiro Kokuryo, the nomination judges at the Eco Japan Cup, the Ministry of Environment, Kenichi Takada, managing director of the Center for Reforestation of Regional Nature, Satoshi Osawa, assistant professor of Japan University. Interviews extract the possibility building Producer Network with 5byMidori from 12 nurserymen in the NP study group of Japan Nurserymen's Association. This interview revealed that 12 nurserymen did not cover the expanding market of 5byMidori. 3 more nurserymen and nursery organizations were added to the interview list through referrals from officials, other nurserymen and internet searches (Fig. 3). Simultaneously, it was surveyed whether nurserymen were involved in the conservation of *Satoyama* together with civic organisations in the area where the nurserymen were located (Fig. 2).

III. MANAGEMENT OF 5BYMIDORI

A. Mission and Core Business Creating

5byMidori has a three-pronged mission: the first is to increase the amount of greenery in constrained urban spaces. The second is to keep the greenery as much as possible indigenous to the land. The third is to contribute to the conservation of the *Satoyama* environment through its business. In order to achieve this mission, 5byMidori designs its products as "tools for creating green spaces", linked to the "will" of the owner, designer and other users to form a "meaning" and as effective demonstration of the "performance" of greenery.

The business concept of 5byMidori rooted when Annex Corporation (hereafter, Annex) launched the home ownership program to provide financial support and encourage employees to buy their own homes and become more independent. Ikumi

Miyata used this scheme to purchase a house in 2001. It was the landscape designer Michio Tase that created the garden for her house, with whom Takashi Imai, CEO of Annex had worked extensively in the past, and gave Miyata the first original idea for 5byMidori. Landscaping, in Tase's design concept, is a method of recovering the nature by introducing a fulfilling rural lifestyle and biodiversity to an urban environment that has been turned into a building materials desert. In his landscape designing, greenery is the core material that is not fixed but

continuously changing, and is expressing a sense of community and public character. This greenery is also planned to contribute to environmental conservation through the project by local species or NP around the construction site as much as possible. The gardens and green spaces are not only planted to evoke a sense of continuous change, but also used saplings to suit the tastes of the people involving in the maintenance of the gardens and green spaces at each time.

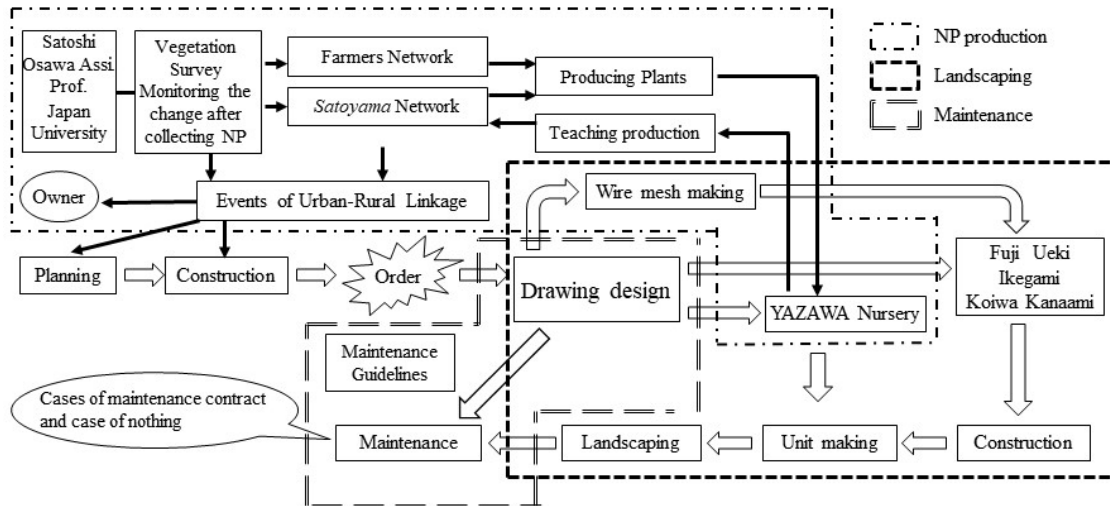


Fig. 1 Business structure between 5byMidori and stakeholders (additional explanation from this survey to MM incubation center)

Miyata believed that Tase's design concept was a "design tool" for urban greening technology and would be succeeded towards the next generation. Additionally, a system was necessary to stimulate local industry and to conserve biodiversity through the purchase of saplings from the rural nature. Therefore, a landscaping company was the necessary marketing system and the first stage of 5byMidori started in 2003 as a division of Annex. The first landscaping design and construction of 5byMidori was started in 2004 at Shinonome Canal Court CODAN 3 by Urban Renaissance Agency and the rooftop gardening at New Tokyo Post Office by Japan Post. 5byMidori worked on landscaping for small shops and private homes, as well as larger projects, such as landscaping with *Jakago* (a closer translation is "gabion") at the north building of Kyushu Electric Power in 2008, Landscaping with *Satoyama* unit at Yamatane Museum in 2009, rooftop gardening at Minato Public Health in Minato-ku, Tokyo in 2011, greened earthworks at west stadium of Ajinomoto Stadium in 2012. 5byMidori was spun off as an independent company in 2012 with capital of 10.5 million yen to further develop the business 10 years after its launch under Annex.

B. Business Structure of Core Landscaping

5byMidori offers six products and services to realize this philosophy; planting installation, selling AZE turf (it is a mat covered by NP taken from a small mud wall between rice fields, which is called "Aze" in Japanese), garden lights and green fences, drawing landscape design and consulting of

landscaping, and maintenance of landscapes. A unique feature of the planting installation is the special use of 5byMidori unit. This unit consists of wire mesh baskets filled with light soil with high water-retaining properties, and creates a vegetation base on which plants can grow even in urban areas that are hardened with asphalt concrete. The wire mesh, designed by TASE and manufactured by Koiwa Kanaami Co., Ltd, can be made in a variety of sizes and designs and the baskets can be moved from a garden at a small house to the large rooftop gardening and wall greening at a building. The lightweight soil "Aqua-Soil" is an artificial lightweight soil manufactured by Ikegami. It has the advantages of less frequent watering, less weed growth and saves extra works of maintenance compared to a normal garden. The use of this soil allows for long-lasting greenery in areas that are difficult to water or require little maintenance work. Furthermore, the use of vine plants on the four sides except top surface of the unit cube has resulted in a "fifth amount" in the amount of greenery. The third step collects interviews for name: fifth amount is "Go bai" in Japanese, and greenery is "Midori" in Japanese. This paper translates "Go Bai Midori" as "5byMidori" which means five aspects covered by greenery.

Once a formal contract has been signed with the owner for a 5byMidori product, they ask Tase to conduct a field survey of the construction site. Tase identifies NP and important local species which are necessary to be transplanted, and examines how to treat the plants to restore the land, landscape, nature and

social culture of the area. After finishing the survey Tase's drawings designs are sent to Yazawa Nursery. The Yazawa Nursery confirms the availability of seed and seedlings from the Producers Network near each site, determines the most suitable combination for the *Satoyama* unit and places an order with the producers' networks. When the saplings arrive, Yazawa Nursery produces the *Satoyama* unit.

If the order is one of 10 types of standard/built-to-order *Satoyama* units and greening fences, the unit will be installed on site. In the case of on-site installation, the construction team fabricates on site the *Satoyama* unit and other materials to suit the site. When the client is a corporate body such as a general contractor, it takes two or three years to complete a project from design to construction. On the other hand, when private individuals ask direct orders, almost all projects take three to four months to be completed by working on discussion about the future vision of the project.

5byMidori visits the owners or managers of each site, explains to them how to water and provides maintenance sheets for the units. This practice aims for more understanding of 5byMidori philosophy and increases the satisfaction of owners and users. In addition, the maintenance sheets behave in keeping the biodiverse urban environment through maintaining its products by owners. The maintenance sheets include the information about pruning, selective weeding, undergrowth mowing, what to do after it dies, fertilization, precautions for keeping it indoors, and insect control methods. Watering is required according to the maintenance sheets at least once a week or at most once every two to three days, because the amount of soil is less than in the field. On the contrary, the field construction often has a sufficient amount of soil. It is the fulfillment of watering by rainwater after one to two years when the plants have taken root.

C. Out-Sourced NP Production

5byMidori has chosen NP as the most suitable material for realizing its entrepreneurial philosophy and invented the "*Satoyama* unit" as a tool appearing their philosophy. Its concept is: "The *Satoyama*, which stretches across rural and mountainous villages, is the original landscape of the Japanese spirits". The *Satoyama* unit aims to build a regional production system which the Producer Network and the *Satoyama* Network are connected.

The Producer Network is professionals to grow NP for *Satoyama* unit. In Fig. 2, the bases of the Producer Network are triangle No.1 "Tsukuba Nursery" of Yazawa Nursery locates in Tsukuba Mirai City, Ibaraki Prefecture, triangle. No.2 "Oumi Nursery" of Matsui Nursery locates in Higashiomi City, Shiga Prefecture. No.3 locates in Tanabe city, Wakayama Prefecture. Regional collaborators are square No.1 Nakata Seed Orchard in Ishikawa Country, Fukushima Prefecture, square. No.2 Masaki Arboriculture Laboratory locates in Iwata City, Shizuoka Prefecture. No.3 Kiyotaki Nursery locates in Hita City, Oita Prefecture. These locations have formed a network through various connections and introductions through previous works of Miyata and Tase.

The *Satoyama* Network is a local group of farmers, foresters

or NPOs to conserve and collect NP for the *Satoyama* unit. The *Satoyama* Network is formed with contracts of promoting the care of the forest floor and footpaths in the rural and mountainous villages where the seeds are collected with the money from producing and selling NP.

The establishment of the *Satoyama* Network was started in 2007. Based on the biota category of the National Biodiversity Strategy of Japan, the two candidate sites for the network were selected "Batou Forest" in Nakagawa Town, Tochigi Prefecture and "Field of Rice Terraces" in Takashima City, Shiga Prefecture. The "Batou Forest" blue circle No.1 in Fig. 2 was selected for *Satoyama* Hompo which Yazawa, CEO of Yazawa Nursery, and two university classmates, Nara and Sato, from Nakagawa Town who were involved in the forestry industry, established and are trying to make social contribution projects with forestry as its theme. On the other hand, "Field of Rice Terraces" near blue circle No.2 in Fig. 2 had a different background. 5byMidori had no stakeholders around Kansai region, then visited farmers through door-to-door and talked 5byMidori activity missions and corporate visions. Thus, some farmers approved 5byMidori and made an agreement of *Satoyama* Network. On a vegetation survey carried out in 2008, the farmers and 5byMidori started the maintenance to selectively weed out invasive non-native species and create the ideal vegetation for *AZE* turf at the rice terraces. However, the project at "Field of Rice Terraces" was over May 2010. This was due to the retirement of an elderly collaborator, the lack of a successor and the infestation of invasive species, and the fact that the number of 5byMidori members per year had decreased due to the remoteness of the area from Tokyo. As the business expanded in the Kansai region, it was necessary to build a new *Satoyama* network.

5byMidori won the Eco Japan Cup 2007 SMBC prize and promoted joint surveys on NP from 2008 to 2010 which formed the basis of the production system with Satoshi Osawa under Jiro Kokuryo, who had been one of the judges at the Eco Japan Cup 2007. This included some projects above a survey: a survey of actual vegetation, improvement of construction methods based on the restoration of vegetation after *AZE* turf sampling, experiments with buried seeds, environmental education for high school students using the *Satoyama* unit, and planning of the "Tokyo *Satoyama* Plan". A meeting was held in 2011 among Nakagawa Town Forestry Promotion Association, 5byMidori and Yazawa Nursery to create a cooperative framework. Miyata explained that regional revitalization through cooperation between agriculture, forestry and tree planting is beginning to attract attention, and the results of past projects, vegetation surveys at *AZE* turf by Osawa, the organisms living in the *Satoyama* unit, and the event for restoring abandoned farmland in collaboration with the Goshawk Conservation Fund, using their website and paper materials. In response, the association understood for the first time that plants in the forest had to be cut down for forest management purposes but included endangered species and value of restoring the urban environment. They responded that they would also cooperate with *AZE* turf production if there was a demand for it. After the first meeting, they were briefed

on the depth of the seed bank, the method of mowing in view of the growth control of invasive species and NP after the AZE turf collection, and the method of AZE turf storage, transportation and management for the implementation of the project, while they wandered around the forest of the proposed NP collection site.

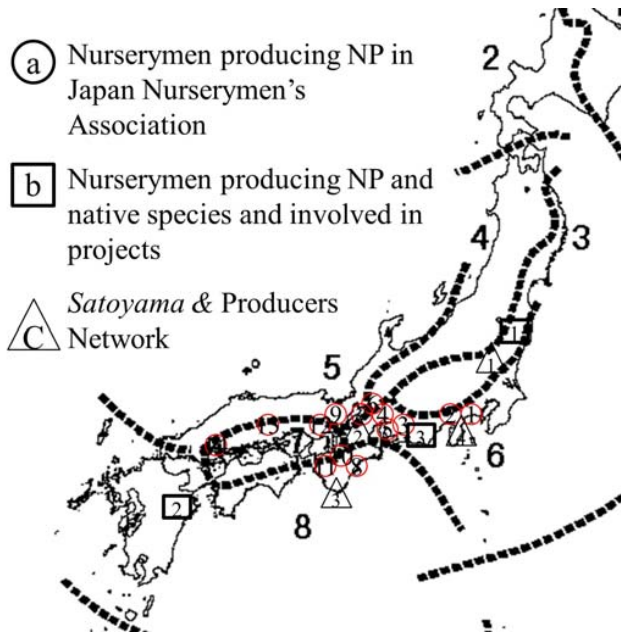


Fig. 2 Three types of Producer and *Satoyama* Network on the NLCM

IV. PR

A. Categorizing the Management by Articles

5byMidori is a special landscaping company that brings together PR professionals who have experience with newspapers and other public relations agencies and has positioned its PR business as more important than its core business. PR article type about 5byMidori was categorized into specialized magazine and general magazine including newspaper and book. Specialized magazine was grouped into three topics: the first one was innovations in landscaping techniques to enhance architecture. The second was gardening techniques. The third was the conservation of biodiversity and revitalization of local economies through the use of local seedlings in the *Satoyama*. In contrast, the general magazine had four topics: the first was improving biodiversity and heat island mitigation in urban spaces through greenery. The second was enriching life in private residences and other places with greenery. The third was technology for urban gardens. The fourth was novelty as an environmental business.

The stage of the growth of business and new relationships with people according to these articles can be divided into three phases (Table I): the first from 2002-2007, the second from 2008-2010 and the third from 2011. At the first phase, when the company was first established, 81% of the articles were about materials that would bring quality environment back to the city. 5byMidori products were promoted as providing an ecological

lifestyle in harmony with architecture, even in urban areas with little greenery. At the second phase, the number of publicity and coverage were significantly increased in numerous newspapers and books after winning the SMBC award of the Eco Japan Cup 2007. The award also changed the content of articles, emphasizing the environmental business aspect as a fusion of urban greening, biodiversity conservation and the revitalization of the *Satoyama* economy, and promoting understanding and dissemination of the entrepreneurial philosophy. 77% articles praised the contribution to the integrated development of cities and rural areas. In addition, Yazawa and Sato were interviewed to produce an article on how to realize the preservation of biodiversity in the city, starting with the inheritance of the *Satoyama*. The continued development of the business has led to another round of publicity, and in 2009 Miyata was awarded the 11th "Woman of the Year 2010" in the Career Creation category. However, in the third phase, the joint research period ended and there was no more publicity for the environmental business in magazines and newspapers. PR paid attention again to the core business of urban heat island solutions and landscaping design for rooftop and wall greening.

B. Diffusing and Rethinking the Corporate Mission

5byMidori emphasizes a lot of hands-on publicity along with articles. In 2002, the first year of its first phase, it took part in a garden show for the public, but it did not get any response. In 2003, the company held a café seminar with a green café using 5byMidori products to reach a wider audience of designers, illustrators and other non-landscaping professionals. At the seminar, Tase explained the concept and concrete examples of landscaping design. The café provided an opportunity for the company to be published in a variety of non-technical journals, and the company's articles have been published twice as often in general magazines as in specialist journals. In the third phase, there was less publicity, and in light of the Great East Japan Earthquake of 11 March 2011, it was decided that professional publicity was needed to rethink the "work of landscape architecture". For the third phase, a number of learning events and original promotional material on the partners who support the production and construction of 5byMidori were produced. In the learning events, a collaboration with Yoshinori Nishimura, a "working style researcher", was launched in April 2012 as an opportunity to relearn Tase's design philosophy. By December 2013, 11 events had been held, including a field lecture in Tono, Iwate Prefecture, and a lecture commemorating the publication of a book on the collaboration project. In addition to commentary on Tase's past work and the exchange of ideas, each event provides an opportunity to experience the space in which his design philosophy has taken shape. The construction site of the Ajinomoto Stadium West stadium in Musashino Forest, where construction began in 2011, is a unique promotional material. These photos were then stitched together and accompanied by music to create a video, which was broadcast at events to promote understanding of 5byMidori. Fuji Ueki, on the other hand, found great value in the fact that it provided material for people outside the

organization to spread awareness of the work done by insiders only, which had never been seen before.

TABLE I
CATEGORIES OF PR ARTICLES ABOUT 5BYMIDORI

Theme	Year	Green for rich urban lifestyle					Holistic development with urban and rural linkage			Urban greening			Sum	
		02	03	04	05	06	07	08	09	10	11	12		13
Specialized articles	Harmonization between green and architects			[1]		[1]	[1]		[1]					4
	Interdisciplinary Biodiversity			[1]<1>			1		2	1				6
	Technique for green relaxation				[2]				1					3
Magazine	Improving QoL		1[1]	[2]			1[1]	[1]	1		[1]	1	[1]	11
	Ecology	[1]		1	1[1]	[1]	1	1[1]	1[1]					10
	Gardening technique			[1]	[1]		[2]			[1]				5
General papers	Environmental business							3	3	1				7
	Ecology							2	1	1	2	[1]		7
Newspaper	Environmental business							1		1<1>				3
	Business Passion								1	<1>				2
Book	Environmental business							1	2	1				4
Article sum of each year		1	1[1]	1[5]<1>	1[4]	[2]	3[4]	8[2]	12[2]	5[1]<2>	2[1]	1[1]	[1]	62

Legend] is the number of articles about urban green. <> is that about *Satoyama*. No locksmith includes both.

C. Understanding Biodiversity through Urban-Rural Linkage

The urban-rural linkage as a PR tool was an opportunity to change the perception of PR on the rural side. Ten events organized by Nakagawa Forestry Promotion Association in collaboration with 5byMidori were held between November 2009 and November 2013. At each event, both children and adults were invited to experience the usual work of the association, make "acorn cubes" of Yazawa own design, and taste the food of the forest. A photographer hired by 5byMidori participated and took many photos of the production site and the faces of the participants and stakeholders. At first, some people of the association thought that it would be meaningless to only take photos of the event. However, after two or three years, many people strongly felt that this was evident in the number of participants and the landscapes of activities. Furthermore, the photos were evidence to compare the past work that has been done and present landscapes how it has changed over time after the work, as well as predicting future changes, when applying for grants and preparing activity reports. The association has changed to enhance taking photos.

The urban-rural linkage has changed attitudes towards the maintenance and management of rural areas and provided opportunities to create new productive businesses. At the event in June 2013, Arai, a vegetation survey professional, was called to the event for an actual vegetation survey at the event site and the forest of NP. As the result of the survey, *Utricularia* which is a Red Data Book endangered species (Ministry of the Environment) and an endangered species (Tochigi Prefecture) was found in the swamp. High-quality of *Kalopanax septemlobus* and *Quercus serrata* were found which could be used as architectural materials. Many of the plants in the forest were now no value and unsuitable for sale in the present architecture market, and the producers and techniques producing and growing mountainous saplings had been lost. Many foresters of the association said that it was one of the first

times they noticed the precious plants, even though they had been maintaining the plants, swamp and forests for long time, and it was one of the first time they had come to understand biodiversity as a result of the linkage. Therefore, Yazawa began discussions with the society for the propagation of important tree species for propagation and utilization, as he could provide knowledge and technology for the mass production of seedlings.

D. PR of Biodiversity in the Real Asset Market

PR through articles had a certain effect, whereas PR at the events in a city was less effective. Kojima et al. [29] found that the environmental education of urban residents using *Satoyama* Unit did not create awareness of *Satoyama* conservation. In order to promote understanding of 5byMidori philosophy and to change the consciousness of users, it was necessary to promote the experience of *Satoyama* in rural villages, in addition to publicity in the city.

Misawa Homes Co., Ltd. commissioned 5byMidori to collect *Aze* turf for a 200ha residential development in Hitachi-Omiya City in 2011. However, 5byMidori rejected the order because 40ha was the maximum amount of *AZE* turf to be collected at one time in the interests of biodiversity conservation and restoration. The reason for this explanation was unclear to Misawa Home staff, so they asked for directions to the collection site. Miyata, Yazawa and Sato led the Misawa Home staff on a walk through the Batou Forest, explaining the plants and seeds of 121 species on the surface of 40ha of *AZE* turf. As a result, the staff clearly understood the small size of the area available for collecting *AZE* turf in relation to the size of the forest and the difficulties in identifying plants outside the flowering and fruiting seasons. Therefore, the staff made an illustrated book about 121 species of NP used in the *AZE* turf, and distributed it to all residents. On the Misawa Home website, the 5byMidori products were rated with labels of "Idea", "Eco" and "Increase Property Value" [30], [31]. This interaction with the client is one example reminding 5byMidori about the

importance of PR to promote understanding in the landscape construction market. 5byMidori emphasizes the onsite experience of biodiversity, where the supply of goods is limited

and they could not apply the large amount of orders, although they were aware of saying some pretty insane things on a business place.

Business category	Trading status	Name of nurseryman	NLCM district No.	Site No.	Nursery Site	Perception of NP	Production of NP	Collaborative civil organisation
I	b	Masaki Arboriculture Laboratory	3, 6	3	Iwata, Shizuoka	It can be detailed or broad, depending on the definition. It depends on the user.	Love to explore, collect and breed in the local forest	Connections with NP producers in Shizuoka and Aichi
		Recom Green	6	5	Toyohashi, Aichi	Difficult to collect native seeds, and sell the plants	Production started in 2012 after receiving a construction order.	
		Global Green KUNITADA	5, 7	13	Kume, Okayama	Nurture local nature with local trees	Shipment of extra native species in the national park. Also holds seeds and seedlings from neighbouring businesses.	
	a	Kashiwagi Horticulture	3, 6	2	Gotemba Shizuoka	Collected from the vicinity according to the location of the field	Low shipping and stock disposal	Odaicho NP Production Association
		Miyagawa Forestry Association	8	8	Odai, Mie	Empathy with philosophy of reforestation and local revitalization by TAKATA Understand Essential skills for reforestation	Not possible to grow business and expand NP production without sales channels	
		Kyoto Houjuen	5	9	Kyoto and Fukuchiyama, Kyoto	Original vegetation in Kyoto TAKATA is one of old friends Founder of NP study group at Japan Nurserymen's Association	Keep only one nurseryman in Kyoto City	
II	a	Ema Seed Garden	6	3	Hamakita, Shizuoka	Belonging Study group to gather information on how big the demand for local seedlings will be in the landscape construction market Doubts about the appropriateness of producing in an area where it is difficult to prove "native" and whether the market will accept it	Nothing	
		Chiyoda Nursery	6	4	Inazawa, Aichi			
		Kato Green Supply	6	4	Inazawa, Aichi			
		Yohonsya	4,6	6	Mizuho, Gifu			
		Nakanishi Gardening Material	5	7	Moriyama, Shiga			
		Kimura Nursery	5	9	Kyoto, Kyoto			
		Nishida Gardening Material	5	9	Kyoto, Kyoto			
		Nakajima Nursery	7	12	Ina, Hyogo			
		Hakushoen	7	14	Hiroshima, Hiroshima			
		III	a	Odawara Nursery	3, 6			
Furukawa Teijuen	7			10	Kanan, Osaka	Create local nature with not limited in NP but including mountain-collected plants	Nurseryman in Kanan-Cho originated in mountain-collected plants	
Momoyama Cho Nurseryman Association	7, 8			11	Around Momoyama, Wakayama	Not positive sales Unable to collect and utilise the seeds and good plants grown in a forest of Ryujin due to lack of understanding from its owner	Production Available. Currently holding a small amount of stock. Mountain-collected plants for urgent orders	

Fig. 3 Perceptions and production of NP among nurserymen, cooperation with civil organisations and trading conditions with 5byMidori

V. NP PRODUCTION

A. Difference of Definition and Recognition among 5byMidori, Professionals and Researchers

Of the 53 major projects from 2002 to 2014, 32 or 60% of them were in Tokyo, and 83% of them were in the Kanto region (including Kanagawa, Chiba and Saitama). However, of the 17%, orders from the Tokai and Kansai regions, including Numazu, Hamamatsu, Osaka and Kobe, have increased. It is necessary that 5byMidori have to build more producers and *Satoyama* networks, not only with Matsui Nursery but also with planters across the country. There was also an urgent need to replace "Field of Rice Terraces" as a collaborator in the *Satoyama* Network. This scale expansion of production

network has been a major concern and issue of the entrepreneurship since 5byMidori was awarded the Eco Japan Cup 2007.

5byMidori refers the National Land Classification Map for Biodiversity Conservation (Draft) (hereinafter abbreviated as NLCM) by Ministry of Environment. It does not set out clear regulations because the characteristics of each indigenous species are different and it is difficult to draw a line. It rather provides a structure in which researchers, local governments, companies, citizens, etc. consult with each other to define a minimum range, create detailed indicators as necessary, and then independently pursue regional characteristics. Therefore, it is possible to assume that the NPs collected around the

demarcation line are the same. In addition, a co-researcher, Osawa puts the core of contribution to the dissemination of its entrepreneurial philosophy of 5byMidori. He believes that researchers are responsible for the detailed classification and conservation of NP and that companies should use market forces to spread and penetrate into the public's life, in other words, promoting PR strategies in the national biodiversity strategy [35]. Thus, 5byMidori specifies the production and application areas for NP around the construction site in accordance with the NLCM, and defines in discussion with Yazawa Nursery, NP producers and experts the areas where the most suitable seed and seedlings could be procured for the construction site as the areas for local seed and seedlings. However, the nurserymen producing NP negatively commented on the 5byMidori definition and production policy of NP could foster the disturbance of the remaining pure genes in the detailed local nature. Additionally, they also suggested that an emphasis on regional vitality under the name "*Satoyama* Seeds and Plants" would rather advocate the entrepreneurial philosophy of maintaining *Satoyama*, and be more likely to gain the support of nurserymen and farmers, and the seedling production system would be better organized.

B. NP Definition by Japan Nurserymen's Association

The expansion of the network of growers in the Tokai and Kansai regions of Japan could no longer be met by the personal contacts of those involved. Therefore, 5byMidori asked the Japan Nurserymen's Association, a group of NP producers, to confirm the definition of NP and to introduce potential partners. Takada is also a consultant to the Japan Nurserymen's Association and sees Japanese society as a society where engineers and producers have the right to decide for themselves [36]. He believes that the two types of scientific collaboration are necessary to realize landscaping and construction based on and the production and distribution thinking; the first is to set up a site limited by NP; the second is to conduct highly professional research by arborists, planters and academics; the third is to cooperate with government and citizen representatives. NP study group of Japan Nurserymen's Association has established detailed vegetation classifications using a definition that limits the scope of application to small areas, while, like Osawa, it is prepared to leave production and supply to the mission and business model of landscape companies. While the Association and 5byMidori were fundamentally connected in terms of NP production, 5byMidori needs to establish the extent to which NP could be planted and to arrange for NP distribution by each nurseryman.

C. Perceptions and Production of NP among Nurserymen

Fig. 3 shows three types of nurserymen with the NP production, perception and site collecting NP and cooperation with civil organizations. Three types of NP are; I. they originally preferred to produce native species and used them for maintenance such as at a national park. II. They have maintained NP as an expression of local history and culture. III. They have been commissioned to produce them for civil and landscape management projects. On the contrary, nurserymen

who did not produce NP had a way of expressing their 'local' values that was different from the entrepreneurial philosophy of 5byMidori. Examples included naturally shaped mountainous trees, long-lived trees and heritage trees of horticultural varieties with urban stories. They portrayed NP as being difficult to commercialize because of the intensity of natural science research, and that there was the role for nurseryman and its product of trees in raising the value of the urban city as a place of consumption. The primary reason why some nurserymen belonged to the NP study group but did not actually produce was because of the lack of a viable market for NP. They also indicated several reasons which could be cause of the immature market in the landscaping and construction industries. The first one was a lack of understanding of a lot of works around NP production. The second was that different degrees of growth in height of seedlings are considered unsuitable for the standard of construction. The third is that many clients estimated very lower price of NP which ignored a lot of costs around the NP production. The background of these inferences is the tasks that the nurserymen investigated NP and its collection sites according to the scientific procedures of Japan Nurserymen's Association [37], [38], found and made a network with new farmers to produce more amount of NP, then propose the plants suitable for restoring the natural environment of the sites to be built.

Two companies, Kyoto Houjuen in the urban area of Kyoto City and Furukawa Teijuen in rural mountainous area of Kanan town, produced some kinds of NP and collaborated with a civil organization to restore a mountain forest. The technical background to this project is that cuttings and trimmings can damage the mother tree, and rare species are best propagated by seedling production. Nonetheless, the reasons of those nurserymen for belonging to the group were not limited to tracking the maturity of the market. They were looking for a way to strongly publicize the significance of the biodiversity conservation of local seedlings in restoring the value of 'region'.

The results from this survey by the author about species, number of stocks, specifications and prices of each NP nurserymen were sent to 5byMidori, Tase and Yazawa. Based on this information, they visited three nurserymen, Masaki Arboriculture Laboratory, Furukawa Teijuen, Global Green Kunitada. As a result, three nurserymen, Masaki Arboriculture Laboratory, Recom Green and Global Green Kunitada, did business with 5byMidori. There were two reasons for doing and not doing business with these nurserymen; the first was that the philosophy on NP did not match that of 5byMidori. Furukawa Teijuen used fully grown mountain-collected trees as local products, which was not suited to the entrepreneurial philosophy of 5byMidori and the *Satoyama* unit, so 5byMidori finally decided to use Matsui Nursery for the project in Osaka. The second is Masaki Arboriculture Laboratory and Recom Green collected NP near to the project site in Aichi, and although Masaki Arboriculture Laboratory collected genetically and scientifically correct plants and had a variety of NP, the price of Masaki Arboriculture Laboratory was higher than Recom Green. It did not fit within the budget at the project and 5byMidori finally used the Recom Green.

D. Making Original Satoyama Network and Considerations

The lack of overlap between the Producer Network and the *Satoyama* network led to making two original *Satoyama* networks by 5byMidori in 2014. The one is foresters who produce NP in the forests of Tanabe City, Wakayama Prefecture (triangle No.3, in Fig. 2) and the other is the Present Tree Project by NPO, the Environmental Relations (triangle No.4, in Fig. 2). The forester met 5byMidori and worked to establish a system for the production and distribution of NP in connection with the revitalization of *Satoyama*, when he was looking for a place to use the NP collected and produced in a private forest near the Kumano Ancient Road. The NPO has been promoting a forest restoration project through tree planting events, tree giveaways and corporate sponsorship based in Atami City, Shizuoka Prefecture. This NPO met 5byMidori and began to build a collaborative production system. However, this new networking left some considerations unaddressed. The NPO used plants collected at Meiji Shrine to restore the mountain forests of Atami. Atami City belongs to NLCM District 6 and the NPO thought that there was no problem with the method of restoration. In contrast, Yazawa explained that it was better to collect and plant trees from the neighborhood and close relatives of the target forest, rather than the seeds and seedlings whose genetic origin was unknown at Meiji Shrine. On his suggestion, a survey of actual vegetation revealed that the target forest had a different vegetation from the surrounding area. Considering the genetic level of vegetation, it concluded that NP collection from neighboring and related environments would be better way of restoring biodiversity there, and the NPO started collecting and producing NP from the neighborhood. In addition, Tanabe city belongs to the NLCM, District 8. It was likely then that NPs collected in and around Tanabe City would not be available for the expanding market trends in Tokai and Kansai regions, unless there is an increase in construction within the same area, in Kyushu and Southern Shikoku regions.

VI. CONCLUSION

A. NP Production Networking under the Landscaping Philosophy

The NP in Japan is an environmental resource with a breadth that the “regionalism” is defined through the stakeholders’ discussion. This PR-driven National Biodiversity Strategy of Japan 2012-2020 [1] aligns with 5byMidori’s business strategy, which means that many stakeholders come together to incorporate NP as a business material to improve the region. 5byMidori defines “regionalism” as a socioeconomic structure based on the philosophy of the Tase landscape architects for making a likely natural system on the urban-rural linkage. Then 5byMidori puts the center with this “regionalism” among the landscape designer, nurserymen, landscaping material companies, foresters and NPOs to create an integrated project from production to landscaping. In making *Satoyama* and Producer Networks of 5byMidori, NP is not just a landscaping material but a tool for dialogue to bond nurserymen and civil organizations to the 5byMidori team. On the other hand,

conflict by definitions and designs of “regionalism” between Tase and nurserymen, distribution that lacks collaboration with civic organizations might lead a risk of simple price competition mechanisms at work and can lead to the use of plants that non-scientifically certified NP in landscaping construction, thereby causing a disturbance to biodiversity. Although the current mainstream scientifically defines NP, the essence of NP is considered to be the PR to discussion on what makes them NP.

B. Significance of PR in the Landscape Construction Industry

Two ways of PR by 5byMidori are the visible information through articles and the sensitive understanding through direct experience at the sites of NP production as a means of urban-rural linkage. Firstly, the trend in any type of PR articles is one indication in management. It can indicate a perspective that connects companies with consumers and users by the topic of the subject theme and area of the article. It also can represent the changing focus of the business as the management develops. In addition, repeating the same PR topic can have a positive effect on the development of stakeholders’ business. This media strategy brings a communication opportunity for more readers to be a stakeholder of the 5byMidori Team. Secondly, the experience also works to help urban residents understand how landscaping with *Satoyama* units contributes to biodiversity conservation through events and lectures, and to support the negotiation with and explanation to general contractors and owners in the urban city. It has one more meaning to improve the operations for 5byMidori team members of farmers, foresters and non-profit organizations, such as the forestry organization, Nakagawa Forestry Association and the NPO, Environmental Relations, and the producing NP skills as their core business.

VII. DISCUSSION

To achieve goals of the National Biodiversity Strategy of Japan 2012-2020 [1], marketing for diverse stakeholders such as scientists, industries, local governments, residents and NPOs is essential and private companies are expected to take that works and to arrange social matters through economic solutions of landscaping with NP in Japan. This paper analyzed the marketing strategies of an entrepreneur in landscaping industry for creating a new business model and market with NP. This paper employs the case study methodology on 5byMidori and qualitatively analyses its philosophy and establishment of core landscaping business structure, the dissemination of information through various media and urban-rural exchange, and the challenge and outcomes of networking for the production and distribution of NP through dialogue with nurserymen.

5byMidori founded as a PR-driven business that aims originally to promote and carry on the design philosophy and the idea for “regionalism”, which Tase, as a landscape designer, believed in and realized through his landscaping. This business characteristic links NP production in rural or mountainous area and NP landscaping at a construction site in urban city. Two

types of PR methods show relationships with the main focus of the business as the management develops through text media, and promote more real understanding for stakeholders among general contractors, professionals in landscaping, NPOs, rural and urban residents about the challenge and limitation in corporate activities for biodiverse landscaping with NP through the actual experiences in urban – rural linkage. New networking as the market expands with some nurserymen in Japan is communication about each socio-economic background, environmental perception and the relationship between science and business around NP.

Previous studies on NP focused on the scientific definition specifying local genetically modified diversities in each area. They suggested the best method by seedling to preserve the genetically modified biodiversity, and the inhibition of digging from mountain and harvesting plants which are often mixed with the same species with the different areal genes. This finally results in admixture and loss of the local genetic diversity [2]. It is clear from this survey, however, that many nurserymen perceive NP as the products in cultural and socio-economic contexts in each business and their methods of growing plants. The mountain-collected plant has long cultural history [32] and some nursery areas developed with the mountain-collected plants for landscaping and forestry. Over-strengthening scientific aspects of NP can collapse the diversity of both history and industry. Thus, a joint design needs to mix seedlings or saplings of NP and fully-grown mountainous-collected trees together and make scientifically traced and certified landscapes.

PR relates to all processes and aspects of a business [20]. Urban-rural linkage in 5byMidori has three aspects; first is making impression of 5byMidori products and services through interactive communication with consumers, users and owners. Second is sales with deeper understandings of biodiversity worthwhile to be kept in *Satoyama* unit from the rural area in the urban city. Third is actual vegetation surveys to find more products and a proof-making activity by taking photos of local practices, which can support the rural partners. This is a project-oriented “collaboration” next to “exchange” [33], [34], and above a CSR program by a company [4], [6]. As in the case of 5byMidori, a landscaping venture includes a work that has not been captured until now and creates a holistic system with PR in its landscape design as the core business and by establishing a system to complete the work from NP production to construction as a team.

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