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# HORTICULTURAL, MEDICINAL AND CEREMONIAL PLANTS IN PETIGA VILLAGE, TABANAN BALI PROVINCE

Nyoman Adiputra

School of Medicine, Udayana University, Denpasar Bali, Indonesia.

Bali Human Ecology Study Group (Bali-HESG)

Email: [nadip2003@yahoo.com](mailto:nadip2003@yahoo.com)

## *Abstract*

*Sustainable development is a must for Bali. It is due to the fact that one of the negative impact of development is the change of the land use from agriculture into other functions. As a result most of medicinal plants will be extinct. In another hand there is a trend of people to plant horticultures in their house yards. The main issue: is there any relationship between horticulture and sustainable development? In answering it, a field study was conducted in Petiga Village, Tabanan, Bali Province. Observation and interview were carried out to respondents consisted of five Balinese farmers who nurse cultivate the horticultural plants for their daily activities. Results show that: 1) there are about 159 kinds of plant totally used as horticultural plants; 2) amongst those plants, about 67 plants belong to the medicinal plants and 80 plants belong to ceremonial plants; 3) number of horticultural plants in every house sampled ranged from 63-94 kinds; 4) the popularity of any horticultural plant is affected by the market's demand. The conclusion which could be drawn is that the medicinal plants as well as the ceremonial plants are used for horticultural plants. It is due to their wonderful colors, nice stems, flowers or leaves, special odors, economical values and magical values as well. Horticulture could be used as a strategy for preservation and conservation program of the medicinal plants in Bali. It is recommended that for the sustainability, all medicinal plants which exist in Bali should be invented and planted in a form of medicinal plant park.*

*Key words: horticulture, medicinal plants, ceremonial plants, sustainable development.*

## **1. Introduction**

Petiga Village is located around 40 km, south-west of Denpasar. This village consists of three parts which are called *banjar*, namely: Petiga kangin, Semingan and Blumban. The main income of people there are agriculture, civil servants and doing small businesses. Just started since ten years ago, a new attempt was established, cultivate and nursery the horticulture. At the moment most of people in Petiga Village are actively engage in this activity. Therefore, in Petiga Village there are three kinds of villager, namely: people who are earning from agriculture, from agriculture and horticulture, from civil servant and horticulture. Another interesting thing is that the horticulture planted there belong to the traditional medicinal plants.

There is a great worry on the sustainability of the Balinese traditional medicinal plants (dePadua et al, 1999; Warren, 1998; Warren & Tettioni, 1999), because some of the traditional medicinal plants will be extinct. It is due to the following reasons: 1) there is a lost of land used for agriculture for about 1,500 hectare annually (Manuaba, 1995). 2) ignorance, the people did not know why the traditional medicinal herbs must be protected. 3) on the other hand research carried out on active components of traditional medicinal plants is very limited. It is still unknown, what are active components of the traditional medicinal plants used from generation to generation. To uncover such things preservation and conservation of the traditional medicinal plants are needed.

## 2. Material and Method

Subject of this study is horticultural plants which are cultivated by farmers in Petiga Village, Tabanan Regency. Respondents in this study were 5 farmers.

Methods used were observation technique on horticultural plants cultivated surrounding their house yards. Then, the local name of the plants asked to the respondents. Observation and interview were carried out, guided by closed and opened questionnaires.

Data were analyzed descriptively. The local name is in accordance with the Balinese traditional textbook of medicine, *lontar usadha* (Anonymous, undated; Suwidja, 1991); the Indonesian name and the scientific name of plants are made based on the available literatures (Wijayakusuma, 1992, 1993; Sastroatmojo, 2001; Sudarmono, 2004; Suryowinoto, 2001, 2004; Warren, 1998; Warren & Tottioni, 1997).

## 3. Results and Discussion

There were five head of house holds interviewed during house to house visit. They do the nursery work for horticultural plants from in the morning until afternoon. Kinds of plants cultivated are ranged from 63 to 94. From five house holds observed there are about 159 kinds of plants used for horticulture. The figures are presented in Table 1.

Table 1. Respondent of Balinese farmers in Petiga Village and number of horticultural plants cultivated.

No.	Respondent	Number of horticultural plants cultivated
1.	Respondent 1	94
2.	Respondent 2	74
3.	Respondent 3	63
4.	Respondent 4	64
5.	Respondent 5	71

The existing horticultural plants are then classified into medicinal plants and ceremonial plants. Classification into medicinal plants were based on the *lontar usadha* ( Balinese traditional text of medicine) while ceremonial plants were based on the guidance book published by Udayana University (2003). Totally there are 67 plants (42.13 %) out of 159 plants which are classified into medicinal plants. There are 80 plants (56.60%) out of 159 plants belong to ceremonial plants, as presented in Table 2.

Table 2. Horticultural, medicinal and ceremonial plants found in Balinese farmers in Petiga Village, Tabanan Regency.

Horticultural plant	Medicinal plant	Ceremonial plant
159	67 (42.13%)	80 (56.60%)

The popularity of horticultural plants in every house is presented in Table 3. Plant popularity amongst these five families seem to be slightly different. It is affected by the market. The most popular plants that exist and cultivated in every house are those which are sold out daily, including *Cordyline fruticosa* (*andong*), *Belamcanda chinensis* (*brojolintang*), *dipenbachia* (*dipenbakia*), *Plumeria acutifolia* (*kamboja/jepun*) *Cocos nucifera* (*kelapa*), *Codiaeum varicyatum* (*puring*), and *Mussaenda pubescens* (*nusa indah*), *tapak bela*). The plants which less popular are like *Ficus benjamina* (*beringin*), *aba*, *Tamarind indica* (*asem*) *Erythrina orientalis* (*delundung*), and *Hisbiscus tiliaceus* (*waru*), total about 63 kinds.

Table 3. Distribution of horticultural plants in the respondent house in Petiga Village, Tabanan Regency, 2005

No.	Local name of horticultural plants	F	%
1.	<i>Andong bang, andong ijo, brojolintang, dipenbakia, jepun, gamal, pepaya, cemcem, kopi, lengkuas bang nyuh, pakis aji, puring nuri, puring Bangkok, pucuk, pisang, tapak bela, uduh</i> (18)	5	100
2.	<i>Bergu, dapdap, jaum-jaum, juwuk, jatropa, kembang-kertas, pucuk lilin, keladi, nangka, pandan, puring Bali, Puring bor kuning, pidpid, rambutan, rosalia, sandat, tumpang sari</i> (17)	4	80
3.	<i>Bongkot, belimbing, tabia, dukut, kayu manis, kayu-tulak, kayu sugih, kesela sawi, kaladium, kepuh, kaliase, pandan arum, palem raja, padang ijo, padang putih, rumput bambu, samblung, srirejeki, suweg</i> (19)	3	60
4.	<i>Alamanda, anggrek, bawang-bawangan, base, bakung blacing, bayem, brokot ungu, bungur, cepaka, dracaena, duren, jagastaru, jempiring, nyambu, gegirang, kerasi, kecarum, kuping bikul, kesisat, kepundung, manggis, melati jepang, nyuh gading, palem kuning, pangkas ijo, pisang tegak, pisang sorga, pisang kribia, poh, parigata, sigsag, sotong, temen ungu, tiying gading, tibah</i> (36)	2	40
5.	<i>Aba, advokat, andong putih, asem, antap, bagu, base-base, bingin, brokot gading, braksok, buah, buhu, bunga desember coklat, delundung, daluman, don teh-teh, don mangkok, don karuk, ikuh bikul, jinten, jarak pager, jarak bang, jepang, gadung, gumitir, kayu sisih, kayu urip, kembang-bugang, kembang siang, kembang siang berdiri, ketapang, kelor, kedondong, kejenggotan, kumis kucing, kucai, kumbang, kesimbukan, lemputu, minyana bang, majagau, mawar, palem putrid, palem rotan, palem kipas, pucuk-lilin, pacah, pangkas kuning, penitian kuning, pisang kapur, pecah beling, salak, sembung, simbar jenggot dewa, simbar-menjangan, singpur, silik, spatopilum, siulan, suplir, tebu, temen kuning, vanili, waru</i> (63)	1	20

The popularity of medicinal plants among the respondents is presented in Table 4. *Andong bang* (*Cordyline fruticosa* A.), *kamboja* (*Plumeria acuminata* Roxb.), *papaya* (*Carica papaya* L.) *kecemcem* (*Spondias pinnata* L.) *kopi* (*Coffea* sp.), *lengkuas bang* (*Alpinia galanga* L.), *kelapa* (*Cocos nucifera* L.), *kembang sepatu* (*Hibiscus rosasinensis* L.), *pisang* (*Banana* sp.) and *Nusa indah* (*Mussaenda pubescens* Ait.f.) are among most popular plants. There are 26 medicinal plants which are less popular for horticulture, such as *asam* (*Tamarinda indica* L.), *kaktus* (*Calamus caesius* Bl.) *pinang* (*Areca catechu* L.), *buhu* (*Albizzia procera* Benth.) *waru* (*Hibiscus tiliaceus* L.).

Table 4 Distribution of medical; plants in the yard of respondent house in Petiga village, Tabanan Regency, 2005.

No.	Local name of plants	f	%
1.	<i>andong bang, jepun, gedang, kecemcem, kopi, lengkuas bang, nyuh, pucuk, pisang, tapakbela</i> (10)	5	100
2.	<i>dapdap, jaum-jaum, juwuk, keladi, nangka, pandan, pidpid, sandat</i> (8)	4	80
3.	<i>belimbing, bongkot, kayu manis, keselasawi, kepuh, kaliasem, rumput bambu, samblung</i> (8)	3	60
4.	<i>base, blacing, nyambu, gegirang, kesisat, kepundung, manggis, nyuh gading, sotong, tiyung gading, tibah</i> (11)	2	40
5.	<i>asem, belatung, buah, buhu, delundung, daluman, isen, don karuk, jinten, jarak pager, jarak bang, gempinis, gumitir, kayu urip, kelor, ketapang, kejenggotan, kesela, kumis kucing, kesimbukan, pacah, sente, sembung, silik, siulan, tebu, waru</i> (26)	1	20

Popularity of ceremonial plants almost similar to the medicinal plants (see Table 5).

Table 5. Distribution of ceremonial plants in the yard of respondent house in Petiga Village, Tabanan Regency, 2005.

No.	Local name of plant	f	%
1.	<i>andong bang, andong ijo, jepun, kecemcem, kopi, lengkuas bang, nyuh, pucuk, pisang, tapak bela, uduh</i> (11)	5	100
2.	<i>bregu, dapdap, jaum-jaum, juwuk, kembang kertas, keladi, nangka, pandan, puring Bali, pidpid, rambutan, sandat</i> (12)	4	80
3.	<i>bongkot, belimbing, tabia, dukut, kayu manis,, kayu tulak, kayu sugih, keselasawi, kepuh, kaliasem, pandan arum, samblung, suweg</i> (13)	3	60

4.	base, blacing, cepaka, duren, jagasatru, nyambu, jempiring, gegirang, kepundung, manggis, nyuh gading, sotong, temen ungu, tiying gading, tibah, poh (16)	2	40
5.	asem, belatung, buah, buhu, bingin, delundung isen, jinten, jarak pagar, jarak bang, gadung, gumitir, kayu urip, kesela, kumbang, kelor, majagau, mawar, pacah, sembung, simbar-menjangan, siulan, salak, silik, sotong, suweg, tebu, waru (28)	1	20

The name of plants used for horticultural plants are unable to trace even for the local, Indonesia as well as their scientific name. It is due, in some ways, Indonesian name and scientific name for the plants. to the limited literature, they are imported plants or local origin, or have not been classified scientifically. But, it is not always easy to find. Some of their names

Table 6. The local name, Indonesian name and scientific name of plants found in Petiga Village, Tabanan regency, 2004.

No.	Local name	Indonesian name	Scientific name
1.	Aba		
2.	Andong bang	Honjuang	<i>Cordyline fruticosa</i> A.Chev.
3.	Andong ijo	Honjuang Hijau	
4.	Andong putih	Honjuang putih	
5.	Anggrek	Anggrek	<i>Dendrobium/Vanda</i>
6.	Advokat	Advokado	<i>Persiana Americana</i> Mill
7.	Antap	Bodi	<i>Ficus Religiosa</i> L.
8.	Asem	Asam	<i>Tamarinda indica</i> L.
9.	Bagu	Goni	<i>Yucca aloifolia</i> "Marginata"
10.	Bakung	Bakung	<i>Crinum Asiaticum</i> L.
11.	Base	Sirih	<i>Piper betle</i> L.
12.	Base-base	Sirih-sirihan	<i>Peperomia griseo argentea</i>
13.	Bawang-bawangan	Bawang-bawangan	<i>Zephyranthus candida</i> Herb.
14.	Belimbing	Belimbing	<i>Averhoa belimbi</i> L.
15.	Bergu	Palem wregu	<i>Rhapis excelsa</i>
16.	Bingin	Beringin	<i>Ficus benjamina</i> L.
17.	Blancing	Blacing/pacing	<i>Costus speciosus</i> J.Sm
18.	Bongkot	Kecombrang	<i>Nicolae speciosa</i> Horan
19.	Braksok	Pandan suara	<i>Dracea Wirld</i>
20.	Brojo-lintang	Anggur bandung	<i>Belamcanda chinensis</i> (L) DC.
21.	Brokot ungu	Brokot ungu	
22.	Brokot gading	Brokot gading	
23.	Buah	Pinang	<i>Areca catechu</i> L.
24.	Buhu	Buhu	<i>Albizia procera</i> Benth.
25.	Bunga desember	Bunga desember	<i>Haemanthus multiflorus</i> Mart.
26.	Bungur	Bunga tangi	<i>Lagerstroemia speciosa</i> Pers.
27.	Cepaka	Cempaka	<i>Michelia champaca</i> L.

28.	<i>Cemcem</i>	Kecemcem	<i>Spondias pinata</i> KURZ.
29.	<i>Coblong-coblongan</i>	Alamanda	<i>Allamanda cathartica</i> L.
30.	<i>Dapdap</i>	Dedap	<i>Erythrina hypaphorus</i> BOERL.
31.	<i>Daluman</i>	Daluman	<i>Cyclea barbara</i> M.
32.	<i>Delundung</i>	Dadap	<i>Erythrina crista-galli</i> L.
33.	<i>Dipenbakia</i>	Dipenbakia	<i>Dipenbachia</i>
34.	<i>Don teh-tehan</i>		
35.	<i>Don karuk</i>		
36.	<i>Don mangkok</i>	Daun mangkok	<i>Nothopanax cutellarium</i>
37.	<i>Drakaena</i>	Drakaena	<i>Dracaena</i> SP.
38.	<i>Dukut</i>	Kadaka	<i>Asplenium nidus</i>
39.	<i>Don teh</i>		
40.	<i>Gadung</i>	Gadung	<i>Dioscorea hispida</i> Roxb.
41.	<i>Gedang</i>	Papaya	<i>Carica papaya</i> L.
42.	<i>Gegirang</i>	gegirang	<i>Leea angulata</i> Korth.
43.	<i>Gumitir</i>	Bung kotok	<i>Tagetes erecta</i> L.
44.	<i>Ikuh bikul</i>	Ekor tikus	
45.	<i>Ikuh lutung</i>	Ekor kera	<i>Acalypha hispida</i>
46.	<i>Jagasatru</i>		
47.	<i>Jarak bang</i>	Jarak merah	<i>Jatropha</i> sp.
48.	<i>Jarak pager</i>	Jarak pagar	<i>Jatropha curcas</i> L.
49.	<i>Jambu</i>	Jambu	<i>Eugenia malacensis</i> L.
50.	<i>Jaum-jaum</i>	Siantan/soka	<i>Ixora stricta</i> Roxb.
51.	<i>Jempiring</i>	Kacapiring	<i>Gardenia jasminioea</i>
52.	<i>Jepun</i>	Kamboja	<i>Plumeria acutifolia</i>
53.	<i>Jetropa</i>	Jetropa	<i>Jetropha</i> SP.
54.	<i>Jinten</i>	Jinten	<i>Nigella sativa</i> L.
55.	<i>Juwuk</i>	Jeruk	<i>Citrus</i> SP.
56.	<i>Kaliasem</i>	Gowok	<i>Eugenia polycephala</i> Miq.
57.	<i>Kayu manis</i>	Daun katu	<i>Saurapus androgynus</i> Mert.
58.	<i>Kayu sisih</i>	Kayu sisih	<i>Phyllanthus buxifolius</i> (BL.) MA.
59.	<i>Kayu sugih</i>	Kayu sugih	<i>Pleomele</i> SP.
60.	<i>Kayu tulak</i>	Kayu tulak	<i>Schefflera eliptica</i> HARMS.
61.	<i>Kayu urip</i>	Kayu urip	<i>Euphorbia tirucali</i> L.
62.	<i>Kecarum</i>	Kecarum	
63.	<i>Kedondong</i>	Kedondong	<i>Spondias pinnata</i>
64.	<i>Keladi</i>	Talas	<i>Colocasia esculentum</i> Schott
65.	<i>Keladi triwarna</i>	Kaladium	<i>Caladium</i> SP.
66.	<i>Kelor</i>	Kelor	<i>Moringa Oleifera</i> Lamk
67.	<i>Kembang lilin</i>	Kembang lilin	
68.	<i>Kembang bugang</i>	Kembang bugang	<i>Clerodendrom inerme</i> Gaertn.
69.	<i>Kembang kertas</i>	Kembang kertas	<i>Bougainvillea spectabilis</i> Willd.
70.	<i>Kembang pagi</i>	Portulaka	<i>Portulaka grandiflora</i> Lindl
71.	<i>Kembang siang</i>	Kembang siang	
72.	<i>Kenyeri</i>	Jure	<i>Nerium oleander</i>
73.	<i>Kepasilan</i>	Benalu	<i>Scurrula atropurpurea</i> Dans.
74.	<i>Kerasi</i>	Tembelean	<i>Lamtana camara</i>
75.	<i>Kesela sawi</i>	Ketela pohon	<i>Manihot ulilissima</i>
76.	<i>Kesimbukan</i>	Daun kentut	<i>Paedoria Foetida</i> L.
77.	<i>Kesisat</i>	Kesisat	<i>Pouzolzia petandra</i> Bonn.

78.	<i>Ketapang</i>	Ketapang	<i>Terminalia catappa L.</i>
79.	<i>Kejenggotan</i>	kejenggotan	<i>Leocitin indogenia</i>
80.	<i>Kumis kucing</i>	Kumis kucing	<i>Orthosiphon spicatus BBS</i>
81.	<i>Kuca</i>	Kuca	
82.	<i>Kumbang</i>	Keladi hutan	
83.	<i>Kepundung</i>	Kepundung	
84.	<i>Kupng bikul</i>	Kuping tikus	
85.	<i>Kopi</i>	Kopi	<i>Coffea robusta L.</i>
86.	<i>Lemputu</i>		
87.	<i>Lengkuas bang</i>	Lengkuas merah	<i>Ardisia humilis VAHL.</i>
88.	<i>Majagau</i>	Majagahu	<i>Dysoxylum caulostachyum Miq.</i>
89.	<i>Manggis</i>	Manggis	<i>Garcinia mangosta L.</i>
90.	<i>Mawar</i>	Mawar	<i>Rosa sp.</i>
91.	<i>Melati jepang</i>	Melati jepang	<i>Pseuderantheum diversifolium</i>
92.	<i>Miana bang</i>	Miana merah	<i>Coleus atropurpureus benth.</i>
93.	<i>Nangka</i>	Cempedak	<i>Artocarpus heterophyllus Lmk.</i>
94.	<i>Nyambu</i>	Jambu air	<i>Eugenia aquea Burm.f.</i>
95.	<i>Nyuh</i>	Kelapa	<i>Cocos nucifera L.</i>
96.	<i>Nyuh gading</i>	Kelapa gading	<i>Cocos nucifera sp.</i>
97.	<i>Pacah</i>	Pacar air	<i>Impatiens balsamina L.</i>
98.	<i>Padang ijo</i>	Rumput hijau	
99.	<i>Padang putih</i>	Rumput putih	
100.	<i>Pakis</i>	Pakis	<i>Cycas rumphii Miq.</i>
101.	<i>Palem kuning</i>	Palem kuning	<i>Chrysalidocarpus lutescens</i>
102.	<i>Palem ekor tupai</i>	Palem ekor tupai	<i>Wodyetia bifurcata (Foxtail palm)</i>
103.	<i>Palem kipas</i>	Palem kipas	<i>Livistone chinensis</i>
104.	<i>Palem raja</i>	Palem raja	<i>Dipterocarpus hasseltii Bl.</i>
105.	<i>Palem putri</i>	Palem putri	
106.	<i>Palem bambu</i>	Palem bambu	<i>Chamaedorea sp.</i>
107.	<i>Pandan</i>	Pandan	<i>Pandanus tectorius Soland ex Park.</i>
108.	<i>Pandan arum</i>	Pandan arum	<i>Pandanus amaryllifolia Roxb.</i>
109.	<i>Pangkas kuning</i>	Pangkas kuning	
110.	<i>Pangkas ijo</i>	Pangkas hijau	
111.	<i>Parigata</i>	Parigata	<i>Bougainvillea sp.</i>
112.	<i>Pidpid</i>	Pakis keriting	<i>Pteris tremula</i>
113.	<i>Pisang</i>	Pisang	<i>Musa paradisiaca L.</i>
114.	<i>Pisang tegak</i>	Pisang tegak	
115.	<i>Pisang sorga</i>	Pisang sorga	
116.	<i>Pisang kribia</i>	Pisang kribia	
117.	<i>Pisang kapur</i>	Pisang kapur	
118.	<i>Pecah beling</i>	Pecah beling	
119.	<i>Plawa</i>		<i>Codiaeum variegatum</i>
120.	<i>Poh</i>	Mangga	<i>Mangifera indica L.</i>
121.	<i>Pucuk</i>	Kembang sepatu	<i>Hibiscus rosa sinensis L.</i>
122.	<i>Pucuk lilin</i>	Kembang lilin	
123.	<i>Puring</i>	Puring	<i>Codiaeum varicyatum Bl.</i>
124.	<i>Puring bali</i>	Puring Bali	<i>Codiaeum sp.</i>
125.	<i>Puring bor kuning</i>	Puring bor kuning	<i>Codiaeum sp.</i>
126.	<i>Puring nuri</i>	Puring nuri	<i>Codiaeum sp</i>

127. Puring Bangkok	Puring bangkok	<i>Codiaeum tricolor</i>
128. Rambutan	Rambutan	<i>Nephelium sp.</i>
129. Rosalia	Rosalia	
130. Rumput bambu	Rumput bambu	<i>Lophatherium gracile Brongn.</i>
131. Samblung	Sirih belanda	<i>Scindapsus aureus</i>
132. Samblung tulang	Sambung tulang	<i>Euphorbia turicalli L.</i>
133. Sandat	Kenanga	<i>Cananga odorata Baill.</i>
134. Sembung	Sembung	<i>Blumea balsamifera Dc.</i>
135. Sente	Sente	<i>Alocasia marorrhiza Schott.</i>
136. Silik	Srikaya	<i>Annona squamosa L.</i>
137. Simbar menjangan	Simbar menjangan	<i>Platyserium bifurcatum C.chr</i>
138. Simbar jenggot dewa	Simbar jenggot dewa	
139. Singapor	Talok	<i>Muntingia calabura L.</i>
140. Suilan	Pacar cina	<i>Aglaia odorata Lour.</i>
141. Sotong	Jambu biji	<i>Psidium guajava L.</i>
142. Spatofilum	Spatofilum	<i>Spatofilum</i>
143. Srigading	Srigading	<i>Nyctanthes arbortristis L.</i>
144. Sri rejeki	Srirejeki	<i>Aglaonema commulatum L.</i>
145. Suweg	Suweg	<i>Tacca pennatifida Forst.</i>
146. Suplir	Suplir	<i>Adiantum capillus veneris</i>
147. Tabia	Cabai	<i>Capsicum annum L.</i>
148. Tapak bela	Nusa indah	<i>Mussaenda pubescens Ait.f.</i>
149. Tebu	Tebu	<i>Sacharum officinarum</i>
150. Temen	Daun ungu	<i>Graptophyllum pictum Giff.</i>
151. Temen ungu	Temen ungu	<i>Graptophyllum sp.</i>
152. Temu	Temu	
153. Tibah	Mengkudu	<i>Morinda citrifolia L.</i>
154. Tying	Bambu	<i>Bambusa sp.</i>
155. Tumpang sari	Tumpang sari	
156. Uduh	Palem ekor ikan	<i>Caryota plumosa</i>
157. Waru	Waru	<i>Hibiscus tiliaceus L.</i>

Many medicinal plants in Bali are threatened to extinction, before it' active component is known (dePadua et al, 1999; Sastroatmojo, 2001). Therefore, medicinal plants as stated in the local text of medicine are important to be conserved by replanting them in a special park. By then, the active component could be analyzed and then used for animal experimentation. This step is a must before they are used for phytopharmaca. It is good to know that some medicinal plants in Bali are used for horticultural plant. Thus, it is good for their sustainability. Medicinal plants also meet the criteria of horticultural plants because of the following reasons: having nice color, flower, leaf or nice odor of flower, leaf and stem or funny looking for it's fruit, rhizome or roots or it is also believed that some plants to have a magic

power, or economic value (Adiputra, 1999; 2004a,b; 2005).

The other added values are from the ceremonial aspect. In Bali, most of the plants which produce flowers are used for offering. The fruits, leaves and the stems are used for offering. For example, they are coconut, jackfruit, orange, banana, *moringa oleifera* (kelor), *Gardenia jasminoiea* (jempiring), alamanda (coblong-coblongan) *plumeria acutifolia* (jepun), *Erythrina hypaphorus* (dedap), *Graptophyllum pictum* (temen), *Curcuma* (kunyit) and *Piper betle* (base). They are used for offering in every religious ceremony (Nala, 1991). It is fair to say that Balinese could not be far away from the ceremonial plants. It is due to the fact the ceremony is conducted daily in the Balinese life. That is also a reason why



horticultural plants are planted in the house yard. But, it is not the case for medicinal plants.

From the study in this village, it is observed that some of imported plants are used for horticulture. The plants which are imported from other area of Indonesia, such as walisongo, *Belamcanda fruticosa* (brojolintang) (Wijayakusuma et al, 1992, 1993; Sastroatmojo, 2001). Some also imported from other country, such as *Hibiscus chinensis* (kembang sepatu), jetropfa, Lee Kuan you.

In naming them, it is found to be difficult. There are six plants that their Indonesian name could not justified.. Seventeen plants could not justified for their scientific names. They are, meanwhile, due to the author's limitation.

Based on the discussion provided above, it is, reasonable to recommend to build a park for medicinal plants (Adiputra, 2004a,b; 2005), as well as for ceremonial plants in Bali (LPM Unud, 2004). It is important for educational purpose, new asset for tourism, as well as for the sustainability of the environment as well (dePadua, et al, 1999).

From the discussion it could be concluded as follows: 1) horticultural plants can be used for medicinal and ceremonial plants; 2) horticultural plants could be used for conservation purposes; 3) horticultural plants in Bali consist of local plants and introduced plants from other parts of Indonesia as well as from abroad.

For further study it is suggested: 1) to find out the respected scientific name, Balinese and Indonesian name accordingly; 2) to enlarge the scope of study in finding out the horticultural plants used; 3) for conservation of the medicinal plants it is important to build a special plants park; 4) ceremonial plants are also important to be collected in a ceremonial plants park.

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