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Traditional Medicine Used

Medicinal Plants and Their Roles in

Indonesia

2nd International Conference on Plant Science & Physiology

June 26-28, 2017 Bangkok, Thailand

Theme: Advancement in botanical research

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Importance of tropical medicinal plants in Indonesia



Prof Yusuf L. Henuk, Ph.D

Dear Dr. Yusuf L. Henuk,

Greetings from Plant Science & Physiology 2017

The purpose of this letter is to formally invite you as a speaker for “**2nd International conference Plant Science & Physiology**” during **June 26-28, 2017 in Bangkok, Thailand**. Plant Science & Physiology 2017 conference will be organized around the theme “**Advancement in botanical research**”. The scientific program paves a way to gather visionaries through the research talks and presentations and put forward many thought provoking strategies on Plant Physiology research.

We would be pleased to know your availability to attend our conference as speaker. We would be honored by your valuable presence at our event. Please join us to share your scientific excellences and be a part of expert gathering at Bangkok, Thailand.

Best Regards,

Alice Brown

Program Manager

Plant Science & Physiology 2017

Conference Series

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INTRODUCTION



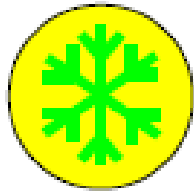
The term “**medicinal plant**” include various types of plants used in herbalism (“herbology” or “**herbal medicine**”). The word “herb” has been derived from the Latin word “**herba**” and an old French word “**herbe**”. Now a days, herb refers to any part of the plant like fruit, stem, bark, flower, leaf, stigma or a root, as well as non-woody plant. **Medicinal plants** or known in Indonesia as “*Tanaman Biofarmaka*” are defined as “**plant** which are useful for medicine. It is consumed from part of the plant, either in the form of leaf, fruit, tuber or root”.

1. Traditional medicine

2. Standardized Herbal Products



3. Phyto-pharmaceuticals



This paper reviews literature which identifies:

Traditional medicine used medicinal plants and their roles in Indonesia

AIM OF THE PAPER

TANAMAN OBAT

*“back to nature
back to medicinal herbs”*



Tumbuhan Obat Asli yang berasal dari Alam Indonesia, digunakan Turun -temurun dan sudah Diuji Khasiatnya untuk berbagai penyakit.

HARGA :

Rp. 10.000,- - Rp. 25.000,- / POHON



Importance of Medicinal Plants

The medicinal plants find application in pharmaceutical, cosmetic, agricultural and food industry. The use of the medicinal herbs for curing disease has been documented in history of all civilizations. Man in the pre-historic era was probably not aware about the health hazards associated with irrational therapy. With the onset of research in medicine, it was concluded that plants contain active principles, which are responsible, for curative action of the herbs.

Why use herbal remedies instead of medical drugs?





VS.



Herbs are safer to use, little to no side effects, no addiction, no poisoning of the body with chemicals and toxins. They work slowly but results are more sustainable and last longer than with chemical drugs. Herbal antibiotics do not create more mutant strains of bacteria. And last but not at least - they do not cost a fortune!




The greatest
medicine of all
is to
teach people
how not
to need it.


Medical Practitioner

Currently, the 'back to nature' lifestyle has become widely used in community. Some of the regions in Indonesia want to develop a system related to the development of traditional treatment, alternative and complementary. Within ASEAN countries, there was an agreement among the leaders of ASEAN countries in 2012 to support the traditional treatment, alternative and complementary to be integrated in the health care services system, because herbal remedies could improve patients' quality of life and even **the quality of life of patients with herbal medicine was higher than patients with usual care.**

Medan: "Dukun Patah"

Linden

It is a great general painkiller, especially for headaches.



Dandelion

It relieves inflammation and supports eye health.



Peppermint

It has a calming and numbing effect on the body.



Herbal Remedies for Headaches

Guarana

It boosts the effects of other pain relievers.



Lavender

It's mostly used to target hormone-induced headaches.



Ginger

It is an excellent anti-inflammatory and painkiller.





Broken Bones

R. GINTING
ANLI PATAH TULANG
CARA TRADISIONAL

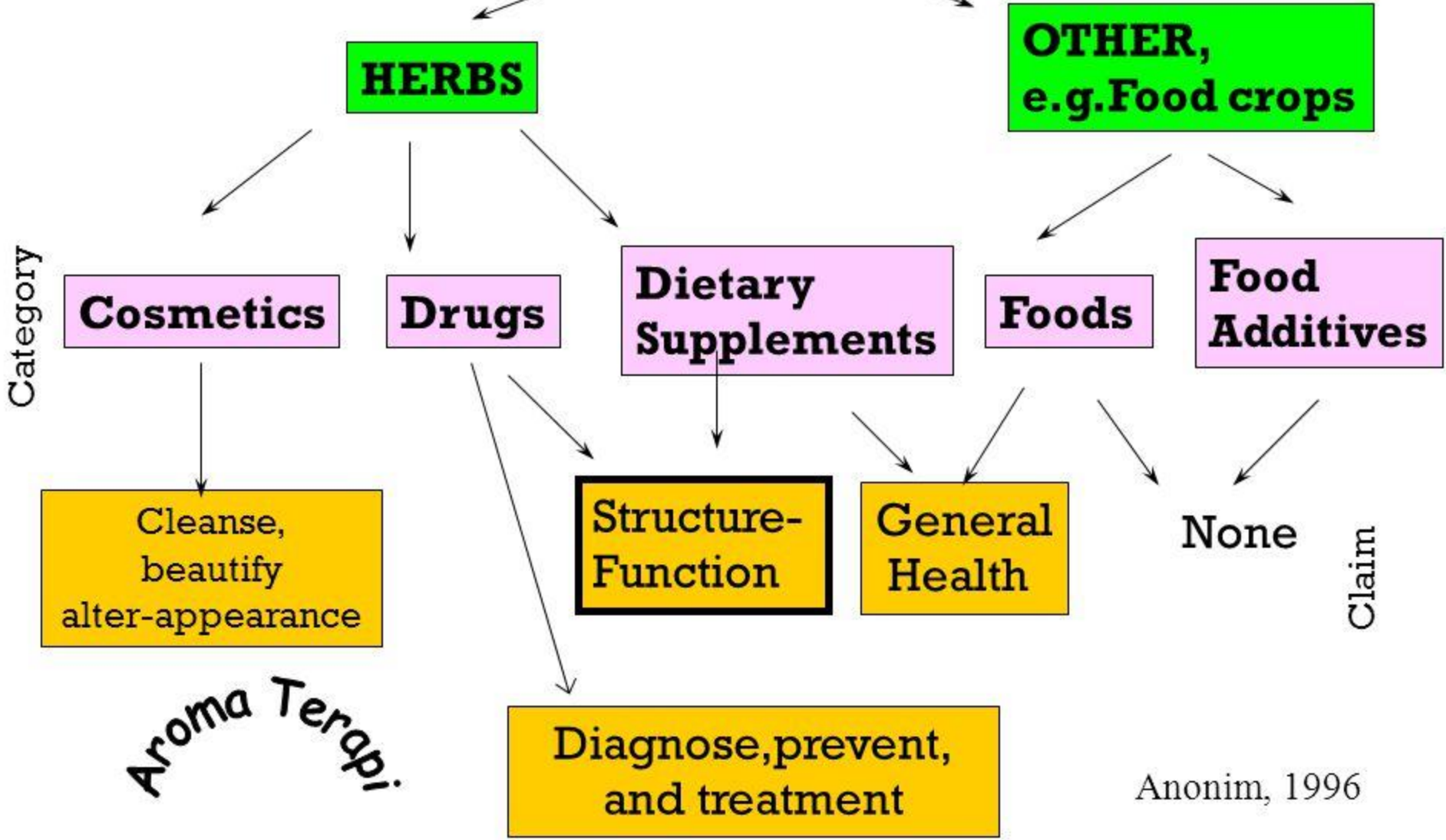
- PATAH TULANG
- TULANG REMUK
- TERKILIR
- KESELEO
- BUAH RAYA



Broken Bones

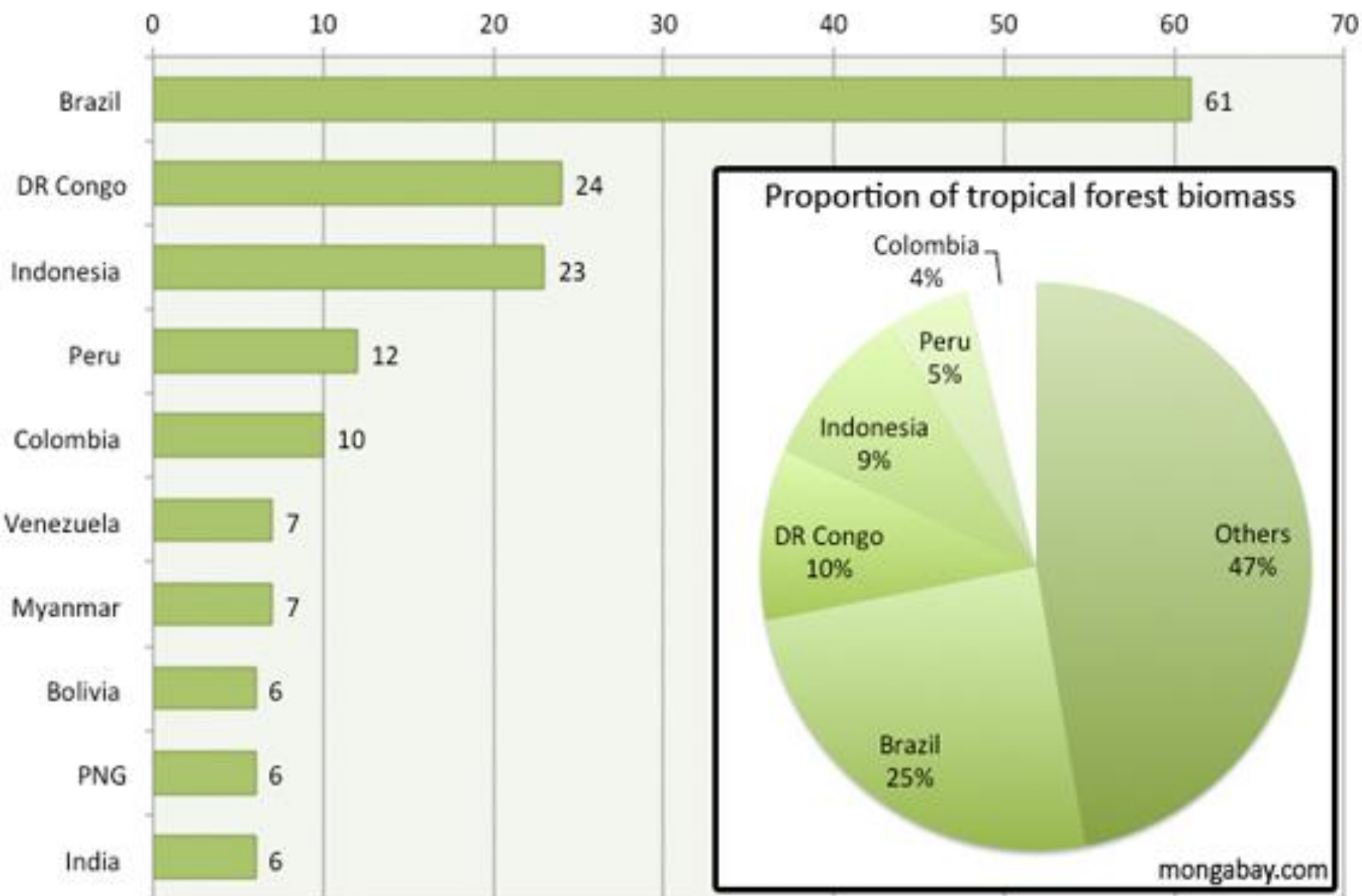


**BOTANICALS FOR
MEDICAL AND DIETARY USE
Pengembangan ke depan**



Anonim, 1996

Biomass in tropical forests: top 10 countries



>10% forest cover. Data: Saatchi et al 2011

INDONESIA is known as a country with a megadiversity of biological species as well as the megacenter for world biodiversity

- Indonesia possess:
- 10% of world's flowering plant species
- 12% of world's mammal species
- 16% of world's reptile and amphibian species
- 17% of world's bird species
- 25% of world's fish species
- 15% of world's insect species

INDONESIA

There are about 30,000 species of medicinal plants owned by Indonesia, and potentially to develop herbal products which have equal quality with modern medicines. However, these resources have not been used optimally for society, and only about 1,200 species of medicinal plants are used and studied as traditional medicines.

Several species of medicinal plants that originally from tropical forests in Indonesia are utilized by the other countries. Currently, there are about 40 active compounds from medicinal plants in Indonesia have been patented by researchers in Japan.

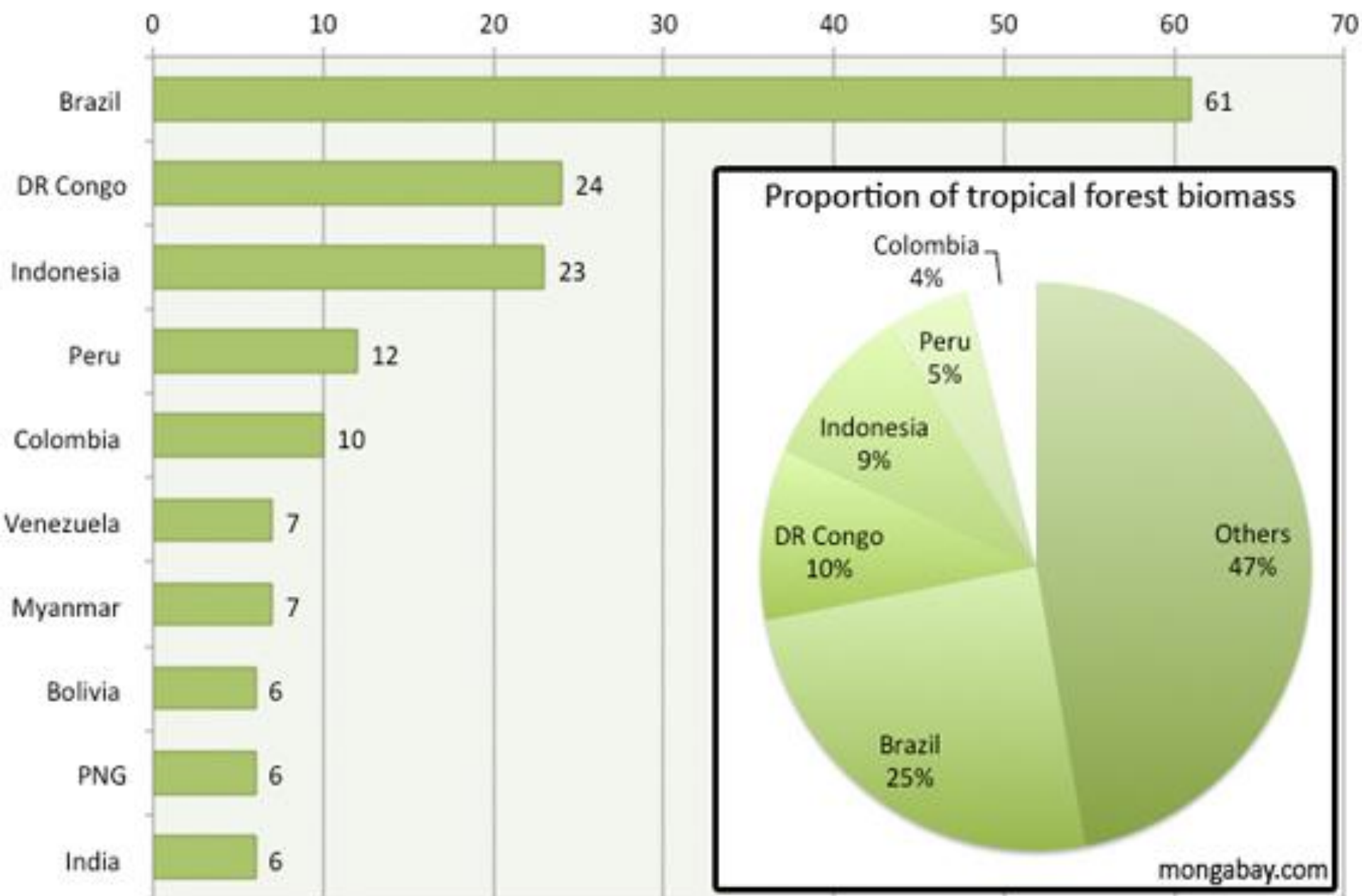
INDONESIAN HERBS



1. Indonesia's biodiversity is ranked 3rd after Brazil and Zaire. It is home to 30,000 out of 40,000 medicinal herbal plants in the world.
2. There are about 30,000 species of medicinal plants owned by Indonesia, and potentially to develop herbal products which have equal quality with modern medicines.
3. There are 15 important type of medicines plants and herbs in Indonesia. These type of medicinal plants can be divided into two groups: rhizome (*rimpang*) and non-rhizome (*Non-rimpang*).

Henuk et al. (2017)

Biomass in tropical forests: top 10 countries



>10% forest cover. Data: Saatchi et al 2011

15 Important type of Medicinal Plants in Indonesia

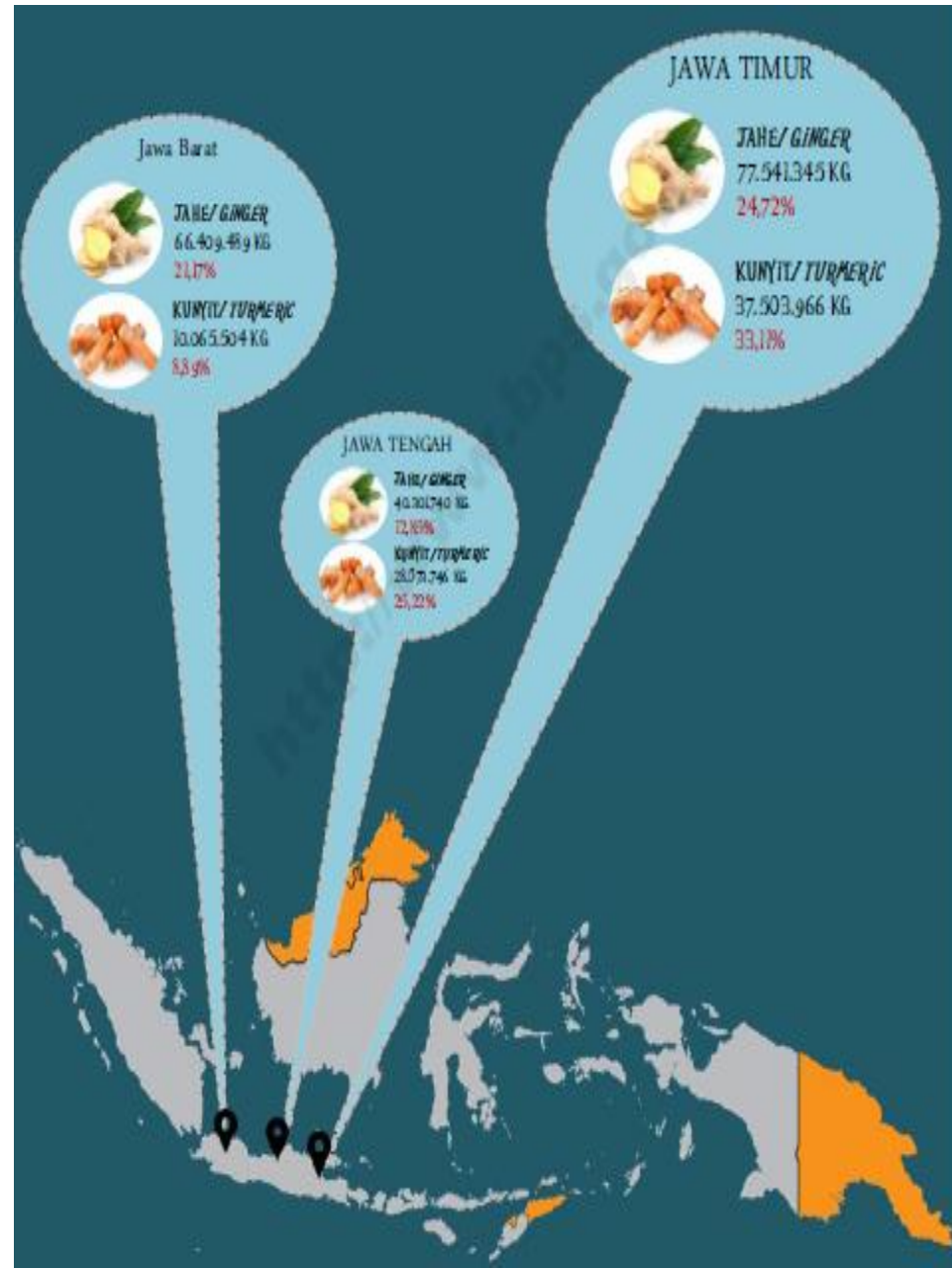
There are 15 important type of medicines plants and herbs have been traded in Indonesia. They are ginger (jahe), galangal (laos/lengkuas), east Indian galangal (kencur), turmeric (kunyit), zingiber aromaticum (lempuyang), Java turmeric (temulawak), black turmeric (temuireng), Chinese keys (temukunci), sweet root/calamus (dringo), Java cardamom (kapulaga), Indian mulberry (mengkudu), phaleria macrocarpa (mahkota dewa), verbenaceae (kejibeling), king of bitter (sambiloto), and aloevera (lidah buaya).

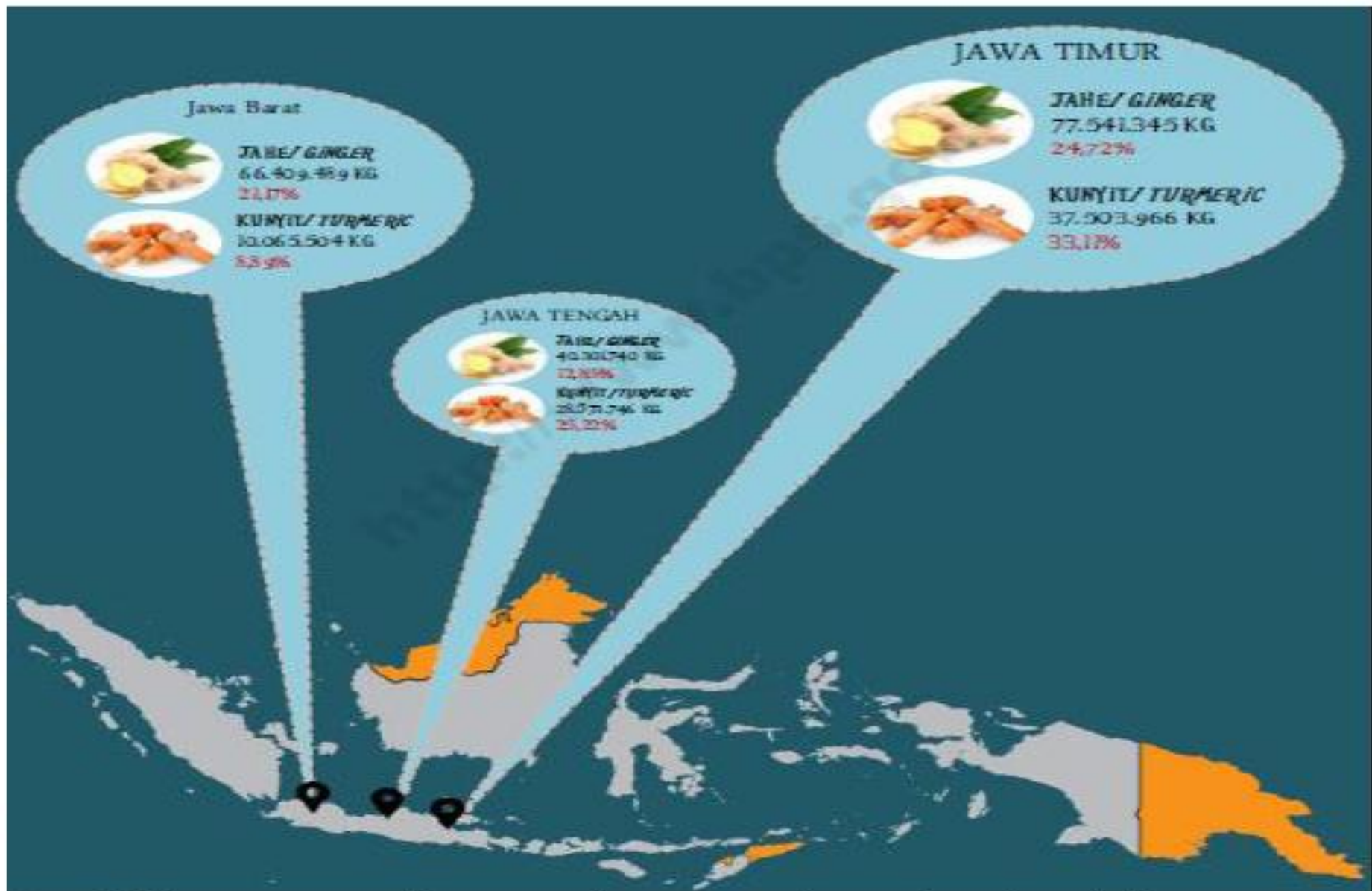
These type of medicinal plants can be divided into two groups: **rhizome** (ginger plants, galangal, East Indian galangal, tumeric, zingiber aromaticum, Java tumeric, black tumeric, Chinese keys, and sweet root/calamus, while **non-rhizome** group consists of Java cardamom plants, Indian mulberry, phaleria macrocarpa, verbenaceae, king of bitter, and aloevera (**Table 1**)

Table 1. 15 important types of medicinal plants used as traditional medicine in Indonesia.

No.	Type of plant (Indonesian name)	From of product
1.	Ginger (Jahe)	Rhizome
2.	Galangal (Laos/Lengkuas)	Rhizome
3.	East Indian Galangal (Kencur)	Rhizome
4.	Tumeric (Kunyit)	Rhizome
5.	ZingiberAromaticum (Lempuyang)	Rhizome
6.	JavaTumeric (Temulawak)	Rhizome
7.	Black Tumeric (Temuireng)	Rhizome
8.	Chinese Keys (Temu Kunci)	Rhizome
9.	Sweet Root (Calamus) (Dringo)	Rhizome
10.	Java Cardamon (Kapulaga)	Bean
11.	Indian Mulberry (Mengkudu)	Fruit
12.	Phaleria Macrocarpa (Mahkota Dewa)	Fruit
13.	Verbenaceae (Kejibeling)	Leaf
14.	King of Bitter (Sambiloto)	Leaf
15.	Aloevera (Lidah Buaya)	Leaf

3 Main Producer Provinces of Medicinal Plants in Indonesia





Map 1. Three provinces known as the main producer of medicinal plants used for traditional medicine in Indonesia (West Java, Central Java, East Java; BP-SI, 2015).

Production of Medicinal Plants (kg) in Indonesia (2006 - 2010)

JENIS TANAMAN TYPE OF PLANT	TAHUN / YEAR				
	2006	2007	2008	2009	2010
(1)	(2)	(3)	(4)	(5)	(6)
1. Jahe / Ginger	177 137 949	178 502 542	154 903 886	122 181 084	107 734 608
2. Laos(Lengkuas) / Galanga	44 369 523	41 619 147	50 092 846	59 332 313	58 961 844
3. Kencur / East Indian Galangal	47 081 020	48 366 947	38 531 160	43 635 311	29 638 127
4. Kunyit / Turmeric	112 897 776	117 463 680	111 258 884	124 047 450	107 375 347
5. Lempuyang / Zingiber Aromaticum	5 773 432	6 308 391	7 621 045	8 804 375	8 520 161
6. Temulawak / Java Turmeric	21 359 086	40 800 834	23 740 105	36 826 340	26 671 149
7. Temuireng / Black Turmeric	5 607 046	8 186 185	8 817 235	7 584 022	7 140 926
8. Temukunci / Chinese Keys	2 034 691	2 445 674	3 096 634	4 701 570	4 358 236
9. Dlingo (Dringo) / Sweet Root (Galamus)	610 103	507 667	687 008	1 074 901	754 551
10. Kapulaga / Java Cardamon	13 144 127	14 526 505	21 230 881	25 178 901	28 550 282
11. Mengkudu (Pace) / Indian Mulberry *)	12 983 957	14 015 795	16 306 163	16 267 057	14 613 481
12. Mahkota Dewa / Phaleria Macrocarpa *)	-	-	17 089 485	12 066 850	15 072 118
13. Kejibeling / Verbenaceae	1 902 693	869 599	1 202 453	943 721	1 139 223
14. Sambiloto / King of Bitter	2 656 234	1 298 974	7 716 432	4 334 768	3 845 063
15. Lidah Buaya / Aloevera	-	-	2 054 211	5 884 352	4 308 519

Production of Medicinal Plants (kg) in Indonesia (2011- 2015)

JENIS TANAMAN TYPE OF PLANT	TRIWULAN I / QUARTER I				
	2011	2012	2013	2014	2015
(1)	(7)	(8)	(9)	(10)	(11)
1. Jahe / <i>Ginger</i>	5 293 884	7 031 962	7 445 829	9 148 920	8 994 600
2. Laos(Lengkuas) / <i>Galanga</i>	3 446 981	3 618 005	3 768 505	2 255 285	2 416 868
3. Kencur / <i>East Indian Galangal</i>	3 395 928	2 749 076	2 037 168	2 369 686	2 239 749
4. Kunyit / <i>Tumeric</i>	4 417 322	4 416 791	6 438 502	3 847 504	4 570 465
5. Lempuyang / <i>Zingiber Aromaticum</i>	375 018	231 488	1 186 698	266 370	910 215
6. Temulawak / <i>Java Tumeric</i>	1 013 846	602 473	1 973 841	1 410 849	1 410 863
7. Temuireng / <i>Black Tumeric</i>	246 922	177 724	441 104	479 756	617 369
8. Temukunci / <i>Chinese Keys</i>	184 699	219 519	384 688	373 879	765 465
9. Dlingo (Dringo) / <i>Sweet Root (Calamus)</i>	51 170	51 332	47 043	23 343	22 743
10. Kapulaga / <i>Java Cardamon</i>	582 184	971 102	3 481 030	2 846 037	2 152 183
11. Mengkudu (Pace) / <i>Indian Mulberry *</i>	1 850 933	59 626	63 534	40 681	40 982
12. Mahkota Dewa / <i>Phaleria Macrocarpa *</i>	61 222	28 018	29 028	320 791	14 873
13. Kejibeling / <i>Verbenanceae</i>	109 720	28 642	52 938	157 640	10 574
14. Sambiloto / <i>King of Bitter</i>	356 764	46 516	218 870	517 261	821 225
15. Lidah Buaya / <i>Aloevera</i>	90 721	78 570	21 519	23 599	18 713

C O N C L U S I O N



In conclusion, medicinal plants and herbs in Indonesia used as traditional medicine has also contributed significantly in supporting the national economy, availability of food products, health and cosmetics, trades, construction of gross domestic product and absorption of worker.

Thank You
(‘Terima kasih’)

