# Functions and Roles of Higher Education Institutions of Environmental Health in Addressing the Problems Environmental Health in Indonesia

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## Functions and Roles of Higher Education Institutions of Environmental Health in Addressing the Problems Environmental Health in Indonesia

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### Abstract

Environmental health is an effort to prevent disease and / or health problems from environmental risk factors to realize healthy environmental quality from physical, chemical, biological, and social aspect. In the implementation of environmental health, health human resources are required that have the skills and competencies gained through education and training. Higher education is the level of education after secondary education that includes diploma programs, undergraduate programs, master programs, doctoral programs, and professional programs, as well as specialist programs, organized by universities based on Indonesian culture. The accredited health education educational institutions in Indonesia are 53 institutions, 36 diploma level III institutions, 12 diploma level IV institutions, 3 undergraduate institutions, and 2 master level institutions. The institution functions and acts as follows: Student and community learning container; the educational container of the future leaders of the nation; Science and technology development center; the center of the study of virtue and the moral power to seek and discover the truth; and the nation's civilization development center implemented through Tridharma activity, which is conducting education, research, and community service.

Keywords: Role and Function, Higher Education, Environmental Health

### 1. Introduction

Environmental Health is an effort to prevent disease and / or health problems from environmental risk factors to realize healthy environmental quality from physical, chemical, biological, and social aspect. Where the risk of vector and zoonotic disease is still very high, among others: Dengue Hemorrhagic Fever (DHF), Chikungunya, Filariasis, Malaria, Rabies, Leptospirosis, Anthrax and Bird Flu.

In the implementation of Environmental Health, health human resources are required that have the skills and competencies gained through education and training. Higher Education is the level of education after secondary education that includes diploma programs, undergraduate programs, master programs, doctoral programs, and professional programs, as well as specialist programs, organized by universities based on Indonesian culture.

In the implementation of Environmental Health, the Central Government, provincial government, district / municipal governments are in accordance with their authority, and the community utilizes appropriate technology, supported by research, technology development and screening, laboratory testing, and does not cause health problems with funding sourced from the State Budget (APBN), Regional Revenue and Expenditure Budget (APBD), the public, or other legal sources in accordance with the provisions of laws and regulations. Similarly, the implementation of environmental health education by government and private.

The implementation of environmental health is carried out within the scope of Community-Based Total Sanitation (CBTS), healthy area arrangement, drinking water, access to proper sanitation, Health Service Places (HSP), Food Management Places (FMP), Medical Waste Management and housing.

### 2. Research Methods

This includes descriptive research with cross sectional approach. The total population is 53 colleges with total population sample. The research instrument used an open questionnaire questionnaire, conducted in focus group discussion (FGD) in the Forum of Higher Education Institutions for Environmental Health (PIPTKL) attended by Head of Environmental Health

Education of State Universities (PTN) and Private Universities (PTS) and Profession Organization both HAKLI and EHSA.

For secondary data, obtained through reports from related agencies, among others:

- a. Central Bureau of Statistics (CBS)
- b. Indonesia Health Profile Year 2016
- c. LAM PTKes

### 3. Discussion of Results

Population for a country can be a boon, but also a problem. Here's the population of Indonesia.

Table 1: Population Year 2012-2016 by sex in Indonesia (in millions)

YEAR	GENDER		TOTAL
TEAN	Man	Women	IOIAL
2012	123,22	121,55	244,78
2013	125,06	123,36	248,42
2014	126,92	125,20	252,12
2015	128,37	127,09	255,46
2016	129.99	128,72	258,70

Based on the above table, for 5 years the growth of the Indonesian population an average of 3.5%. While the condition of the population of each province in the last year is:

Table 2: Population by Province in 2016 in Indonesia (in millions)

No	PROVINCE	TOTAL
		POPULATION
1	West Java	47.379.389
2	East Java	39.075.152
3	Central Java	34.019.095
4	North Sumatra	14.102.911
5	Banten	12.203.148
6	DKI Jakarta	10.277.628
7	South Sulawesi	8.606.375
8	Lampung	8.205.141
9	South Sumatera	8.160.901
10	Riau	6.500.971
11	West Sumatera	5.259.528
12	East Nusa Tenggara	5.203.514
13	Aceh	5.096.248
14	West Nusa Tenggara	4.896.162
15	West Kalimatan	4.861.738
16	Bali	4.200.069
17	South Kalimatan	4.055.479
18	DI Yogyakarta	3.720.912
19	East Kalimatan	3.501.232
20	Jambi	3.458.926
21	Papua	3.207.444
22	Central Sulawesi	2.921.715
23	Southeast Sulawesi	2.551.008
24	Center Kalimatan	2.550.192
25	North Sulawesi	2.436.921
26	Riau Islands	2.028.169
27	Bengkulu	1.904.793
28	Maluku	1.715.548
29	Bangka Belitung Islands	1.401.827
30	West Sulawesi	1.306.478
31	North Maluku	1.185.912
32	Gorontalo	1.150.765
33	West Papua	893.362
34	North Kalimatan	666.333

Differences in the population of each province mentioned above, is directly proportional to the problems encountered, both types and quantities. Especially in health issues in general, and environmental health more specifically. Universities in Indonesia both owned by the government and held private, its existence is

Universities in Indonesia both owned by the government and held private, its existence is expected. But the reality in terms of quantity and quality is still not evenly distributed. No exception to the environmental health education college.

Table 3: List of Higher Education of Environmental Health Based on education level and accreditation status in Indonesia Year 2017

No	College	Strata	Accre ditation
1	Andalusia Environmental Health Academy	D-III	С
2	Environmental Health Academy Jabal Ghafur	D-III	С
3	Environmental Health Academy of Mandala Waluya	D-III	С
4	Muhammadiyah Makassar Environmental Health Academy	D-III	С
5	Environmental Health Academy of South Sumatera Provincial Government	D-III	В
6	Polytechnic Banjarnegara	D-III	В
7	Health Polytechnic of Ministry of Health Aceh	D-III	В
8	Health Polytechnic Ministry of Health Bandung	D-III	В
9	Health Polytechnic Ministry of Health Banjarmasin	D-III	В
10	Health Polytechnic Ministry of Health Denpasar	D-III	В
11	Health Polytechnic Ministry of Health Jakarta II	D-III	А
12	Health Polytechnic Ministry of Health Jambi	D-III	В
13	Health Polytechnic Ministry of Health Jayapura	D-III	С
14	Health Polytechnic Ministry of Health Makassar	D-III	В
15	Health Polytechnic Ministry of Health Mamuju	D-III	С
16	Health Polytechnic Ministry of Health Manado	D-III	В
17	Health Polytechnic Ministry of Health Padang	D-III	В
18	Health Polytechnic Ministry of Health Pontianak	D-III	А
19	Health Polytechnic Ministry of Health Surabaya	D-III	В
20	Health Polytechnic Ministry of Health Yogyakarta	D-III	В
21	Health Polytechnic Ministry of Health Bengkulu	D-III	В
22	Health Polytechnic Ministry of Health Jayapura	D-III	В
23	Health Polytechnic Ministry of Health Kupang	D-III	В
24	Health Polytechnic Ministry of Health Maluku	D-III	В
25	Health Polytechnic Ministry of Health Medan (campus Kabanjahe)	D-III	В

	1				
26	Health Polytechnic Ministry of Health Palu	D-III	В		
27	Health Polytechnic Ministry of Health Tanjung Karang	D-III	В		
28	Health Polytechnic Ministry of Health	D-III	В		
29	Tanjung Pinang Health Polytechnic Semarang	D-III	В		
30	Health Polytechnic Ternate	D-III	С		
31	Health Polytechnic Yapkesbi Sukabumi	D-III	С		
32	Hakli College of Health Sciences	D-III	С		
33	College of Health Sciences Muhammadiyah Palembang				
34	High School of Health Sciences Muhammadiyah Samarinda	D-III	В		
35	Wira Husada Health Sciences College	D-III	С		
36	High School of Environmental Engineering Mataram	D-III	С		
37	Health Polytechnic Ministry of Health Aceh	D-IV	В		
38	Health Polytechnic Ministry of Health Bandung	D-IV	В		
39	Health Polytechnic Ministry of Health Jakarta II	D-IV	А		
40	Health Polytechnic Ministry of Health Yogyakarta	D-IV	В		
41	Health Polytechnic Ministry of Health Banjarmasin	D-IV	В		
42	Health Polytechnic Ministry of Health Denpasar	D-IV	В		
43	Health Polytechnic Ministry of Health Makassar	D-IV	В		
44	Health Polytechnic Ministry of Health Manado	D-IV	В		
45	Health Polytechnic Ministry of Health Padang	D-IV	В		
46	Health Polytechnic Ministry of Health Pontianak	D-IV	А		
47	Health Polytechnic Ministry of Health Surabaya	D-IV	В		
48	Health Polytechnic Ministry of Health Tanjung Karang	D-IV	В		
49	College of Health Sciences Ibnu Sina Batam	S1	В		
50	Widyagama Husada Health School	S1	В		
51	University of Indonesia	S1	В		
52	University of Airlangga, Surabaya	S2	Α		
53	Diponegoro University	S2	В		

Table 4: Recapitulation of Higher Education of Environmental Health Based on education level in Indonesia Year 2017

INSTITUTION OF ENVIRONMENTAL HEALTH EDUCATION	AMOUNT	TOTAL
D3	36	
D4	12	53
S1	3	33
S2	2	

From these results, the environment health education college in Indonesia can be said to be quite good, where the universities that get accreditation A as many as 5 institutions (S2: 1 PT, D-IV: 2 PT, and D-III: 2 PT). The most accredited agencies are B, 70% (S2: 1 PT, S1: 3 PT, D-IV: 10 PT, D-III: 23 PT, Total 37 PT). While the accredited C only 11 PT the overall tiered D-III.

These data are all obtained primarily (interviews with university leaders and professional organizations) or secondary (reports of related institutions), where the results obtained that the universities of environmental health education in Indonesia perform the following functions and

- a. Student and Community Learning Container;
- b. the educational container of the future leaders of the nation;
- c. Science and Technology development center;
- d. the center of the study of virtue and the moral power to seek and discover the truth; and
- e. national civilization development center.

In performing the functions and roles of universities in environmental health education in Indonesia, implemented through Tridharma activities set out in the respective college statutes.

### 4. Conclusion

The accredited health education educational institutions in Indonesia are 53 institutions, 36 diploma level III institutions, 12 diploma IV level institutions, 3 undergraduate institutions, and 2 masters degree institutions. The institution functions and acts as follows: Student and Community learning container; the educational container of the future leaders of the nation; Science and Technology development center; the center of the study of virtue and the moral power to seek and discover the truth; and the center of the development of the nation's civilization carried out through the activities of Tridharma, namely organizing education, research, and community service.

Each environmental health education college is very important in the national development, especially in the field of environmental health in Indonesia, either diploma, bachelor or magister program in accordance with the type of college.

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