



Development of the Indicators of Registration of Presumed Cultural Heritage Object and Stipulation of Cultural Heritage Activities in Indonesia

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Abstract. Tangible cultural heritage, as valuable assets for the civilization of Indonesia, are highly necessary to be protected. The protection can be carried out through the registration of Presumed Cultural Heritage (PCH) and the stipulation of Cultural Heritage (CH). However, there is no standard of measurement on registration and stipulation process to implement in every region. This research aims to develop the indicators to measure PCH registration and CH stipulation activities in Indonesia, in scope of regency, city and provincial level. We present 3 core questions through this quantitative research. Firstly, how is the process in developing the indicators for registration and stipulation of Cultural Heritage in Indonesia? Secondly, what are the current conditions for PCH registration and CH stipulation activities at regency, city and provincial levels in Indonesia based on the indicators? Thirdly, what policy recommendation can be offered to the local government, in accordance with the mapping results of the indicators? We used primary data processing methods sourced from the National Registration System to develop quantitative indicators for PCH registration and CH stipulation activities, called as The Indicator of PCH Activities (IPCHA), in addition to literature studies in formulating policy recommendations related to the mapping of IPCHA scale. Based on the findings, we acknowledged that the policy on PCH registration and CH stipulation have not been reached optimal result in 26 of 38 provinces also in 381 of 514 regencies and cities in Indonesia, which were showed with an IPCHA scale of 2 or less. On this account, we believe that such policy recommendations for local government are implemented.

Keywords: Cultural Heritages (CH), IPCHA, Presumed Cultural Heritages (PCH), Registration of PCH, Stipulation of CH, The National Register System.

1 Introduction

According to definition part on [1], Tangible Cultural Heritage (CH) is a cultural object of an authentic nature on land and water, which needs to be preserved because

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A. Hidayat et al. (eds.), *Proceedings of the International Conference on Multidisciplinary Studies (ICoMSi 2023)*, Advances in Social Science, Education and Humanities Research 829,

https://doi.org/10.2991/978-2-38476-228-6_6

it has important value for history, science, education, religion, and culture through the establishment process. Due to the importance of the existence of CB as one of cultural value resources for the nation, based on [2] the government is obliged to carry out national registration of all objects that have potential to be stipulated as CB, called as Presumed Cultural Heritage (PCH). The process of PCH registration and CB stipulation in Indonesia refers to some articles in [1], especially in Chapter VI that regulate procedure of those activities.

The first step, the local government (especially in regency/city level) are mandated to conduct registration of PCH objects in their working area, through cooperation with communities. Objects that have been registered would then be assessed academically by the Cultural Heritage Experts Team on regency/city, province, or national level to be proposed as CH based on their type, whether they are objects, buildings, structures, sites, or areas. CH Objects will then be stipulated and classified by the Minister, Governor, or Mayor according to their respective authority, to be registered through the National Register System. Since 2022 based on law [3], the mechanism of PCH registration and CH stipulation have been managed by both national and local governments, as well as supported by active public participation through the National Cultural Heritage Registration System.

Implementation of the mechanism on the system has become one of the local government's tasks, both at regency/city and provincial level, as part of the implementation of mandatory non-basic service affairs as stated in [4]. Nevertheless, there are many facts that show local governments still facing difficulties in optimally conducting the task. Some studies conducted on [5] and [6] describe in sufficient detail problems that occur in the system implementation at national level. This issue is also discussed in other studies conducted on [7], [8], [9], [10], and [11], which took examples of cases in some regencies and cities related to the system.

Based on studies that mentioned earlier, we can draw one essential problem of PCH registration and CH stipulation. We found that there is no measurement available for those activities that can be applied evenly in each region. This problem is also in line with the fact that there are still a small number of quantitative approaches used in measuring activities related to CH preservation, such as studies conducted on [12] and [13].

Therefore, our research aims to develop an indicator that is capable of measuring PCH registration and CH stipulation activities in Indonesia, with coverage at province and regency/city level. The development of this indicator comes from data obtained from the National Register System, which has been the main reference in obtaining information on the number of PCH that have been registered and stipulated throughout Indonesia. The results of the development of these indicators are also accompanied by a simulation of policy recommendations, which can be made by the local government to enhance or maintain PCH registration and CH stipulation activities based on specified scale. Thus, the policy recommendations are expected to be an effective strategy in achieving the target of preservation of PCH and CH in respective regions.

2 Methodology

Our research used a quantitative approach, with primary and secondary data analysis methods applied. For primary data, we gathered some variables related to PCH registration and CH stipulation from The National Register System, which is managed by the Directorate General of Culture, Ministry of Education, Culture, Research and Technology. As for secondary data, we used a map of the Indonesia area that was officially published by Geospatial Information Agency [14] with attributes in province and regency/city level included. This map was then analyzed to obtain land areas for each province and regency/city, as well as to make conditional maps of PCH registration and CH stipulation activities based on the result of respective indicators.

2.1 Dataset and Pivot Table

Primary data from The National Register System initially consisted of 93 variables, but only 5 variables were included in our research as mentioned in Table 1. Moreover, the amount of data used in our research is the number of records in The National Register System until 2022, which is 100.218 objects.

Table 1. Selected Variable in The National Register System

Code	Variable Name	Description
ID	PCH/CH Unique Number	Registration number of objects registered in The National Register System.
Nama	Name of Registered PCH	Official/local name of objects for registration in The National Register System
Kab	Name of Regency/City	Location of regency/city where PCH is registered (514 regencies and cities throughout Indonesia).
Prov	Name of Province	Location of province where PCH is registered. (38 provinces throughout Indonesia, include 4 new provinces in Papua Island)
Status	Status of Stipulation as CB	<ul style="list-style-type: none"> • Categorical variable with 2 values: “Stipulated” (1) and “Not Yet Stipulated” (0) • The stipulation status on regency/city, province, or national level.

Based on selected variables on the primary data within map analysis from secondary data to obtain land area in each regency/city, a pivot table that becomes the main data source to develop indicators and analysis which can be constructed as presented in

Table 2. It should be noted that Table 2 will contain 514 rows of data corresponding to the number of regencies and cities in Indonesia.

Table 2. Example Pivot Table of Land Area and Total PCH

Province	Regency/City	Land Area (in sq km)	Number of PCH Stipulated as CH	Number of PCH Not Yet Stipulated as CH	Number of PCH Registered [(4) + (5)]
(1)	(2)	(3)	(4)	(5)	(6)
Aceh	Aceh Barat				
Aceh	Aceh Tengah				
...	...				
Papua	Jayapura				

2.2 Develop Supporting Variables

There are some supporting variables that can be defined based on Table 2, which become the basis for developing the main indicator of PCH registration and CH stipulation activities in Indonesia.

1. Variable V_1 defines as ratio of Number of PCH Registered to Land Area, which can be formulated in the following equation.

$$V_1 = \frac{\text{Number of PCH Registered}}{\text{Land Area}} = \frac{\text{Column (6)}}{\text{Column (3)}} \quad (1)$$

The variable can be applied either in regency/city level or provincial level, taking note that calculation of V_1 at the provincial level based on aggregate data from regencies/cities that belong to certain provinces according to administrative data.

2. Variable V_2 defines as percentages of Number of PCH Stipulated as CH to Number of PCH Registered, which can be formulated in the following equation.

$$V_2 = \frac{\text{Number of PCH Stipulated as CH}}{\text{Number of PCH Registered}} \times 100\% = \frac{\text{Column (4)}}{\text{Column (6)}} \times 100\% \quad (2)$$

That variable can be applied either in regency/city level or provincial level, taking note that calculation of V_2 at the provincial level based on aggregate data from regencies/cities that belong to certain provinces according to administrative data.

In addition to these two variables, there are two other variables defined as standard value for each variable, as described below:

3. Variable S_1 as standard value for V_1 . On ideal condition, there is should exist a comprehensive study that indicates how much land area needs to be explored to get a potential PCH registration. However, since there is no such study yet available, then S_1 in our research is approached based on actual ratio of Number of PCH Reg-

istered in The National Register System to Indonesia’s land area, which can be calculated as below.

$$S_1 = \frac{\text{Total PCH Registered}}{\text{Indonesia's Land Area}} = \frac{100.218}{1.899.431,62} \approx 0,0525 \quad (3)$$

Based on this equation, it can be said that the change in Number of PCH Registered in The National Register System annually, directly impact to the change of S_1 value. It is also noted that S_1 value becomes the same as in regency/city level or province level.

4. Variable S_2 as standard value for V_2 , which is approached based on target in Percentages of Number of PCH Stipulated as CH to Number of PCH Registered. In our research, the value of S_2 is taken from an objectives written in the ministry's strategic plan [15], which is targeted in 6.90% by 2024. It is also noted that S_2 value becomes the same as in regency/city level or province level.

2.3 Developing the Indicator

Based on developing of 4 supporting variables as mentioned before, we proposed an indicator of measuring PCH registration and CH stipulation activities in Indonesia, which called in our research as **Indicator of PCH Activities (IPCHA)**. The development of this indicators follows the concept used by Statistics Indonesia in compiling indicators of social resilience for village level [16].

The IPCHA indicator uses several variables such as: Number of PCH Registered, Number of PCH Stipulated as CH, Variable V_1 and V_2 as well as their respective standard variable (S_1 and S_2) as basis for determining value of this indicator. As for the value of this indicator, it is a nominal scale from 0 to 4 with the criteria for each scale described in Table 3.

Table 3. Value Criteria of IPCHA

IA.PCH Scale	Number of PCH Registered	Number of PCH Stipulated as CH	V_1 value	V_2 value
0	Not Existed (0)			
1	At Least 1	Not Existed (0)		
2	At Least 1	At Least 1	$V_1 < S_1$	
3	At Least 1	At Least 1	$V_1 \geq S_1$	$V_2 < S_2$
4	At Least 1	At Least 1	$V_1 \geq S_1$	$V_2 \geq S_2$

Thus, by providing data that is structured as in Table 2, supplemented with criteria as in Table 3, we can calculate IPCHA indicator according to data development on The National Register System annually, either in regency/city level or in provincial level.

3 Results and Discussions

All the results presented in this research came from data analysis of PCH registration and data of CH stipulation with conditions until the end of year 2022. The discussion also described separately between provincial level and regency/city level based on scale of IPCHA, as well as some policy strategies proposed according to the result of that indicator.

3.1 Indicator on Province Level

Based on IPCHA scale that calculated among 38 provinces in Indonesia, there was a classification of province as showed in Figure 1, as well as described in Table 4.

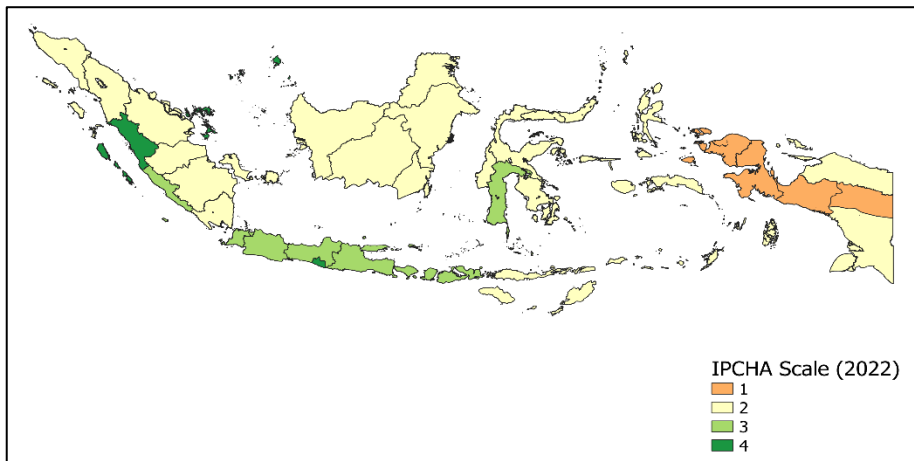


Fig 1. Map of Province in Indonesia based on IPCHA Scale

Table 4. Classification of Province in Indonesia Based on IPCHA Scale

IPCHA Scale	List of Provinces	Count
1	Papua Barat; Papua Barat Daya; Papua Pegunungan; Papua Tengah	4
2	Aceh; Sumatera Utara; Riau; Jambi; Sumatera Selatan; Lampung; Kepulauan Bangka Belitung; Nusa Tenggara Timur; Kalimantan Barat; Kalimantan Tengah; Kalimantan Selatan; Kalimantan Timur; Kalimantan Utara; Sulawesi Utara; Sulawesi Tengah; Sulawesi Tenggara; Gorontalo; Sulawesi Barat; Maluku; Maluku Utara; Papua; Papua Selatan	22
3	Bengkulu; DKI Jakarta; Jawa Barat; Jawa Tengah; Jawa Timur; Banten; Bali; Nusa Tenggara Barat; Sulawesi Selatan	9
4	Sumatera Barat; Kepulauan Riau; DI Yogyakarta	3

According to Table 4, it could see 26 of 38 provinces in Indonesia (68,42%) had IPCHA scale of 2 or lower. If we looked back at criteria presented in Table 3, it could be assumed there were still many provinces that have not done optimally in PCH registration and CH stipulation activities.

Moreover, if we looked at classification of provinces based on IPCHA scale by area of islands, the result was presented as in Table 5.

Table 5. Classification of Province Based on IA.PCH by Area

Area of Islands	IA.PCH Scale					Number of Province
	0	1	2	3	4	
Sumatera Island	0	0	7	1	2	10
Java Island	0	0	0	5	1	6
Bali and Nusa Tenggara	0	0	1	2	0	3
Kalimantan Island	0	0	5	0	0	5
Sulawesi Island	0	0	5	1	0	6
Moluccas and Papua Island	0	4	4	0	0	8
INDONESIA	0	4	22	9	3	38

According to Table 5, it seen that all provinces in Moluccas and Papua Island were only had IPCHA scale of 1 and 2. So that, it can be understood that activities regarding PCH registration and CH stipulation in this area were still not optimal compared to other areas. An analogous situation is also found in Kalimantan Island, with all provinces there only got IPCHA scale of 2.

3.2 Indicator on Regency/City Level

Based on IPCHA scale that calculated among 514 regencies and cities in Indonesia, there was a classification of regency/city described as follows: 49 regency/city (9,53%) in scale 0; 220 regency/city (42,80%) in scale 1; 112 regency/city (21,79%) in scale 2; 96 regency/city (18,68%) in scale 3; and 37 regency/city (7,20%) in scale 4. In aggregate, which were 381 regencies and cities in Indonesia (74,12%) had IPCHA scale of 2 or lower. If we looked back at criteria presented in Table 3, it could be assumed there were still many regencies and cities that have not optimally done in PCH registration and CH stipulation activities. Figure 2 shows classification of regencies and cities based on IPCHA scale.

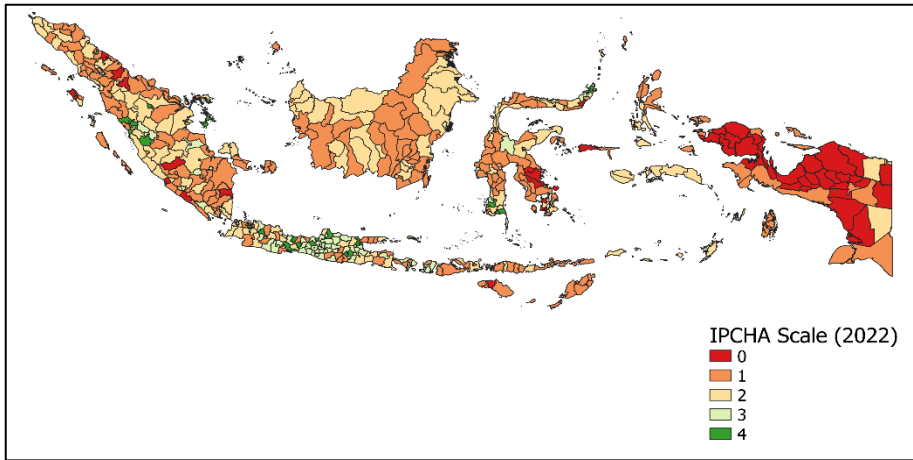


Fig 2. Map of Regency/City in Indonesia based on IPCHA Scale

Moreover, if we looked at classification of regency/city based on IPCHA Scale by area of islands, the result was presented as in Table 6.

Table 6. Classification of Regency/City Based on IPCHA by Area

Area of Islands	IPCHA Scale					Number of Regency/City
	0	1	2	3	4	
Sumatera Island	12	76	40	14	12	154
Java Island	0	27	19	54	19	119
Bali and Nusa Tenggara	1	26	3	11	0	41
Kalimantan Island	0	33	20	3	0	56
Sulawesi Island	7	39	17	13	5	81
Moluccas and Papua Island	29	19	13	1	1	63
INDONESIA	49	220	112	96	37	514

According to Table 6, it seen that almost all regencies and cities in Moluccas and Papua Island were only had IPCHA scale of 2 and lower. Moreover, there were some regencies and cities in this area that had IPCHA scale 0. So that, it can be understood that activities regarding PCH registration and CH stipulation in this area were still far from optimal compared to other areas. An analogous situation is also found in Kalimantan Island, with almost all regencies and cities there only got IPCHA scale of 1 or 2.

3.3 Policy Simulation Based on Indicator

Based on criteria of IPCHA scale as described in Table 3, we proposed a policy simulation that can be applied by regency/city or province governments. This policy simulation is designed to optimize PCH registration and CH stipulation activities in those areas based on the result of IPCHA scale.

Policy Simulation in Area with IPCHA Scale 0

For Regency/City Government

- Immediately form the PCH Registration Team (if not yet available), which is integrated with the National Cultural Data System (DAPOBUD) Team in regency/city level.
- Priority allocation of budget for PCH registration and CH stipulation, either through local government budget (APBD) or other funding sources.
- Coordinate with other institutions and/or the Cultural Preservation Agencies, regarding activities of PCH registration and CH stipulation.
- Supervise the process and maintenance of The National Register System (as stated in [3]).

For Province Government

- Coordination with subordinate regency/city governments to encourage establishment of PCH registration team, through the National Cultural Data team in the provincial level.
- Priority allocation of budget for supporting PCH registration and CH stipulation, either through local government budget (APBD) or other funding sources.
- Coordinate with other institutions and/or Cultural Preservation Agencies, regarding activities of PCH registration and CH stipulation.
- Supervise the process and maintenance of The National Register System (as stated in [3]).

Policy Simulation in Area with IPCHA Scale 1

For Regency/City Government

- Immediately form The CH Expert Team in regency/city level (if not yet available).
- Priority allocation of budget for facilitating The CH Expert Team formation.
- Coordinate with other institutions and/or The Cultural Preservation Agencies.
- Supervise the process and maintenance of The National Register System (as stated in [3]).

For Province Government

- Immediately form The CH Expert Team in provincial level (if not yet available).
- Coordination with subordinate regency/city governments to encourage establishment of The CH Expert Team in regency/city level.
- Priority allocation of budget for facilitating The CH Expert Team formation.
- Provide facilitation of The CH Expert Team formation and CH stipulation at regency/city level.
- Coordinate with other institutions and/or The Cultural Preservation Agencies.

- Supervise the process and maintenance of The National Register System (as stated in [3]).

Policy Simulation in Area with IPCHA Scale 2

For Regency/City Government

- Improve capacity of the PCH Registration Team.
- Optimize the mechanism of PCH registration by involving communities.
- Priority budget allocation for improving PCH registration and socialization capacity.
- Coordinate with other institutions and/or The Cultural Preservation Agencies.
- Supervise the process and maintenance of The National Register System (as stated in [3]).

For Province Government

- Coordination with subordinate regency/city governments to improve PCH registration, through the National Cultural Data team at provincial level.
- Increase facilities for PCH registration at provincial level.
- Priority budget allocation for improving PCH registration.
- Coordinate with other institutions and/or The Cultural Preservation Agencies.
- Supervise the process and maintenance of The National Register System (as stated in [3]).

Policy Simulation in Area with IPCHA Scale 3

For Regency/City Government

- Increase capacity of the CH Expert Team in regency/city level to implement CH stipulation.
- Improve cooperation with other parties in conducting verification and studies to support CH stipulation in regency/city level.
- Priority budget allocation for improving studies and operation of The CH Expert Team in regency/city level.
- Coordinate with other institutions and/or The Cultural Preservation Agencies.
- Supervise the process and maintenance of The National Register System (as stated in [3]).

For Province Government

- Increase capacity of The CH Expert Team at provincial level to implement CH stipulation.
- Improve cooperation with other parties in conducting verification and studies to support CB stipulation at the provincial level.

- Priority budget allocation for improving studies and operation of TACB at the provincial level.
- Coordinate with other institutions and/or The Cultural Preservation Agencies.
- Supervise the process and maintenance of The National Register System (as stated in [3]).

Policy Simulation in Area with IPCHA Scale 4

For Regency/City Government

- Maintain or improve existing mechanisms of PCH registration and CH stipulation.
- Maintain ratio of PCH registration and CH stipulation at regency/city level annually.
- Maintain budget allocation for PCH registration and CH stipulation activities.
- Coordinate with other institutions and/or The Cultural Preservation Agencies.
- Supervise the process and maintenance of The National Register System (as stated in [3]).

For Province Government

- Maintain or improve existing mechanisms of PCH registration and CH stipulation.
- Maintain ratio of PCH registration and CH stipulation at province level annually.
- Maintain budget allocation for PCH registration and CH stipulation activities.
- Coordinate with other institutions and/or The Cultural Preservation Agencies.
- Supervise the process and maintenance of The National Register System (as stated in [3]).

Implementation of policy simulation as described above must be adapted to work organization and budget adequacy of each local government. Therefore, although there are many areas with the same IPCHA scale, a series of policies being taken regarding PCH registration and CH stipulation may be different, so that the results of improvement may also be different.

4 Conclusion

The indicator of PCH registration and CH stipulation activities can be calculated annually for both at district/city and provincial level, as the number of PCH registered and stipulated as CH is going to increase annually, even further integrated into The National Cultural Data System. In similar, standard value that indicators (variable S_1 and S_2) can be established annually following data developments or can be set over a period of several years in accordance with agreed targets.

In connection with future development of the concept, this research in development the indicators of PCH registration and CH can also be applied to the registration and verification activities of other cultural advancement objects (called as *Objek Pema-*

juan Kebudayaan or OPK), adapting to the availability of data in The National Cultural Data System.

If the development of indicators of PCH registration and CH stipulation activities is well planned, this indicator can be used as one of indicators in formulation of cultural performance targets by local government, which can be addressed in the Regional Chief Performance Agreement. Furthermore, this indicator may also be considered as one indicator in development of Indonesia's Cultural Development Index (Indeks Pembangunan Kebudayaan/IPK).

Acknowledgement

We would like to say gratitude to Directorate General of Culture, Ministry of Education, Culture, Research, and Technology, Republic of Indonesia which has given us opportunity to access and study Cultural Data Collection System (especially The National Register System/REGNAS CB and The National Cultural Data System/DAPOBUD), and to use them as the primary data source for our research.

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