



Saminist's Indigenous Knowledge in Water Conservation in North Karts Kendeng Sukolilo

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Abstract

Saminist is indigenous peoples and a local communities at North karts Kendeng. Saminist expected that North Karts Kendeng maintained and conserved continuity to be able to contribute to the life around this region especially abundant water. Water is one of the main needs of living beings on Earth, besides that water is a primary requirement of farmers in farming communities. Saminist as traditional community who only permitted to be farmers still practice the environmental wisdom from their heritage which aims to preserve the natural environment so that they could alive depend on nature around, especially Saminist just sack their business of farming crops that are not market oriented as much farming is done farmers in general. They tried to maintain a relationship of harmony between communities around the North Karts Kendeng to conserve North Karts Kendeng region from mining destruction, the negative impacts from mining in this region was disappears of water and others impacts such as natural disaster, flood, rough, and danger of tornado. North Karts Kendeng Sukolilo have 79 springs and 24 caves spread across 3 sub-district namely Sukolilo, Kayen and Tambakromo. Abundant natural resources certainly is a gift that needs to be maintained and conserved. To maintain and conserve this region with planting the three, not mining the rocks, maintain local wisdom, and refusal cement industry in North Karts Kendeng Sukolilo.

Keywords: Saminist; water; indigenous knowledge; spring

INTRODUCTION

Samin tribe was indigenous peoples, they were part of Javanese but they had different ethic, norm and tradition with Javanese generally. Saminist mean a group of people who are trying to run daily life in accordance with the teachings of Samin. Samin community which is mostly found in rural areas in Central Java and East Java. Samin Surosentiko is the founder of the doctrine saminisme (Darmastuti and Purworini 2014; Darmastuti and Purworini 2014). He was born in 1859 with the name Raden Kohar Ploso Kedhiren village, Randublatung Blora regency, Central Java. His father named Raden Surowijaya or Samin Sepuh. He changed his name to Samin Surosentiko because Samin is a name that had meaning underprivileged. The moral values are still maintained at Samin groups include: honesty, simplicity, coope-

ration and hard work. Samin community still has a very strong tradition in everyday life. These communities still adhere to the teachings of their ancestors, especially the values that govern relations Samin community with the natural surroundings (Maridi, Agustina and Saputra 2014; Rohman 2010; Widodo 2012). This study gives an addition to the existing literatures on the relevance of indigenous knowledge in the modern world (Ahmad and Prashar 2010; Kurz, T Donaghue and Walker 2005; Kurz, Roberts and Rosen 2009; Ward and Pulido-Velazquez 2008; Williams, Blanco and Lal 2010). This study is important in the way it gives attention to the practice of water conservation strategy among a well-known traditional community in Java.

Samin community depend on the goodness of nature for their life. As tradi-

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Pictute 1 : North Karts Kendeng Sukolilo

tional farmers, They had a very high dependence on natural resources and environment. North Karts Kendeng mountains as karts region that had some uniqueness compared to the mountains in general. The mountains seem barren and dry, but It was as a giant water reservoir, water will be pouring various areas around it. Water is one of the primary needs of living thing. Farmers around North Karts Kendeng required irrigation water from several springs in the surrounding mountains. To maintain their sustainability and conserved the water in many springs in North Karts Kendeng They concerned great lengths to preserve the nature around North Kendeng Mountains (Cahyolestari 2010).

North Karst Kendeng stretch covering five regency in Central Java Province, including: Kudus, Pati, Grobogan, Rembang, and Blora. Based on Indonesian Government Regulation No. 26, issued 2008 on the National Spatial Plan, the region that has a karts landscape is a protected area geology. Karst is a term in German that is derived from the Slovenian meaning rocky barren land (Adji et al., 2006). The term actually describes the conditions that are often encountered in many areas of rocky carbonate or rock that is easily soluble (Haryono 2001). More specific

definition expressed by Ford and Williams (1992) that define a field with characteristic karts hydrology and land forms caused by a combination of rock-soluble and has a well-developed secondary porosity well. While Ford and Wiliams defined as a karts terrain with typical hydrologic conditions as a result of rock-soluble and has a well developed secondary porosity. Karts is characterized by: (i) the presence of a closed basin or dry valleys in various sizes and shapes, (ii) the absence of rare or drainage / river surface, and (iii) the presence of a cave underground drainage system (cahyadi, 2010).

Karts is a general term used for a region in which the constituent rock is limestone that has undergone a process of dissolution. Limestone is carbonate (containing CaCO_3) so easily dissolved by rainwater containing acidic. If limestone karts region is said to have undergone a karts process (Arsyad, 2014). Karts process was a series of processes ranging from lifting of limestone to the earth's surface as a result of an endogenous process and a process of dissolution in space and geological time until eventually produced landforms karts (Haryono 2004). Process by rain water on the surface of the produce landscapes ecsokarts distinctive, namely Karren or conical hill, the karts to-

wer, the valley / topography negative among a set of hills cone (doline), lake karts, river periodic culminate in a vertical cave (sink-hole), water inlet hole (ponour), the surface of the river disappeared into the mouth of the cave (shallow holes), and irregular valleys that dead end (blind Valey). Furthermore, the dissolution process evolved to produce subsurface formations below the surface (endokarts). The process produces a complex network of passageways to the type and size varies form cave system or the underground river system (UPN, ASC Disaster Management Studies Center, ASC, p. 2008)

RESEARCH METHODS

The research was conducted in the Baturejo village, Hamlet Bombong and Bacem, Sukolilo District Pati Regency. In two hamlet is the indwelling of Samin community, the population surrounding better known as *Sedulur Sikep*. The indigenous peoples still practice the teachings Saminisme as a legacy of their predecessors. The data in this study is not just limited to people Saminist or *Sedulur Sikep* but they are also obtained from several stakeholders such as Governments institutions, communities surrounding, civil society organizations and Karts Kendeng observer. Baturejo Village consists of four hamlets namely Bombong, Ronggo, Mulyoharjo and Bacem. The village area has a slope of 8% and is at 150-120 meters above sea level. Wide Baturejo village is 946.50 hectare. Most of this village, + 90%, or 845 hectares, is dominated by agricultural land. Baturejo village had a population of 6077 inhabitants. Consisting of 3073 men and 3004 women. Baturejo population majority of the villagers are farmers.

This study is a qualitative research that does not depart from a theory but of social phenomenon through a particular process will be a theory. Qualitative research is referred to as grounded research because it departed from the bottom (ground) or from social reality instead of behind desks This research uses descriptive method, which means method used to examine the status of a group of people, an object, a condition, a system of thought or a class events (Nasir

1988, p.63). While Suharsini Arikunto (2003, p.310) asserts that descriptive study was not intended to test a particular hypothesis, but simply to portray what it is about a variable, symptoms or conditions. The data in this study consisted of primary and secondary data, primary data is data obtained directly from the research area while secondary data means data obtained from other sources such as books, media, government and mass organizations. Data collection techniques is the main participant observation, interviews, and documentation and the combination of three or triangulation.

RESULT AND DISCUSSION

Sukolilo Karts region serves as a water catchment area and storage for many springs that flow in settlements in the area of North Karts Kendeng Sukolilo, Kayen and Ta Sumber lawang spring mbakromo. Water resources in the karts region is a valuable asset for the community around the Karts region. Almost all people who lived in the region of North Karts Kendeng such as Sukolilo, Kayen, Tambakromo Districts, almost Pati Regency region utilize water resources derived from Karts Kendeng Sukolilo, because 90% of water supply comes from North Karts Kendeng Region. Almost every village in Sukolilo district was founded spring, Sukolilo Village (19 springs), Gadudero Village (3 springs), Tompe Gunung Village (21 springs), Kayen Village (4 springs), Kudumulyo Village (1 springs), Mlawat Village (1 springs), Baleadi Village (3 springs), Summersuko Village (24 springs) in the District Sukolilo have sources of springs which have varied flow rate of 1 liter / sec up to 178.90 liters / sec. The most source of water in Sukolilo districts namely *Sumber Lawang* located in the Tengahan Hamlet, Sukolilo Village, District Sukolilo. This spring flowed water in the dry season 178.90 liters / sec. This spring is able to meet the water needs of more than 2000 households in the district Sukolilo, because this source is the main source of the flow surface is joined by several springs in the surrounding areas so that it becomes a river surface of which has the largest flow and used for fulfilling

the daily needs such as; washing, toilets, livestock, basic daily needs and as an irrigation channel to more than 4000 hectares of paddy fields in the village of Sukolilo. It also spring of *Lawang* also been used as micro hydro power plants to meet electricity needs in Tengahan.

From several springs in the District Sukolilo the smallest flow rate of 0.06 liters / sec, is Ngowak spring located Tompe Gunung village, Distric Sukolilo t. This condition does not include the discharge pipe flow that has been utilized in this water spring, this spring is able to meet the water needs of 40 households in the Tompe Gunung Village. Every source of water in Kars Region Sukolilo able to meet the average needs of the community water more than 200 families in each hamlet or village Utilization of water per day for one person is about 15-20 liters, can be calculated if one household using water for daily needs day can reach 100 liters. This may indicate that the available water resources in the area of Kars Sukolilo

water demand exceeds the capacity of the community, and the others also used mostly for agricultural lands and farms.



Picture 1. Sumber lawang spring in North Karts Kendeng Sukolilo

Sumber Lawang is as greatest spring in Karts Kendeng Sukolilo, the more than 4000 households around this location need the water from this spring.

Table 1. Spring Water Potential in North Karts Kendeng Sukolilo, Pati, Central Java

NO	Village	Name of Spring	Coordinate		Elevation	DEBIT (Liter/s)	House- hold Users
			X	Y	(Above sea level)		
1	Tompe Gunung	Pring	495380	9232604	265		
2	Tompe Gunung	Sono	495217	9232632	232		
3	Tompe Gunung	Gosangen	495138	9232685	234	37.50	
4	Tompe Gunung	Ngrekeh	495278	9232249	259		
5	Tompe Gunung	Nggowak	495254	9232110	277	0.06	400
6	Tompe Gunung	Sobrah	495145	9231814	303		
7	Tompe Gunung	Kembang	495159	9231614	296	0.40	
8	Tompe Gunung	Pring II	495190	9231555	292	6.70	400
9	Tompe Gunung	Tileng	495165	9231385	292		200
10	Tompe Gunung	Gentungan	495377	9231337	305	0.46	250
11	Tompe Gunung	Jeruk Bulung	494675	9231892	280		500
12	Tompe Gunung	Dhanyangan	494730	9231499	296		150
13	Tompe Gunung	Anonim	494809	9231534	295		
14	Tompe Gunung	Dringo	496293	9232261	271		
15	Tompe Gunung	Telogo Mbah Dirjo	496611	9232815	155		
16	Tompe Gunung	Deleg	496262	9232058	231	11.88	
17	Tompe Gunung	Bulusan	496216	9232125	227		
18	Tompe Gunung	Pucung	496467	9230914	270	45.93	28
19	Tompe Gunung	Kaligede	496998	9231083	226	19.53	
20	Tompe Gunung	Kompan	497156	9231156	215		
21	Tompe Gunung	Blekuthuk	496765	9231306	231		400
22	Sumber Soko	Sendang Penatas	493396	9231292	206	0.38	50

23	Sumber Soko	Pandanan	493397	9230984	287	8.88	
24	Sumber Soko	Klampok	493358	9230991	290		4
25	Sumber Soko	Nglemprak	493480	9230868	300	0.20	50
26	Sumber Soko	Pancuran	492671	9231037	260	22.19	150
27	Sumber Soko	Keceh	492155	9231454	235	83.50	70
28	Sumber Soko	Keceh II	492117	9231448	248		70
29	Sumber Soko	Lebak	491652	9231055	228	14.64	
30	Sumber Soko	Cilik	491936	9230918	244	0.94	
31	Sumber Soko	Bendo	492005	9230977	248	4.29	
32	Sumber Soko	Gayam	491877	9230562	272	10.50	
33	Sumber Soko	Sumber Soko 1	492711	9229284	318	19.44	
34	Sumber Soko	Sumber Soko 2	493333	9229616	325		
35	Sumber Soko	Sumur 1	493854	9229672	336		
36	Sumber Soko	Sumur 2	493834	9229698	338		
37	Sumber Soko	Sumur 3	493816	9229686	335		
38	Sumber Soko	Sumur 4	493784	9229714	339		
39	Sumber Soko	Sumur 5	493808	9229635	338		
40	Sumber Soko	Sumur 6	493897	9229640	335		
41	Sumber Soko	Sumur 7	493962	9229688	334		
42	Sumber Soko	Sumur 8	494033	9229682	332		
43	Sumber Soko	Sumur 9	494050	9229651	340		
44	Sumber Soko	Sumur 10	494081	9229673	344		
45	Sumber Soko	Sumur 11	494106	9229659	346		
46	Sumber Soko	Sumur 12	494102	9229698	341		
47	Sukolilo	Sapi	490548	9233401	54	8.90	500
48	Sukolilo	Kalangan	491826	9234416	23	16.90	
49	Sukolilo	Tambang	490163	9233268	47	24.80	
50	Sukolilo	Duayah	490545	9233128	70	22.50	300
51	Sukolilo	Kalireco	490464	9232962	71	13.50	75
52	Sukolilo	Sumber	490472	9232438	90	3.40	150
53	Sukolilo	Sumber Bendo	490598	9232173	126	23.80	350
54	Sukolilo	Banyu Biru	491321	9232196	153		
55	Sukolilo	Sumber Dudukan	491800	9231817	189		50
56	Sukolilo	Sumber Kedungaron	492003	9232224	161		500
57	Sukolilo	Sumber Gemblung	490918	9231784	197		500
58	Sukolilo	Anonim	491114	9232690	122		500
59	Sukolilo	Sumber Lawang	491332	9231950	159	178.90	
60	Sukolilo	Sumber Getuk	491587	9231572	175	6.60	
61	Sukolilo	Sumber Geceh	492140	9231457	235	49.26	50
62	Sukolilo	Sumber Pucung	491314	9233116	81	32.30	100
63	Sukolilo	Gayam	491333	9233014	96		
64	Gadudero	Kepoh	492084	9234465	16	26.60	
65	Gadudero	Grubug	492237	9234460	22	63.60	
66	Gadudero	Sumber Krawon	492960	9234589	25	16.50	
67	Kedu Mulyo	Asem Bosok	495823	9234518	104	48.20	
68	Kayen	Sumber Ndodo	497231	9234117	46	8.40	
69	Kayen	Sumber Glatik	497530	9234389	37		
70	Kayen	Sumur Tuang	496538	9234018	49		
71	Kayen	Sumur Tuang	496538	9234018	49		
72	Kedung Winong	Lanang	489175	9233096	44	2.52	

73	Kedung Winong	Wedok	488929	9233033	44	
74	Kedung Winong	Dukuh Pacul	488696	9232268	104	36.89
75	Baleadi	Cendi	486614	9232709	31	22.40
76	Baleadi	Beji	486635	9232820	35	71.86
77	Mlawat	Giwang	486417	9232574	35	44.11
78	Sukolilo	Belik Ungu	492826	9232316	255	
79	Sukolilo	Belik	492473	9232093	252	

(Data Source : Acintyacunyata Speleological Club (ASC) Yogyakarta : 2008)

The Saminist community only permitted by their tradition earned living as farmer that planted the crops for their daily life. They didn't plant the crops base on market oriented. They only wanted to be self sufficient community. Saminist community fulfill their daily need by themselves, they didn't depend on other community. They didn't get education from formal school, so they only got education reading and writing but they had many tradition, ethic, and norm in this traditional community, one of them to live harmony with nature. Conserving North Karts Kendeng was their ethic to sustain their community living. Water is a basic need for sustainable human being, beside that water is needed for agriculture activities. Saminist would like to conserve nature around North Karst Kendeng, some Saminist ways to conserve water spring in North Karts Kendeng such as :

1. Saminist promoted to society in North Karts Kendeng around to plant three voluntary such as Mahagony, acacia, cashew, teak and others kind of indigenous three in Java Island to keep the spring in order to flow the water every time and preserving this region from mining destruction.
2. Saminist take the leads society around North Karts Kendeng not to mine limestone and others rocks in this region because it can disturb in hydrology system in river underground. They can take the rocks in this region only for their need not for sell. They believed that destructing the rock and natural resources such as plant, animal, rocks cause the natural balance.
3. Saminist take the leads to refuse the building the Corporation of Gresik Cement at 2008 and the building of Indocement at 2010 in region of North

Karts Kendeng. Pthe planning of the building of cements industries in this region have got permission from local government and Indonesian government but they have believed that this project will destruct nature Karts Kendeng Sukolilo. Finally the water sources will be eliminated or disappears like the condition in Gresik, Maros, Tuban and others region that was built the cement industries. This condition will make the society around difficult fulfill water need in daily life.

4. Saminist conserved the spring with planting threes to sustain water sources in spring, and they had local wisdom not to cut down the three at spring areas.

CONCLUSION

The availability of water in North Karts Kendeng depends on the preservation of this region. Damage or destruction of this region as the impacts of mining rocks, cutting down trees in the forest would have negative impacts in a lack of water resources. Water is a primary human need. Population around this region especially Saminist use the water for their daily needs and for irrigation on their farms. Governments and investors planned to build this region as an area of mining rocks such as limestone as cement raw materials is contrary to the interests of local communities. Saminist as a traditional communities who have lived in the area from generation to generation rejected the plan of government and Semen Gresik Co.Ltd and Indo cement Co.Ltd. Saminist took a lead other local communities to refuse this plan. Finally Saminist community and other local population got success to refuse this project. Saminist has conserve the region by means of planted three forest

area and around the springs, voluntary forbids people to take the rocks to be commercialized, rejecting the exploitation of North Karts Kendeng industries as areas especially cement industries, keeping saminit's local wisdom to conserve North Karts Kendeng.

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