

Culture and Disasters: A Beautiful Mind of Indigenous Flood Legend From Papua

Jonatan A. Lassa and Adi Suryadini

Introduction: Catastrophe and Culture

Local risk management knowledge is printed in cultural 'media' such as legends and myths. Existing legends that narrate past natural events and societal responses to the events may provide valuable insights for future risk management. Unfortunately, disaster practitioners and researchers may have ignored the beautiful mind of indigenous knowledge at least in the context of Indonesia. In addition, research and writing on the topic of catastrophe and culture is extremely rare in Indonesia.

The Arso's natives narrate floods as events that are rooted in human's mistakes (such as the violations to the sacred forest and sacred lands)¹ but the making of flood events itself requires divine and natural dimension (off punishment) as a response to human wrongdoings. In their every day talk of floods, the indigenous people in Keerom, Papua argue that "floods can be manufactured by the native leaders".² During field interviews, it was found that relevant policy makers understood the legend as an empty myth.

This paper provides insights from an indigenous flood legend of Arso³ that is almost forgotten by the people in Keerom Regency, Papua, Indonesia. Keerom is less than one hour drive from Jayapura (situated 65 km east of Jayapura city). It is derived from two native words *ker* and *omh* which means a decision "to go back home" to avoid the floods⁴. The very meaning of Keerom is "to avoid the floods." Keerom was named after a flood event back in almost 70 years ago, notably by a Dutch pastor.⁵

The technology for flood risk management has been partly recognized by the natives Papuan in Indonesia. Their cultural knowledge capital is barely known to the Keerom migrants (including those who are in the decision making power). The author believes that promoting the local knowledge is the first step to understand not only the past catastrophic events and human-nature relationship but also how human constructs socio-ecological understanding of the past events through beautiful preserved flood tales can contribute to local sustainability. Therefore, mitigating knowledge loss is an important step in mitigating floods risks.

The Arso Flood Legend

Rombouts (1973)⁶ documented a big flood legend which the indigenous Arso believe to be a universal event. Long time ago in Arso, there is a tale that every woman who gave birth to a child must die because there was no way out for the baby but to open women's womb with stone axes, taken from the nearby river. One day, Towjatuwa, a man from Sawja-Tami (in Keerom) was expecting his wife to give childbirth. It was a hard decision to be made as Towjatuwa went to the Tami River to find a stone to form an axe. Suddenly a huge crocodile

approach Twojatuwa and asked “what are you doing?” “I am looking for a stone to use as an axe because my wife must bring a child into the world” answered Twojatuwa. “The crocodile questioned why men always cause sorrow and pain that women not needed to experience? Watuwe later helped Twojatuwa’s wife to deliver the baby by stimulating the womb using local herbal medicine. Narrowra was the name given to the baby boy by Watuwe⁷.

The legend claimed that Watuwe become a universal savior - the Messiah of all women - that not only saved the Twojatuwa’s wife - but since then all women universally no need to die. Twojatuwa’s wife is the first event of salvation from maternal mortality.

Rombouts continued the story. Watuwe foretold that when Narrowra grew up as a skillful hunter, their neighbors would kill Watuwe and ate the crocodile’s meat. An *ex-ante* big flood warning was given to Twojatuwa family: they must go up to high mount of Sangkria (still known as a sacred hill today seen on the way from Keerom to Jayapura) where the divine beings (white people with wings) lived - they were known as the *jankwenk*, the people from the above.

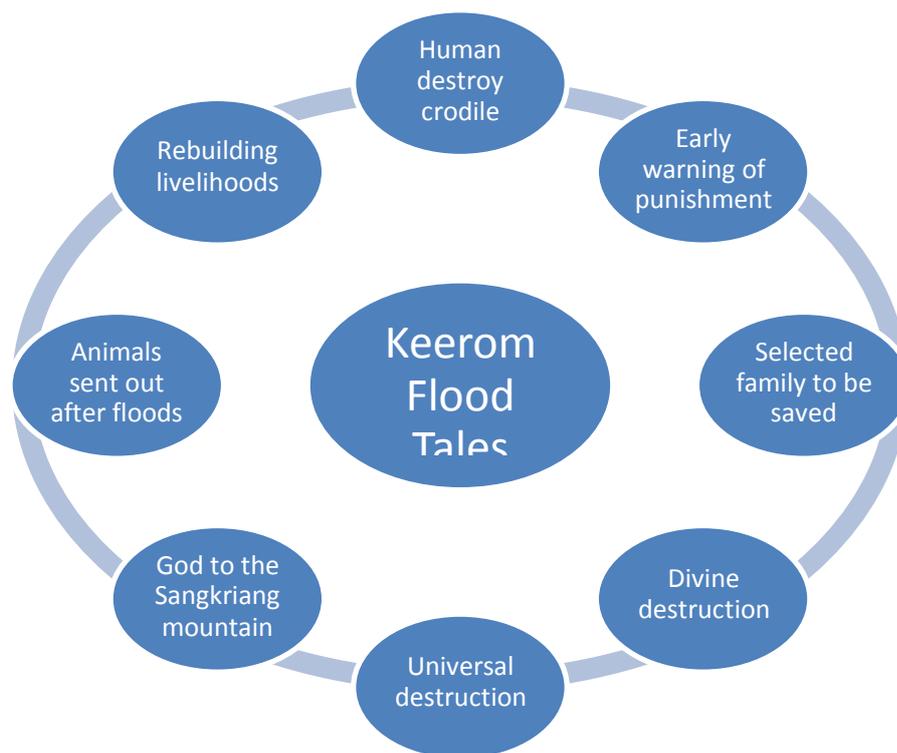


Figure 1 Disaster Cycles based on Big Flood Tales of Arso (Keerom, Papua)

Watuwe was finally killed by the neighbor. Its meat was eaten by the people. The time of the foretold catastrophe was getting nearer. Twojatuwa and Narrowra knew what to do by first going to high Sangkria mount, the only place to be safe to hear more instruction for a detailed ‘contingency plan’ for responding to the disaster and rebuilding the earth afterwards. The chosen families lead by Twojatuwa and Narrowra were told what to do after the floods such as rebuilding lives, livelihoods, and re-populate the world. They received seed relief in order to re-grow food and to avoid food insecurity in the world after the catastrophe.

Figure 1 provides the step by step of the big flood events and how Twojatuwa family responded to the events. The world was totally destroyed as the Jankwenk punished the world with big floods and storms sent from Sangkria (or Sankria). Sometimes later, Twojatuwa and Narrowra sent different types of animals to check whether the flood water had receded so they could go back to rebuild the earth. New human population were created and spread in

Kwimi, Skamto, Arso and some live next to Tami River⁸ the place that today are part of Keerom.

The Arso indigenous legend is similar to the big flood story of the Babilonian floods apart from their distinction. The legend has a close proximity to the hundreds of distinct flood legends worldwide from ancient civilizations such as China, Babylonia, India, America, Hawaii and Scandinavia. This flood story can certainly add to the estimation from Hans Schindler Bellamy, that altogether “there are over 500 Flood legends worldwide”.⁹ The list is perhaps without Arso’s flood legend from Keerom, Papua, Indonesia.

The traditional housing of Keerom people is *Rumah Panggung* (*yayakwan* or a knockdown timber house) is suitable to swamp and flooded areas. In terms of engineering practice, similar construction technology has been used to adapt to floods (and other risks such as wild animals) in West Timor, Sumba Island, some parts of Kalimantan, Aceh, North Sumatra, South Sumatra and elsewhere. Such knowledge has been invented presumably in a very long time of local adaptation to swamp and flood inundation. What makes the practice have different meaning is the unique flood legend behind it. Whether or not the legend is partially representing the universal events of the Babylonian floods, it is not our focus of interest.

Demographic Change in Keerom Today

There were only 2000 Arso people scattered in the whole 27 kampong of Arso in mid 1960s¹⁰. Today, Arso has 20,214 people (about 40% of the total Keerom population). Demographic change has suddenly led Keerom to cultural diversity, partly due to the legacy of transmigration program from Central Government in the past. There are more than 20 different ethnic groups not including Java, Makassar and others such as East Nusa Tenggara and Moluccas.¹¹

The natives have been outnumbered by the migrants. Keerom is now home to a total of 48.5 thousand people (26.5 thousand males and 22 thousand females). At least there is 19.6 thousand Papuans native (40%) or 4,180 families (37%). 60% of the population are non-Papua migrants or about 7100 non-Papuan families (62.9%). Males outnumber females at the rate of 115,55 which means there is unbalance in the sex ratios because males outnumber 15,55% more than females.¹² Part of the reasons is also due to its higher incoming male migrants than female migrants.

In the context of local decentralization in Indonesia today, local politics has been actually built on voters’ ethnicity. Therefore “demographic contour” that structures local political realities needs to be understood by disaster risk management professionals because the development and disaster risk management priorities are presumably facilitated by social-political processes where welfare distribution often imprinted in the ‘social fault lines’¹³ including social identity (of religion and ethnics).

Each group has a different vision on how local ecology and economy should be managed. Therefore, the demographic change drives social-political changes that facilitate significant economic and environmental change. In many cases, the occupied settlements are built on the pre-existing swamp areas, which create long term exposure to floods and flood inundations. Present efforts to deal with the flood risks turn out to create more exposure and vulnerability to floods. Brief explanation of the change is elaborated below.

Hazards and Vulnerability Today

Keerom regency is a hazard prone area that faces multi-hazards floods, earthquakes, landslides, epidemic and violent events.¹⁴ Flood is one of its dominant disaster risks. Torrential rain fell during one or two days could easily trigger inundation at the houses in Arso, East Arso and Skanto districts, the well known flood hotspots.¹⁵

There is an increasing trend of unsustainable land use change in the town and villages. In Arso alone, human population rate have grown more than 900% in the last 30 years. On average, 3% population increase per year. Local infrastructures grow steadily during the last five years. The settlements in town also grow steadily, and this begs for more land conversion. A great deal of swamp areas have been converted into human settlements (especially in lower lands such as Arso and Kanto). The total settlements today have occupied 588ha and the swamp has been reduced to 451 ha as of 2008 (Keerom in Figure 2009). This trend continues.

Significant conversion of forests into big plantations and smallholder plantations also took place during the last 30 years. In fact, the modern history of Keerom is built on these conversions. The old palm oil trees that belong to transmigrants have been less productive today. Some land owners (among the transmigrants such as local transmigrants) preferred to rent their two-ha palm oil land¹⁶ to maintain their marginal benefit. Forest production in Keerom in 2007 and 2008 are subsequently 92,671 mt and 81,641 mt.¹⁷

In the town, some groups are getting richer. The richer groups tend to build their concrete stage houses by land filling the swamps and paved their foundation of concrete houses higher than the roads to avoid the risk of inundation and floods. But this means the richer eliminate their flood risks by transferring the flood risks to the poorer people in their neighborhood. This in part leads to the situation where the poor people including the poor (trans)migrants have been pushed to experience urban ecological degradation where flood inundation persist and create perfect places for mosquitoes and therefore it invites malaria.¹⁸ In addition, some parts of the town do not have proper drainage.¹⁹

The ongoing expansion of the town settlements to the swamp areas tend to increase flood risks through aggressive land filling the swamps with building materials while transfer the risk of inundation and floods to the poor and those who are not able to pay for such a construction. Recent efforts to construct urban drainage infrastructure that is partially funded by both BNPB (Indonesian Disaster Management Agency) funds and “Rp. one billion per village” from central government funds will likely to be ineffective especially when the sediment transports, poor urban waste management and massive swamp land filling continue at higher speed. This exemplifies the ‘old’ knowledge in disaster studies: disaster risk are embedded and partly ‘manufactured’ by development process which in turn can create shocks in local development process.

Final Remark

The beautiful minds of indigenous people preserved in their legends will remain a nostalgia if there is no relevance for today’s risk management. In Keerom, the indigenous communities have been indirectly ‘forced’ separate from the majority migrants who occupy the urban landscapes. Social demographic and economic changes and political processes have marginalized the indigenous locals. Their legends that are full ecological values and pro disaster risk reduction are to be seen as empty myths. Today, the very meaning of Keerom as to avoid floods tend to be neglected whether by native or the migrants.

The hope is often placed at the hands of disaster risk reduction policy entrepreneurs such as NGOs because in the NGOs’ hands, local knowledge can (sometimes) gain its legitimacy in regards to flood management. Some empirical evidence concerning creative (and open minded) local government bureaucrats in Keerom may provide rooms where adoption of community based disaster risk reduction can be made sustainable. The challenge remains on how to multiply ‘risk reduction policy entrepreneurs’ and ‘more cooperative local governments’ in a sustainable way?

Acknowledgement. The authors would like to thank Dr. Saut Sagala for reviewing and comments on an earlier draft of this paper. Most of this brief paper is taken from ECB Project’s Final Draft entitled “The everyday life of local disaster risk governance in Indonesia

Six case studies from six provinces. Good Practice for Collective Learning ECB Project” (Chapter 1, p. 18-37.). This study is based a field work in Keerom during 9-13 July 2011, hosted by World Vision Indonesia. The author would like to thanks Ivan Tagor, Johny Noya, Radika Pinto, Mei Tarigan, Ben (World Vision), Decky Griapon, Abner Mambrasar, Misman, Fredik Seltit (Panamaa Village, Keerom), Hulman Sitinjak (Former Head of BPBD), Chirstian Londong (BNPB Keerom). All the mistakes and misinterpretation of the reality in Keerom belong to the author.

About the Authors. Adi Suryadini is a PhD Candidate at the University of Indonesia. He currently is the Disaster Risk Reduction Coordinator, World Vision Indonesia; Jonatan A. Lassa is a research fellow at Institute of Catastrophe and Risk Management, Nanyang Technological University, Singapore

About CARR Governance Series. CARR Governance is dedicated to exclusively share research findings, policy, grounded good practice, operationalized concepts of CBDRR, perceptions on CBDRR-CBCCA, and empirical works on community based early warning system from the field in Indonesia.

Call for contribution for CARR: Submission are welcome, CARR Series look forward to build a new road map in CBDRM, CBCAA and CDD theory, policy, methods, and practice in Indonesia. Word limits: between 500-2000 words. **How publication works?** The review process is overseen by the editors and individual submissions are moderated rapidly by board of reviewers. Emails: carr.indonesia@gmail.com. The content is immediately made public online at www.mpbi.org and <http://www.sustainability-k-governance.net> All content is Open-Access and published using the Creative Commons license. No publication fee.

END NOTES

¹ Noted by Radhika, WVI Keerom and BPBD Secretary, 11 July 2011

² Mentioned by Christian Londong, BPBD Keerom Secretary, 11 July 2011

³ Arso is the name of the local natives that today is part of Keerm Regency.

⁴ Pemkab Keerom 2009 Etnography dan Kajian Cerita Rakyat Keerom: Executive Summary. Kantor Perpustakaan Arsip Daerah dan Dokumentasi, Kabupaten Keerom.

⁵ Pemkab Keerom 2009 Etnography dan Kajian Cerita Rakyat Keerom: Laporan Akhir. Kantor Perpustakaan Arsip Daerah dan Dokumentasi, Kabupaten Keerom.

⁶ Rombouts P.K. 1973 The Arso Version of the Story of the Flood – Bulletin of Irian Jaya Development Vol. II (3) pp. 62-70. (Translated from the Dutch by Barbara Bernander)

⁷ Ibid.. page 62

⁸ Ibid..

⁹ He is Austrian scholar, who wrote Moons, Myths and Men Moons: A Reinterpretation published by Faber & Faber: London, 1936 See the link: <http://www.nwcreation.net/noahlegends.html> [last access 20 Jan 2012]

¹⁰ Suparlan Parsudi 1972 Some Aspects of the life of the Arso People. Bulletin of Irian Jaya Development Vol.I .3, pp. 55-70

¹¹ See Pemkab Keerom 2008. The natives a lone consist of 16 tribes, not including the migrants. Source: District Arso Dalam Angka 2010. Badan Pusat Statistik Kabupaten Keerom. Kabupaten Keerom in Figures 2010 and 2007, Badan Pusat Statistik Kabupaten Keerom

¹² <http://keeromkab.bps.go.id/> [lass access 20 Jan 2012]

¹³ See An Imperfect Storm: Narratives of Calamity in a Liberal-Technocratic Age by Alex de Waal

<http://understandingkatrina.ssrc.org/deWaal/> [lass access 20 Jan 2012]

¹⁴ For more details, see BPBD Keerom 2010. Pemetaan dan Identifikasi Daerah Rawan Bencana Tahun 2010. Kabupaten Keerom (*Disaster risk map and assessment 2010*). And [8] Kesbanglinmas Papua 2007. Identifikasi dan Pemetaan Daerah Rawan Bencana di Kota Jayapura, Kabupaten Jayapura and Kabupaten Keerom. (*Identification and Mapping disaster prone areas in Jayapura and Keerom*). Badan Perlindungan Masyarakat Provinsi Papua dan PT Delta Pratama Konsultindo. Desember 2007.

¹⁵ It was estimated that „at least 250 homes in the area had been flooded“ reported by Nethy Dharma Somba, *Jayapura Flooding kills one in Papua* The Jakarta Post, Tue, 06/01/2004.

¹⁶ Note. Each transmigrant household that arrived in 1980s received a two-ha palm oil land.

¹⁷ Kabupaten Keerom in Figures 2007 and 2009. Badan Pusat Statistik Kabupaten Keerom.

¹⁸ History of emergency evacuation due to Malaria in Keerom during 1997-2000 has been well recorded. This makes Arso district known as 'hyperendemic' area for Malaria. In 1999, a total of reported cases of malaria reach almost 500/month. (especially August, September and October 1999). During 1998, there was also Malaria outbreak in the town with a maximum figure less than 300 cases in August 1998. See Baird et. al. 2003 Adult Javanese Migrants to Indonesian Papua at High Risk of Severe Disease Caused by Malaria. *Epidemiology and Infection*, Vol. 131, No. 1, pp. 791-797.

¹⁹ Local Disaster Management Office (BPBD) Keerom argued for "dominant factors" of floods in Keerom: First, it argued for the land use change at the higher elevation regions where "hard trees" have become less available to provide its ecosystem services to absorb the rainfalls (BPBD views this is the main causation of flood); Deforestation surrounding the watersheds areas and land conversion for town settlements. The third is that "the landuse change contributes to the higher run-off". BPBD Keerom 2009 Rencana Strategis Badan Penanggulangan Bencana Daerah Tahun Kabupaten Keerom 2009-2013.