

## A critical analysis of the impact of enhanced infrastructure in art-craft development in North Sumatra

North Sumatra의 공예 개발에서 인프라 강화의 영향에 대한 비판적 분석

---

저자 (Authors)	Kalu Kingsley Anele
출처 (Source)	<a href="#">한복문화 23(1)</a> , 2020.3, 135-149 (15 pages) <a href="#">Journal of Korean Traditional Costume 23(1)</a> , 2020.3, 135-149 (15 pages)
발행처 (Publisher)	<a href="#">한복문화학회</a> Society of Korean Traditional Costume
URL	<a href="http://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE09328930">http://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE09328930</a>
APA Style	Kalu Kingsley Anele (2020). A critical analysis of the impact of enhanced infrastructure in art-craft development in North Sumatra. <a href="#">한복문화</a> , 23(1), 135-149.
이용정보 (Accessed)	이화여자대학교 203.255.***.68 2020/05/18 04:08 (KST)

---

### 저작권 안내

DBpia에서 제공되는 모든 저작물의 저작권은 원저작자에게 있으며, 누리미디어는 각 저작물의 내용을 보증하거나 책임을 지지 않습니다. 그리고 DBpia에서 제공되는 저작물은 DBpia와 구독계약을 체결한 기관소속 이용자 혹은 해당 저작물의 개별 구매자가 비영리적으로만 이용할 수 있습니다. 그러므로 이에 위반하여 DBpia에서 제공되는 저작물을 복제, 전송 등의 방법으로 무단 이용하는 경우 관련 법령에 따라 민, 형사상의 책임을 질 수 있습니다.

### Copyright Information

Copyright of all literary works provided by DBpia belongs to the copyright holder(s) and Nurimedia does not guarantee contents of the literary work or assume responsibility for the same. In addition, the literary works provided by DBpia may only be used by the users affiliated to the institutions which executed a subscription agreement with DBpia or the individual purchasers of the literary work(s) for non-commercial purposes. Therefore, any person who illegally uses the literary works provided by DBpia by means of reproduction or transmission shall assume civil and criminal responsibility according to applicable laws and regulations.

## North Sumatra의 공예 개발에서 인프라 강화의 영향에 대한 비판적 분석

A critical analysis of the impact of enhanced infrastructure  
in art-craft development in North Sumatra

카루 킹슬리 아넬레  
부산대학교 문화유산보존연구소 전임연구원

Kalu Kingsley Anele  
Ph.D. Research Fellow,  
Cultural Heritage Preservation Research Institute, Pusan National University.

(투고일: 2020.01.29 / 심사일: 2020.03.16 / 게재확정일: 2020.03.26)

### ABSTRACT

북부수마트라의 바틱, 울로스, 이캣, 파당 파당, 목공예, 금속 공예 및 고대 거석과 같은 수많은 공예품을 감상할 때 이 지역에 향상된 인프라를 도입하는 것이 절대적으로 필요하다. 공예 예술은 관광, 창조 산업, 원자재 공급, 수출 등의 요인에 의해 지속 될 수 있다. 결과적으로, 북부수마트라의 기반시설과 공예 예술 개발 사이의 연관성은 위의 요인들에 의해 평가 될 수 있다. 인프라 개발은 공예품의 원료, 생산, 마케팅 및 판매에 중요한 역할을 하지만, 북부수마트라 지역의 기존 인프라는 글로벌 기준에 미치지 못해 이 지역의 공예산업에 부정적인 영향을 미치고 있어, 북부 수마트라 지역에 강화되고 효과적인 인프라를 도입하는 것이 반드시 필요하다. 이에 본문에서 사진 및 데이터를 인용해 북부 수마트라의 공예 예술품과 관광의 중요성에 대해 서술하였으며, 더 나아가 인도네시아 정부가 인프라 개발에 착수했지만 자금 부족, 부패, 부적절한 공공의 민간 파트너십, 토지 취득의 어려움 등이 이러한 인프라 개발 프로젝트를 방해하고 있는 사실도 확인하였다. 따라서 인도네시아 정부는 공예예술 산업에서 인프라의 중요성에 따라 법률, 정책 및 프로그램을 통해 적절한 자금을 제공하고 공공 민간 파트너십의 사용을 장려하며, 부패한 정부 공무원을 기소하며 해당 지역의 기존 인프라 개발 및 프로젝트 실행을 감독해야 한다. 이러한 조치의 도입과 이행은 북부 수마트라 공예 산업의 인프라 강화에 기여할 뿐만 아니라 인도네시아 관광 부문에 있어 효과적이고 효율적인 인프라의 구축에 정점이 될 것이다.

Keywords: 북부 수마트라(North Sumatra), 공예품(art-craft), 하부 구조(infrastructure), 인도네시아 정부(Indonesian government), 관광 여행(tourism), 창조적 경제(creative economy)

---

\* This research was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF-2019S1A2A3096992).

+ Corresponding author : Kalu Kingsley Anele  
E-mail: kkanele@gmail.com

## I . Introduction

Indonesia has many art-crafts, like textile craft (batik, ulos, and ikat), metal craft, and wood craft, and cultural heritage destinations, such as Lake Toba. Specifically, the textile craft industry as part of tourism in the country plays a significant role in tourism in terms of job creation and foreign exchanges earning as shown in <Fig 11 below>. In light of the importance of the art-craft industry in the economic development of the country; it becomes imperative to introduce enhanced infrastructure that creates an enabling environment where art-craft production as well as management is promoted. This is particularly important because infrastructure plays a cardinal role not only in tourism and the art-craft industry but also in the importation and exportation of art-craft raw materials and finished art-craft products. Moreover, efficient infrastructure is in line with digitalisation and globalisation in the marketing and sale of art-craft products. Against this backdrop, it is submitted that the building and enhancement of infrastructures in the development of art-craft industry in North Sumatra should be one of the key economic development plan of the region.

This paper argues that Indonesian government can, through appropriate laws, policies, and programmes, introduce and sustain infrastructure development in North Sumatra to promote the art-craft industry with its attendant implications in tourism. For example, the Presidential Regulation No. 4/2016 on electricity infrastructure acceleration in Indonesia could potentially enhance infrastructure development in the art-craft industry in North Sumatra through appropriate and regular implementation. More importantly, the Indonesian government's policy to enhance infrastructure in the country includes the on-going Jakarta-Bandung high-speed railway and the sea highway (Tol Laut) projects. When these projects are completed, they will make art-craft logistics and movement of tourists from one Indonesian Island to another very easy, quick,

and convenient. Thus, more tourists can easily and quickly move from other regions in Indonesia to North Sumatra.

Despite these efforts by the government, existing infrastructures are in a dilapidated state, while infrastructure development faces a lot of limitations in Indonesia, especially in North Sumatra. Using the airport as a case study, Indonesia is one of the fastest growing aviation industry in the world, coupled with a growing tourism industry.<sup>1)</sup> The combined effect of this statement is that there is a need to expand and upgrade the existing airports and build more airports in North Sumatra, considering the nature and importance of tourism in the region. In view of that, the air traffic management system in Indonesian airports has been deemed outdated and therefore needs modernisation in order to compete favourably with its neighbouring countries in terms of attracting foreign tourists. Moreover, the dearth of manpower, particularly, pilots and flight attendants is another limitation in the infrastructure development of Indonesian airports.<sup>2)</sup> According to <Figs 10><sup>3)</sup>, <Figs 11><sup>4)</sup> below, whilst the number of domestic tourists that visited North Sumatra was 12.1 million in 2018; 231,465 thousand foreign tourists came to North Sumatra in 2018 and it is projected that the number of foreign tourists will increase to 2,560,000 million in 2021. These data suggest that it is imperative to upgrade and modernise existing infrastructure, particularly aviation infrastructures, while new ones should be built where appropriate in North Sumatra.

Against this backdrop, the paper is divided into 6 parts. Part I is the introduction, while Part II reviews art-craft and infrastructure development in North Sumatra. The aim of this part is to analyse the art-craft industry and infrastructure development in Indonesia through the lens of North Sumatra. It is concluded that though there are a lot of tourism sites in North Sumatra due to the plethora of art-craft items, including cultural heritage sites; infrastructures in the region are inadequate and are poorly maintained. Part III assesses the linkages between art-craft, on one hand, and tourism, the creative economy, raw mate-

rials, and the exportation of art-craft products, on the other hand. It is posited that these linkages make infrastructure development in North Sumatra a condition sine qua non in the realisation of the government of Indonesia's policy to boost the country's economy, through tourism development.

Whereas Part IV delves into some of the factors that adversely affect infrastructure development in North Sumatra, such as inadequate funds; measures to enhance the development of infrastructure in the region are interrogated in Part V. The paper observes that Indonesian government remains the fulcrum through which the infrastructure development of North Sumatra can be realised. Also, the art-craft industry plays a significant role in building and sustaining infrastructures in North Sumatra. The paper is concluded in Part VI by reiterating the importance of infrastructure development in the art-craft industry in North Sumatra to achieve the economic policy of Indonesian government.

## II. An overview of art-craft and infrastructure development in North Sumatra'

### 1. Art-craft development in North Sumatra



<Fig 1> Batak Toba cultural heritage and close-range photogrammetry,  
- *Procedia-Social and Behavioral Sciences*, 184, 187, 192.



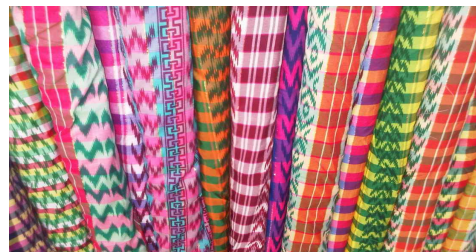
<Fig 2> The aesthetic study of traditional cloth of North Sumatra  
- *Advances in Social Science, Education and Humanities research*, 225, 479, 483.



<Fig 3> Masks of Sumatra  
- *Asian Theatre Journal* 32(2), 575, 588.



<Fig 4> Bali carving images  
- <https://www.shutterstock.com>



<Fig 5> Bugis silk from Indonesia  
- <http://bellasilverart.blogspot.com>



<Fig 6> Lombok pottery in Banyuwangi village  
- <http://www.lombokindonesia.org>



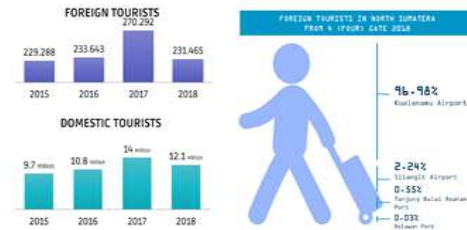
<Fig 7> Batik of Java: global inspiration  
- Textile Society of America Symposium Proceedings. 1080



<Fig 8> Ikat textile from Sumba, Indonesia  
- <https://www.ngv.vic.gov.au>



<Fig 9> Sumpit (blowgun) as traditional weapons  
with Dayak high protection  
- *Journal of Education Teaching and Learning*  
3(1), 113, 115.



<Fig 10> Lake Toba:  
world's largest volcanic lake,  
- *Lake Toba Tourism Authority, 8.*

Year	Projections from Ministry of Tourism		
	Total of Foreign Tourists	Growth	Devisa (USD)
2015	229,288	-	120,376,200
2016	250,000	9.03%	131,250,000
2017	400,000	60.00%	210,000,000
2018	650,000	62.50%	341,250,000
2019	1,000,000	53.85%	525,000,000
2020	1,600,000	60.00%	840,000,000
2021	2,560,000	60.00%	1,344,000,000

Assumptions from the Ministry of Tourism :  
 • Average length of stay : 3.5 days  
 • Average spending per day : USD 150  
 • USD 1 = Rp 13,000

<Fig 11> Tourism development investment  
opportunities: Lake Toba,  
- <http://indonesiainvestmentforum.info>

It is common knowledge that Indonesia is made up of many tribes with plethora of cultures, cultural heritages, art-crafts, traditions, among others. For illustrative purposes, the Java tribe is known for their exquisite batik art-crafts <Fig 7 above><sup>5)</sup>, the Batak tribe is synonymous with ulos weaving craft <Fig 2 above><sup>6)</sup>, wood carving <Fig 3 above><sup>7)</sup>, and the Batak Toba traditional architecture <Fig 1 above><sup>8)</sup>. In addition, there are Balinese carvings <Fig 4 above><sup>9)</sup>, Kalimantan bay bak, Malukan pearls, Bugis silk sarong <Fig 5 above><sup>10)</sup>, Lombok pottery <Fig 6 above><sup>11)</sup>, Dayak blowguns <Fig 9><sup>12)</sup>, Sumba ikat <Fig 8 above><sup>13)</sup>, etc. As a consequence, art-craft industry plays a significant role in the economic development of Indonesia. Beside creating employment opportunities, art-craft industry not only contributes to Indonesia's export earnings but also facilitates tourism and the creative in-

dustry in the country. Consequent upon the importance of art-craft industry in Indonesia, the government introduced strategies to enhance the industry. This was done by making craft an integral part of the creative economy in Indonesia (Presidential Instruction No. 6, 2009 regarding the Development of Creative Economy in Indonesia) and, in the case of batik, the government of Indonesia adopted batik diplomacy in order to make batik popular in Southeast Asia. More importantly, Indonesian government created the art-craft small and medium enterprises (SMEs) to boost the development of art-craft and its related sectors in the country.<sup>14)</sup>

In view of tourism, North Sumatra is home to a lot of tourist destinations where art-craft products and items are displayed. For example, batik fabrics and cups are sold as souvenirs at most tourism destinations in North Sumatra. Again, it has been argued that North Sumatra's Samosir is a volcanic island in the middle of Lake Toba which has become one of the popular tourist destinations in the world.<sup>15)</sup> As a result of that, art-craft items like ulos abound in Samosir Island for tourists to purchase or admire. Given the importance of tourism sector to North Sumatra as demonstrated by <Figs 10<sup>16)</sup> and 11<sup>17)</sup>> above; it is observed that the sector brings economic benefits to the region as it is "a source of income for individuals, communities and the tourism industry".<sup>18)</sup>

In fact, aside from being an essential part of the general economy (through National Medium-Term Development Plan (RPJMN) for 2015-2019 and Pengembangan Destinasi dan Industri Pariwisata tourism strategy), tourism equally contributes significantly to the economic revival of the local communities.<sup>19)</sup> Having highlighted the importance of tourism to the economic development of North Sumatra, it is imperative to posit that art-craft plays a key role in tourism promotion in the region. For instance, the collection of Batak sculptures, like the magic staff (*tungkot malehat*) has led to an increased number of art collections which feature in art exhibitions, art fairs, and museums in North Sumatra

and beyond. Also, the art-craft products of these crafts-people form part of tourist attraction in most tourist destinations in the region.<sup>20)</sup>

Lastly, it is necessary to briefly parse the importance of Batak Toba traditional architecture owing to its embodiment of art-crafts and its relevance to tourism. It is trite that Batak Toba traditional house is adorned, both inside and outside, with ornaments (*gorga*) made from wood carvings, metal carvings, and paintings. While Batak Toba traditional architecture and the *gorga* are significant parts of tourist attractions, they have cosmological, symbolic, and environmental connotations to the local people, like the protection of the inhabitants from evil spirit or attack from neighbouring tribes.<sup>21)</sup> In all, it is submitted that art-craft plays a significant role in the economic development of Indonesia, particularly in North Sumatra.

## 2. Infrastructure development in North Sumatra

In view of the foregoing, it is beyond any contestation that infrastructure development plays a pivotal role in the promotion of art-craft industry, including tourism. The importance of enhanced infrastructure in tourism development shown in <Fig 12><sup>22)</sup>, <Fig 13><sup>23)</sup>, <Fig 14><sup>24)</sup>, <Fig 15><sup>25)</sup>, <Fig 16><sup>26)</sup>, and <Fig 17><sup>27)</sup> below which aligns with the economic policy of the current Indonesian government cannot be overemphasised; as the government of Indonesia has collaborated with international institutions to upgrade the existing infrastructures as well as build new ones in the country.<sup>28)</sup> In light of the importance of infrastructure in the economic development of Indonesia; infrastructure spending in the country has increased from 145,5 trillion rupiah in 2012 to 409 trillion rupiah in 2018.<sup>29)</sup> Despite the infrastructure development in Indonesia and the increasing infrastructure budgetary allocations, the drop in infrastructure spending to below 400 billion rupiah in 2019, the unfavourable World Bank's Logistics Performance

Index, and a comparative analysis of other neighbouring countries, like Thailand and Vietnam, suggest that there is a need for enhanced infrastructure development effort in Indonesia.<sup>30)</sup>

It is important to reiterate the fact that there are a lot of tourist destinations in North Sumatra; for example, the Bratagi in Karo highland. The existence of these tourist sites engenders the need for an effective and efficient infrastructure in the region both for the welfare of the indigenous people and the tourists.<sup>31)</sup> Using Medan city as an example, it is necessary to note that the city, which is strategically located as the gate of the west area of Indonesia and most of the tourist sites in North Sumatra, is witnessing a rapid growth in population and its infrastructure needs.<sup>32)</sup> Consequently, an enhanced infrastructure is key in sustaining the pivotal role Medan city plays in boosting tourism in North Sumatra. Also, the importance of infrastructure in the development of tourism in North Sumatra has been identified by the government of Indonesia. In fact, it has been stated that infrastructure “development is one of the success key to tourism advancement at Lake Toba and its surrounding in North Sumatra.”<sup>33)</sup> In view of that, the tourism sector in North Sumatra “needs infrastructure support, especially for accessibility, attraction, and amenities, such as airports, rest areas, and toll roads.”<sup>34)</sup>

### 3. Consequences of poor infrastructure to the art-craft industry in North Sumatra

A glean at some studies devoted to Indonesia indicates that infrastructure, particularly roads and electricity, has a significant impact on the growth of income per capita in the country.<sup>35)</sup> Hence, Indonesia’s lack of attractiveness as an investment destination is a testament of the effect of the dearth of infrastructure in the country. Also, poor infrastructure is a constrain to connectivity among economic and business actors, like suppliers, producers, and consum-

ers of art-craft products. More importantly, inadequate connectivity due to infrastructure decadence inflates the cost of production, increases the cost of doing business, and impedes the competitiveness of Indonesian art-craft products at domestic and international markets.<sup>36)</sup> More pointedly, it is imperative to posit that inadequate infrastructure worsens the existing challenge of connectivity between Indonesian islands.<sup>37)</sup> The import of this is that art-craft items from North Sumatra will be expensive for both domestic and international tourists and other art-craft consumers.

Further, research has shown that inadequate infrastructure in Indonesia culminates in a barrier to regional integration and international trade and investment.<sup>38)</sup> For example, being the biggest archipelago in the world, sea transport is crucial to Indonesia’s domestic transportation and for its international trade. However, the uneven nature of its terrain makes the development of inland waterway transport infrastructures expensive and difficult, thereby hampering regional trade and integration.<sup>39)</sup> Above all, it can be argued that poor infrastructure directly implicates on the artisans and tourists, especially for lower-income groups in the country.<sup>40)</sup> Using public services and social infrastructure like infrastructure for clean water as a case study; lack of accessible pipe drinking water at home or hotels may have grave health consequences on both the members of the local communities in North Sumatra and tourists. In closing, the absence of effective means of transportation, regular electricity, availability of pipe drinking water, and internet connectivity adversely implicate on the production, marketing, distribution, and sale of art-craft items. More importantly, dearth of enhanced infrastructure reduces the competitive status of North Sumatra as a tourist destination.

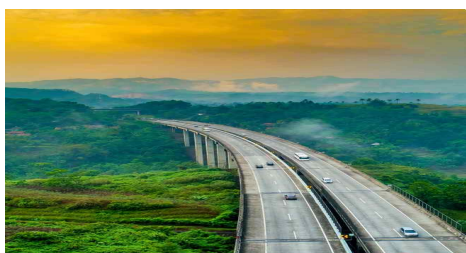


### III. Assessing the linkages between infrastructure and art-craft development in North Sumatra

Having briefly reviewed art-craft and infrastructure development in North Sumatra, it becomes imperative to interrogate the role of infrastructure in the art-craft industry in terms of the supply of raw materials needed in art-craft production, the creative industry, tourism, and the exportation of art-craft items in North Sumatra. It is observed that infrastructure is central to the development of the art-craft industry and its sundry sectors in North Sumatra.



<Fig 12> Building bridges: navigating Indonesia's infrastructure choices,  
- *Economics of the Indo-Pacific Series, Perth USAsia Centre 5(-), 16.*



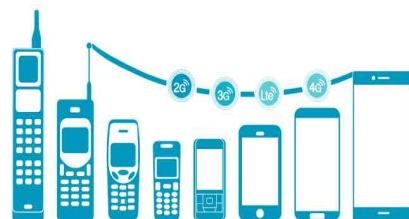
<Fig 13> Building bridges: navigating Indonesia's infrastructure choices,  
- *Economics of the Indo-Pacific Series, Perth USAsia Centre, 5(-), 27.*



<Fig. 14> Electricity sector in Indonesia,  
- Ministry of Energy and Mineral Resources, Republic of Indonesia, Directorate General of Electricity Country Report, 7.



<Fig 15> Indonesian ports: current trends and future requirements  
- *12th ASEAN Ports & Shipping, 11 & 12 June 2014, 14.*



<Fig 16> Annual Report  
- *Ministry of communication and Informatics, Jakarta, 29.*



<Fig 17> Aviation  
- *U-Indonesia Business Network (EIBN), EIBN Sector Report, 40.*



### 1. Linkage between infrastructure and raw material supply

The making of any art-craft item requires raw materials. Hence, depending on the item to be produced, the availability of raw materials is crucial in making art-craft items. For example, the making of batik textile requires not only fabrics like cotton but also dye materials. Having established that raw materials is essential in producing art-craft items, the next step is to determine how these materials can be sourced and conveyed to the art-craft SMEs or an artisan's workshop, especially where the workshop is far from the source of the raw materials. Consequent upon that, an efficient transport infrastructure becomes inevitable. More so, in the age of globalisation and digitalised society, the existence of electricity and telecommunication (internet) infrastructures becomes a condition sine qua non in the art-craft industry. Additionally, these infrastructures are key in expediting the process of communication for making, distributing, and selling of art-craft items. It is submitted that effective infrastructures, like good roads, are pivotal in the supply of art-craft raw materials which contributes immensely in the development of art-craft in North Sumatra.

### 2. Linkage between infrastructure and the creative economy

The importance of the art-craft industry to the creative economy cannot be overemphasised. Lending credence to this argument is the fact that Indonesian government uses the instrumentalities of law (Presidential Instruction No. 6 of 2009 and Presidential Regulation No. 92 of 2011) and policy to facilitate craft production in Indonesia through the creative economy.<sup>41)</sup> It is significant to note that creativity, which is the essential goal of the creative economy, and culture, which is the bedrock of art-craft, are necessary

in the economic development of a country, particularly through the mechanism of tourism.<sup>42)</sup> Evidently, the creative economy requires effective infrastructure to sustain the development of art-craft in any society. Beyond the relevance of infrastructure in the training of artisans under the creative economy programmes, the creative industry can also be a vehicle to publicise the activities of artisans and the art-craft industry. This has been exemplified in Indonesia whereby the government, through Presidential Regulation No. 6 of 2015, established Indonesian Creative Economy Agency (BEKRAF). BEKRAF uses its platform and structure to inform Indonesians and the world about the gigantic strides the Indonesian creative industries are making which contributes to art-craft development in the country. More so, BEKRAF could use its statutory powers to create infrastructures, such as the establishment of cottage industries, to facilitate art-craft development in Indonesia.

### 3. Linkage between infrastructure and tourism

From the foregoing, one of the cardinal ways to promote art-craft is through tourism. In fact, tourism offers a veritable channel through which art-craft items are displayed for window shopping and subsequent purchase by tourists.

It is argued that art-craft, including cultural heritage, is the bastion of tourism. In view of that, it is further argued that infrastructure development is central in the promotion of the tourism sector with its ripple effect on the art-craft industry. It is submitted that infrastructure facilitates tourism and tourists are the major consumers of art-craft items produced due to the existence of the creative industry.<sup>43)</sup> Similarly, an efficient transport infrastructure is central to tourism development as tourists are attracted to tourist destinations with safe, secured, and efficient means of transportation. As a consequence, embarking on infrastructure development to boost the tourism sector is a testament to the significance of infrastructure in promoting

art-craft. In all, it is concluded that efficient and effective infrastructure is germane in bolstering the art-craft industry in North Sumatra, which can also be effectuated through infrastructure development in the tourism industry.

#### 4. Linkage between infrastructure and the exportation of art-craft items

As a corollary to the above, aside from creating and producing art-craft items, the exportation of these items becomes relevant. In light of that, the existence of logistics infrastructures, like warehouses, play a significant role in art-craft production and sale in the international market. In other words, infrastructure is necessary in advancing the sale and exportation of art-craft products. It is therefore pertinent to posit that efficient and effective infrastructure is not only important in the transportation of art-craft products from the seller to the buyer but also necessary in conducting online marketing and advertisement of art-craft items by the art-craft SMEs or artisans. It is observed that enhanced infrastructure, especially in transport and power sectors, is critical in the art-craft industry beginning from sourcing for raw materials to the sale and exportation of art-craft products in North Sumatra. In closing, it is pertinent to aver that telecommunication infrastructure is a critical element in the exportation of art-craft products to the global market or consumers.

### IV. Challenges in the infrastructure development of North Sumatra

#### 1. Challenges in financing and funding projects

It is indubitable that infrastructure development requires huge capital. The government of Indonesia can only pro-

vide a portion of the capital; relying on counterpart funding so as to be able to execute infrastructure projects. It has been revealed that Indonesian government provides 40 percent of the total cost; with the state-owned enterprises (SOEs) expected to contribute 20 percent, and the remaining 40 percent from other sources, which includes the private sector.<sup>44)</sup> It is observed that aside from the dearth of funding in infrastructure development in Indonesia; counterpart funding has its own challenges which could implicate on the execution of infrastructure projects in the country.

#### 2. Dearth of Public-Private Partnership (PPP)

As muted above, the role of private sector in infrastructure development through counterpart funding cannot be neglected. However, in spite of the government of Indonesia's policy to encourage the involvement of the private sector in infrastructure development in the country through the mechanism of PPP since 2010, the policy has not been effective. Despite the enactment of laws to promote PPP, like the Presidential Regulation No. 38/2015, which replaced the Presidential Regulation No. 67/2005, its implementation has been ineffective. Perhaps, this may be linked to the absence of good profit-sharing mechanisms between the government and the private sector and the strategy toward infrastructure development, especially where the lucrative projects are given to the SOEs, while the private sector is offered the unattractive ones.<sup>45)</sup> Besides, the regulatory framework for private sector participation in Indonesian infrastructure projects, example building of airports, does not facilitate debt finance.<sup>46)</sup>

#### 3. Challenges in land acquisition

As a corollary to the above, acquisition of land is neces-

sary in infrastructure development, particularly in building new infrastructures. It is observed that due to the high costs and length of time required for land acquisition, many infrastructure projects have been delayed. Such delays culminate to rise in prices of construction materials, supplies disruption, and accrual of overhead cost despite the absence of productive activities. With the promulgation of Law No. 2/2012 on Land Procurement for Public Utilities Construction which reduces the land acquisition process to 512 days and the implementing legislation, the Presidential Regulation No. 28 of 2015, it has been argued that “the challenge will lie in ensuring the speed and efficiency of its execution, given the fact that current government projects are still heavily constrained by land acquisition”.<sup>47)</sup>

#### 4. Corruption

There is no gainsaying the fact that corruption is a challenge in infrastructure development in Indonesia. For instance, the award of contracts and the procurement process for infrastructure projects lack transparency.<sup>48)</sup> In light of the construction of roads, it has been discovered that there are ‘missing expenditure’ figures for project materials and manpower, like sand, rocks, gravel, and unskilled labour in Indonesia.<sup>49)</sup> Moreover, it has been highlighted that evidence suggests “that the micro credit part of the project had the highest risk of corruption.”<sup>50)</sup> Other forms of corruption<sup>51)</sup> related frauds include embezzlement of block grants from revolving loan funds, sometimes facilitated by banks, formation of ghost borrowing groups, bribes from contracts with suppliers in infrastructure projects, over-invoicing in the community procurement, cost inflation in relation to training and workshops, and nepotism and kickbacks in the recruitment and placement of facilitators.<sup>52)</sup>

#### 5. Limitations in infrastructure assets management

Given the rapid rate of physical damage and high depreciation rate due to poor management of infrastructures in Indonesia, asset management of infrastructure becomes a limitation in infrastructure development in the country. For example, a review of the water utility infrastructure management shows that over 40 percent of local water companies’ assets suffer from degradation every year.<sup>53)</sup> In terms of road construction, newly built roads get damaged within 2-3 years, which leads to additional cost that is high and the total depreciation value is higher than the amount of new investment in the same period.<sup>54)</sup> The implication is that it distorts infrastructure planning and overshoots government’s budgetary allocations.

#### 6. Inadequate commitment to infrastructure development by Indonesian government

It is argued that there are factors that make Indonesia less attractive for investments compared to its neighbours, like Malaysia, Thailand, and Vietnam, which implicate on infrastructure development. These factors include but not limited to unpredictable regulations, rigid labour regulation, absence of skilled workers, and infrastructure bottlenecks.<sup>55)</sup> Again, Indonesian government is not doing enough to curb corruption, especially through the prosecution of corrupt government officials. Though there has been several attempts by the government of Indonesia to build new infrastructures, many of these projects are abandoned or, often times, take long to be completed. Take the case of the monorail in Medan (the project name is Metro Millennium Medan -M3) in 2017 as a case study, the project has remained a mirage due to its neglect by the regional government.<sup>56)</sup>

## V. Measures to enhance infrastructure development in North Sumatra

At the backdrop of the importance of infrastructure in the development of art-craft industry in North Sumatra, below are steps to be taken in entrenching an effective and efficient infrastructure development in the region. Whereas the central and other tiers of governments play a decisive role in establishing a sustainable infrastructure development in North Sumatra, it is observed that the art-craft industry and other private sector institutions should contribute in building and developing infrastructures in the region.

### 1. Provision of funds by Indonesian government

Funding of infrastructure projects by the government of Indonesia is one of the major ways to enhance art-craft development in North Sumatra, and indeed, in the country. Whether through outright funding or counterpart funding by Indonesian government; such gesture will not only bolster the art-craft industry but also promote tourism development in the country. Funding sources for the SOEs like PT Sarana Multi Infrastruktur (PT SMI) in infrastructure development include state's additional equity injection, loans and grants from domestic and foreign entities, capital market, and securitisation.<sup>57)</sup> It should be noted that in spite of Indonesian government increase of infrastructure investment need to US\$429.7 billion, it can only provide 30 percent of the total budget needed for infrastructure provision in the country.<sup>58)</sup> However, it is imperative for the government to create an enabling environment, like introducing a broad reform in the SOE sector to level the playing ground with the private sector and foreign companies. Also, it is imperative for Indonesian government to solve the problem of bankability<sup>59)</sup> for private sector participation to make up for the remaining 70 percent of the funds required for infrastructure development in

Indonesia.

### 2. Adequate use of PPP

To engage the private sector through the platform of PPP, Indonesian government needs to encourage and enhance infrastructure projects. This can be achieved by introducing viability gap funding, project development facility, guaranteeing government's contractual obligations under infrastructure concession agreements, granting tax facilities to construction companies, making sure that concessionaire receive the designated sum of money as scheduled, facilitating land acquisition for infrastructure projects, among others.<sup>60)</sup> The introduction and sustenance of these measures will trigger a corresponding response on the part of the private sector to acquire land, design and construct infrastructures, as well as operate and maintain infrastructures.<sup>61)</sup> It is the position of this paper that these measures if introduced by the government of Indonesia could prompt the influx of foreign direct investments (FDIs) in the development of infrastructure in Indonesia, especially in North Sumatra. More pointedly, the Presidential Regulation No. 38/2015 on PPP should be effectively implemented in the development of infrastructure in North Sumatra.

### 3. Prosecution of corrupt government officials

Under the perceived level of public sector corruption in 2018, Indonesia is ranked 89th out of 180 countries in the world.<sup>62)</sup> The implication of the above data is that PPP and FDI mechanisms may not be used in the country as contract amount, among other things, is inflated, while inferior materials are procured for the project. Though corruption in Indonesia has reduced due to government efforts to eradicate it, it has been argued that the above position reveals that the country still has serious corruption challenges.<sup>63)</sup>

Consequently, the creation of the Corruption Eradication Commission (Komisi Pemberantasan Korupsi -KPK) by Law No. 30/2002, which is independent from the executive, legislative, and judiciary arms of government, has facilitated the investigation, prosecution, and execution of punishments to public servants who are guilty of corruption<sup>64)</sup>. In view of the role the KPK plays in curbing corruption in Indonesia, it becomes imperative to adequately fund the agency, regularly train its officials on modern methods of repressing corrupt practices, and incentivise the officers through promotion in order to bolster their morale in doing their job.

#### 4. Government oversight function

It is important to ensure that infrastructure projects are not only initiated but also commenced and completed as and when due. For instance, the M3 project in Medan which seem to have been abandoned reveals the importance of oversight and the need to conclude every project.<sup>65)</sup> As a consequence, the central and regional government in North Sumatra should liaise with PPP to complete the M3 project. In the same vain, the government of Indonesia should ensure that the Jakarta-Bandung high-speed railway and the sea highway (Tol Laut) projects are completed as scheduled to improve mobility from other regions in Indonesia to North Sumatra.<sup>66)</sup> Aside from transportation infrastructure, it is imperative that the ambitious 35,000-megawatt electricity project, which may be scaled down due to financial constraints, should be completed.<sup>67)</sup> The completion of these infrastructures will attract more tourists to North Sumatra and culminate in more investments in the region. It is opined that the government of Indonesia can, through the introduction of global best practices, enhance infrastructure development in North Sumatra through the mechanism of “close links to and coordination between high-level national strategies, legislative and regulatory de-

velopment, projects election and project execution”.<sup>68)</sup> Lastly, it is observed that Indonesian government should introduce and promote concession agreements, asset recycling, asset securitisation, and FDIs to complement the PPPs. For example, to woo FDIs to invest in infrastructure in North Sumatra, Indonesian government should introduce measures that would create an enabling environment for infrastructure investment in Indonesia, like the introduction of tax holiday for foreign companies engaged in critical infrastructure projects in the country.<sup>69)</sup>

#### 5. The role of the art-craft industry

While the government of Indonesia (including those at the regional and local levels) plays a deciding role in the infrastructure development of North Sumatra, the art-craft industry should offer a contributory role. This can be achieved through various mechanisms. For example, the role of Indonesian art-craft industry can be amplified and sustained by the art-craft SMEs. In terms of investments, the art-craft SMEs should expand their investment portfolios to include infrastructure development. Investing in facilities, training of artisans, and production of raw materials are pivotal in the economic prosperity and development of art-craft SMEs. However, the absence of efficient and effective infrastructures like good and accessible road networks, regular electricity supply, and reliable telecommunication industry would impede the realisation of the economic goals of the art-craft SMEs. Therefore, as part of its contributions to the economic development of Indonesia<sup>70)</sup>, the art-craft SMEs should invest in infrastructure development of North Sumatra.

## VI. Conclusion

The enhancement of art-craft in North Sumatra through

infrastructure development is significantly important in Indonesia given Indonesian government economic development strategy, which includes tourism promotion. Evidently, North Sumatra is inundated with art-craft products, like ulos. Due to the plethora of art-crafts, cultural heritage, and strategic position of North Sumatra, the government of North Sumatra could support and promote tourism. This paper identified some of the factors that impede infrastructure development in promoting art-craft production in North Sumatra, with its ripple effect on the tourism sector in Indonesia. These factors include but not limited to corruption, dearth of funds, and absence of PPP. In light of the importance of infrastructure to the economic blueprint of Indonesian government in terms of tourism development, this paper interrogated some of the measures that would galvanise infrastructure development in North Sumatra and the resultant effect on the art-craft industry in the region. Consequent upon the enhancement of the art-craft industry, the tourism sector in North Sumatra would be boosted, thereby contributing to the economy of Indonesia. In closing, it is observed that whereas Indonesian government should continue to invest in infrastructure development in North Sumatra to enhance the region's art-craft potential, the art-craft SMEs should contribute in building infrastructure in North Sumatra.

## References

- 1) EIBN Sector Report(2018), Aviation, EU-Indonesia Business Network (EIBN), 73.
- 2) *Ibid*.
- 3) Lake Toba Tourism Authority(2019), Lake Toba: world's largest volcanic lake, 8.
- 4) Tourism development investment opportunities: Lake Toba, [2020.03.30. search]  
<http://indonesiainvestmentforum.info/wp-content/uploads/2017/04/Lake-Toba-Investment.pdf>.
- 5) Maria Wronska-Friend (2018), Batik of Java: global inspiration, *Textile Society of America Symposium Proceedings*. 1080,  
<https://doi.org/10.32873/unl.dc.tsasp.0007>
- 6) Butar-Butar (2018), The aesthetic study of traditional cloth of North Sumatra, *Advances in Social Science, Education and Humanities research* 225(-), 479, 483.
- 7) K.K. Thomas (2015), Masks of Sumatra, *Asian Theatre Journal* 32(2), 575, 588,  
<https://doi.org/10.1353/atj.2015.0047>
- 8) H. Hanan et al. (2015), Batak Toba cultural heritage and close-range photogrammetry, *Procedia-Social and Behavioral Sciences* 184(-), 187, 192.  
<https://doi.org/10.1016/j.sbspro.2015.05.079>
- 9) Bali carving images [2020.03.27 search],  
<https://www.shutterstock.com/search/bali+carving>.
- 10) Bugis silk from Indonesia, Indonesian Handmade [2020.03.27. search]  
<http://bellasilverart.blogspot.com/2014/02/bugis-silk-from-indonesia.html>
- 11) Lombok pottery in Banyumulek village [2020.03.27. search],  
<http://www.lombokindonesia.org/lombok-pottery-banyumulek-village/>
- 12) Hamid Darm (2018), Sumpit (blowgun) as traditional weapons with Dayak high protection, *Journal of Education Teaching and Learning* 3(1), 113, 115,  
<https://doi.org/10.26737/jetl.v3i1.601>
- 13) kat textile from Sumba, [2020.04.01. search],  
[https://www.ngv.vic.gov.au/asianart/resources/pdf/Sheet15\\_AasianEduRes\\_A4\\_sheets\\_DVD.pdf](https://www.ngv.vic.gov.au/asianart/resources/pdf/Sheet15_AasianEduRes_A4_sheets_DVD.pdf)
- 14) Indonesian government made significant contributions in the development of art-craft in the country. Using batik art-craft as a case study, Anele analyses these contributions in the batik industry in Indonesia. Kalu K. Anele (2018), The status of the Indonesian batik Industry, *Emerging Regional Research Policy Report*, 60-61.
- 15) Fitra Delita et al. (2019), GIS application in mapping of tourism attractions in Samosir District North Sumatera Province, *Journal of Physics* 1175(1), 1, <http://dx.doi.org/1088/1742-6596/1175/1/012226>
- 16) Lake Toba Tourism Authority(2019), *op. cit.* 3.
- 17) Tourism development investment opportunities: Lake Toba, *op. cit.* 4.
- 18) Menara Simanjuntak · Haryadi Sarjono (2012), Analysis, reconstruction and establishment of tourist destinations in Toba Samosir, North Sumatera, Indonesia, *Journal the*



- Winners* 13(2), 127, 132.
- 19) Anang Sutono et al. (2018), Exploration of marine tourism in North Sumatra: an analysis of promoting tourism, *Journal of Social Studies Education Research* 9(4), 185, 186.
  - 20) See David A. Henkel (2014), *Beginning of the becoming: Batak sculpture from Northern Sumatra*, The Portrait, The Newsletter, No. 69, 48.
  - 21) Kalu K. Anele (2019), Revisiting the decoration of Batak Toba traditional houses in Indonesia, *Journal of Traditional Art & Craft* 2(2), 9.
  - 22) Kyle Springer (2019), Building bridges: navigating Indonesia's infrastructure choices, *Economics of the Indo-Pacific Series, Perth USAsia Centre*, Vol. 5, 16.
  - 23) *Ibid.*, 27.
  - 24) A. Wafa (2017), Electricity sector in Indonesia, *Ministry of Energy and Mineral Resources, Republic of Indonesia, Directorate General of Electricity Country Report*, 7.
  - 25) T. Bui (2014), Indonesian ports: current trends and future requirements, 12<sup>th</sup> ASEAN Ports & Shipping, 11 & 12 June 2014, 14.
  - 26) Ministry of communication and Informatics, Jakarta (2017), Annual Report, 29.
  - 27) EIBN Sector Report(2018), *op. cit.* 1.
  - 28) Flora Sonkin et al. (2018), *Indonesia: the World bank's failed East Asian miracle*, The Oat Institute, 14-15.
  - 29) Amol Titus (2018), *Indonesia infrastructure development guidance from IndCham (India Indonesia Chamber of Commerce)*, Presentation at the 1st India Indonesia Infrastructure Forum (IIF), Jakarta, 9.
  - 30) Yuki Fukuoka (2019), Indonesia's Jokowi to commence second term: challenges of becoming a leading economy by 2045, *Mitsui & Co. Global Strategy Studies Institute Monthly Report*, 6-7.
  - 31) Andi Estetiono et al. (2018), Public participation and the development of transportation infrastructure towards sustainable transportation and regional development in Medan, North Sumatra, Indonesia, *Asian Social Science* 14(1), 112,
  - 32) *Ibid.*
  - 33) *Infrastructure development, the success key for Toba tourism*, PWC Indonesia, 27 February, 2019, [2019.11.26. search], <https://www.pwc.com/id/en/media-centre/infrastructure-news/february-2019/the-success-key-for-toba-tourism.html>.
  - 34) *Ibid.*
  - 35) Yose R. Damuri (2017), *Infrastructure in Indonesian economic development: potentials & issues*, Japan Spotlight, 16.
  - 36) *Ibid.*, 17.
  - 37) Kyle Springer (2019), *op. cit.* 22, at 6.
  - 38) *Ibid.*
  - 39) *Indonesia: country starter pack*, PWC, 11 [2019.11.26. search], <https://www.pwc.com/au/asia-practice/assets/indonesia-country.pdf>.
  - 40) Yose R. Damuri (2017), *op. cit.* 35, 16-17.
  - 41) Mohammad B. Alexandri et al. (2019), Creative industries: existence of arts traditional industries in Indonesia, *Academy of Strategic Management Journal* 18(1), 1-4.
  - 42) OECD (2014), *Tourism and the creative economy*, OECD Publishing, 14-16.
  - 43) *Ibid.*, 52.
  - 44) Yose R. Damuri (2017), *op. cit.* 35, 18-19.
  - 45) *Ibid.*
  - 46) Indonesian infrastructure: stable foundations for growth, 2 [2019.11.21. search] <https://www.pwc.com/id/en/cpi/asset/indonesian-infrastructure-stable-foundations-for-growth.pdf>.
  - 47) Yose R. Damuri (2017), *op. cit.*, 35, 19.
  - 48) *Indonesia: country starter pack*, PWC, 11 [2019.11.26. search], <https://www.pwc.com/au/asia-practice/assets/indonesia-country.pdf>.
  - 49) Jean Ensminger (2017), *Corruption in community-driven development: a Kenyan case study with insights from Indonesia*, Anti-Corruption Resource Centre, CMI U4 Issue No. 9, 39-40.
  - 50) *Ibid.*, 40.
  - 51) Ortrun Merkle (2018), *Indonesia: overview of corruption and anti-corruption*, Transparency International Anti-Corruption Helpdesk Answer, Transparency International, 4-5 [2019. 11.26. search] [https://knowledgehub.transparency.org/assets/uploads/helpdesk/Country-profile-Indonesia-2018\\_PR.pdf](https://knowledgehub.transparency.org/assets/uploads/helpdesk/Country-profile-Indonesia-2018_PR.pdf). Ortrun outlines other forms of corruption in Indonesia as follows: payment of bribe to access utilities, civil servants are not employed based on merit, vast number of companies state that gifts are required to get construction permits etc.

- 52) Jean Ensminger (2017) *op. cit.* 49, at 41.
- 53) Yose R. Damuri (2017), *op. cit.* 35, at 19.
- 54) *Ibid.*
- 55) Siwage D. Negara (2019), Jokowi's second term: economic challenges and outlook, *Australian Strategic Policy Institute (ASPI), Strategic Insight*, 3.
- 56) Ari K.M. Tarigan et al. (2017), Medan City: development and governance under the decentralisation era, *Cities*, 71, 135, 142.
- 57) Wahyu Utomo (2016), Infrastructure developments in Indonesia-key improvements and priority projects, *Roudtable Discussion on Infrastructure Investment Opportunity in Indonesia, London*, 15.
- 58) Lexy Nantu, 2019, *Indonesia raises infrastructure investment funds US\$429B by 2024*, The Insider Stories, [2019.11.27. search], <https://theinsiderstories.com/indonesia-raises-infrastructure-investment-funds-us429b-by-2024/>
- 59) Kyle Springer (2019), *op. cit.* 22.
- 60) Wahyu Utomo (2016), *op. cit.* 57.
- 61) *Ibid.*, 9.
- 62) *Corruption Perception Index 2018*, 2019, Transparency International, 2-3, [2019.11.26.search], [https://www.transparency.org/files/content/pages/2018\\_CPI\\_Executive\\_Summary.pdf](https://www.transparency.org/files/content/pages/2018_CPI_Executive_Summary.pdf)
- 63) Sondang S. Mala (2018), *Corruption in Indonesia: the impact of institutional change, norms, and networks*, University of Groningen, 9-10 [2019.11.26. search] [https://www.rug.nl/research/portal/files/53380980/Chapter\\_1.pdf](https://www.rug.nl/research/portal/files/53380980/Chapter_1.pdf).
- 64) *Ibid.*, For further reading on the anti-corruption efforts of Indonesian government, see ① Ortrun Merkle (2018), *op. cit.* 51.
- 65) Ari K.M. Tarigan et al. (2017), *op. cit.* 56.
- 66) Siwage D. Negara (2019), *op. cit.* 55.
- 67) *Ibid.*
- 68) Judith E. Tyson (2018), Private infrastructure financing in developing countries: five challenges, five solutions, *Overseas Development Institute, Working Paper* 536, 28.
- 69) Kalu K. Anele (2019), *op. cit.* 14.
- 70) It is trite that the SMEs, generally, have contributed in the economic development of Indonesia. Industry: facts & figures (2015) *Ministry of Industry Republic of Indonesia*, 55.