



A Tale of Two Rivers: The Yangtze in Guizhou and the Mahanadi in Odisha

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This paper studies the economic model of Guizhou, a southwestern province in China, and its use of the Yangtze River system to fuel economic growth. Can similar policies be applied to Odisha in India? The assumption underlying this study is that Guizhou and Odisha are comparable in several ways, be it the resource-abundant nature of the provinces, the lack of transport infrastructure, or the many economic problems that plague both the provinces. Guizhou though has managed to lift its GDP growth in recent years. In 2016, it registered an astonishing 10.5% growth far surpassing the overall growth rate of China. On the other hand, even though Odisha holds significant potential when it comes to economic growth, it registered relatively moderate growth at 7.94%. Thus, it would be useful to understand the factors that

propelled Guizhou to a higher economic growth that has not been seen in the case of Odisha yet.

The first part of the paper will focus on Guizhou and the policies it has implemented to ensure higher growth rate. Here, the goal will be to try to understand the role of the Yangtze River in fuelling the growth in the province. This section shows how the Yangtze River has been used as a source of connectivity in the province and the positive role it is playing to bring investment into the state. The second part of the paper will focus on the comparison of Guizhou with Odisha and argue in favour of using River Mahanadi for economic development along the lines of Guizhou's use of River Yangtze.

The Case of Guizhou

The Yangtze, the longest river in Asia, has been witness to China's history spanning more than 5,000 years and still holds as much importance as it did thousands of years ago. The Yangtze is a crucial piece in the grand strategy that China refers to as the 'Belt and Road Initiative' (Belt and Road Portal 2017). In fact, for a small mountainous province in southwestern China called Guizhou, it is more than a boon.

As the connectivity between Guizhou and the east has increased, it has bought in a rush of multinational as well as Chinese companies into the province.

This mountainous province has been bereft of the development that the east coast experienced for a very long time. Guizhou is home to abundant natural resources and holds the largest reserves of phosphorous ores, second-largest reserves of bauxite as well as fifth-largest reserves of coal in China (HKDTC Research 2017).

This, however, did not translate into development until recently. One of the many causes for this was poor connectivity to other regions of China and lack of any contact with the sea (Belt and Road Portal 2017). However, things are starting to change. In 2016, Guizhou registered a growth rate of 10.5% far surpassing the overall growth rate of China. Not only that, it was the province with the second-highest

growth rate in China just after Chongqing Municipality (Belt and Road Portal 2017). The Yangtze River is one of the major contributors to this growth.

The 13th Five Year Plan (FYP) of the Chinese Government for the years 2016-20 has a dedicated chapter on the "Yangtze River Delta Economic Zone" which mentions the importance of this project by stating that it seeks to promote coordinated development along the entire stretch of the river so as to integrate all the provinces lying in the region and to make it a national leader in ecology-driven development (CCCPC 2016).

The main purpose is to increase connectivity as well as provide water resources for the industries to flourish with an intention that the companies crowded in the east, in turn, might shift to the resource-abundant west. Interestingly, it is the River Wu a tributary of the Yangtze that provides connectivity to Guizhou and allows it be a part of the Yangtze River Delta Economic Zone (*Xinhua* 2017). This has opened many doors for the region.

As the connectivity between Guizhou and the east has increased, it has bought in a rush of multinational as well as Chinese companies into the province (*Bloomberg* 2016). It helps that the new Guizhou-Guangxi railway line, as well as Sichuan-Guizhou railway, has increased the connectivity with the neighbouring provinces further facilitating the establishment of industrial clusters in the province (Wang 2016)*.

This stays true to the vision of rail-road-port connectivity that Yangtze River Delta Economic Zone was expected to provide (*Xinhua* 2017). It is evident from the fact that a large amount of investment has flown in from companies dealing with big data, i.e., which focus on gathering and analysing vast reams of information. Guizhou is a relatively poor province compared to the rest of China and has a significantly smaller talent pool. The emergence of the big data sector in this province has raised demands for the training of youth to provide them with skills relevant to the new industries being created (*Bloomberg* 2016).

Three important points come to fore when we track the trajectory of Guizhou's development. First, it is the big data sector that is pushing Guizhou's growth significantly (*Bloomberg* 2016). One may argue that there is no direct causal relationship between big data sector and Yangtze River. However, it is important to note that for a province like Guizhou which historically has been suffering from connectivity issues, it becomes very important to build infrastructure so as to attract businesses. Although the river connectivity and big data industries might not have a direct relationship, it is clear that Yangtze River Delta Economic Zone has paved the way for opening up of the region and enhancing its connectivity. Thus, it makes the province much more attractive as it manages to offset one of the key shortcomings the province had.

Second, Guizhou is an ecologically sensitive area. To give a push to big data companies

instead of traditional industries results in the region being less vulnerable to environmental degradation. In fact, it facilitates sustainable development in the region as big data companies are at forefront when it comes to adoption of sustainable technology and big data itself has the potential to understand corporate sustainability so as to find the link between the business world and the environment which in turn can give insights on promoting development in an eco-friendly way (Hsu 2014).

While unemployment rates for both provinces were comparable, Guizhou has significantly reduced its rate to 3% compared to Odisha's 6% in 2014.

This falls in line with Guizhou Provincial Government's aim to promote ecological development and green growth. Incidentally, protests against environmental degradation are a rare occurrence which points at largely two possibilities- either it is because of the strict control of Chinese Government that news about protests is not freely available or the policies of the Provincial Government have found approval among the masses. The truth about the former is up for speculation.

However, the latter can be supported by some concrete evidence. Guizhou's Provincial Government has pushed for some eco-friendly innovative policies. To supplement the increased connectivity, Guizhou has come up with an inland

economic zone called “Gu’ian New Area” which is focussing on the harmonious convergence of industries with ecological development (*PR Newswire* 2017). The idea behind this is to build exemplary ecological park which includes initiatives like New Energy Vehicle (NEV) industries which seeks to replace greenhouse gas emitting vehicles and Sponge City which has advanced drainage and sewage system to treat the discharge from the industries (*PR Newswire* 2017).

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Apart from this, there has been a careful consideration given to the ecological aspect in the 13th FYP. The 13th FYP emphasizes the need for ensuring that the Yangtze is not to be polluted and to work on the treatment of chemicals from the factories in the Yangtze Valley. The provincial government is also working on building forest shelter beds for soil conservation, in Guizhou. There are forums being organized in Guizhou to gain an understanding of the development of an ecological civilization in the province. Thus, there is a proactive rigour shown by the provincial government in the way they approach development by putting emphasis on retaining the ecological value of the province. Linking Guizhou with the Yangtze River Delta Economic Zone

seems to be a step in the right direction and it is proving to be a lifeline for the province.

The Case of Odisha

Some 2,300 kilometers away from Guizhou in the Indian province of Odisha flows the river Mahanadi. There are certain characteristics of Odisha that make it a good comparative study with respect to Guizhou. These characteristics enable us to formulate a framework that can be used to create a developmental model for Odisha. Six characteristics have been used to argue in favour of this comparative study (see Table 1).

First, Like Guizhou, Odisha has abundant resources in India when it comes to coal, bauxite and iron ore. However, the abundance of these resources has not translated into a high growth rate. Second, Table 1 also illustrates that the poverty rates of both the provinces are comparable despite being rich in mineral resources. Third, while unemployment rates for both provinces were comparable, Guizhou has significantly reduced its rate to 3% compared to Odisha’s 6% in 2014 as illustrated by Table 1.

Table 1 Comparison of Guizhou and Odisha's Economic Indicators

<i>Sr. No.</i>	<i>Parameter</i>	<i>Guizhou</i>	<i>Odisha</i>
1	GDP	US\$174.527 billion (2016-17)	US\$49.34 billion (2016-17)
2	GDP per capita	US\$4,792 (2015)	US\$969 (2016-17)

3	GDP Growth Rate	10.5% (2016)	7.94% (2016-17)
4	Population	35.29 million (2015)	41 million (2011)
5	Unemployment Rate	3.3% (2014)	6% (2014)
6	Poverty Rate	28.75% (2014)	32.59% (2011-12)

Sources: Compiled from HKTDC Research (2017), Incredible Orissa (2017), Office of the Registrar General and Census Commissioner of India, Ministry of Home Affairs, Government of India (2011), National Bureau of Statistics of China (2017), World Atlas Data-China (2014)

Fourth, the GDP per capita of Guizhou is significantly higher than Odisha's GDP per capita if we compare the current value. However, with a GDP of US\$658 million in 2005 and US\$1.938 billion in 2010 (NBSC 2017), the GDP per capita of Guizhou approximated GDP per capita of Odisha of today. The point to be noted is that pre-2010 the Yangtze River Economic Zone was in its infancy and connectivity issues were still a hurdle. Even the "Gu'ian New Area" is a new invention. This makes Guizhou a perfect study to formulate a solution for Odisha.

Fifth, the population of both the provinces is similar too. Table 1 shows that population of Guizhou stands at 35 million whereas the population of Odisha is 41 million. Finally, it is River Mahanadi that has a significant potential to initiate the transformation of Odisha. Though, most of the statistics seem to favour Guizhou over Odisha, the latter holds an advantage over Guizhou in the form of Paradip port which gives it an important gateway to the external world.

Also, Yangtze might be a larger river compared to Mahanadi but it is the River Wu which connects Guizhou to the rest of the provinces. It can be observed that River Mahanadi and River Wu are comparable in size. A comparison between the Mahanadi and the Wu is shown in Table 2.

Table 2 Comparison between River Wu and River Mahanadi

<i>Sr. No.</i>	<i>Parameter</i>	<i>River Wu</i>	<i>River Mahanadi</i>
1	Provinces it traverses	Guizhou, Chongqing Municipality	Odisha, Chhattisgarh
2	Mouth	River Yangtze System	Kendrapada Delta, Odisha (Bay of Bengal)
3	Length	1,150km	851km
4	Basin Size	80,300km ²	141,589km ²

Sources: Compiled from India-WRIS (2016), Britannica (2007)

Thus, the Mahanadi can play a central role in the development of Odisha the way the Yangtze has played in the case of Guizhou. Infrastructure needs to be developed in the Mahanadi region to increase connectivity and make it profitable for businesses to invest. In recent years, four software parks have come up at Bhubaneswar, Berhampur, Rourkela and Balasore and four more are expected to be completed by 2019 in Angul, Sambalpur, Jajpur and Jeypore, which is a great step ahead to increase employment opportunities in the state (Bisoyil 2017). The Mahanadi River stretch from Sambalpur to Paradip Port was declared as National Waterway 64 by the National Waterway Act, 2016 (Ministry of Shipping of Government

of India 2016) and the Hirakud Dam on Mahanadi River acts as a major source of hydropower for industries. Odisha of today is comparable to Guizhou of 2005-2010 and it also has certain advantages that Guizhou never had. A framework can be formulated to implement the Guizhou model in Odisha. The process could be summed in three main steps:

Improving connectivity and encouraging innovative ideas in rural economy: Mahanadi River should be developed as an economic zone. It entails setting up the basic infrastructure first, which includes increased connectivity. Mahanadi on account of being a National Waterway could be used as a means of transport as well as to uplift the rural economy. One of the highlights of Guizhou is the way they have fostered eco-tourism.

Encouraging eco-tourism not only encourages upliftment of poverty and rural economy but also gives the rural population to not completely depend on agriculture for their sustenance. The unique culture of Odisha can not only be used as a tool to boost the economy but also at the same time help preserve culture. Forms of employment which do not infringe on economic freedoms as well as encourages indigenous culture can prevent land acquisition protests. The state has seen its share of problems when it comes to utilizing the river to its fullest potential.

For instance, South Korean steel giant POSCO's investment was touted as one of the largest foreign investments in India. The Odisha government had welcomed the move

amidst great fanfare. However, the project's future now seems gloomy due to the problem of land acquisition which led to large numbers of farmers protests. There were protests organized by the Save Mahanadi leaders which alleged that linking POSCO project with Mahanadi through Hirakud reservoir would spell a problem for farmers in Cuttack, Jajpur, Kendrapara and Jagatsingh districts of Odisha (Behree 2015)**.

Odisha of today is comparable to Guizhou of 2005-2010 and it also has certain advantages that Guizhou never had.

However, the problem only arises if the means to sustain them is limited to farming. Building an alternative might make it easy for the farmers in the said region to think differently. The argument here is that it is rational for a person to support a project if it serves his or her interest. The aim should be to make Mahanadi Economic Zone profitable for the local population.

Cooperation with neighbouring provinces: Given the political and ideological settings of the state and learning from the POSCO experience, the focus should be on ensuring that any development in the region that's undertaken is done in an eco-friendly way ensuring that the local population is not alienated. The usual notion is that the state that has the resources should exploit it and build industries to facilitate its progress.

However, Odisha has seen that the population might not be willing to accept such a move where the resources are exploited or the one which contributes to environmental degradation. Hence, a wiser move would be to work cooperatively with states that do not face the issue of land acquisition as much and hence make it a win-win situation for both of them.

Forms of employment which do not infringe on economic freedoms as well as encourages indigenous culture can prevent land acquisition protests.

In the case of Odisha, its neighbouring state Chhattisgarh has attracted little protests against its new initiative of Electronic Manufacturing Cluster in Naya Raipur area and has successfully used the Mahanadi waters by building barrages and dams (*The Pioneer* 2016). Odisha and Chhattisgarh should have a unified development strategy just as Chinese provinces on the Yangtze cooperate with each other.

Innovation-based industries: Finally, it would be an excellent strategy to attract innovation-based industries once the infrastructure development, strong rural base and strong linkages with the neighbours have been taken care of. Guizhou chose big data as the primary facilitator of its economy. Odisha should also choose a primary area that would act as a facilitator to the economy. The idea is also to use innovative environmentally friendly technology to

reduce the emissions. A focus on innovation in any field of choice would perhaps not invite the kind of protests that Odisha has seen before. Hence an eco-friendly strategy along the lines of “Gu’ian New Area” might be a transformative third step in the development strategy of Odisha.

It is important to realize that all of the three steps of the framework are dependent on the preceding step for an efficient implementation. Without connectivity and a strong rural economy, effective cooperation between the states will be difficult. Similarly, without the first two steps being implemented successfully, the final stage of establishing innovation based industries successfully would be a far-fetched dream.

Conclusion

China has a grand strategy in the form of the “Belt and Road Initiative” which envisions an interconnected world with China at its heart. India needs such a vision for its internal connectivity so as to reach its full potential. In Odisha, there is a potential for reimagining Mahanadi as not just a river meant to provide water but rather as the heart of the region which can lift the state out of poverty with industrial clusters, innovative environmental initiatives as well as a road-rail-port network to make efficient use of its natural resources. The Mahanadi, which translates as “The Great River”, can be part of vision to rejuvenate Odisha and in turn, India, in the form of a “Mahanadi River Economic Zone” along the lines of Yangtze River Delta Economic Zone in China can prove to be a success for the state

in the same way as Guizhou is transforming itself today.

ENDNOTES

*Apart from the railway connectivity and the Yangtze River Economic Zone, there is the Gui'an New Area, Guiyang National High-tech Industrial Development Area, Guiyang National Economic and Technology Area, Zunyi National Economic and Technology Area, Guiyang Free Trade Zone, Gui'an Free Trade Zone, Zunyi Free Trade Zone, and Guizhou Shuanglong Airport Economic Zone that also helped in opening up the economy.

**The article lists other problems for POSCO's failure in Odisha which includes the new Mining Laws which makes POSCO compete with the rest of the bids to get a mining license as well as the effect of the Chinese Steel market on the domestic market.

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