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Which Factors Influence Economic Development and Regional Inequality in India?

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Introduction

Regional inequality refers to disparities between different regions in terms of economic, social, and environmental development. Regional inequality often impacts more economically developed countries (MEDCs) than their less economically developed counterparts. Such disparities often impact countries in terms of differences in income levels, infrastructure quality, and life as a whole. Several factors influence the level of regional inequality in a country.

I will focus on the country's geographical landforms, including the diversity of landscapes and climatic conditions. When a region is rich in mountains and other landforms, it often becomes a popular destination for tourism and recreational activities. This leads to greater economic growth, which in turn enhances a country's development.

A region reflecting diversity is referred to as Region A in my analysis. However, if another such region contains just plains, it is far from ideal for ecological tourism; this will be Region B. Taking into account these geographical aspects, the region's climate also plays a significant role in influencing its economic impact. If region A experiences consistently extreme temperatures throughout the year, such as extreme cold or heat, its natural beauty becomes less appealing due to the challenging conditions for tourists. Conversely, region B, with its well-developed infrastructure and favorable climate, has the potential to significantly contribute to the economy through tourism.

It's important to recognize that regional inequality in a country is not solely determined by physical geographical factors. Regional inequality = f (diversity of landscape, climatic conditions and human factor).

The most crucial variable in this investigation is the human factor. Putting aside all geographical features of a region, if it has a rich history about humans or is very well developed in terms of

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infrastructure, it can incentivize businesses to open up, causing development in the region. Countless other factors can influence regional inequality, such as the population, susceptibility of the region to natural disasters, and its biodiversity. These factors cause regional inequality, leading to several economic hotspots in different countries. For example, in India, certain states such as Maharashtra contribute much more to the economy because they are located on the coastline and are very rich in terms of population, human history and culture.

More elaborate causes and consequences

One of the key ways to measure regional inequality is through the construction of poverty maps. Such maps support visualizing collected data in order to get a fair estimate about spatial distribution of inequality within the country. The process of constructing poverty graphs involves the collection of geographically disaggregated indicators. Such graphs can be crucial when learning how to combat region inequality in a region because they are extremely simple to view and also showcase different dimensions and sectors of the data, leading to the best possible inference of data. Sometimes, poverty maps can also be combined with GIS systems to highlight the influence of certain factors on the regional inequality present in the country. For example, a poverty map paired with the region's altitude can help us see if there is a correlation between the 2 variables. The collection of external secondary data such as the housing census can further allow for the convenient use of poverty maps.

In my paper I wish to explore these maps with specific case studies of India.

India as a case study

"Geographical factors have a significant impact on the Indian economy. The cost structure of manufacturing firms in India is influenced by economic geography, including market access and local and urban externalities. Industrial diversity at the district level has been found to have a consistent and substantial cost-reducing effect, particularly for small firms. Additionally, location and climate play a crucial role in income levels and growth, affecting transport costs, disease burdens, and agricultural productivity. Regions located far from coasts and ocean-navigable rivers, as well as tropical regions with a high disease burden, face disadvantages in terms of economic growth. These geographically disadvantaged regions are also expected to experience rapid population growth in the coming years. Therefore, it is important to consider geographical factors when analyzing the Indian economy and its development prospects" (Lall et al, 2003).

The following points iterate how geographic factors influence economic development and regional inequality within a country.

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Natural Landscapes and Economic Activities

It is already known that regional inequality is caused by economic development. It can be described by the linear function:

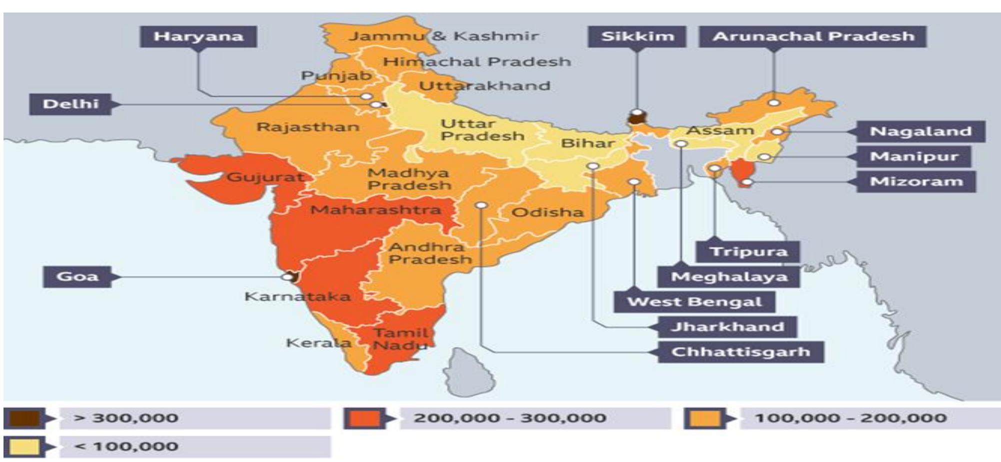
Regional Inequality = Country x economic development

In most scenarios the rate at which economic development occurs, varies depending on several geographical factors. A case study that depicts this very effectively is in the case of India. Having undergone rapid economic development in the last few decades, there is still a strong imbalance between different states of the country.

Geographical factors play an important role in the developmental activities of a developing economy. The difficult terrain surrounded by hills, rivers and dense forests leads to an increase in the cost of administration, cost of developmental projects, besides making mobilization of resources particularly difficult. Most of the Himalayan states of India, i.e., Himachal Pradesh, Northern Kashmir, the hill districts of Uttar Pradesh and Bihar, Arunachal Pradesh and other North-Eastern states, remained mostly backward due to its inaccessibility and other inherent difficulties. The mountainous regions in the north and northeast have less industrial development compared to the plains and coastal areas.

Regions with geographical beauty, such as mountains and coastal areas, often become tourist destinations, contributing to local economies. The plains, particularly the Indo-Gangetic Plain, are agriculturally productive, supporting large populations.

The graph shown below showcases the GDP per capita in each Indian state.



GDP per capita in Indian Rupees – 2021 (Source: BBC)

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In the above map, it can be seen that there is a strong trend showcasing that states towards the southern and western regions of the country have a higher GDP per capita compared to the others.

“Generally, the states in the south and west (with the exception of Rajasthan and Kerala) have a far higher level of development than the states in the north and east.

These disparities are due to several reasons:

- Coastal locations such as Mumbai (in Maharashtra) historically benefitted from being linked to trade routes with the rest of the world. This is in contrast to landlocked states such as Bihar. This gap increased further when coastal locations allowed the south and the west to develop large container ports, which linked these states to an increasingly globalized world.
- The south and the west also had the lowest rates of natural increase compared to the high rates of natural increase in the north and the east. In Kerala, in the south, fertility rates are now 1.8 - only slightly higher than the UK.
- The Green Revolution (and also the increase in food exports) was greatest in the south and the west compared to the north and the west. Rajasthan, which borders the rich state of Gujarat, is often affected by drought and crop failure due to the failure of the monsoon.

These reasons led to the positive multiplier effect in the south and the west where a high level of development created a well-educated workforce. This then attracted foreign investment from transnational corporations, further increasing the wealth of the south and the west. In contrast, the north and east of India are landlocked, therefore cannot directly trade internationally. This deters foreign investors from these regions. This can result in a lack of schools, transport networks and employment opportunities causing young people to move out of the region towards successful cities. This is known as brain drain” (BBC, 2022).

Natural Resources

Availability of natural resources, such as minerals and water, varies across India. States rich in minerals, like Jharkhand and Chhattisgarh, have significant mining industries, while states with abundant water resources, like Kerala and Tamil Nadu, benefit from agriculture and fisheries. Inefficient resource management can exacerbate regional inequality. For instance, states with rich natural resources but poor management practices may not fully capitalize on their economic potential.

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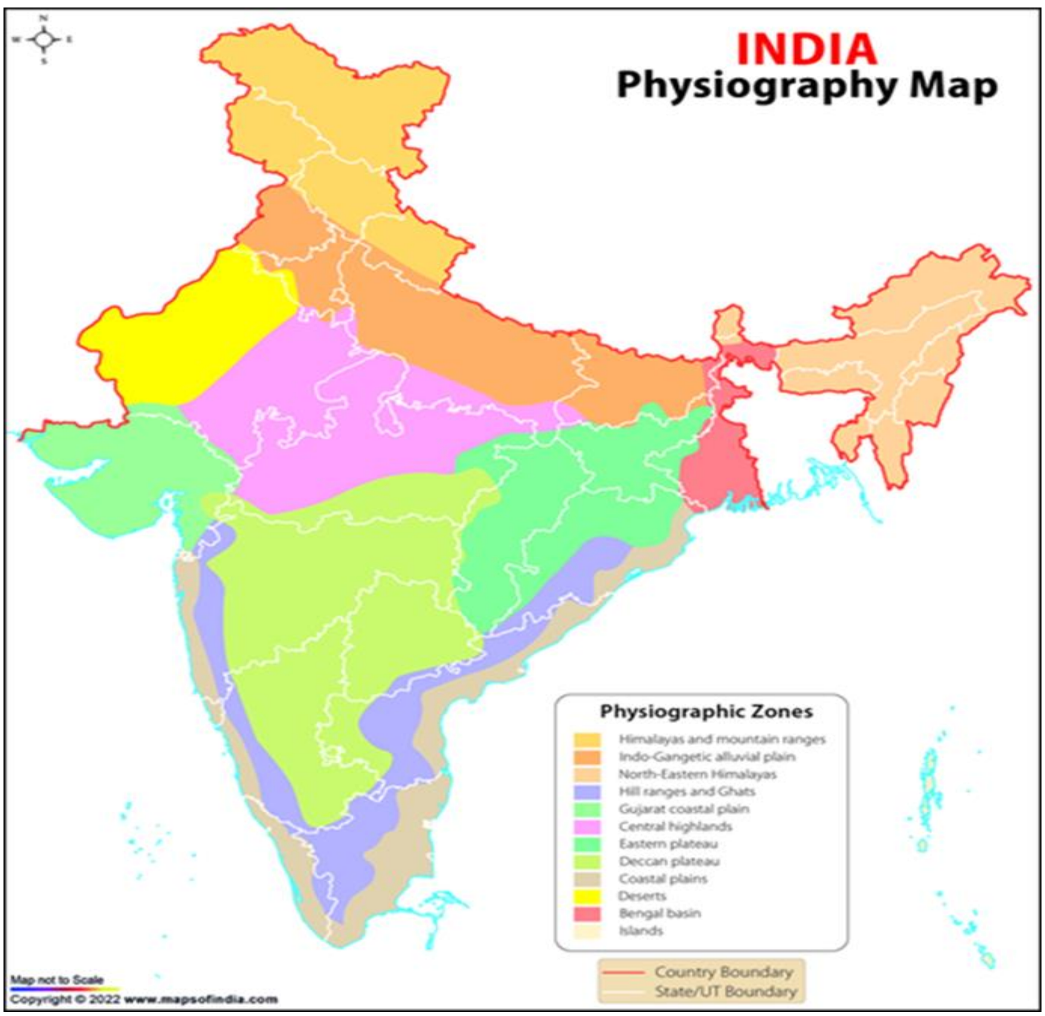
Climate and Economic Contribution

The climate affects agricultural output, with certain crops being region-specific due to climatic conditions. For instance, the northern plains are known for wheat production, while southern regions produce rice.

Regions prone to extreme weather, like drought-prone areas in Maharashtra or flood-prone regions in Assam and Bihar, face economic challenges, contributing to regional disparities. Adverse climate and proneness to flooding also result in low agricultural productivity and a lack of industrialization, particularly in the Himalayan regions.

The states with the lowest GDP per capita such as Uttar Pradesh and Bihar are inhabited by farmers. The following map showcases India's physiography.



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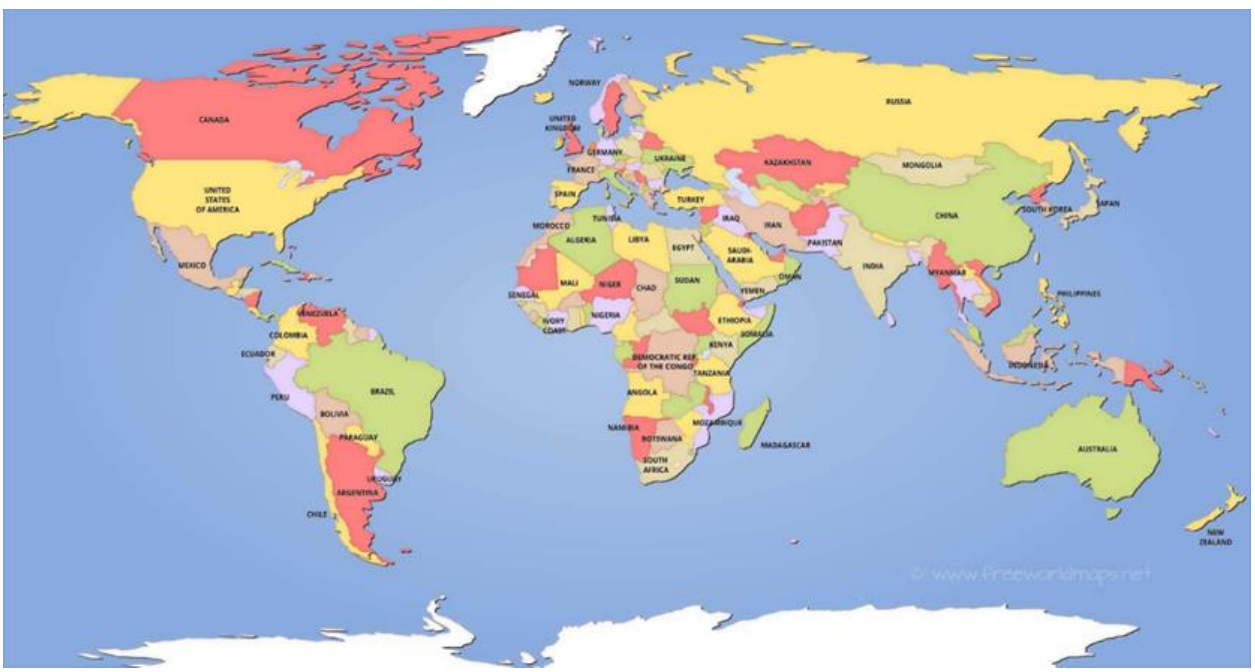
The map showcases how all of the states with the lowest GDP per capita are a part of the Indo-Gangetic Alluvial plain. This region is known to have a lot of fertile land due to the river Ganges flowing from the northern Himalayan region. But that begs the question, why are these states so poor despite having ideal land for farming and also one of the oldest and most historic cities in the entire country? The simple answer is the fact that it has a shockingly high population. A lot of people living in Uttar Pradesh tend to live below the poverty line, hence dragging down the GDP per capita of the entire state.

Having already looked at the natural landscapes influencing regional inequality in India, we also need to look at different factors such as proximity to markets and access to trade routes. As mentioned before, the western regions of India tend to have a higher GDP per capita. This is due access to markets leading to effective trade.

Locational Advantages and Trade Routes

The following map shows that the east of the country solely opens up trade routes to less economically developed countries such as Myanmar or others in the south east Asian region. However, the west allows for seamless trade between east African countries along with middle eastern countries. This may cause rapid development in the west, effectively leaving the eastern region behind causing regional inequality between the east and the west.



Regions having proximity to markets and trade routes are at an advantageous position. Western India, with states like Gujarat and Maharashtra, benefits from proximity to international markets

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and trade routes. This has facilitated economic development through trade with Middle Eastern and East African countries, contributing to higher GDP per capita in these regions. Conversely, eastern regions with limited access to international trade routes, such as states bordering Myanmar, experience slower economic growth.

Regions having locational advantages get more Development Projects. The location plays a crucial role in determining the siting of major industrial projects, such as steel plants and refineries. Regions with locational advantages often receive preferential treatment in the allocation of such projects, further contributing to regional imbalances.

Infrastructure and Accessibility

Infrastructure Development also sees disparity due to geographical factors. Infrastructure such as roads, railways, ports, and airports is unevenly developed across India. Coastal states like Gujarat and Maharashtra benefit from better access to ports, facilitating international trade and industrial growth.

Geographical factors have influenced the divide between urban and rural areas. Urban areas generally have better infrastructure, leading to more job opportunities and economic activities. In contrast, rural regions, especially in interior states, lag in infrastructure development, affecting overall economic growth.

Population Pressure and Economic Disparities

High Population leads to low GDP per Capita. States like Uttar Pradesh and Bihar, located in the Indo-Gangetic Alluvial Plain, have high population densities. Despite having fertile land and a rich history, these states experience lower GDP per capita due to widespread poverty and underdevelopment. The high population density leads to a large portion of the population living below the poverty line, adversely affecting overall economic performance.

“The concentration of economic activity and jobs in a few states has meant that the most populous states of the country are job-deficit states. Bihar, for instance, accounts for 7% of the working-age population in the country (those aged 15-59 years, as per the last census). But it accounts for less than 3% of salaried jobs and barely 1% of factory jobs. Even Uttar Pradesh does not generate the number of jobs that its vast population requires even though it counts among the top five largest state economies because of its sheer size. India’s most populous state accounts for 15% of the country’s working age population but accounts for just 9% of salaried jobs and barely 7% of factory jobs” (Kwatra et al, 2020).

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Policy Implications and Recommendations

The geographic strengths of India, including access to international markets and resource diversity, offer potential for rapid industrialization. However, these factors also contribute to regional inequality, as economically advantageous regions continue to grow while less advantaged areas lag. “Economists have argued that in the absence of state interventions to facilitate investments, capital tends to move towards already developed regions. This partly explains why states such as Maharashtra, Gujarat, and Tamil Nadu have outperformed other states since the 1980s” (Kwatra el al, 2020).

Addressing these disparities requires targeted policies to improve infrastructure, manage resources effectively, and enhance connectivity across regions to ensure more balanced economic development. The following can help in contributing to the same.

Decentralization and Political Participation

Reshaping decentralization arrangements is crucial to benefit poor regions. Decentralization helps overcome informational asymmetries, promotes peer monitoring, and increases the participation of women and marginalized people in the political process. “Fiscal policy through a system of interstate transfers ensures equity across sub-national regions. Economically, poorer regions have a lower base of economic activity to tax, which constrains their revenues and prevents them from investing in human and physical capital. Achieving horizontal equity through fiscal transfers can ensure a level playing field and is important for developing a healthy and educated workforce” (Ghani et al., 2013).

Targeted Welfare Programs and Financial Redistribution

Financial redistribution to increase welfare programs is essential. This can be achieved by reducing fuel, fertilizer, and food subsidies to create fiscal space for lagging regions. “Food and fertilizer subsidies should be more targeted. Currently, food subsidies are not significantly higher in poorer regions and fertilizer subsidies benefit richer regions too because they tend to consume more fertilizer" (Ghani et al., 2013). Targeting these subsidies to lagging regions can improve welfare and investment levels.

Enhancing Labour Mobility

Encouraging mobility and migration is important to address regional inequality. Removing policy distortions that discourage mobility, such as spatial location of safety net programs and distortions in low-income households, can enhance labour mobility.

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“Labour migration benefits lagging areas through remittance flows and a wage-pull effect, as excess lower-skilled labour from one area migrates to another. Migration also contributes to reducing differences in non-agricultural wages across provinces by integrating labour markets and pulling up wages in lagging regions. Internal mobility is quite low in India, and interstate migrants rarely constitute more than 6% of any given state’s population" (Ghani et al., 2022). Overcoming social, cultural, and policy-induced barriers can increase internal mobility and its benefits.

Transport and Connectivity

Investing in transportation infrastructure, such as roads, railways, and ports, is critical for improving connectivity between regions. Enhanced connectivity reduces transport costs, facilitates the movement of goods and people, and opens up new markets for underdeveloped areas. Digital infrastructure is also essential. Expanding internet access and telecommunications can bridge the digital divide between urban and rural areas, enabling remote regions to participate in the digital economy to upskill themselves as well as access global markets.

Agricultural Investment and Rural Development

Greater investment in agriculture is vital for transforming underdeveloped regions. This includes investments to increase farmer yields and profitability, and in rural infrastructure such as irrigation, roads, power, and markets.

Agriculture can be a key source of growth and poverty reduction. “Policies should focus on improving the asset position of the rural poor, making smallholder farming more competitive and sustainable, diversifying income sources towards the labour market and the rural nonfarm economy, and facilitating successful migration out of agriculture. Farming regions need to rebuild social capital and networking through farmers' associations, self-help groups, and water user groups to transform poor and marginalized farmers into an organized market” (Ghani et al., 2022).

Connecting Value Chains in High-Income States with Low-Income States

Entrepreneurship and labour skills in lower-income states need to be promoted along with connecting these regions with higher-income states. “Currently, the national value chains in industries like vehicle manufacturing are more or less confined to the higher-income states. A national policy that promotes value chains linking enterprises in southern and western states with lower-cost opportunities for input supply or assembly operations in northern and eastern states is needed” (Desai, 2024). These measures will encourage the expansion of medium and small enterprises, which are present in large numbers in lower-income states.

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Skill Development

Immediate actions are required to enhance skill development and education in underdeveloped regions. "This will cultivate the potential necessary to attract enterprises from higher-income states that have either already surpassed or are on the verge of reaching a stage where their share in the working-age population is no longer increasing" (Desai, 2024).

The female labor force must be empowered to increase their participation rate. According to the Periodic Labour Force Survey Report 2022-23, India's Female Labour Force Participation Rate stands at 37.0% in 2023. Policies should aim to create more opportunities and a supportive environment for women to participate in the labor force.

"Private corporate investment is potentially highly mobile across states and is therefore likely to flow to states which have a skilled labour force with a good 'work culture', good infrastructure... and good governance generally" (Ahluwalia, 2000).

Region-Specific Interventions

A one-size-fits-all approach is unsuitable for a diverse country like India. "Region-specific interventions should focus on dimensions such as setting up agro-processing storage units, improving transportation, and generating accessible employment opportunities supplemented by significant investments in education and health" (Desai, 2024).

The country's poorer states require a long-term fiscal stimulus to catch up with the rest of the country. "The central government may reduce its borrowing and debt limits to facilitate more liberal borrowing limits for poor state governments. This will enable poorer states to raise their capital expenditure spending, thereby raising growth and helping them catch up with other states" (Desai, 2024).

Conclusion

Understanding the influence of geographic factors on economic development and regional inequality is crucial for devising effective policies. These factors significantly shape the economic landscape, impacting accessibility, resource distribution, and overall growth potential of regions. "The issue of regional development disparity must be given prime importance as 75 percent of the medium-term and 90 percent of long-term growth in the working-age population will occur in these states. If we fail to boost these states' income and growth potential, India's demographic dividend will become a demographic downfall, which could worsen political instability" (Business Standard, 2024).

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Addressing these disparities through targeted interventions can promote more balanced and inclusive economic development, reducing regional inequalities and fostering sustainable growth across the nation. “The solutions for lagging and leading regions are not the same. Rather than waiting for economic growth to reduce poverty, policymakers should take direct policy interventions to reduce poverty. Such interventions, in turn, could spark growth and unleash a virtuous cycle of development. The challenge is to find out what works best, as causality may run from poverty reduction to growth, rather than from growth to poverty” (Ghani et al., 2022).

Understanding and addressing the geographic factors that contribute to regional inequality is essential for fostering balanced economic development. Strategic investments and targeted policies can bridge the gap between lagging and leading regions, promoting inclusive growth and reducing disparities. “If laggard states are to catch up with richer ones, they will need heavier investments in both physical and social infrastructure. Faster growth for the poorer states would give a fillip to the country’s overall growth rates even while bringing down inequality. Such an inclusive growth process would also help prevent the country’s economic fault lines from turning into deep political chasms” (Kwatra et al, 2020).

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