Introduction

From 1990 to 2015, the people living in the most extreme poverty has decreased from 1.9 billion people to 836 million world-wide.\(^1\) Much of this decrease happened in one country, China, where some 900 million people were elevated out of extreme poverty. Hundreds of millions have been lifted by economic globalization in every region of the world. However, with some at least 836 million people still enduring extreme poverty, pressure on the international community remains. If their needs are not addressed, governments will remain instable, states prone to take-over or collapse, pressure to migrate to richer countries will remaining unabated, and lives will continue to be stunted.\(^2\)

Rapid industrialization is part of the solution. But industrialize can cause as many problems as it alleviates. With so many people in developing countries struggling to live a healthy life, the international community faces a continuing need for rapid economic development. They have great needs to alleviate crushing poverty, but also require solutions that do not worsen environmental conditions. Heavily populated, with burgeoning youth waves emerging and even faster population growth to come, most of these countries must provide economic opportunity without poisoning their own environments. This is a difficult tension to manage. There are no easy answers.

By completing the Paris Agreement on Climate Change in 2015, the 193 Member States of the United Nations agreed to make promoting environmentally friendly industrialization in developing countries a high global priority. The same year, the 193 member States agreed on the Sustainable Development Goals (SDGs), reaffirming universal education to these goals. The resulting *Agenda for Sustainable Development* is ambitious, but carefully negotiated, it offers a program that should succeed—if fully financed and implemented—in eliminating many of the worst problems facing humanity. Progress toward this goal, promoting environmentally friendly industrialization in developing countries, may be the best guarantee to help world peace, equality, ending poverty, reducing illegal migration, improving health and helping the planet from degradation.

The Issues Today

Sustainable Development Goals. The most important UN framework for addressing these

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issues are the UN’s Sustainable Development Goals (SDGs), the 15-year program agreed in 2015 to coordinate all international development assistance for the years 2015-2030. The SDG’s establish measures for progress and encourage countries, whether as donor governments or aid recipients, too cooperate to alleviate poverty. But the SDGs are addressed primarily toward helping individuals. They do not address specific industries, and they are stronger targeting initiatives toward specific recipient countries, rather than marshaling resources for global progress. There is work to be done by the UN translating the general goals of the SDGs into specific policy initiatives that will promote healthy industrialization.

Investments in infrastructure – transport, irrigation, energy and information and communication technology – are crucial to achieving sustainable development and empowering communities in many countries. It has long been recognized that growth in productivity and incomes, and improvements in health and education outcomes require investment in infrastructure.

Inclusive and sustainable industrial development is the primary source of income generation, allows for rapid and sustained increases in living standards for all people, and provides the technological solutions to environmentally sound industrialization.

Technological progress is the foundation of efforts to achieve environmental objectives, such as increased resource and energy-efficiency. Without technology and innovation, industrialization will not happen, and without industrialization, development will not happen.

Above all, the SDG process directs international efforts to SDG Goal 9, ‘Build resilient infrastructure, promote sustainable industrialization and foster innovation’. SGD 9 sets goals for the entire international community, including:


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GOAL 9
BUILD RESILIENT INFRASTRUCTURE. PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION

Problems that have been identified by the International community to be alleviated through progress on SDG 9 include the follow:

- Basic infrastructure like roads, information and communication technologies, sanitation, electrical power and water remains scarce in many developing countries
- About 2.6 billion people in the developing world are facing difficulties in accessing electricity full time
- 2.5 billion people worldwide lack access to basic sanitation and almost 800 million people lack access to water, many hundreds of millions of them in Sub Saharan Africa and South Asia
- 1-1.5 billion people do not have access to reliable phone services
- Quality infrastructure is positively related to the achievement of social, economic and political goals
- Inadequate infrastructure leads to a lack of access to markets, jobs, information and training, creating a major barrier to doing business
- Undeveloped infrastructures limits access to health care and education
- For many African countries, particularly the lower-income countries, the existent constraints regarding infrastructure affect firm productivity by around 40 per cent
- Manufacturing is an important employer, accounting for around 470 million jobs worldwide in 2009 – or around 16 per cent of the world’s workforce of 2.9 billion. In 2013, it is estimated that there were more than half a billion jobs in manufacturing
- Industrialization’s job multiplication effect has a positive impact on society. Every one job in manufacturing creates 2.2 jobs in other sectors
- Small and medium-sized enterprises that engage in industrial processing and manufacturing are the most critical for the early stages of industrialization and are typically the largest job creators. They make up over 90 per cent of business worldwide and account for between 50-60 per cent of employment
- In countries where data are available, the number of people employed in renewable energy sectors is presently around 2.3 million. Given the present gaps in information, this is no doubt a very conservative figure. Because of strong rising interest in energy alternatives, the possible total employment for renewables by 2030 is 20 million jobs
- Least developed countries have immense potential for industrialization in food and beverages (agro-industry), and textiles and garments, with good
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prospects for sustained employment generation and higher productivity

- Middle-income countries can benefit from entering the basic and fabricated metals industries, which offer a range of products facing rapidly growing international demand

- In developing countries, barely 30 per cent of agricultural production undergoes industrial processing. In high-income countries, 98 per cent is processed. This suggests that there are great opportunities for developing countries in agribusiness

Some specific problems posed by global economic development that can be addressed through environmentally-conscious economic and industrial development especially include:

Global climate change is among the greatest threats to healthy industrialization everywhere. For developing economies it creates additional costs, forcing countries to elevate their ports and infrastructure to cope with coastal flooding, find new sources of water as rivers and rains provide less, invest and pay for in air conditioning to people can continue to work effectively as temperatures rise. By raising basic costs, global warming imposes a special burden on poor countries, who are affected most, but least able to pay for the adjustments. More than anything else, global warming threatens their ability to industrialize and alleviate the chronic poverty of their people.5

While poorer countries must pay much of the cost of adjusting the climate change, the causes mostly lie elsewhere, in the largest industrial countries and rapid industrializers like China and India. The most effective solutions for poorer countries require global engagement and commitment. The most effective way to do that is widely believed to be building support for the Paris Climate Convention of 2015.

Infrastructure costs: Green industries can involve higher than normal starting costs, especially for infrastructure such as solar cells, back-up power generation by burning diesel or natural gas, paved road and paved highway to accelerate transportation and minimize costs.

Garbage trade also is a major problem for developing countries. Some have major industries receiving garbage, especially hazardous waste, from around the world. This is enormously beneficial to established industrial powers in the global north, but the long term effects for recipient countries is unknown. Most lack the ability to monitor garbage and hazardous waste imports, and rely on reports from exporting governments for a sense of what is happening. There is widespread concern about the implications. Green development requires much greater attention to dangerous industrial practices like importing garbage.

Financing change: As usual with international efforts, the biggest problem is financing. There is widespread agreement on where to go. What is lacking is a way to make it happen. That means finding money, transferring resources to the countries that need it most. Some government, led by the Trump Administration in the United States, favor relying on free markets to channel investment where it is most profitable. Critics note that such processes created global inequality in the first place and needs to be offset by targeted initiatives to ensure greater global equality.

The traditional solution for developing countries is reliance on loans, mostly from commercial

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banks in the global north. This works well in the short run, but creates a long term debt problem, eventually hindering the growth it was meant to encourage. Aid programs can help overcome this gap, but tend to be insufficient.

One of the most promising possibilities to overcome the trap of loan and aid dependence is global taxes. By taxing a specific international activity, global taxes could shift resources from the wealthiest countries to those that need it most. Suitable possibilities for global taxation include trading in securities (stocks and bonds), military equipment (the arms trade), and heavily polluting fuels like coal.

Country and Bloc Positions

African countries are diverse, with different national interests, but most can agree on core principles of green industrialization. But as one observer notes, there are important exceptions:

Many African countries are planning or already implementing green projects. In March 2014, an intergovernmental committee of experts from Central African countries (Angola, Cameroon, the Central African Republic, Chad, the Democratic Republic of the Congo, Equatorial Guinea, Gabon, the Republic of the Congo and São Tomé and Príncipe) met in N’djamena to hash out a plan for transitioning to a green economies

Mariam Mahamat Nour, Chad’s minister of planning and international cooperation, said companies operating in the region must master production techniques based on low energy use.

Ethiopia in 2011 adopted a Climate Resilient Green Economy strategy as part of its ambitious plan to propel the country into middle-income status by 2025. The government is partnering with the private sector to help communities engage in sustainable farming.

In the Democratic Republic of the Congo, a tree-cloning project is enhancing afforestation (establishing forests on lands that have not been forested for a long time) and reforestation (establishing forests where they have been destroyed). Climate change experts consider afforestation and reforestation effective methods of combating global warming. Despite the DRC’s efforts, it is considering lifting the moratorium on logging that has been in place since 2002 this could threaten the forests, experts believe.

Last February the World Bank assisted Ghana in launching a Climate Innovation Centre in the capital, Accra, to support a green growth strategy. The centre is working with about a hundred local technology companies.

Nigeria’s Renewable Energy Programme is, among other things, executing a low-carbon development project to provide electricity for its capital city, Abuja, through improved insulation, energy-efficient devices for apartments and local power generation. The project, currently underway, is the first of its kind in Africa and the second in the world, after that of Masdar City in the United Arab Emirates, according to Nigeria’s environment ministry. Also, the Tata Group of India is planning to establish in Nigeria a mass transit system of compressed natural gas vehicles to reduce emissions.

However, it may be tough to sell Africa’s oil and natural gas exporters, like Angola and Nigeria, on limiting fossil fuel drilling. For both countries, oil accounts for more than 90% of exports and at least two-thirds of the national budget. The price of oil dropped from a peak of $100 a barrel in 2015 to about $50 by mid-June 2016. Before the oil price crash, even countries just discovering oil—like Ghana, Liberia and Sierra Leone—
had anticipated a financial windfall from the sector.⁶

China: China was a leader of global diplomacy in 2016 when it initiated a national review of the high level review on sustainable development. China’s main focus is on its domestic needs, especially domestic poverty. With a reputation of developing in recent years at great environmental cost, the Chinese government is investing heavily in industries that pollute less and use cleaner fuels. As the greatest coal user and importer, China has been trying to reduce its reliance on coal.⁷ China has become active in recent years working with other countries to help them industrialize, especially though its massive ‘One Belt One Road’ program to channel global infrastructure and investment toward China. Beijing has been generous with economic investment credit and infrastructure projects, especially helping countries in Africa, Central Asia and Southeast Asia to upgrade their capabilities. These investments have been criticized for putting economic goals ahead of environmental goals.

Europe: The 28 Member States of the European have a strong interest in environmentally conscious global economic development. Through global economic development they work on their deeply help commitment to ending global poverty. They also gain export markets for their products and hope to see reduced prices form items they import. Reducing global poverty also is the best hope for reducing the root pressures for Europe’s greatest political problem, illegal migration and refugees. The fast paths to industrial development, however, are not always the most environmentally friendly. The European Union and its member States appreciate the tensions and work with recipient countries to get the best possible solutions. But this approach also leads them to make demands that recipient government often consider meddling in their domestic affairs.

Latin America: Getting to the conflicts and tensions at the heart of green industrialization, these policies are popular through Latin America and the Caribbean, especially among the poor. There is popular pressure on government to protect the environment while encouraging economic investment. Wealthier groups have less expectation that environmental protection should be a top goal. So the wealthiest parts of the population—who tend to dominate many governments—are more tolerant of pollution.⁸ Otherwise, Latin American states tend to support the Non-Aligned Movement.

Non-Aligned Movement (NAM): the 120 Member States of the UN’s largest voting bloc include most states of Africa, Asia, Latin America and the Middle East. The NAM is unified by their experience of foreign imperialism. Resentment of the economic policies of foreign colonial powers is great. There is agreement within the NAM that Member States should be free to make their own decisions on industrialization. While the Members welcome foreign assistance and technical help from donor governments, they try

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⁸ Jim Patterson, ‘People living in less affluent regions are more environmentally friendly in Latin America, Caribbean’, Vanderbilt Research Notes, 6 July 2015, https://news.vanderbilt.edu/2015/07/06/environmentally-friendly-latin-america-caribbean/
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to minimize foreign influence in their affairs. Their preference is for donors to provide financial assistance and not their markets to imports, which will help them greatly. But they resist efforts by foreign organizations and governments to direct their economic choices. They welcome the help, but resent the strings.

Southeast Asia: Poorer countries of Southeast Asia are sensitive to the need to expand their economies to accommodate their people. Countries like Indonesia, Philippines and Vietnam, for example are very sensitive to the need to accelerate investment. But they are not all strong enough to mandate environmental protection. Indonesia is famous for permitting massive forest burning to clear land for large-scale agriculture. Indonesian leaders criticize such practices, but resent foreign criticism, which they consider meddling in their domestic affairs.

The United States of America has a history of activism on these issues, supporting program to promote environmentally friendly development.9 Under the leadership of President Donald Trump, however, these programs have ceased to be a high national priority. President Trump is committed to Make America Great Again, primarily by opening markets to American exports. Resistance to free trade means the United States can be expected to oppose measures that accelerate industrialization elsewhere. Environmental priorities also have been greatly reduced, especially when they inhibit heavily polluting industries such as coal burning. The United States can be expected to oppose measures that call for increased green investment or investment from the US Government.

Conclusion

With the United Nation Organization creating set goals and a timeline of when these goal would be achieved, the Agenda 2023 resolution has pushed as many as 200 + nations to act now and do better for not only themselves, but also for one another's’ futures as a world; as one. With 17 major goals set in the Agenda along with major key players in the world such as China and the United States of America, the goals set are now on the brink to becoming a reality made in a little over a decade from now.

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