WTO Trade and Environment Standard Rendering China-Rare Earths GATT Article XX Exemptions Impossible and Other International Laws Incompatible

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WTO TRADE AND ENVIRONMENT STANDARD RENDERING CHINA-RARE EARTHS GATT ARTICLE XX EXEMPTIONS IMPOSSIBLE AND OTHER INTERNATIONAL LAWS INCOMPATIBLE

FENGPING GAO

I. INTRODUCTION

This article critically reviews China — Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum (the China-Rare Earths case), from the perspective of the Article XX (b) and (g) of The General Agreement on Tariffs and Trade (GATT). The purposes of this article include: 1) to reveal, regarding the World Trade Organization (“WTO”) trade and environment, that the China-Rare Earths case could have been decided through an alternative legal basis, and 2) to evaluate the international scholars who thought that the Panel’s isolated textual approach was wrong and the theoretical judgment of the case was not sound. An empirical study at both the macroeconomic level and the microeconomic level demonstrates the comprehensive policy in dispute actually has been working “as a whole” since the early 2000s. Also, this research shows that the China-Rare Earths case ruling has caused a devastating consequence on the whole rare earth industry.

Part I of this article provides background on the rare earth industry and its trade, while Part II briefly summarizes the principle substantive issues of the China-Rare Earths case. Part III reviews GATT Article XX (b) and (g). Part IV analyzes the rules of GATT Article XX (b) and (g) as applied to the China-Rare

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Earths case and finds that this case is extraordinary. First of all, it is arguable that China might deserve a different application of law.\(^3\) In light of the fundamental importance of the flexibilities provided in GATT Article XX, China invoked both Article XX (b) and (g), respectively, for protection of human, animals and plants life and conservation of exhaustible natural resources.\(^4\) The Panel decided the environmental issue under Article XX (g); however, Article XX (b) policy issues were not decided under Article XX (b) law, but on a different basis.\(^5\) Scholars emphasize that the policy space governments enjoy to pursue legitimate objectives under GATT Article XX (g) is more likely to be considered "disguised trade restrictions" to pursue regulatory objectives and then tips the balance towards their obligations under the GATT, while issues under Article XX (b) regarding protection of human, animals and plants life require a lower standard of "burden of persuasion."\(^6\)

Secondly, the standard of the Article XX (g) has become next to impossible to qualify domestically legitimate environmental policy for the specified exemption, although there could be a theoretical chance. Part V reiterates that this extreme standard contradicts the Preamble of the WTO, the Marrakesh Agreement, and the purpose of the GATT Article XX. Moreover, as illustrated in the China-Rare Earths case, McRae’s summarization of the WTO as a market access agency is apt.\(^7\) The WTO’s continuing reliance on the working principles of trade and environment in order to make its rulings is outdated and inconsistent with human rights and the international community environmental efforts for better living conditions.\(^8\) Part VI follows the study in the transitional economy on both China’s “continuing” reform policy and the case study on the China Northern Rare Earths, the world’s number one rare earths producer.\(^9\) The findings echo the scholar’s view that the objectives of industry reorganization, resource conservation, and environmental protection are integrated. Part VII presents empirical follow-up research that has found the disastrous consequence is


\(^4\) GATT, supra note 2, art. XX (b), (g).

\(^5\) China-Rare Earths Panel Report, supra note 3, ¶ 7.6.2.3.


\(^8\) In accordance with “Environment Poverty Law”, environment protection is related to human rights, inter alia, the living condition. This issue will be discussed in detail in Part V.3 of this article. See infra Part V, Sect. 3.

\(^9\) See WAYNE M. MORRISON & RACHEL TANG, CONG. RESEARCH SERV., CRS R42510, CHINA’S RARE EARTH INDUSTRY AND EXPORT REGIME: ECONOMIC AND TRADE IMPLICATIONS FOR THE UNITED STATES 9 (2012). Baotou Steel Rare Earth Hi-Tech Co., is the largest producer in China. See Stock Profile China Northern Rare Earth Group High-Tech Co Ltd, REUTERS, http://www.reuters.com/finance/stocks/companyProfile?symbol=600111.SS (last visited Jul.18, 2016). Baotou Steel Rare Earth Hi-Tech Co. was renamed as China Northern Rare Earth Hi-Tech Co.
directly related to the application of the Panel’s recommendations. Lastly, the article restates that the standard of the law in the China-Rare Earths case should be updated and the Panel’s discretion on the approach shall be confined.

II. THE BACKGROUND OF THE RARE EARTHS INDUSTRY

Rare earths are a set of fifteen chemical elements in the periodic table. Actually, they are not rare but relatively abundant in the Earth’s crust. However, it is rare to find them in quantities significant enough to support economic mineral development. Rare earths have both market value and national security implications.

On the one hand, rare earths are important. Rare earth precious metals are important to a variety of United States commercial industries. Rare earth products relate to our daily life. Rare earth metals are used to produce your iPhone and laptop. Rare earths make up a key part of your hybrid and conventional automobiles. They make your house lighting work in a more energy-efficient manner. Rare earths are also used in the oil and gas industry, advanced electronics, chemicals, medical equipment, “as well as [in the] U.S. defense industries that produce various weapon systems.” For instance, high purity beryllium, one rare earth metal, possesses “unique properties that make it indispensable in many of today’s critical U.S. defense systems, including sensors, missiles and satellites, avionics, and nuclear weapons.” The exhibit below illustrates the broad application of rare earths elements.

10. China-Rare Earths Panel Report, supra note 3, ¶ 2.3.
13. MORRISON & TANG, supra note 9, at 33.
16. Id.
18. MORRISON & TANG, supra note 9, at Summary.
As illustrated by Congressional Research Service exhibit above, the United States Congress attempted to pass The National Strategic and Critical Minerals Production Act of 2013. This makes it clear that some rare earth elements are both strategic and critical to the United States’ economic and national security and manufacturing competitiveness.

On the other hand, the mining and production of rare earths is hazardous, and some countries like the United States and Australia have stopped domestic production.

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20. MORRISON & TANG, supra note 9, at 4.
production. The production starts with mining crude ore, which in turn is milled into fine powder. "In order to separate the valuable rare earth metals from the rest of the ore, this powder is floated on water to which chemicals are added." Flotation creates large waste streams, . . . which lead to large ponds called 'impoundment areas.' According to the Institute for the Analysis of Global Security (IAGS), "China produced over 130,000 metric tons of rare earth elements in 2008." Rare earth production yields 1.2 billion to 1.6 billion cubic meters of waste gases per year, and 9.8 million cubic meters of hazardous waste water.

"These tailings contain toxic substances including radioactive uranium and thorium, fluorides, sulphites, acids, and heavy metals, and constitute a major environmental health risk." "Rare earth element ores tend to contain a range of different metals in their structure, including aluminum, arsenic, barium, beryllium, cadmium, cobalt, copper, lead, manganese, and zinc." Further, "some reagents or heavy metals, such as cyanide and mercury, are valuable for use." All three environmental mediums the air, the water, and the soil, are so damaged.

China learned both the environmental harms caused by the industry and the importance of the resource. In order to begin campaigning to "rationally utilize [the] rare earth resource," China started regulating the rare earths industry in the 2000s, including through the use of trade controls. Japan, the European Union, and the United States, which were the complainants, contended that the regulations were against the trade rules and brought China's trade regulatory measures to the WTO in 2012. Subsequently, the Dispute Settlement Body established the China-Rare Earths case.

A. Facts of the China-Rare Earths Case

The environmental burden is critical to the rare earth industry and this case.

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25. Id.
26. Id.
28. Id.
30. Environmental Costs of Refineries, supra note 27.
31. Id.
32. Id.
34. Id. at pt. I, III.
36. China-Rare Earths Case, supra note 1.
The black market and stockpiling made the issue controversial. The hazard transfer from rich countries to developing countries could be a critical issue to be considered by the WTO Panel.

1. Traditional Leading Rare Earths Producers Stopped Market Contribution

Australia and the United States were the main producers of rare earths. According to the Australian Government research report on rare earth deposits, Australia produced 18,735 tons in 1985. From the mid-1960s through the 1980s, the United States’ Molycorp’s Mountain Pass mine was “world’s dominant source of rare earth oxides”; however, both nearly stopped rare earths production in 2000s.

China, the respondent in the China-Rare Earths case, is the only state that increased its annual production about ten times from 16,500 tons to 135,000 tones. According to the China Rare Earths White Paper, China claimed it is not proportional or sustainable that it provides more than 90% of market supplies with its total 23% deposit of the world, even if the data might be different than that supplied by complainant. However, it is also true that there are many other international rare earth mines according to various government research reports.

Exhibit 2

<table>
<thead>
<tr>
<th>Companies</th>
<th>Nation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molycorp’s Mountain Pass Deposit</td>
<td>The U.S.</td>
</tr>
</tbody>
</table>

38. See generally JENNIFER CLAPP, TOXIC TRANSFER, THE TRANSFER OF HAZARDOUS WASTES FROM RICH TO POOR COUNTRIES (1st ed. 2001).
40. GRASSO, supra note 19, at 16.
41. Hoatson et al., supra note 39.
42. Id.
43. America’s Trade Policy, supra note 23.
<table>
<thead>
<tr>
<th>U.S. Rare Earths</th>
<th>The U.S.</th>
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</thead>
<tbody>
<tr>
<td>Great Western Minerals Group (GWMG)</td>
<td>Canada</td>
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<tr>
<td>[Heavy Rare Earths Deposits]</td>
<td></td>
</tr>
<tr>
<td>Avalon Rare Metals</td>
<td>Canada</td>
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<tr>
<td>[Heavy Rare Earths Deposits]</td>
<td></td>
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<tr>
<td>The Lynas Corp.</td>
<td>Australia</td>
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<tr>
<td>[light rare earths]</td>
<td></td>
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<tr>
<td>Nolans Bore.</td>
<td>Australia</td>
</tr>
<tr>
<td>Dubbo Zirconia.</td>
<td>Australia</td>
</tr>
<tr>
<td>Steenkampskraal (SKK)</td>
<td>S. Africa</td>
</tr>
<tr>
<td>Rare Earth Extraction Co. Ltd. of Stellenbosch</td>
<td>S. Africa</td>
</tr>
<tr>
<td>Eastern Coast</td>
<td>Brazil</td>
</tr>
<tr>
<td>Domng Pao</td>
<td>Vietnam</td>
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<tr>
<td>Kazakhstan National Mining Co. –</td>
<td>Kazakhstan</td>
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<tr>
<td>Kazatomprom</td>
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*But not limited to the above*

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<th>Top 7 RE Corps</th>
<th>Bottom last 5 RE Corps</th>
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<tr>
<td>Source: CRS R41347</td>
<td>Source: Ensuring Japan’s Critical Resource Security: Case Study in Rare Earth Elements and natural Gas Supplies</td>
</tr>
</tbody>
</table>

China became the dominant seller of rare earths, and produced 97.3% of the output of rare earths for the international community because of “preferential policies by the Chinese government and “lax environmental standards.” [49] This lax environmental standard quickly enabled China to become a dominant, low-cost producer of rare earths by the late 1990s. [50] China realized that the situation was

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48. See Mazza et al., supra note 46.
49. MORRISON & TANG, supra note 9, at 1.
50. Id.
not sustainable.\textsuperscript{51}

2. Stockpiling Smuggling Goods Holding “the Fate” of Global Producers

Rare earths smuggling has been a serious issue in China for decades.\textsuperscript{52} The respondent in \textit{China-Rare Earths} case raised that measures in dispute served to crack down on smuggling.\textsuperscript{53} The rare earths smuggling related to the “governmentally-promoted foreign stockpiling” issue was raised in the case.\textsuperscript{54}

Smuggling hurts international rare earths producers. \textit{Business Insider} reported that “the fate of debt-ridden U.S. rare earth miner Molycorp rests on China’s efforts to crack down on networks that smuggled as much as 40,000 tons of the vital technology metals out of the country last year, driving down global prices.”\textsuperscript{55} This also implies that smuggled rare earths from China, represent a significant share of the global rare earths market.\textsuperscript{56}

According to both \textit{China Business News}, about 20,000 tons of rare earths were smuggled from China in 2008, which was estimated to have accounted for one third of the total volume of rare earths leaving China that year. This smuggling is often the main reason behind the discrepancies between the official statistics and the actual data of rare earth production and exports in China.\textsuperscript{57}

However, the rare earth deposits are often scattered under farmers’ assigned land, and rare earths are highly precious in value.\textsuperscript{58} It is not necessary to hold a license for “illegal extraction.”\textsuperscript{59} There is no trespass, which could be used against those farmers. As the state news agency reported, it was hard to control stealings because a farmer might seldom be accused of such a wrongdoing for digging soil from his or her own land.\textsuperscript{60}

Japan, a complainant in \textit{China -Rare Earths} case, imports more than 80% of China’s rare earths exports annually.\textsuperscript{62} As reported for both concerns of the

\textsuperscript{51} See Mazza et al., supra note 46.
\textsuperscript{52} MORRISON & TANG, supra note 9, at 11.
\textsuperscript{53} China-Rare Earths Panel Report, supra note 3, ¶ 7.412.
\textsuperscript{54} Id. ¶ 7.431.
\textsuperscript{56} See generally MORRISON & TANG, supra note 9, at 15.
\textsuperscript{57} Id. at 11.
\textsuperscript{59} China-Rare Earths Panel Report, supra note 3, ¶ 7.512.
\textsuperscript{60} Zhongguo Jiang Jixu Jiada Xituhangye Weifa Weigui Xingwei Daji Lidu [China will Continue to Put More Effort to Crackdown the Illegal Rare Earths], XINHUA (Aug.10, 2014), http://news.xinhuanet.com/energy/2014-08/10/c_126852328.htm.
\textsuperscript{61} Id.
\textsuperscript{62} Mazza et al., supra note 46, at 5.
depleted natural resource and securing the supply, Japan has been stockpiling rare earths from both legal and black markets.\(^63\) According to BBC News, Japan imports from about 30% of the black market for rare earths,\(^64\) a market where smuggling rare earths is about 20% cheaper.\(^65\) Illegal mining stimulated by smuggling has prevailed all over the countryside in China.\(^66\) This illegal mining presented a way to make a quick fortune when the illegally-mined rare earths ores were sold in the black market. In the 2000s, rare earths mining was heavily exploited in accordance with US congress report.\(^67\) This caused damage to both the main producers and the environment.\(^68\) China stated that countering the black market was one of the reasons behind China's Administration of Import and Export License Certificates; stating, "in the face of this illegal demand, China must also control at the border what quantities of the rare earth products that are exported and determine whether their origin is legal or illegal."\(^69\)

While China has made efforts to curb the smuggling of rare earth metals as much as possible, Japan and its major companies have aligned to stockpile the smuggled goods from the black market.\(^70\) The governmentally-promoted foreign stockpiling of smuggled rare earths activity and speculation, might be the cause of action of China at issue. Arguably, not often does a complainant come to the WTO for a judgment without clean hands.

3. Not a Price Hike, but Showing the Price of Rare Earths is Sensitive to Environmental Costs

i) Rare earths supply did not in fact affect international buyers; "The Chinese Ministry of Commerce announced export quotas of about 30,000 mt for 2011 and were established at 31,438 mt for 2012 and 2013. Actual Chinese rare earth exports were closer to 13,000 mt in 2012 because of lower demand."\(^71\) In other words, China's export quota oversupplied the international market demand by about 2 to 3 times. There is no reason this would cause the price hike since the balance between supply and demand was not tipped.

ii) When it comes to the price issue, the fact is that costs for rare earth elements were probably depressed.\(^72\) It was also possibly not a fair market for the following reasons.

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64. Paul Mason, supra note 63.
66. MORRISON & TANG, supra note 9, at 11.
67. Id. at 11–12 (explaining the term “overheated”).
68. Id.
70. Mazza et al., supra note 62; Paul Mason, supra note 63.
71. HUMPHRIES, supra note 47, at 13.
72. Mazza et al., supra note 62; Paul Mason, supra note 63.
First, China did not have a good negotiating position for a fair price. Economically, if a company is defined as a “dominant player with a monopoly,” the seller or buyer must have complete control of the entire supply of goods or of a service in a certain area or market. Economically, there had been “price wars among the smaller suppliers in China.” Small local companies could not withhold their position while negotiations were ongoing. On the other hand, international rare earths buyers either had huge amounts of the stockpiled goods, had black market supplies available, and/or their own deposits, as a backup plan. Furthermore, international buyers could secure long-term supply contracts with non-Chinese companies as alternative suppliers.

Secondly, while the price hiking might not exist in fact, a temporary price restoration to levels seen in the 1990s may be occurring as we speak. The increase of the rare earths price during the purported period, between 2005 and 2009, was about 300% from $4000 to $12,000 per ton. However, when looking over the history, there was a similar but much higher 500% increase during the late-1980’s to the early-1990’s. During this period the price rose from $2000 to $10,000 per ton. Research shows that Molycorp was required to pay its environmental costs due at that time, e.g., Molycorp was required to clean up the spills in the desert. Similarly, “rare earths enterprises in China face[d] significant costs in compliance with the listed environment requirements,” including tax and “ecological recovery” deposit.

The two events revealed that the rare earths industry is sensitive to environmental costs. The measure in dispute was not the real cause.

74. MORRISON & TANG, supra note 9, at 13.
75. MORRISON & TANG, supra note 9, at 11 (“In order to maximize profits, these small companies often ignored safety and environmental regulations and fiercely competed with each other for export deals.”).
76. Id.
79. Id. at 10.
80. Id.
81. Id.
82. MORRISON & TANG, supra note 9, at 3.
83. Id.
Exhibit 3

Source: Mackie Research Capital Corporation

Exhibit 4

 Rare Earths Price $/Kg from 1979 to 2009

85. Gowing, supra note 79.
The charts above show that the drop of the price is correlated with the withdrawals of non-Chinese rare earths producers from the market and the occurrence of "preferential policies by the Chinese government and lax environmental standards" until 2005. After China adopted similar environmental measures there was a temporary price increase. This correlation shows the

87. America's Trade Policy, supra note 23.
88. MORRISON & TANG, supra note 9, at Summary.
89. Gowing, supra note 79; see also James B. Hedrick, U.S. GEOLOGICAL SURVEY, RARE EARTHS MINERAL COMMODITY SUMMARIES: RARE EARTHS 129 (Jan. 2010),
sensitive relationship between the price of rare earths, the environmental policy, and the environmental costs in this industry.

In sum, both the facts and logic raise doubt that there actually was a hike caused by the alleged policy of the respondent after 2010. The statistics of the sample were manipulated. The environmental sensitivity of the rare earth industry was the real cause of the price increase.90

4. The Rare Earths Environmental Hazards Transferred to Developing Countries

Rare earth companies face stricter regulations nowadays because of environmental pollution during their mining, extracting, and in the production of natural resources. The toxic elements and the hazardous waste could also threaten human, animal and plant life. Both social reaction and environmental responsibilities are relevant to the China-Rare Earths case, and are in part why WTO contracting members stopped or reduced contributions to the rare earths market.91

The U.S. Molycorp92 and Australian Lynas93 were both global leading producers in rare earth production; however, both stopped domestic production as a result of either environment regulations or the shifting of the environmental burden to a third country.94

Australian Lynas Corp. also shifted its operation to Malaysia in 2012, but the on-stream operation was delayed mainly because Malaysians disagreed over the disposal of the rare earth production's radioactive waste.95 According to the agreement, Lynas and Siemens formed a joint venture for the manufacturing of magnets used in wind turbine generators.96 Lynas (45% stake) provided raw material to Siemens (55% stake) from their Mt. Weld mine in Australia.97 Lynas began processing the rare earth concentrate at its Malaysian processing facility in November of 2012.98 After a long and contentious approval process with the Malaysian government, there were ongoing concerns in Malaysia over the proper disposal of thorium, which was contained in mineral deposits produced alongside the rare earth elements.99 Malaysian protesters are currently pursuing a court action in their country to get the plant shut down.100 One of the issues involved is

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90. Id.
91. Id.
92. GRASSO, supra note 19, at 16.
93. Hoatson et al., supra note 39.
94. MORRISON & TANG, supra note 9, at 21Ed Crooks, Molycorp to start China rare earth exports, FIN. TIMES, (Mar.12, 2012), https://next.ft.com/content/96d95eee-6a09-1lel-a26e-00144feabdc0.
95. GRASSO, supra note 19, at 18.
96. Id.
97. Id.
98. Id.
99. Id.
100. Cecilia Jamasmie, Lynas Gets Malaysian Rare Earths Plant Going, MINING.COM, (Nov. 30,
what would happen to the radioactive waste produced by the plant. Apparently, it cannot be sent back to Australia. The hazardous waste is harmful to the environment, but also to humans and animals.

Regarding Molycorp, the Congressional Research report states that

When the Mountain Pass Mine in the United States was operating at full capacity in the 1990s, it produced as much as 850 gallons of salty wastewater per minute, which also contained radioactive thorium and uranium. The hazardous materials built up as scale inside the pipe that delivered the wastewater to evaporation ponds 11 miles away. Several times in the 1990s, cleaning operations caused the pipeline to burst, spilling hazardous waste into the desert. Molycorp, then a unit of the oil company Unocal, was ordered by the state of California to clean up the waste. In 2002, the already struggling Molycorp ran out of space to store its waste and failed to secure a permit to build a new storage facility. As a result, the mine shut down.

Molycorp shipped mine ores to the facilities in China for production. According to the business restructure, Molycorp acquired Neo Materials Technology, Inc., which is a Toronto-based firm. The company was renamed as Molycorp Canada, which processes rare earths in China.

The burden of taking on 97% of world rare earth production caused China to allow hazardous waste dumps that harmed the environment as well as humans and animals.

B. The Impact to the Environment, Human and Animal Health, and Plants in China

As reported by the China-Rare Earths Panel, “the mining and production of rare earths, tungsten, and molybdenum have caused grave harm to the environment and to the life and health of humans, animals, and plants in China.” The Panel admitted the following findings, which were conducted by the third party experts both from the U.S. and the EU.
1. The Harm of Mining and Production of Rare Earths

Rare earths production causes grave harm to environment. Rare earth production starts with the mining of crude ore. The ore needs to be milled into fine powder for separating the valuable rare earth metals from the rest of the ore. This powder is floated on water to which chemicals are added. Flotation creates large waste streams, which lead to large ponds called impoundment areas. These tailings contain toxic substances including radioactive substances including uranium and thorium, fluorides, sulphites, acids, and heavy metals and constitute a major environmental health risk. Rock stockpiles, tailing ponds, and dams may pollute groundwater and rainwater, affecting humans, animals, and plants in the areas.

The Guardian investigated and found one of the ponds, “lacks a proper lining and for the past 20 years its toxic contents have been seeping into groundwater, according to villagers and state media reports. It is trickling towards the nearby Yellow River, a major drinking water source for much of northern China.”

Rare earths also pollute air due to toxic and radioactive dust from the tailings and waste rock stockpiles. The pollution might last a long time after the mining if not adequately cleaned up or tailings and stockpiles remain. Research on “the plants and soil of the Bayan Obo area, where the world’s largest rare earths mine is located, showed that radioactivity was 32 times higher in plants and 1.7 times higher in soil.” Studies also found that “61.8 tons of radioactive dust is emitted each year as a result of the milling of the ores.”

Rare earth separation and refining through a process called saponification produces further wastewater. Studies have found that “the entire rare earth refining industry in China annually produces approximately 20,000 to 25,000 tons of wastewater, containing toxic ammonia nitrogen concentrations ranging between 300mg/L and 5000 mg/L.”

2. The Impact of Tungsten and Molybdenum Production

The tungsten and molybdenum industry entails significant environmental

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110. China-Rare Earths Panel Report, supra note 3, ¶ 7.3.2.3.3.1(7.3).
111. Id.
112. Id.
113. Id.
114. Id.
115. Id.
117. China-Rare Earths Panel Report, supra note 3, ¶ 7.3.2.3.3.1(7.4).
118. Id.
119. Id.
120. Id.
121. Id.
122. China-Rare Earths Panel Report, supra note 33, ¶ 7.3.2.3.3.1(7.5).
risks; "[e]very year, 2.2 million cubic meters of solid waste are dumped into rivers by tungsten ore processors; in addition, dozens of tons of arsenicum are discharged with the wastewater from producing tungsten alloys/materials." Heavy metals pollute local rivers and threaten human, animals, and plants life.

3. Threats to Human and Animal Health

Rare earth radioactive elements could also threaten human, animals, and plant life. Thorium causes cancers of the lungs and pancreas, as well as leukemia. The rare earth elements themselves also have a negative impact on the human heart and lungs. Inhalation of lutetium creates lesions in the lungs. The use of gadolinium increases the risk of skin diseases. Chronic exposure to lanthanum may affect the central nervous system.

Research findings by the Greens/EFA Group in the European Parliament and in a 2012 Study by the United States’ Environmental Protection Agency showed that “in areas near the mines, plants grow more slowly, flower poorly, and bear bad fruits or no fruits at all; animals get sick and humans suffer from bone and chest illnesses.” For example, according to the Guardian, “[i]n the 1990s, when China’s rare earths production kicked into full gear, [Wang Jianguo’s] sheep died and his cabbage crops withered. Most of his neighbors have moved away. Seven have died of cancer. His teeth have grown yellow and crooked; they jut out at strange angles from blackened gums.”

4. Illegal Extraction Causes Harm

Illegal extraction and exploration has caused more environmental harm because the “environmental prevention safeguards were circumvented. The illegal extraction by miners without a license has prevailed across China. Illegal miners are unlikely to clean-up following their operations and are unlikely to execute an eco-recovery plan. The potential for environmental damage is cause for concern.

123. *China-Rare Earths Panel Report*, supra note, ¶ 7.3.2.3.3.1(7.4).
124. *Id.*
125. *Id.*
126. *China-Rare Earths Panel Report*, supra note 3, ¶ 7.3.2.3.3.1(7.5).
127. *Id.*
128. *Id.*
129. *Id.*
130. *China-Rare Earths Panel Report*, supra note 3, ¶ 7.3.2.3.3.1(7.3).
131. *China-Rare Earths Panel Report*, supra note 3, ¶ 7.3.2.3.3.1(7.4).
134. *Id.*
C. China’s Ongoing Environmental Policy and Rare Earth Industry Consolidation

China revoked mining licenses to counter the deteriorating environmental conditions. According to *Xinhua News*, China issued more than two million mining permits in 1980. By 2012, the mining permits were revoked to one hundred and ten thousand across China. The rare earth mining permits were also reduced through industry consolidation.

China has consolidated thousands of rare earth mines. The “overheated rare earth production in China during the 1990s and the early-2000s generated a fragmented industry with thousands of mines, many engaging in reckless mining and illicit production.” However, in 2006, China began to exercise total-amount control over the exploitation of rare earths. In 2007, the government incorporated the production of rare earths into national management by mandatory planning. In 2008, the state issued the National Plan for Mineral Resources. In 2011, China issued the *China State Council Opinion on Rare Earth Industry Sustainable Development*. The opinion states that the Ministry of Industry and Information Technology must counter the issues regarding the sustainable development of the mining, the acute pollution and severe environmental harms, and build a healthy market by balancing the supply and demand.

As the *China-Rare Earths* Panel noticed, China had “a comprehensive conservation policy.” To avoid depletion of the “exhaustible rare earth resources,” China applied “extraction and production caps and enforcement actions which were designed to manage the extraction and supply of the rare earth resources through a conservation policy.” At the same time, China increased export fees and domestic taxes to reimburse the environmental costs and harm caused by the industry. Regarding the “governmentally-promoted foreign
At last in 2010, China had started issuing export licenses in order to crack down on the smuggling of goods in the black market. The policy and regulations are as a whole interconnected to serve the conservation goals and the environmental protection objective.

D. Summary

In short, the importance of the rare earth materials relates to the smuggling, stockpiling and conservation. The environmental burden shifted to the respondent was overlooked, but caused alarming harm to the health of humans, animals, and plants without proper compensation.

III. THE CHINA-RARE EARTHS CASE AND ART XX (B) AND (G) EXEMPTIONS

Japan, the European Union, and the US challenged the respondent’s “sustainable and sound development of the rare earth industry.” China raised GATT Art. XX (b) and (g) as defenses, namely, protection of health of humans, animals, and plants, and conservation of depleting natural resources.

A. The WTO Dispute in a Nutshell

Japan, the European Union, and the United States brought this dispute before the WTO and argued that three measures were not in conformity with trade rules: export duties, export quotas, and export licenses to companies on rare earths, molybdenum, and tungsten.

The three issues discussed were respectively (1) whether China’s export duties on rare earths, molybdenum, and tungsten violated Paragraph 11.3 of Chinese Accession Protocol; (2) whether the administration and allocation of export quotas on rare earths and molybdenum by China violated Paragraphs 5.1 and 1.2 of Part I of the Chinese Accession Protocol; and (3) whether the use of export quotas on rare earths, molybdenum, and tungsten by China violated Article XI:1 of the GATT and Paragraph 1.2 of Part I of the China’s Accession Protocol.

However, as noticed by scholars, parties primarily contended the issue on the export quotas issue on rare earths whether the measure, violating GATT Art. XI:
I, could be justified under GATT Art. XX exemptions (b) and (g), respectively, for protection of humans, animals and plant life, and conservation of exhaustible natural resources.157

B. Severe Environmental Issue Justified China to Invoke GATT Art. XX (b) and (g)

There are important differences between the circumstances of the China-Raw Materials case158 and the China-Rare Earths case. In contrast to the “heavily oriented slant against exports” seen in China-Raw Materials, the China-Rare Earths trade measures were part of a consolidated policy, which significantly tightened the production caps, set stricter emission standards, and included higher resource taxes.159 The measures were designed to protect the environment, preserve resources, and promote the sustainable development of the rare earths sector.160

Because of the differences, the dissenting panelist in China-Rare Earths found that, in light of the Preamble of the WTO Agreement, which embodies the purpose and objective of the WTO, the fundamental importance of the flexibilities provided in GATT Art. XX, Art. XXI, Art. XXIV and Art. XVIII(C) is incontrovertible.161 “These provisions strike a balance between the policy space governments enjoy pursuing legitimate objectives and their obligations under the GATT 1994”162 with good causes listed. The report further states, “therefore, the dissenting Panelist concluded that unless China explicitly gave up its right to invoke Art. XX of GATT 1994 which it did not, the general exception provisions of the GATT 1994 are available to China to justify a violation.”163 China invoked the GATT Art. XX, allowing the Rare Earths case to be reviewed under GATT Art. XX exemptions (b) and (g).164

IV. GATT ART. XX (B) AND (G) LAW REVIEW

In general, if a government has a good reason for violating the most-favored nation (MFN) of GATT Art. I165 or national treatment of Art. III,166 the

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157. China-Rare Earths Panel Report, supra note 3, ¶ 7.3.2(7.1).
159. BUTCHER, supra note 150, at 75–77.
160. Id.
161. China-Rare Earths Panel Report, supra note 3, ¶ 7.3.2.8.4(7.5).
162. China-Rare Earths Panel Report, supra note 3, ¶ 7.3.2.8.4(7.5).
163. China-Rare Earths Panel Report, supra note 3, ¶ 7.3.2.2.8.4(7.1).
164. McRae, infra note 203.
165. GATT ART. I. GENERAL MOST-FAVORED-NATION TREATMENT (MFN) (1947), is a principle of trade. (Grant someone a special favor (such as a lower customs duty rate for one of their products) and you have to do the same for all other WTO members), https://www.wto.org/english/res_e/booksp_e/gatt_ai_e/art1_e.pdf.
166. GATT ART. III. NATIONAL TREATMENT ON INTERNAL TAXATION AND REGULATION (1947), (National treatment is a principle of trade which requires the imported and locally-produced goods shall be treated equally — at least after the foreign goods have entered the market of a member state.),
government may be able to defend the measure by qualifying for one of the exceptions in GATT Article XX.\textsuperscript{167} Two exceptions are most applicable to environmental policy: Art. XX (b) for measures “necessary to protect human, animal or plant life” and XX (g) for measures “relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.”\textsuperscript{168} Both exceptions are subject to the requirement in the Art. XX chapeau that “such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade.”\textsuperscript{169}

**A. Art. XX (b): “Necessary to Protect Human, Animal or Plants Life or Health”**

First, the “necessary” test entails not only the goals of the policy in dispute, but rather whether the means cause discrimination.\textsuperscript{170} As explained in *US — Gasoline*,\textsuperscript{171} the Panel held that “it was not the necessity of the policy goal that was to be examined, but whether or not it was necessary that imported gasoline be effectively prevented from benefiting from the same sale condition.”\textsuperscript{172}

Second, necessity was explained, in *EC-Tariff Preferences*, that a ‘necessary’ measure is, in this continuum, located significantly closer to the pole of ‘indispensable’ than to the opposite pole of simply ‘making a contribution to.’\textsuperscript{173} The Panel reviewed the effects of the drug arrangements in this report revealing that the product coverage under the drug arrangements decreased by 31% from 1999 through 2001.\textsuperscript{174} Given that the benefits under the drug arrangements

\textsuperscript{167} GATT ART. III. GENERAL EXCEPTIONS (1947). ("Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures.").

\textsuperscript{168} Id. (“(b) necessary to protect human, animal or plant life or health; . . . (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.").

\textsuperscript{169} Steve Charnovitz, *A New WTO Paradigm for Trade and Environment*, 11 S.Y.B.I.L. 15, 20-21 (2007). (quoting GATT Art. XX.) ("Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade . . . nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures.")


\textsuperscript{172} Id.


\textsuperscript{174} Id.
themselves were decreasing, the Panel could not come to the conclusion that the drug arrangements were “necessary.” Regarding the “making a contribution to” test, *Brazil- Retreaded Tyres* emphasized that a panel might conduct either a quantitative or qualitative analysis of the contribution of a measure to the achievement of its objective. The “weighing and balancing” was a “holistic operation” that involved putting all the variables of the equation together and evaluating them in relation to each other after having examined them individually in order to reach an overall judgment.

Third, the alternative measure has to be reasonably available. In *United States- Section 337*, the Panel wished to make it clear that the party invoking Article XX had the obligation to choose a “reasonably available”, least trade restrictive, GATT-consistent measure.

Lastly, the “burden of persuasion” is lower under Art. XX (b). The Appellate Body stated that “it would be more deferential when human [life and] health was at stake, and less so when WTO Members were pursuing other regulatory objectives mentioned in the body of the Art XX.”

**B. Art. XX (g): “[R]elating to” Conservation of Exhaustible Natural Resources Plus “Made Effective in Conjunction with”**

The “relating to” standard first requires that the measures should be more than an “incidental or inadvertent connection” to the policy objectives.

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Appellate Body interpreted "relating to" in US - Gasoline as whether the United States baseline establishment rules were appropriately regarded as "primarily aimed at" the conservation of natural resources within the meaning of the Art. XX (g). The Appellate Body emphasized a merely incidental or inadvertent connection will not suffice.

Meanwhile, Art. XX (g) requires that a measure in compliance shall "make effective in conjunction with restrictions on domestic production or consumption." For example, in US - Gasoline, the phrase "made effective in conjunction with restrictions on domestic product or consumption" under the Art. XX(g) was regarded a "requirement of 'even-handedness." The Appellate Body, in US - Shrimp, held that the United States measure at issue justified under the Art. XX(g), in principle, because Section 609 was an "even-handed" measure.

C. Chapeau of the Art. XX: Not "Arbitrary or Unjustifiable Discrimination" or "Disguised Restriction on International Trade"

The legal precedent provided by Guide to WTO Law and Practice shows that the Appellate Body interpreted the chapeau of Art. XX and described the nature and purpose of Art. XX as a balance of rights and duties.

In the scope of the environmental issue, based on US - Gasoline, the Appellate Body analyzed Art. XX's environmental protection measure, "Art. XX of the General Agreement contains provisions designed to permit important state interests, including the protection of human health, as well as the conservation of exhaustible natural resources." Indeed, both the Preamble to the WTO Agreement and Decision on Trade and Environment show specific acknowledgement of the importance of coordinating policies on trade and the environment. However, the assessment needs to follow a two-tier test. First, whether the measure in dispute is under Art. XX(g); and second, further appraisal of the measure is under the chapeau of Art. XX.

185. China-Rare Earths Panel Report, supra note 3, ¶ 7.5.3(7.5).
187. Id.
192. THE GUIDE TO WTO LAW AND PRACTICE: GENERAL AGREEMENT ON TARIFFS AND TRADE
To assess whether the measure is an “arbitrary and unjustifiable discrimination”, the same condition prevails. In US-Shrimp, the United States measure at issue was contemplated for being against the spirit of the chapeau of Art. XX. Specifically, while the U.S. was in its right to implement policies to “protect human, animal, and plant life” under Art. XX, those measures could not have an “intended and actual coercive effect on the specific policy decisions of other governments.” The United States excluded the shrimp from its market solely because they had been caught in waters of countries that had not been certified by the United States. In EC-Tariff, the Panel similarly was not satisfied with the drug arrangements, which intentionally excluded Iran, which was in the same or similar condition as Pakistan. In contrast, the Panel, in Brazil-Retreaded Tyres, determined that the discrimination arising from the MERCOSUR exemption was not “a priori unreasonable” or capricious because of Art. XXIV of GATT that permitted preferential treatments for members.

Furthermore, “arbitrary or unjustifiable discrimination” and “disguised restriction on international trade” were regarded as related concepts. The kinds of considerations pertinent in deciding whether the application of a particular measure amounts to ‘arbitrary or unjustifiable discrimination’ may also be taken into account in determining the presence of a ‘disguised restriction’ on international trade.” Put in another way, a measure that is found as a disguised restriction on international trade will be regarded as arbitrary or unjustifiable discrimination.

Scholars, concerned with the standard adopted in US-Gasoline, pointed out that “the Appellate Body sought to give substantive content to the chapeau to Art. XX.” The Appellate Body rejected the idea that a ‘disguised restriction’ was limited to ‘unannounced’ restrictions and stated that the ‘fundamental theme’ of the chapeau was of ‘avoiding abuse or illegitimate use’ of the exemptions in Art.

193. Id. at ¶849.
199. Id. at ¶ VII.9.
200. WTO, supra note 198, at 24.
"It looked to see whether there were other less trade restrictive or less discriminatory means available" as the Art. XX (b) "necessary" test requires.\(^{203}\)

The new standard here nullifies the nature and purpose of Art. XX as a balance of rights and duties of a member state; "In doing so, it has made a significant change to GATT law and made environmental exceptions to trading obligations extremely difficult to establish." \(^{204}\) The "disguised restriction on international trade" test is indistinguishable from the test that applied under Art. XX (b).\(^{205}\) The new standard rendered the rewriting of Art. XX (g) became more stringent than any version of the "primarily aimed at test" that was previously adopted.\(^{206}\) The chapeau of Art. XX "arbitrary or unjustifiable discrimination" test here was so modified as the "necessary" test plus the "disguised restriction on international trade" standard.\(^{207}\) The "hybrid standard" test in Art. XX exemptions (b) and (g) makes it "next to impossible" for state environmental measures to ever meet the requirements of Art. XX (g).\(^{208}\)

V. CHINA-RARE EARTHS DIVERGING FROM THE LEGAL PRECEDENT

The China-Rare Earths case could hardly be regarded consistent with Art. XX (b) and (g) legal precedent.\(^{209}\) The Panel exercised its discretion to preclude the "actual effects" assessment.\(^{210}\) The "actual effects" assessment was used in EC-Tariff Preferences and/or in Brazil-Retreaded Tyres to conduct either a quantitative or qualitative analysis of the contribution of the measure to the achievement of its objective.\(^{211}\) Rather, it focused only on the design and structure of the policy and its textual analysis in China-Rare Earths.\(^{212}\)

Because the parties primarily contended on the export quotas issue of rare earths and applied the law on tungsten, and molybdenum at issue in same manner,\(^{213}\) this article, to avoid the repetition, selects the primary contention on the export quota on rare earths for the analysis.

A. The Application of the Law

China invoked both GATT Art. XX (b) and (g) exemptions.\(^{214}\) This

\(^{203}\) McRae, supra note 205, at 233.
\(^{204}\) Id.
\(^{205}\) McRae, supra note 205, at 234.
\(^{206}\) Id.
\(^{207}\) Id.
\(^{208}\) Id.
\(^{209}\) China-Rare Earths Panel Report, supra note 3, ¶ 7.4.1.3.
\(^{210}\) Id. at ¶ 7.5.3.4.
\(^{211}\) EC-Tariff Preferences, supra note 200, at ¶ IV.13; Brazil –Retreaded Tyres Report of the Panel, supra note 201, at ¶ IV.121.
\(^{213}\) China-Rare Earths Panel Report, supra note 3.
\(^{214}\) Id. at ¶ 7.3.2.
subsection will analyze the law that the Panel applied to the *China-Rare Earths* case.

1. GATT Art. XX(b) Was not Applied

As the law has been reviewed, GATT Art. XX (b) requires the measures in dispute to be demonstrated as “necessary” means to achieve the protection of human, animal or plant life.\textsuperscript{215} However, the *China-Rare Earths* case was not decided upon the Art. XX (b) legal basis discussed in previous cases, but rather based on China’s Accession Protocol.\textsuperscript{216}

2. GATT Art. XX (g) “Relating to” Test

For a measure to be justified under Article XX (g), the measure at issue must (i) “relate to” the “conservation” of an “exhaustible natural resource”, and (ii) be “made effective” “in conjunction” with “restrictions” on “domestic production or consumption.”\textsuperscript{217} The Panel was of the view that a measure’s compliance with Art. XX (g) could be determined only on the basis of a holistic assessment of whether the challenged measure relates to the conservation of rare earths, tungsten, or molybdenum and is made effective in conjunction with domestic restrictions on consumption or production.\textsuperscript{218}

Furthermore, the Panel set the precondition that “any conservation-related burden must be imposed even-handedly on foreign and domestic users.”\textsuperscript{219} The even-handedness standard was employed to decide the relationship between the measures and the conservation of rare earths and to examine the effect of “made in effect in conjunction with” domestic restrictions.\textsuperscript{220}

a. “Relating to” the Conservation

At first, the Panel studied the “conservation” of an “exhaustible natural resource.”\textsuperscript{221} The Panel did not opine on the “exhaustible natural resource” issue, but focused on “conservation.”\textsuperscript{222} After China raised domestic extraction quotas, production quotas and then export quotas,\textsuperscript{223} the Panel accepted that China had a comprehensive conservation policy to protect the depleting exhaustible rare earths including extraction caps, production caps and enforcement actions.\textsuperscript{224} Second, the Panel turned to the relationship between the measures and the conservation of rare

\textsuperscript{215} Id. at ¶ 7.3.2.3. (Art. XX General Exemptions: (b) necessary to protect human, animal or plant life or health).

\textsuperscript{216} China-Rare Earths Appellate Body Report, supra note 214, ¶ 5.34.

\textsuperscript{217} China-Rare Earths Panel Report, supra note 3, at ¶ 7.5.

\textsuperscript{218} China-Rare Earths Panel Report, supra note 3, at ¶ 7.5.3.3.

\textsuperscript{219} China-Rare Earths Panel Report, supra note 3, at ¶ 7.6.2.

\textsuperscript{220} China-Rare Earths Panel Report, supra note 3, at ¶ 7.5.3.3.

\textsuperscript{221} China-Rare Earths Panel Report, supra note 3, at ¶ 7.6.2.2.1.

\textsuperscript{222} China-Rare Earths Panel Report, supra note 3, at ¶ 7.6.2.2.2.

\textsuperscript{223} Id.

\textsuperscript{224} Id.
earths, stating that it must be "substantial," "close and real." The Panel thought that there was no need to evaluate the actual effects or that there was no need to decide in quantitative or qualitative terms precisely what level of the contribution a challenged measure has made to conservation objective. The Panel decided to move to textual analysis and found the design and architecture did not relate to conservation of exhaustible natural resources. Further, the Panel concluded that some documents relating to China's quota measures made reference to conservation goals while others referred to the industry policy. Therefore, there is no basis for concluding the measures were related to the conservation goal.

The key finding here, according to the Panel, was that the export quota had no limiting effect on the domestic consumers. The Panel considered that extraction caps or production quota provided incentives for illegal production to satisfy the unmet demand. Lastly, the Panel applied the export quota to domestic consumers and found no equal restriction effect on domestic consumers. The Panel concluded that the export quota measure was applied unequally.

b. "Made Effective in Conjunction with" and "Even-handed" Judgment

The Panel examined the restriction effects on domestic quotas of extraction and production and concluded that it was not clear whether the quota was capable of having a limiting effect. The Panel additionally reasoned that the tax rewards on resources could also have the counter-acting effect of restricting domestic production, although they served a policy purpose.

Finally, the Panel recalled that production and extraction quota, access regulations, resources tax, and environmental regulations were imposed on domestic and foreign users equally, while the export quota was imposed exclusively on foreign users. Because China did not impose any limits on domestic consumption or a tax that applied exclusively to domestic users, it was not balanced or "even-handed."

c. "Arbitrary or Unjustifiable Discrimination" or "Disguised Restriction on International Trade"

The Panel concluded that the export quota measure failed the chapeau of Art.
XX arbitrary or unjustifiable discrimination test on the standard of “a disguised restriction.” The Panel stated it was possible that the export quotas contributed to price differences even if there were unfilled quotas leftover. Also, the Panel found export quotas affected only foreign users, which was inconsistent with the “even-handed” requirement. Furthermore, due to the unfilled quota, “it will vary the next year quantitative limit and cause uncertainty.” Apparently, the Panel adopted the “hybrid standard” in the case. The Panel looked to the WTO-consistent alternative under GATT Art. XX (b), and found that China had alternatives available to achieve its objective. The Panel concluded that the export quota measure was “a disguised restriction.”

B. Appellate Body is “Rhetorical,” but Certainty at Issue

Regarding issues of the Panel’s approach used in the case, the Appellate Body at first concluded it wrong that the appellant understood “the Panel ‘must’ examine the design and structure of the measure” as the Panel “limited upon” it at issue. However, the Appellate Body rhetorically stated that the Panel did not err in “focusing on” the “design and structure of the measure.” Additionally, the Panel is not required to examine “actual effects” in assessing whether a measure “relates to” conservation within the meaning of Art. XX (g), but Panels are not precluded from doing so either.

With the respect, the Panel might exercise their discretion to a certain extent, but it adds uncertainty when the Panel should examine the “actual effects” as EC-Tariff Preferences did. There is no guidance on this issue. Also, the difference between “limited on” and “focusing on” in the Appellate Body’s statement is equally confusing.

The Appellate Body agreed with the appellant that the phrase “made effective in conjunction with” to be interpreted as “even-handed” was wrong in this case; “Nevertheless we have found that this error of the Panel does not taint the remainder of its interpretation of Art. XX (g).” However, when looking at the Panel’s judgment, “equal” or “even-handed” are the key standards for various

239. China-Rare Earths Panel Report, supra note 3, at ¶ 7.3.2.3.3.
240. China-Rare Earths Panel Report, supra note 3, at ¶ 7.6.3.1.4.
242. China-Rare Earths Panel Report, supra note 3, at ¶ 7.6.3.1.3.
243. China-Rare Earths Panel Report, supra note 3, at ¶ 7.6.3.3.
244. Id.
247. Id. at ¶ 5.114.
248. Id. at ¶ 5.113.
249. EC-Tariff Preferences, supra note 218, at ¶ VII.2.-3.
251. Id. at ¶ 5.127.
252. Id. at ¶ 5.247.
judgments. If the “even-handed” standard was rejected, it would have affected almost every conclusion in the key parts of 7.5, 7.6, 7.7, and 7.8 of the Panel report. The Appellate Body did not provide an explanation of how the opinion was reached in this regard.

C. Critiques: Barely the Panel put Rare Earths in the Four-square Box

For bringing the case under the discipline of trade, the Panel adopted several strategies to serve the purpose. However, the strategies might raise issues of WTO judgment.

First, the Panel’s approach has undergone criticism. As the Panel’s report has been reviewed, the Panel could not be satisfied unless and until no “theoretical” exemption exists. “Solely” based on the textual analysis, without assessing actual effects, the Panel adventured a series of “theoretical judgments” on export quotas, e.g., price distortion, incentives of smuggling, and industry relocation incentives. For instance, regarding industry relocation incentives, the Panel even explicitly acknowledged no evidence of foreign direct investment increases over five years since the measure was adopted. This approach could be regarded as divergent from EC-Tariff Preferences and/or Brazil-Retreaded Tires precedent regarding the honoring of the facts.

253. See China-Rare Earths Appellate Body Report, supra note 214 (“Even-handed” is the Art. XX (g) decisive standard test applied in China-Rare Earths by the Panel in accordance with the China-Rare Earths Panel Report at Section 7.5.2.3. The Panel made the judgment accordingly of a series of arguments. For example, in ¶ 7.6.2.2. regarding “made effective in conjunction with restrictions on domestic production or consumption,” the Panel was not convinced due to the “even-handed” test. The rare earths extraction system is not even-handed. The rare earths production system is not even-handed. The volume restriction and the domestic consumption cap are not even-handed. The resource export tariff and resource tax are not even-handed, either. The Panel found the environmental requirement is not even-handed. In sum, the Panel is not convinced that the tax, domestic cap, environmental requirement cannot serve as a counterpart of the export restriction as “made effective in conjunction with restrictions on domestic production or consumption”).


255. Id.

256. PRC, supra note 150; infra note 269, professor Raj Bhala misused the ‘necessity’ test as a conflation of Art.(b) and (g).

257. See China-Rare Earths Appellate Body Report, supra note 214, as stated by the Appellate Body at para.5.118 of China-Rare Earths Appellate Body Report, “we find that the Panel did not err by considering that it should focus on the design and structure of the export quotas in its assessment of whether those measures relate to the conservation of exhaustible natural resources within the meaning of Article XX(g) of the GATT 1994. In addition, we find that the Panel did not err in stating that ‘the analysis under subparagraph (g) does not require an evaluation of the actual effects of the concerned measures’.” Therefore, the Panel decided the case on the theoretical bases rather than the “actual assessments”.

258. China-Rare Earths Panel Report, supra note 3, ¶ 7.6.3.3.

259. Id.

260. Id.


262. Panel Report, European Communities- Conditions for the Granting of Tariff Preferences,
Secondly, as this case was reviewed, the Panel employed Art. XX (b) “necessity” after the “disguised restriction on international trade” hybrid standard test to examine the quota in dispute under GATT Art. XX (g).263 The test standard is recognized as “next to impossible” by Professor Donald M. McRae.264 Put in another way, China-Rare Earths was decided based on the stricter “hybrid standard” test, which some scholars even opined that could be a misuse of law.

The conflation of the ‘necessity’ test linked to Art. XX (b) and pointed to previous findings that the distinctions between the connecting words ‘necessary’ and ‘relating to’ require different tests, and ‘mixing of the different tests under Art. XX (b) and Art. XX (g), absent of context, would result in an approach that ignores the important distinctions between the various subparagraphs of Article XX.265

The law applied in China-Rare Earths was not only confusing, but also much stricter.266 This standard directly affected the exemption granted by the Panel.

Third, it was arguable that while the Art. XX (b) issue of this case should have been judged solely on the basis of Art XX (b) law. Instead, it was rejected on a different basis, not the law of Art XX (b).267 According to the Panel’s report, the environmental issues of the China-Rare Earths case were implicated under Art. XX (g).268 In so doing, the respondent had to bear a higher “burden of persuasion” standard since Art. XX (g) issues would be less deferential than measures under Art. XX (b) when human (life and) health was at stake.269 The Appellate Body admitted that measures under Art. XX (g) could be more likely to be considered “disguised” to pursue other regulatory objectives in previous cases.270

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263. Bhala, infra note 267. See China-Rare Earths Panel Report, supra note 3, ¶ 7.6.3.1 (where the Panel explicitly used “disguised restriction on international trade” standard rather “arbitrary or unjustifiable discrimination” test. See China-Rare Earths Panel Report, supra note 3, ¶ 7.6.3.3 (the Panel went back to WTO-consistent alternatives test which is generally used under Art. XX (b) for “necessity” test. WTO, supra note 194, “It looked to see whether there were other less trade restrictive or less discriminatory means available” in the similar way as Art. XX (b) “necessary” test requires).


266. “Stricter” means the “next to impossible” standard; McRae, supra note 205 for [The “hybrid standard” test in Art. XX exemptions (b) and (g) makes it “next to impossible” for state environmental measures to ever meet the requirements of Art. XX (g).]

267. China-Rare Earths Panel Report, supra note 3, ¶ 8.1.1 (The Panel decided the case based on the China’s Accession Protocol at the issue of GATT Art. XX (b)).

268. China-Rare Earths Panel Report, supra note 3 (the Panel focused on the GATT Art. XX (g) after Art. (g) was decided upon the China’s Accession Protocol.).


270. Appellate Body Report, European Communities- Measures Affecting Asbestos and Asbestos-Containing Products, WT/DS135/AB/R (Mar. 12, 2001) (For instance, in the report on EC – Asbestos, the AB confirmed that this was indeed the case “in this case, the objective pursued by the measure is the preservation of human life and health through the elimination, or reduction, of the well-known, and life-
This is the Art. XX (b) issue granted and admitted by The Panel themselves, “[t]hat is necessary to protect the environment or human, animal or plant life or health would likely be inconsistent with the object and purpose of the WTO Agreement.”

They continued, “[s]uch a result could even rise to the level of being manifestly absurd or unreasonable.”

However, unlike EC-Asbestos, which was decided under Art. XX (b) for “the well-known, and life-threatening, health risks posed by Asbestos”, the same “well-known, and life-threatening, health risks posed by” rare earth production was granted a judgment in accordance with the Art. XX (g). It is arguable that some facts are distinguishable between the two cases, but the life-threatening and health risks to humans and animals are equally important and, in China-Rare Earths, proved much more grave.

VI. WTO TRADE AND ENVIRONMENT STANDARD WAITING FOR RESPONSE TO BOTH ITS OBJECTIVES AND OTHER INTERNATIONAL STANDARD LAWS

Beyond the issue regarding the applied Art. XX law in Rare Earths, the case ruling contradicts both the objectives of the WTO and other broadly accepted international principles in effect.

A. Self-contradiction of the WTO Trade and Environment Objective

The WTO’s attention to the environment started early when the WTO was established. The Preamble to the Marrakesh Agreement states:

Recognizing that their relations in the field of trade and economic endeavor should be conducted with a view toward raising standards of living, ensuring full employment, a large and steadily growing volume of real income and effective demand. As well as a view toward the expansion of the production of and trade in goods and services, while allowing for the optimal use of the world’s resources in accordance with the objective of sustainable development. All of this while seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.
The fundamental agreement allows members to adopt certain policies to advance environmental protections and preserve the natural resources according to their economic development needs. This WTO objective was embodied in various case rulings.  

In *U.S.-Shrimp*, the WTO Appellate Body interpreted the general exceptions in GATT Art. XX and "famously stated that the Preamble ‘informs’ all of the WTO trade agreements and explicitly acknowledges ‘the objective of sustainable development.'"  

In reference to this and other language in *U.S.-Shrimp*, Professor John Jackson calls the decision a constitutional door opener for approaches that require a broader perspective than just the four corners of the very extensive GATT/WTO treaty language.  

However, the *Rare Earths* case adopted the "hybrid standard" and "just the four corners of the very extensive GATT/WTO treaty language." Therefore, the conservation of exhaustible resources and the sustainable development objectives might only theoretically exist in the WTO agreement.  

B. The WTO is exclusively a "Market Access Rights Agency."  

The established Committee on Trade and Environment (CTE) was dedicated to achieving a positive relationship between trade and environment. However, about twenty years later, the commitment standard is disappointing. The committee work is based on two important principles. First, "if the committee does identify problems, its solutions must continue to uphold the principles of the WTO autonomy in the conduct of its external commercial relations and of the other matters provided for in this Agreement and the Multilateral Trade Agreements may accede to this Agreement, on terms to be agreed between it and the WTO. Such accession shall apply to this Agreement and the Multilateral Trade Agreements annexed thereto.").  

278. See Marrakesh Agreement, supra note 278.  
280. Id.  
283. Compare Environmental and Regional Trade Agreements, OECD, 1-2 (2007), https://www.oecd.org/env/38664937.pdf. (For instance, according to 2007 Executive Summary of OECD, "the United States wanted to put trade and environmental issues in the Regional Trade Agreements on an equal footing" while "trade and environment debates have traditionally seen developing country negotiators cautious about incorporating environmental considerations into multilateral trade agreements.") Members and Partners, OECD, http://www.oecd.org/about/membersandpartners/. Japan, the U.S. and China are signatories of OECD. The Committee on Trade and Environment (‘Regular’ CTE), WTO, 1 (https://www.wto.org/english/tratop_e/envir_e/wrk_committee_e.htm) (The WTO Committee on Trade and Environment (CTE) was created since 1994). With Eric Neumayer, The WTO and the Environment: Its Past Record is Better than Critics Believe, but the Future Outlook is Bleak, 4 Global Environmental Policy 1, 6 (2004). "The WTO has done little to promote environmental protection so far and there is little hope that this is likely to change in the future." See p. 1. "The CTE has not become a frontrunner in triggering environmentally friendly reform of the multilateral trade regime, but a forum for rather fruitless discussions."
trading system.”284 However, second,

The WTO is only competent to deal with trade. In other words, in environmental issues its only task is to study questions that arise when environmental policies have a significant impact on trade. The WTO is not an environmental agency. Its members do not want it to intervene in national or international environmental policies or to set environmental standards. Other agencies that specialize in environmental issues are better qualified to undertake those tasks.285

After those related rulings, scholars point out that the WTO is now a “market access rights agency.”286 This explains such a case that it is always a loss of the environment when the health issues and other non-tradable interests conflict with WTO trade.

C. Incompatibility with Standards of International Laws and Human Rights

The pollution and living conditions issues are related to human rights. The Art. XX (b) of “protection of human, animal, and plant life” was purported to be consistent with the untradeable interests.287

As discussed above, the human, animal, and plant life issue might not give enough consideration when the Panel reached the judgment. The fundamental importance of the flexibilities provided in GATT Article XX is incontrovertible according to the Preamble of the WTO Agreement.288 As admitted by the Panel, the harms to human, animals, and plant life caused by rare earth production and mining, are severe and shocking.289 As the dissenting Panelist reasoned China could “invoke Art. XX of the GATT 1994.”290 Following the logic of the evidence permitted, the China-Rare Earths case was entitled to a review provided under GATT Art. XX (b).291 Nevertheless, the measures in dispute under Art. XX (b) of “protection of human, animal, and plant life” were judged under an unequal basis, not on the basis of GATT Art. XX, but on the basis of Protocol 11.3.292 As the

285. Id.
288. China Rare Earths Panel Report, supra note 3, at ¶ 7.3.2.2.8.3 (“The fundamental importance of the flexibilities” provided in GATT Articles XX and XXI is “incontrovertible,” “[i]n light of the preamble of the WTO Agreement, which embodies the purpose and objective of the WTO.”).
289. China Rare Earths Panel Report, supra note 3.
290. China Rare Earths Panel Report, supra note 3.
291. China-Rare Earths Panel Report, supra note 3, ¶ 7.138 (separate opinion) (“Therefore, in my view, unless China explicitly gave up its right to invoke Article XX of GATT 1994, which it did not, the general exception provisions of the GATT 1994 are available to China to justify a violation . . . .” Art. XX (b) is not excluded.).
292. Id. ¶ 7.137 (separate opinion).
report shows, in this case, the Panel was consistently “in difficulty” to be persuaded at each and every point under Art. XX (g) due to the much higher “burden of persuasion” standard placed on the respondent. The case gives the impression that the judgment of Art. XX (b) of “protection of human, animal, and plant life” issue was manipulated via a legal bias.

From a broader perspective, the ruling was inconsistent with other international legal standards. There is a broad recognition of the relationship between environmental protection and human rights, inter alia, “Environmental Poverty Law”, poor people are more likely to suffer the consequences of environmental pollution.

This situation is true at both the international and national levels. Internationally, poor nations tend to have more severe environmental problems than wealthier nations. Examples of these problems are easy to identify. Air pollution in Mexico and China is generally more severe than in France or Australia.

At the national level, e.g., “in 1994, President Clinton issued an executive order calling on federal agencies to make certain that environmentally undesirable activities do not disproportionately burden low-income or minority communities.”

Whereas here, the WTO ignored other international standards and the shifted environmental burden of rare earth mining and production. The case downplayed the human rights issues, and contradicted the international environment concerns and the international community efforts for better living conditions.

D. Summary

Therefore, the case decision can be questioned from the perspectives of other international legal standards, inter alia, the human rights.

VII. THE EXPORT POLICY SHOULD HAVE NOT BEEN ISOLATED FROM THE COMPREHENSIVE POLICY

Beside of the problem that the Panel of China-Rare Earths adopted the theoretical methodology at issue without “balancing and weighing” actual effects of the measures in dispute, the Panel reviewed the rare earths conservation policy separately one after another: (a) strict control of access to the rare earth industry;


294. Id.


296. Id.

297. Id.

298. See generally China-Rare Earths Appellate Body Report, supra note 214.
(b) taxation measures; (c) tackling harm to environment caused by mining and production; (d) strict quantitative control of extraction and production and export restriction; and (e) strict enforcement of laws and regulations relating to rare earth industry.\textsuperscript{299} Scholars pointed out that “export policy should not be viewed in isolation.”\textsuperscript{300} The export controls are embedded in a greater transformation of the strategic rare earths industry.\textsuperscript{301} The respondent promoted “a broad set of policies, including industry reorganization, resource conservation, and environmental protection.”\textsuperscript{302}

This follow up study provides insights on how the respondent, a transitional economy between a planned economy and market economy, has been conducting its economic reform to achieve the rare earth industry reorganization, resource conservation, and environmental protection “as a whole.”\textsuperscript{303} The first-hand research was conducted at both the macroeconomic level and the microeconomic level, respectively.

\textit{A. Macroeconomic Policy Review}

At the macroeconomic level, it is important to understand the rare earth industry reform under the transitional background of China’s economy. Rare earth industry reform was not able to take place alone, but through, and in concert with, the state-owned enterprises (SOEs) reform and the SOEs’ ownership restructuring.

1. The Defendant is a Transitional Economy

China has been trying to obtain market economy status for numerous reasons. Market economy status (MES), “has come to the top of the international agenda, bringing heated discussions on whether or not China will soon be granted this status.”\textsuperscript{304} China argues that its WTO accession documents foresee an automatic acquisition of MES after December 11, 2016.\textsuperscript{305} Some other WTO members think the text in question is subject to interpretation.\textsuperscript{306} For practical reasons, in the negotiations of various agreements including those with the EU,\textsuperscript{307} the issue has held state-owned enterprises (SOEs) investment\textsuperscript{308} and market access.\textsuperscript{309}
China has been claiming that “it has reached a crucial period and reforms have entered a tough stage.”\textsuperscript{310} The new administration explicitly stated that it was harder to reform when the policies affected the interested groups in China.\textsuperscript{311} Without this overall and continuous reform momentum, an industrial level policy could hardly achieve its goals because of the interested groups affected.

2. Continuing SOEs Reform to Rebuild an Interest-Sharing Rare Earth Industry Structure Between Local Governments and the Central Government

Solving the smuggling issue in this case needs the support of local governments; “In 2012, a year of transition in China’s top leadership, how to balance central and local interests may take priority.”\textsuperscript{312} The lack of local government support partly contributed the chaos; “[o]verheated rare earth production in China during the 1990s and the early 2000s generated a fragmented industry with thousands of mines, many engaging in reckless mining and illicit.”\textsuperscript{313} The central government campaigned to close local small rare earth companies.\textsuperscript{314} The closing affected both local governments’ revenue and involved some officials’ personal interests.\textsuperscript{315} Without local administrative support, the smuggling and illegal exploitation will not stop.\textsuperscript{316} Without a new sharing structure “to balance central and local interests,” the goal to protect the environment and/or to conserve exhaustible natural resources will be hardly achievable.\textsuperscript{317}

Most large rare earth companies are state-owned enterprises (SOEs).\textsuperscript{318} The
first round of SOE reform was started by Zhu RongJi in the 1990’s.\textsuperscript{319} China’s SOE reform closed 60,000 state-owned enterprises from where forty million people lost their jobs.\textsuperscript{320} It brought back the performance of the SOEs, but, the SOEs, valued at $16 trillion in total, performed poorly, according to Bloomberg News.\textsuperscript{321} China planned to continue the reform after this new administration stepped-up in 2012.\textsuperscript{322}

The impact of the continuing SOE Reform on the rare earth industry includes both the new sharing structure to balance the interest between the central and the local governments, and the principle to stay at arm’s length from the rare earth companies.\textsuperscript{323} The former was to be achieved through the rare earth industry consolidation of local companies.\textsuperscript{324} For keeping governments from directly influencing companies, the reform allows more diverse equity ownership.\textsuperscript{325} The \textit{Guideline on SOE Reform 2015} (hereafter the \textit{Guideline}) key points are as follows:\textsuperscript{326}

First, State Asset Administration of China (SAAC) and local governments are required to keep at an arm’s length from the company daily decision-making by following the modern corporate governing structure.\textsuperscript{327} SAAC shall change its position accordingly from being the administrator of SOEs to being a shareholder.\textsuperscript{328}

Secondly, the \textit{Guideline} emphasizes the market function to achieve economic efficiency.\textsuperscript{329} The \textit{Guideline} encourages SOEs to be listed as a whole\textsuperscript{330} and

\hspace{1cm} (May. 14, 2015), \url{http://www.wsj.com/articles/china-to-merge-rare-earth-arms-of-six-state-metal-producers-1431607567} (showing they are state-owned).


\textsuperscript{320} \textit{Id}.

\textsuperscript{321} \textit{Id}.

\textsuperscript{322} \textit{See Gabriel Wildau, supra note 313}.


\textsuperscript{324} \textit{Jian, supra note 319}.

\textsuperscript{325} \textit{Zhonggong zhongyang, guowuyuan guanyu shehuan guiyu quye gaige de zhidao yijian} (中共中央、国务院关于深化国有企业改革的指导意见) [CPC Central Committee and State Council on Deepening the Guidance of State-Owned Enterprise Reform], XINHUA WANG (新华网) [XINHUA NEWS AGENCY] (Sept. 13, 2015), \url{http://news.xinhuanet.com/politics/2015-09/13/c_1116547305.htm} [hereinafter \textit{SOE Guideline}] (highlighting in section (V), the reform plan emphasizes the transparency of the company management through equity diversity measure); \textit{China Released a New Round of SOE Reform Plan Sparked Heated Debate}, BBC (Sept. 13, 2015), \url{http://www.bbc.com/zhongwen/simp/china/2015/09/150913_china-guoqi}.

\textsuperscript{326} \textit{SOE Reform, supra note 325}.

\textsuperscript{327} \textit{Id. § IX}; \textit{Wang, supra note 327} ("[The] intervention by government agencies will be forbidden.").

\textsuperscript{328} \textit{SOE Reform, supra note 325, § Xiii}.

\textsuperscript{329} \textit{Id. at § A}.
through the market to liquidate the outdated sectors of large entities. The central government shall focus on the administration of its assets and monitor its capital gains. 331

Third, the reduction of the SOE’s state equity ownership and the increase of private investors’ involvement are directed to achieve the transparency of SOEs’ decision-making. 332 The state shall retain a lion share of control only over the industries that are related to the national security, economic stability and sensitive areas. 333

3. Ownership Concentration and State Control over the Upstream of Rare Earths Industry

First, the overall ownership structure of the international rare earth industry is concentrated in upstream. 334 Hastings and Lynas hold the absolute control of Australian rare earths, 335 while “Molycorp is the largest holder of rare earth deposits outside of China.” 336

China started the concentration in 2006. 337 Concentrated companies could be accountable for environmental damages and serve the purpose of conserving the rare earth resources. The cleaning-up of rare earth pollution and eco-recovery activities are costly. For example, Molycorp spilled in a desert in the 1990’s. 338 It took years for Chevron, the parent company, to clean up chemical contaminants. 339

The respondent of the Rare Earths case required mining companies to make a deposit for ecological recovery according to the Deposit for ecological recovery requirements in Opinions on Enhancing the Ecological Protection and Restoration of Mines 340 and Several Opinions of the State Council on Promoting the Sustainable and Sound Development of the Rare Earth Industry. 341 The respondent further placed the standard on the emission of pollutants in the rare

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330. See generally Rules Governing the Listing of Stocks on the Shanghai Stock Exchange, SHANGHAI STOCK EXCHANGE, http://english.sse.com.cn/laws/framework/c/3978488.pdf (last visited Dec. 17, 2016) (China has been allowing companies to partially list their units so long as they conform to strict listing requirements on the stock markets either on the Shanghai Stock Exchange or the Shenzhen Stock Exchange).

331. SOE REFORM, supra note 325, §§ Xii, Xiii, and (Xv).

332. Id. §§ XIX, Xxiii.

333. Id. § V.


336. GRASSO, supra note 19, at 13.

337. PRC STATE COUNCIL, supra note 139.

338. MORRISON & TANG, supra note 9, at 13.

339. GRASSO, supra note 19, at 16.


341. Id.
earth industry to reduce the harm to humans, animals and plants. Companies in the industry shall mandatorily make significant investments to meet those standards. Besides the environmental protection purpose, consolidation helps serve the conservation goals. It is practically easier to monitor fewer companies.

a. Horizontal Division: “5+1” Concentrated Rare Earths Industry Structure

The division of the central and local companies has been scheduled as follows: China North Rare Earths takes control of the former Baogang Rare Earths. China Minmetals Co, Chinalco, and CNMC are another three Central SOEs in the South while Ganzhou Rare Earths, Jiangtong Rare Earths, Guangcheng Non-Ferrous Metals and Xiamen Tungsten Co are local companies holding the interests of the local natural resources on behalf of the local governments.

The Ministry of Industry and Information Technology designed that the six companies shall functionally concentrate the local little mines of each region, reduce the production for sustainability purpose, and protect the concerned environments.

The six large groups have taken over seventy-seven rare earth mining permits of the seventy-eight in total in China and consolidated seventy-seven of ninety-nine smelting and refining enterprises by the end of 2015 as expected to complete the consolidation mission.

The rare earth resource is apparently sensitive to the respondent’s security. Pursuant to the SOE reform Guideline, the government would start loosening the rare earth downstream industry control while the respondent maintains the higher level of equity control over the upstream resources.


343. PUI-KWAN TSE, U.S. GEOLOGICAL SURVEY, CHINA’S RARE-EARTH INDUSTRY 9 (2011) (“Rare-earth producers will be required to meet the environmental emission standards; otherwise, they will be shut down.”).

344. See China-Rare Earths Panel Report, supra note 3.


346. The discrepancy of the number shows local governments compete for their local interests and try to change the original design by the central government.


348. Xitū Hángyè Zhēngchéng Tìtū Liù dà Jìtúān Niǎndì Wānchēng Chōngzhù (稀土行业整合提速 六大集团年底完成重组(附股)) [Rare Earths Consolidation accelerated, Six Groups shall be Formed by the End of This Year], ZHONGGUO ZHENGQUAN BÀO GUÀN (中国证券报官方网站) [CHINA SEC. J.] (Aug. 11, 2015), http://www.cs.com.cn/ssgs/gsxw/201508/t20150811_4774925.html.

349. The upstream resources are regarded as critical to the national security. GRASSO, supra note
b. Vertical Separation: Dividing the Rare Earth Resources Companies from Downstream Companies

The policy architecture design was illustrated via the reform of the largest rare earth producer, Baogang Rare Earths.  

Inner Mongolia Baogang Rare Earths was a part of the Baogang Group, a giant SOE in the northern China. Inner Mongolia Baogang Rare Earths was listed in 1997 and changed its name to its current form on January 14, 2015. On February 20th, 2014, China Security published a notice that the Inner Mongolia Baogang Rare Earths and Inner Mongolia Baogang Steel Group (the other parallel subsidiary of the Group) released their Development Plan. According to the Plan, the latter shall own all the resources of the rare earths and steel ores and concentrate the mining industry in the North, turning it into a resource company. On the other hand, as prescribed in China Northern Rare Earths High-Tech Co Article of Association Article 13, Inner Mongolia Baogang Rare Earths, now called China Northern Rare Earths, shall focus on the application of the rare earths, technologies development and shall concentrate on the local smaller companies.

Therefore, the upstream resources and downstream application of resources were divided vertically in the chain. The two companies would have different equity ownership standards according to the Guideline.

The new central and local interest sharing structure made local governments...
winners, e.g., the local government Inner Mongolia has 73.77% of equity in China Northern Rare Earths’ parent company. In the “5+1” structure, the local governments further secured their interest share of resources as it shows below.

Jiangtong Rare Earths is in Sichuan Province. The SOE Chinalco has been in the Sichuan Province as well. The competition between the SOE Chinalco and Jiangtong Sichuan was intense. In 2014, Jiangtong acquired another five local smaller companies to form a bigger group to fence off the SOE giant. The local government explicitly declared their support for Jiangtong, in that the local rare earth industry shall follow Jiangtong’s leadership. So far, Jiangtong has not been a part of the structure of the new “5+1” industry plan. Nobody knows whether its fate is to be a part of Chinalco or change the original “5+1” structure to “5+2.”

In reconciliation by the central government, the new design brought the previous resource interest competitors and local governments to the shareholder meeting table. The recent SOE reform Guideline further involves more market players including stock exchange regulators, institutional investors, private investors, and professional firms to monitor the operation of companies. Theoretically, local governments will no longer be able to extract as much as they wanted for their own interests. Significant business plans would be decided by the board after the shareholders meeting authorization. In so doing, the goal of the conservation of the exhaustible resources could be finally achievable.

360. Zhongly Jiangtong, infra note 364.
363. Id.
364. Id.
365. Id.
366. Zhongly Jiangtong, supra note 364.
367. Id.
369. SOE Reform, supra note 325, § Xvii.
370. Id. § VII.
Exhibit 6: *The SOE Local and Central Government Interest Sharing Structure*  

![Diagram of SOE Local and Central Government Interest Sharing Structure](image)

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B. Microeconomic Level Case Study

Compared to the macroeconomic level reform, the company level changes started much earlier. Inner Mongolia Baogang Rare Earths followed dozens of acquisitions of local rare earths companies in 2012.372 The world’s number one rare earth producer, Inner Mongolia Baogang Rare Earths, was split into “China Northern Rare Earths” and “Inner Mongolia BaoTou Steel Union.”373 Pursuant to the later “5+1” plan and the vertical division of the rare earth industry, Inner Mongolia BaoTou Steel Union, a resource company, functioned to concentrate the upstream local smaller mines of the northern region to reduce the production for sustainability purposes and protect the environment at issue.374 China Northern Rare Earths continued with more equity acquisitions in the downstream.375 However, the two SOEs acquisition strategies were different.

The Comparison between China Northern Rare Earths and Inner Mongolia BaoTou Steel Union:

1. Diversifying the Parent Companies Equity and Public Offerings376

Inner Mongolia Baogang Group, as the parent SOE company in the North, had to follow the SOE Reform Guideline and made some accommodations accordingly. The parent companies modified its equity ownership of the two listed subsidiaries.377 It remained 38.92% of state ownership in China Northern Rare Earths.378 However, Baotou Steel Union Co, the rare earth resource company, increased its state ownership from 1.64% to 51.65%; by the third quarter there was roughly another 3% increase as the exhibit below shows.379

373. Development Plan, supra note 352; see also China-Rare Earths Panel Report, supra note 3.
374. Big Companies Will Control the Rare Earths Industry, supra note 341.
375. Id.
376. “5+1”, the 6 rare earths companies are listed. See infra note 387; see also Exhibit 7.
377. See generally, China Northern Rare Earths High Tech: 2014 Annual Reports, at 39, 41; China Northern Rare Earths High Tech: 2015 Quarter Reports at 2; China Northern Rare Earths High Tech: 2016 midterm reports at 24; Baogang Steel Union: 2015 1st Quarter Report at 5, 23, 26; Baogang Steel Union: 2015 1st Quarter Report at 21.
### Exhibit 7 Difference of the Equity Structure

Source: *Shanghai Stock Exchange*

<table>
<thead>
<tr>
<th>China Northern Rare Earths [Downstream]</th>
<th>BaoTou Steel Union Co [Upstream]</th>
</tr>
</thead>
<tbody>
<tr>
<td>State-Owned Equity</td>
<td>State-Owned Equity</td>
</tr>
<tr>
<td>38.92%</td>
<td>54.66%</td>
</tr>
<tr>
<td>Hong Kong Jiaxin Co., Ltd [Foreign Investment]</td>
<td>Shanghai Lijaying Trading Co</td>
</tr>
<tr>
<td>9.07%</td>
<td>4.78%</td>
</tr>
<tr>
<td>China Securities Finance Corporation., Ltd</td>
<td>Shanghai Liumu Dingxiang Investment co</td>
</tr>
<tr>
<td>2.99%</td>
<td>3.80%</td>
</tr>
<tr>
<td>Central Huijin Investment.,Ltd</td>
<td>Guohua Life Insurance</td>
</tr>
<tr>
<td>1.64%</td>
<td>3.76%</td>
</tr>
<tr>
<td>ZOFUNDS</td>
<td>Hua’an Investment Hong Kong [Foreign Investor]</td>
</tr>
<tr>
<td>0.75%</td>
<td>2.56%</td>
</tr>
</tbody>
</table>

2. China Northern Rare Earths Subsidiaries and Branches Level Equity Ownership Study

The companies in downstream equity structure even involved more participation from private investors at the lower level. In early 2014, Inner Mongolia Baogang Rare Earths, currently China Northern Rare Earths, consolidated another five local companies, but this time the company acquired only 34% equity of the four subsidiaries and strategically bought 5% equity shares from the last one. The strategy was consistently embedded in the later issued SOE reform Guideline.

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383. *Id.* at 15.


385. The upstream rare earths resource is regarded as critical to national security where the art. 5, ¶ 3 specifies state to be the controlling shareholder. Xinhuá (新华), CPC CENT. COMMITTEE AND ST. COUNCIL ON DEEPENING THE GUIDANCE OF ST.-OWNED ENTERPRISE REFORM (中共中央、国务院关
As the diagram shows below, China Northern Rare Earths, a subsidiary SOE, owns three branches of companies and four kinds of subsidiaries. The first category contains four subsidiaries of 100% ownership; the second level of control is 51% plus state ownership. In those companies, the China Northern Rare Earths has controlling voting power in board decisions. The third level of control is the leveraging control through its voting power. Within these companies, China Northern Rare Earths owns more than 34% of equity. The last category is the significant ownership; China Northern Rare Earths decreases the equity ownership with the last six companies on the right end of the chart below in the range between 10.2% and 5%. It implies that the private ownership, including foreign investors, will increase proportionally up to 95%.

Exhibit 8: China North Rare Earths

389. Id.
390. Id.
391. Id.
392. Id. Due to the business scope severance between Baogang Group and China Northern Rare Earths, China Northern Rare Earths High Tech Limited By Shares is in the downstream of the chain and not related to the resources. Therefore, application of the rare earths does not fall in the prohibited category rare earths mining according to China Foreign Investment Industries Categories p27. Also, China encourages the JV business structure between China domestic companies with foreign investors for technology updates and the industry advance.
394. Northern Rare Earth (北方稀土), CAPITAL STRUCTURE (北方稀土),
As it is encouraged by the *Guideline*, the company is also listed with all of its assets on the China Shanghai Exchange.\(^{395}\) Reports of subsidiaries and branches are accordingly required to be audited by third parties and be publically available.\(^{396}\) These moves add the transparency of the market and reduce the chance of local influences.

In sum, the central government, now one of the shareholders, shall


\(^{396}\) The information is public available at the stock exchanges, both Shanghai and Shenzhen Exchange as note 371 shows.
participate in the shareholder meeting to authorize it’s planning. The board shall act on behalf of the shareholders to comply with the conservation policy of the exhaustible rare earths and the environmental regulations.

C. Strengthened Environmental Law and Regulations

The conservation plan includes the environmental requirements and its enforcement actions. The strengthened legal enforcement helps in achieving the above purported goals. China’s thirteenth 5-Year Plan indicates that local officials shall not be immune from the environmental responsibility liability for negligence and that a clean environment shall be a key indicator of the prescribed people’s living conditions. The Plan also encourages commercial companies to join in the environmental recovery. The huge market amounts to 17 trillion Yuan.

The strengthened legal enforcement helps in achieving the above purported goals. China’s thirteenth 5-Year Plan indicates that local officials shall not be immune from the environmental responsibility liability for negligence and that a clean environment shall be a key indicator of the prescribed people’s living conditions. The Plan also encourages commercial companies to join in the environmental recovery. The huge market amounts to 17 trillion Yuan. The state will commence its stricter monitoring system by involving non-state third party participation to reform the current environmental administration structure. According to Xinhua News, the administration shall be more transparent.

China also modified its Environmental Law. Further, China legislators took two years and issued China Clean Water Act on April 16, 2015. The tightened environmental regulations, public awareness, and third party monitoring pushed local governments to be more willing to cooperate by showing their due diligence efforts to avoid sanctions. Xinhua News first criticized the Jiangxi Province which collected accumulative revenue of about one billion US dollars from the local rare earth industry, but the pollution generated was found to cost the local government thirty-eight billion RMB (6 billion USD) to clean up.

398. Id.
401. Id. ("The government shall invest 1.7 trillion RMB for the environment recovery" and "it is a good opportunity for the business in the sector").
402. Id.
403. Id.
404. Xinhua (新华), supra note 402.
This means some local officials might lose their promotions or face sanctions when the term is fully evaluated. The large companies shall also be supervised and evaluated accordingly. The top directors of corporations and the company are jointly liable to pollutions and environmental damages according to the China Court. The strict legal enforcement is a key to the comprehensive policy reform.

D. Summary

This study has revealed that the broad set of policies in the transitional economy, as a whole, served the objectives of industry reorganization, resource conservation, and environmental protections at both the macroeconomic level and the microeconomic level. In the view of the scholars, the export policy should not be viewed in isolation, and is in conformity with the findings.

E. Comments

Research shows that so far the current industry consolidation has been making progress, but there are some concerns:

Most developing nations also lack the political stability and democratic traditions that allow citizens to influence government policy. The government and corporations of the developed world have a powerful financial incentive to export hazardous or polluting industries to third world pollution havens. The resulting health and environmental problems then become the burden of the Third World host country. The respondent has the same issue. The market might speculate on the failure of China’s current rare earth industry reform and conservation policy. There are several key issues below:

First, the interest sharing architecture between the central state and local governments might not work in reality. Particularly, the locally controlled rare earth companies might advance the local priorities. The shareholders could also have different goals. For instance, the local plan of Inner Mongolia, where China Northern Rear Earths is located, requires that the rare earths industry shall grow annually by 24% and its turnover shall reach 100 billion RMB by the end of

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413. See Jonathan Kaiman, *supra* note 117.
The autonomous region wants to expand the usage of the industry for tax revenue. Local officials still have interests in the mining. The Rare Earths Association claimed the consolidation became harder at the later phase due to the local officials’ interests involved. Since the reform was initiated in 2006, the reform effort has lasted for ten years. Some issues, e.g., smuggling networks, have only gotten worse.

Second, China vows to build a rule-of-law government by 2020, but not a rule-of-law state as of yet. Although laws and regulations were promulgated for these purposes, there are plenty of concerns of the effective enforcement. So far there is no legal precedent regarding an official or SOE’s company director being punished due to the environmental issue, including the Jiangxi Province case, which Xinhua News above criticized the Jinhui Company for causing 38 billion RMB in environmental damages (six billion USD). In the most recent Supreme Court of China case, the Supreme Court of China upheld the lower court’s decision of inflicting a 26 million USD penalty due to the environmental damage caused by Jinhui Company, but there is no director to be punished for being jointly liable in the verdict.

Lastly, the rare earth deposits are scattered under farmers’ assigned land and the rare earths are highly precious in value. Some elements are much more valuable than gold. Even though the seventy-seven of the ninety-nine licenses now are owned by the “5+1” companies, it is not necessary to hold a license for “the illegal extraction.” As the state news agency reported, it was hard to prevent stealing and smuggling. The land is under farmers’ use. Customarily, it

416. Jiangxi Copper Aluminum, supra note 416.
418. In 2008 the smuggling rare earths was 20,000 tons while it reached 40,000 tons in 2014; CHINA-Rare Earths Panel Report, supra note 3; see also McRae, supra note 54.
424. Ren Kuaibin Kerry 记者李斌 于巍, CHINA’S RARE EARTH INDUSTRY WILL CONTINUE TO INCREASE EFFORTS TO COMBAT ILLEGAL ACTIVITIES (中国稀贝始终加大打击非法开采力度) (Aug.
is rare that a farmer is accused for such a wrongdoing, e.g., digging some "soil" from his/her land, by a local government while central government agencies are far away in Beijing.\textsuperscript{425} The rare earths could be easily disguised with other commodities and destined for overseas transport.

VIII. THE DEVASTATING CONSEQUENCE OF CHINA-RARE EARTHS RULING

The respondent at the WTO Dispute Settlement Body meeting on May 20, 2015 informed the DSB that it had removed the export duties and export quotas on rare earths tungsten and molybdenum, as well as the restrictions on trading rights for enterprises exporting rare earths and molybdenum as recommended by the Panel.\textsuperscript{426}

\textit{A. Black Market Smuggling Doubled After the Policy Lifted}

Black market rare earths played an important role in the case.\textsuperscript{427} The respondent argued that the border control measure, the export license, was directly related to black market sales and smuggling.\textsuperscript{428} However, the Panel rebutted that the license theoretically "incentivized" the smuggling.\textsuperscript{429} This could be true in the United States and Australia where farmers might not have access to the rare earths resource. People could be sued for the misconduct of trespassing on the property of others. In China, the existing land system guarantees peasants the security of having a piece of land.\textsuperscript{430} The People's Congress passed a Law of Land Contract in Rural Areas in 2002, which specified that the entire rights of use be contracted to farmers' households for the "long term," which meant a lifetime.\textsuperscript{431} The farmers have the exclusive control over the contracted land.\textsuperscript{432} It facilitates the stealing of soil, particularly, in southern China.\textsuperscript{433}

When the border control in dispute in the case was lifted, the illegal rare earths in turn were sold to the black market.\textsuperscript{434} \textit{Business Insider} reported that there were as much as 40,000 tons of the vital technology metals smuggled out of the

\textsuperscript{427}Stanway, supra note 55.
\textsuperscript{428}\textit{See China-Rare Earths Panel Report, supra note 3}.
\textsuperscript{429}\textit{China-Rare Earths Panel Report, supra note 3, ¶ 7.429}.
\textsuperscript{431}Jialin Zhang, \textit{supra} note 427.
\textsuperscript{432}Id.
\textsuperscript{433}Id.
country last year.\textsuperscript{435} Compared to the situation before the WTO ruling, the U.S. Congressional report cited, "About 20,000 tons of rare earths were smuggled from China in 2008, which was estimated to have accounted for one third of the total volume of rare earths leaving China that year."\textsuperscript{436} After lifting the measures to be in conformity with WTO recommendations, the smuggled rare earths supply doubled.\textsuperscript{437}

\textit{Reuters} reported that the easier black market access partly attributed to the recent international price slip.\textsuperscript{438} The cancellation of the quota and license eased the availability of the black market.\textsuperscript{439}

Pursuant to the consequence caused by applying the WTO recommendations, the hypothesis of the theoretical approach by focusing on the text was probably not correct. After lifting the "incentive" measures, the "effects" indicated the opposite, that the smuggling and illegal extraction increased.\textsuperscript{440} In \textit{EC-Tariff Preferences}, the Panel reviewed the effects of the drug arrangements in this report, which revealed that the product coverage under the drug arrangements decreased by 31% from 1999 through 2001.\textsuperscript{441} The Panel concluded the policy did not contribute to the goal.\textsuperscript{442} Whereas, similar to the effects here, the prices increased due to the measures in dispute, which the Panel adventured in theory, were proved opposite.\textsuperscript{443} Therefore, according to \textit{EC-Tariff Preferences}, the Panel's hypothesis in \textit{China-Rare Earths} should be rejected based on the fact.\textsuperscript{444}

\textbf{B. The Market Crashed After the WTO Ruling}

The application of the WTO ruling was devastating to the industry across the world. Mining.com cited, according to the China Rare Earths Annual Report, that 90% of Chinese Rare Earths resources companies suffered a loss.\textsuperscript{445} \textit{China Daily} reported that 90% of rare earth mining firms slipped into the red.\textsuperscript{446} Molycorp was in deeper trouble due to its stock price crash.\textsuperscript{447}

\begin{itemize}
\item \textsuperscript{435} Stanway, supra note 55.
\item \textsuperscript{436} \textsc{Morrison} \& \textsc{Tang}, supra note 9, at 15.
\item \textsuperscript{437} Northern Rare Earth, supra note 9.
\item \textsuperscript{438} Stanway, supra note 55.
\item \textsuperscript{440} \textit{China-Rare Earths Panel Report}, supra note 3, ¶¶ 7.410, 7.425.
\item \textsuperscript{441} \textsc{Butcher}, supra note 150.
\item \textsuperscript{442} Id.
\item \textsuperscript{443} \textsc{Morrison} \& \textsc{Tang}, supra note 9, at 23. Beside of the explanation at Part (C), "Average prices for imported Chinese rare earths have dropped sharply since September 2011, falling to $46,694 per metric ton in February 2012, a 70.5% decline." In fact, the price slashed by 70.5% before this dispute started.
\item \textsuperscript{444} \textsc{Butcher}, supra note 150.
\item \textsuperscript{446} Lyu Chang \& Yuan Hui, \textit{Rare earth mining firms slip into the red}, CHINADAILY USA, http://usa.chinadaily.com.cn/epaper/2015-08/11/content_21565705.htm (last updated Aug. 11, 2015).
\item \textsuperscript{447} Myles Udland, \textit{Rare Earth Metals Were Supposed To Be The 'Can't-Lose' Investment of the Decade — Look How That Turned Out}, BUSINESS INSIDER (Sept. 16, 2014),
\end{itemize}
1. The Decline of the Overall Price Index

The rare earths price declined sharply. According to the Association of China Rare Earth Industry, which has been monitoring the price on behalf its members, the price dropped significantly after the WTO dispute. According to China Security, the price of the rare earths fell around 70%. The data below was released at the China Rare Earths Annual Conference sponsored by the Association of China Rare Earth Industry.

Exhibit 9 Rare Earths Price Index
Source: China Rare Earths Association

According to this chart, the price index was around 200 points on October 8 of 2013, but took a nose-dive to 108 points on September 15, 2015.

449. Id.
452. Association of China Rare Earth Industry, supra note 453.
453. Id.
2. The Price Decline of the Rare Earths in the International Market and the Last Stroke to Molycorp

This research looked to Bloomberg.com and rare earth companies. The price change of seventeen-rare earth-element-metals suffered a downturn from the July of 2012 to October 23, 2015, on which the data was collected.

Exhibit 10: The Price Change (2012.07-2015.10.23)

Compared to the domestic price-drop, the chart shows that the f.b.o international sale slid even more significantly. The reasons of the price crash are discussed below in detail.

The known impact on the international producers and the rare earth sector is devastating. More than just those companies listed by the respondent were affected, and international producers have been impacted as well. According to the Wall Street Journal, “in the first 11 months of last year, the value of China’s rare-earth exports fell 33% from a year earlier, according to customs data” after China dropped the decade-old quota. Most western producers had to decrease or stop

455. Australian Rare Earths, supra note 336.
457. This website is recommended by Bloomberg.com for Rare Earths. The data was collected through peer comparison between the price of 2012.07.25 and the price of 2015.10.23. We also supply the data provided by China counterpart. Asian Metal Inc., 8th International Rare Earth Summit, ASIAN METAL, http://www.asianmetal.com/RareEarthsPrice/RareEarths.html (last visited Oct. 3, 2016).
mining after the China-rare-earth ruling was handed down.\textsuperscript{459} Jeb Handwerger, president of the United States Mining Development Corp warned, “don't ignore the rare-earth sector because of low rare-earth prices and the failure of the Western producers.”\textsuperscript{460}

Exhibit 11: Rare Earths Elements Prices & US Molycorp Stock Price\textsuperscript{461}

\begin{center}
\textbf{A Rare Rise and Fall}
Molycorp, the only U.S.-based rare-earths producer, benefitted from an extraordinary bubble and has struggled to turn a profit since prices collapsed.

\begin{tabular}{|c|c|}
\hline
Prices of four key rare earths & Share-price performance \\
$400 per kilogram & $80 \\
300 & 60 \\
200 & 40 \\
100 & 20 \\
0 & 0 \\
\hline
\end{tabular}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{rare_eart_prices.png}
\caption{Rare Earths Elements Prices & US Molycorp Stock Price}
\end{figure}

Sources: www.metal-pages.com (metals); FactSet (share price) THE WALL STREET JOURNAL.
\end{center}

Due to measures in dispute lifted in accordance with the Panel’s rulings, there are more supplies from both legal and black markets as discussed above.\textsuperscript{462} This led to the price failure of the key rare earths because of the supply increase, particularly from the black market.\textsuperscript{463} Business Insider reported 40,000 tons of the vital technology metals, which were smuggled out of the country last year, drove down global prices.\textsuperscript{464} Molycorp Inc., the only rare earth miner and producer in operation in the U.S., lost its profit, crashed in stock market, and filed a bankruptcy protection earlier in 2015.\textsuperscript{465} Of the companies located in the respondent’s

\begin{itemize}
\item \textsuperscript{459} Jonathan Kaiman, supra note 117.
\item \textsuperscript{460} Myra P. Saefong, Rare-earth elements are poised for a recovery, MARKET WATCH (Aug. 19, 2015), http://www.marketwatch.com/story/rare-earth-elements-are-poised-for-a-recovery-2015-08-19.
\item \textsuperscript{461} John W. Miller, Molycorp Struggles to Survive Rare-Earths Bubble, WALL ST. J. (May 31, 2015), http://www.wsj.com/articles/molycorp-struggles-to-survive-rare-earths-bubble-1433110948.
\item \textsuperscript{462} See Robert Wright, Boom in once-scarce ‘rare earth’ metals end in US miner’s bust, FINANCIAL TIMES (June 25, 2015), https://www.ft.com/content/295aeda1-b4c1-11e5-a130-267db721f996.
\item \textsuperscript{463} Id.
\item \textsuperscript{464} Stanway, supra note 55.
\item \textsuperscript{465} Rare Earth Investing News, 6 Top Rare Earth-producing Countries: A Look at Rare Earth Production, RARE EARTH INVESTING (July 14, 2016), http://investingnews.com/daily/resource-investing/critical-metals-investing/rare-earth-investing/top-rare-earth-producing-countries-2013-usgs-2; Saefong, supra note 462.
\end{itemize}
territory, Molycorp was the most significant producer in operation. Its equity price change is correlated to the price of rare earth products of the international market. The correlation coefficient is strong as demonstrated in the chart above.

C. Summary

The WTO recommendations to *China-Rare Earths* case were either not “necessary” or probably not well decided. The consequence of the ruling is devastating to the whole industry across the world.

IX. CONCLUSION

Based on the review of the *China-Rare Earths* case and the relevant law, it would be difficult in accepting that any defense under Art. XX (g) is still necessary for respondents when an issue between environment and trade is brought to the WTO, where the Panel will apply the Environment and Trade principles and the “next to impossible” legal test standard. The *China-Rare Earths* case further raises the concern over the “unconfined” discretion of the Panel regarding both the applicable legal theories and the approach.

From a broader perspective, the WTO’s failure to update its “trade and environment working principles” has raised the conflict with other broadly adopted international laws. When looking at this case closely, as stated in the Panel report, protection of human, animal and plant life from harm under Art. XX (b) became illegal. Such a result has risen “to the level of being manifestly absurd or unreasonable.” The *China-Rare Earths* case ruling resulted not only in WTO self-contradiction to its own objectives, e.g., sustainable development and improving living standard, but also the judgment overlooked human rights and the ongoing international community environmental efforts for better living conditions.

Lastly, the judgments in *China-Rare Earths* and other WTO environmental cases could eventually hurt the investors and industries. Concluding the WTO is innocent and free of responsibility for the devastating effects caused to the rare earths industry in the respondent country and to other

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467. Miller, *supra* note 78 (The correlated market behavior is reflected in the similar figures of the international rare earths prices and the stock equity changes of Molycorp).
468. Id. (It is a mathematical summary of the description).
472. Id.
international producers, e.g., Molycorp, is probably unjustifiable. Along with the competition of Regional Trade Agreements, the WTO, as the exclusive trade agency, could be finally marginalized if it continues to adhere to its current standard, thereby, deteriorating WTO's influence in the international community.