



Japanese Mainstream Media's Stance on China's Efforts in Poverty Alleviation Based on Big Data An Informatization Study of News Report

Wenyu Zhang^(✉)

School of Northeast Asia Studies, Shandong University, Wenhuxi Street, Weihai, China
wyzhang@mail.sdu.edu.cn

Abstract. Big data technology has a huge impact on the patterns and structures of international relations as well as triggering changes in traditional research methods. Poverty governance is an important part of global governance and an essential step in promoting human development. In recent years, China has made remarkable achievements in poverty-eradication and has increasingly become the backbone strength in global anti-poverty campaign. The international press plays an essential role in actively contributing to the outreach of poverty alleviation experiences. This study selected the mainstream Japanese media Asahi Shinbun and collected China-related reports on the era of poverty alleviation. Based on the theoretical framework of critical discourse analysis and the comprehensiveness, authenticity and timeliness of big data technology in data analysis, the scientific research method of corpus was applied to explore Japan's position on China's efforts in poverty alleviation and to make proposals on Sino-Japan cooperation in poverty-eradication.

Keywords: poverty alleviation · critical discourse analysis · corpus · stance-taking · Sino-Japan cooperation

1 Introduction

With increasing globalization, poverty governance is no longer just a national or regional issue, but has become a worldwide issue that requires the participation of the whole world. In October 2020, China took the lead in achieving the UN Millennium Development Goals (MDGs) on poverty reduction, profoundly changing the global distribution of poverty. However, China's innovative practices and results in poverty alleviation have not been treated with full justice on the world arena. Some foreign media are skeptical and even negative about China's achievements in poverty alleviation (Xiong, 2020) [1]. This is detrimental not only to China's national image, but also to the international community to learn from China's experience in poverty alleviation. As the main behavior body in disseminating information and influencing public view, the press plays a very important role in this battle over public opinion. The development of meaning through language and signs is what news reports are as a type of representation (Yan, 2020) [2]. In this instance, the meaning of a particular topic is not fixed, but rather depends on the ongoing

production of the media. The goal of a critical discourse analysis of these reports is to bring these obfuscated aspects of discourse as social practice to light (Wodak, 2004) [3]. The study of international relations is characterized by the complexity, timeliness, temporal. Data collection from real-world situations - digital traces - allows us to record the whole range of reactions to political developments, which were previously out of reach (Georgiadou, Angelopoulos & Drake, 2020) [4]. The data revolution, on the other hand, offers new research methodologies for extracting relevant insights from enormous datasets, as well as a paradigm shift in scientific research methods (Chang, Kauffman & Kwon, 2014) [5].

Taking Japanese mainstream media Asahi Shimbun as an example, this study outlines the basic characteristics of Chinese poverty alleviation in the Japanese public opinion environment through corpus processing and the theory of critical discourse analysis by means of corpus segmentation software and corpus software applicable to Japanese. Based on the data analysis, we will analyze Japan's perception and position on China's participation in global poverty governance and make suggestions for Sino-Japanese cooperation in poverty alleviation.

2 Methodology

2.1 Content Analysis

This paper realizes the presentation of China's efforts in poverty alleviation in Japan's mainstream media through big data technology, and analyzes the international public opinion of China's poverty alleviation stories by focusing on the use of critical discourse in conjunction with international political linguistics.

Japan was selected as the target country for the study. As an ally of the U.S. in East Asia, Japan has been heavily influenced by the U.S. in terms of its public opinion views and perceptions of China during its decades of development. Nevertheless, with the rise of China, Japan is becoming more and more dependent on China in the economic and trade fields, and is gradually approaching China, other "Confucian cultural circle" and "Chinese cultural circle" countries in terms of humanistic exchanges and cultural identity. Japan's response to this shift deserves to be studied deeply. Specific research questions include: What are the main concerns of Japanese mainstream media about China's efforts in poverty alleviation? What are the emotional and cognitive attitudes of the Japanese mainstream media towards China's poverty alleviation efforts? What changes have occurred in the past two years? How should China disseminate its experience in poverty reduction in the face of the evaluation and stance of the Japanese mainstream media? And what cooperative measures should be taken?

2.2 Data Source

This study was based on the Asahi Shinbun database, and the valid corpus of Asahi Shinbun was collected from January 1, 2020 to December 31, 2020 and January 1, 2021 to December 31, 2021, totaling 119,562 characters. In the first time period, China was committed to achieving the goal of poverty reduction and eliminating absolute poverty.

Table 1. Data Source (Self-made)

Time period	Number of valid reports	Number of valid characters	Average length of discourse (words)
Jan. 1, 2020 – Dec. 31, 2020	24	41465	1728
Jan. 1, 2021 – Dec. 31, 2021	48	78097	1627

Therefore, we focused on exploring Japan's attitude toward the persistence and future of poverty reduction in China in the first period of the scope study. In the second period, with China's announcement of its overall victory in the fight against poverty and its gradual move toward a "post-poverty alleviation" era, the international community was increasingly calling for cooperation with China in poverty reduction. This selection of time periods can clearly cover the changes in the development of poverty alleviation in China and make the comparative study more reasonable (Table 1).

2.3 Data Analysis

We first segmented the Japanese corpus by SegmentAnt software and supplemented it with manual screening. Subsequently, AntConc 3.5.8 software was used for corpus analysis to scientifically quantify Japanese mainstream media reports on China's experience in poverty alleviation and the image of China conveyed in them through the analysis of word frequency, word list, and concordance, and then the reports were evaluated through critical discourse analysis.

3 Result and Discussion

3.1 High Frequency Noun Analysis

In this section, we analyzed the image of China in the international poverty alleviation business through the synchronische and diachronische features of the Asahi Shinbun's coverage of China's poverty alleviation practices.

As shown in Fig. 1, we visualized the target of Asahi Shinbun's focus in the top 20 high-frequency words. As can be seen, the frequency of words related to "country/region" was much higher than other types of words in both 2020 and 2021, reflecting Japan's concern for national leadership in poverty alleviation. Meanwhile, due to the outbreak, prevention and control of COVID-19, Japanese mainstream media in 2020 tended to explore China's efforts to reach its poverty alleviation goals in the wide background of the epidemic, together with judging the effectiveness. While in 2021, as the epidemic normalized, Japanese mainstream media shifted their focus to poverty alleviation itself, especially the leader of this cause, the Communist Party of China.

As shown in Table 2, the top 20 real-meaning high-frequency nouns in the Asahi Shinbun's reports on China's poverty alleviation in each of the two time periods

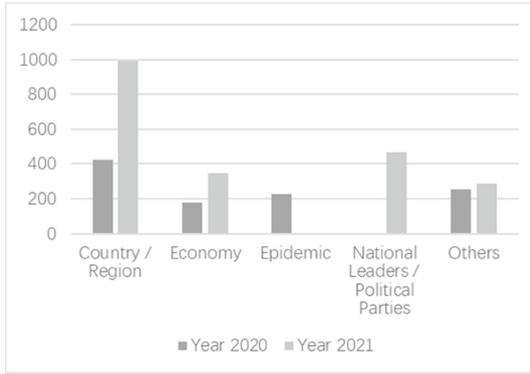


Fig. 1. Statistical chart of high frequency nouns classification (from Asahi Shimbun)

were selected. As many as five are directly related to the epidemic in 2020, including “感染(infection)” “コロナ(corona)” and “感染者(infector)”, while only the more direct words “經濟(economy)” and “貧困(poverty)” are related to poverty alleviation. Although the words “政府(government)” and “国家(nation)” are included to indicate the Chinese authorities, only a few of them refer to national leaders and political parties, indicating that at this time Japan paid little attention to the specific initiatives of Chinese authorities to alleviate poverty. In addition, “世界(world)” and “日本(Japan)” also appear more frequently, showing that Japan was concerned about the impact on China’s poverty alleviation outside of China. In 2021, the number of keywords related to epidemic gradually decreased, while the number of words related to poverty alleviation skyrocketed, with specific concerns about poverty alleviation such as “格差(income difference)” and leaders of poverty alleviation such as “党(party)”, reflecting Japan’s concern about the implementation of poverty alleviation policies in China.

3.2 Word List Analysis of Collocations

Using AntConc 3.5.8 to search for the node word “China”, 54 rows (2020) and 116 rows (2021) were retrieved respectively, and the top 10 frequencies were shown in Table 3. Among them, the words “經濟(economy)” “脱貧困(poverty alleviation)” “隴南(Longnan)” and “GDP” in 2020 point to poverty alleviation; “中国(China)” and “本土(mainland)” were linked together because the emergence of the “black swan”, COVID-19, has brought difficulties and challenges to China’s economic and social development goals for the whole year, and the Japanese media expressed their concern about the adverse impact of the epidemic on the cause of poverty alleviation in China. In 2021, “政府(government)” “共产党(Communist Party)” “当局(authority)” and “北京(Beijing)” reflected the focus of Japanese mainstream media coverage of the Chinese authorities’ poverty alleviation policies, while China’s consciousness to share its poverty reduction experience with the international community also received significant attention. The words “外交(diplomacy)” “外務省(Foreign Ministry)” and “メディア(media)” in the text refer to the foreign ministry and propaganda department, proving that the Asahi Shinbun quoted many statements from official Chinese agencies in its

Table 2. Asahi Sinbun High-frequency Noun List (Top 20) (Self-made)

2020				2021			
No.	Word	Frequency	%	No.	Word	Frequency	%
1	中国China	131	0.388	1	中国China	457	0.693
2	経済economy	102	0.302	2	社会society	167	0.253
3	感染infection	100	0.296	3	習氏Mr. Xi	158	0.240
4	世界world	72	0.213	4	共産党Communist Party	120	0.182
5	政府government	70	0.207	5	党party	111	0.168
6	社会society	68	0.201	6	経済economy	101	0.153
7	対策countermeasure	57	0.169	7	政府government	92	0.139
8	日本Japan	44	0.130	8	米国the U.S.	92	0.139
9	国家nation	41	0.121	9	問題problem	85	0.129
10	企業enterprise	40	0.118	10	主義-ism	83	0.126
11	問題problem	38	0.112	11	政權regime	80	0.121
11	貧困poverty	38	0.112	12	世界world	66	0.100
13	主義-ism	37	0.109	13	格差income difference	65	0.099
14	コロナcorona	35	0.104	14	政策policy	64	0.097
15	拡大expansion	33	0.098	15	日本Japan	63	0.096
16	政策policy	32	0.095	16	富裕affluence	61	0.092
17	影響influence	30	0.089	17	不動産immovables	58	0.088
17	必要necessity	30	0.089	18	国家nation	55	0.083
17	感染者infectors	30	0.089	18	歴史history	55	0.083
20	コロナウイルスcoronavirus	28	0.083	20	企業enterprise	53	0.080

report. A small change occurred in 2021 with increased positive evaluation resources (32.5%) and decreased negative evaluation resources (45%). Although negative semantic prosodies were always higher than positive semantic prosodies, the proportion of positive ones increased.

3.3 Concordance Analysis

As in Table 4, we conducted a concordance analysis of Asahi Shinbun's reports on poverty alleviation in China in 2020 and 2021. 13.9% of the attitude resources reported in 2020 were positive, constructing positive semantic prosody; 59.4% of the attitude resources were negative, constructing negative semantic prosody.

Table 3. Asahi Sinbun “China” Noun Collocation List (Top 10) (Self-made)

2020			2021		
No.	Word	Co-occurrence frequency	No.	Word	Co-occurrence frequency
1	政府government	11	1	共產党Communist Part	58
2	共產党Communist Part	6	2	政府government	20
3	經濟economy	6	3	社会society	15
4	脱貧困poverty alleviation	6	4	人民people	15
5	指導部guidance department	3	5	当局authority	7
6	北京Beijing	2	6	經濟economy	5
7	本土mainland	2	7	メディアmedia	5
8	国内in China	2	8	不動産immovables	4
9	隴南Longnan	2	9	外交diplomacy	3
10	GDP	2	10	外務省 Foreign Ministry	3

Table 4. Concordance Analysis of Asahi Sinbun’s 2020/2021 Report on Poverty Alleviation in China (Total: 101/160 Neutral: 27/36) (Self-made)

		Affect resources				Total	
		(Un)happiness	(In)security	(Dis)satisfaction	(Dis)inclination		
Positive	Number	3/2	0/13	2/4	3/8	8/27	
	%	3.0/1.3	0/8.1	2.0/2.5	3.0/5.0	7.9/16.9	
Negative	Number	6/1	12/15	9/7	4/13	31/36	
	%	5.9/0.6	11.9/9.4	8.9/4.4	4.0/8.1	30.7/22.5	
		Appreciation resources				Total	
		Reaction		Composition			Valuation
		Impact	Quality	Balance	Complexity		
Positive	Number	2/3	2/7	0/3	1/6	1/6	6/25
	%	2.0/1.9	2.0/4.4	0/1.9	1.0/3.8	1.0/3.8	5.9/15.6
Negative	Number	4/5	15/9	0/10	3/7	7/5	29/36
	%	4.0/3.1	14.9/5.6	0/6.3	3.0/4.4	6.9/3.1	28.7/22.5

First, the semantic prosody of the concordance shows the complex opinions of the Japanese mainstream media about poverty alleviation in China. Worries about the huge base of poor people in China are expressed through words such as “批判する (criticize)” and “困難(difficult)”. It highlights the severity of poverty in China and the world and concerns about the effectiveness of China's approach to poverty through a high proportion of safe emotional resources such as “必要(necessary)” and “最悪(worst)”. Second, Japan followed the lead of some Western countries in consciously linking poverty governance to human rights issues in an attempt to portray a selfish image of China. For example, when reporting on the effectiveness of poverty alleviation in Xinjiang and Longnan, commentators are quoted to launch attacks. Third, there are also positive evaluation resources in the Japanese mainstream media coverage. The search of the context shows that most of the positive evaluation resources came from references to public speeches of Chinese leaders. Although the Asahi Shinbun did not make an in-depth positive comment on these, it can be seen that Japan is gradually learning from China's experience in poverty alleviation in a positive way.

4 Conclusions

Through the above analyses, it is clear that there are rare development opportunities for China to promote cooperation with Japan in poverty alleviation. First, Japan's understanding of the cause of poverty reduction has gradually converged with China's and its sense of responsibility has gradually grown. Second, the Asahi Shinbun also reported that major international development agencies was making poverty reduction a priority and that the resources available were still sufficient. Third, scientific and technological development expands the path of participation of China and Japan in global poverty governance. However, analyses of mainstream media reports in Japan show that while the current situation presents a unique opportunity for international cooperation in poverty governance, it also presents a series of challenges. First, the normalization of the epidemic has led to slower or even negative economic growth, making international poverty governance more difficult. Second, increased international political competition is hindering the international community from cooperating with China on poverty governance.

Because of this, it is even more important for China to build a good image of China's poverty alleviation and promote cooperation between China and Japan in poverty reduction. First, appropriately adjust the propaganda strategy for Japan and face the challenge of negative misinterpretation head-on. Increase the density and strength of information, grasp the initiative with a continuous flow of information, timely interpretation as well as proactive setting and guiding of topics. Restore the full picture of the incident and prevent the spread of false information and the exploitation of the issue by some people through timely clarification of rumors. Second, make good use of new media communication methods to stimulate the vitality of multiple subjects. In the era of new media, the effect of traditional forms of communication has gradually weakened. China's communication to Japan should combine traditional media with new media, adopt a multi-pronged approach, activate the vitality of multiple subjects, and jointly shape the image of a responsible great power in poverty alleviation. Third, beyond the blockade, gather the world's wisdom on poverty alleviation. Hold the accumulation of

independent and original experience and ideas formed in the journey of China's comprehensive poverty-eradication for the first demonstration, support to join hands with it to refine China's experience in poverty management, sort out China's history of poverty management, explain China's model of poverty management, and tell a good story of sustainable poverty alleviation with Chinese characteristics to Japan that is recognizable and can be promoted.

Acknowledgement. This study is funded by Shandong University's 2021 National Innovation and Entrepreneurship Training Program for College Students, "China's Poverty Alleviation Story in International Public Opinion" (202110422010).

References

1. Chang, R., Kauffman, R. & Kwon, Y. (2014). Understanding the paradigm shift to computational social science in the presence of big data. *J. Decision Support Systems*. 63, 67-80.
2. Georgiadou, E., Angelopoulos, S. & Drake, H. (2020) Big data analytics and international negotiations: Sentiment analysis of Brexit negotiating outcomes. *J. International Journal of Information Management*. 51, 67-80.
3. Wodak, R. (2004). Critical discourse analysis. *J. Qualitative research practice*. 185, 185-204.
4. Xiong, D. (2020). International Public Opinion Analysis and Communication Strategies for China's Poverty Reduction Efforts. *J. International Communications*. 2020(03), 20-22.
5. Yan, F., 2020. Image, Reality and Media Construction: A Frame Analysis of German Media Representations of China, Springer Nature. Berlin, eBook.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

