TITLE

Translation, interpreting, language, and foreignness in crisis communication policy: 21 years of white papers in Japan

ABSTRACT

Japan is exposed to many hazards and regularly experiences large-scale crisis events. Japan also possesses resources and experience that allow it to cope well with its hazardscape. This study investigated the extent to which translation and interpreting of foreign languages have been present in this coping capacity by examining reporting and guidance on crises and disasters in Japan in recent history. The study used a corpus sociological framework and lexical analysis to analyse the annual White Papers on Disaster Management produced by authorities in Japan in Japanese in the period 2001–2021. Findings from this analysis of an influential and legally mandated policy instrument suggest that that discussion around the core concepts of translation, interpreting, language, and foreignness in Japanese policy-making has developed and changed over that period. Crisis translation and interpreting have shifted from being overlooked and underrecognised categories to being established budget line items in important policy documents.

1. INTRODUCTION

Japan, a country of some 126 million people, is exposed to many hazards—including earthquakes, tsunamis, tropical cyclones, and floods—and regularly experiences large-scale crisis events. Japan also possesses resources and experience that allow it to cope well with many of the crises and disasters that can arise in its hazardscape. The aims of this chapter were to investigate the extent to which translation and interpreting of foreign languages have been present in this coping capacity and to examine key crisis stakeholders' reporting and guidance on crises and disasters in Japan in recent history using a computerised corpus analysis of an influential policy instrument: Japan's annual White Paper on Disaster Management.

The chapter continues in Section 2 with a review of literature on crisis translation and interpreting policy and a discussion of Japan's main policy problems, instruments, and

actors. Section 3 explains how a computerised, monolingual, lexical analysis of a diachronic corpus of policy texts written and analysed in Japanese was conducted. Section 4 follows with a discussion of what the use of Japanese equivalents related to “translation”, “interpreting”, “language”, and “foreignness” in the corpus suggests about policy-making developments in Japan in the last two decades. Conclusions, limitations, and suggestions for future work close the chapter in Section 5.

2. RESEARCH CONTEXT

2.1 Crisis translation and interpreting policy

Policy-making involves defining problems and identifying ways to enact their solutions (Béland, Howlett, and Mukherjee 2018). The instruments used to enact such solutions are varied; policy can include formal laws and regulations or informal guidance and normal practice and frequently relates to resource allocation (CDC 2015). Generally, three sets of actors discuss policy: those who discuss the problems, those who define the instruments, and those who advocate for a particular policy position (Béland, Howlett, and Mukherjee 2018). Research on crisis translation or interpreting so far has typically studied a broad range of problems, instruments, and actors. A consistent finding has been that translation and interpreting are acknowledged only rarely in crisis communication policies at regional, national, or international levels (Grey and Severin 2022; O’Brien et al. 2018; Federici et al. 2019; Kikuchi 2020; Warsito et al. 2021; Xiang, Gerber, and Zhang 2021). Even when language access through translation or interpreting is relatively well-recognised in national policy, as is the case in the USA, there is great variation at local level on how well local governments implement policy based on local capacity and commitment (Xiang, Gerber, and Zhang 2021). There are also suggestions that seemingly comprehensive translation policies, such as those held by the EU, fail to achieve true multilingual access for their societies by favouring national languages over other regional or migrant languages, especially in times of crisis (Leal 2022).

One approach to studies of crisis translation and interpreting policy has been to evaluate the degree to which translation or interpreting solutions are present in the policies (e.g. O’Brien et al. 2018). Another approach has been to conduct case studies from the

perspective of a policy stakeholder to determine if and how a policy on translation and interpreting has been implemented (e.g. Wang 2019). Still other studies have combined policy instrument and policy implementation evaluation (e.g. works in Piller, Zhang, and Li 2020; O'Brien and Cadwell 2022). Policies on translation and interpreting in crises tend to favour top-down communication, often using information and communication technology (ICT), and sometimes using translation technologies (Abraham et al. 2021; Grey and Severin 2022; Leelawat et al. 2017; Cadwell 2016). Top-down communication here typically involves the use of official websites, social media channels, and formal broadcast systems, and appears to favour solutions involving machine translation (ibid.). Multidirectional crisis communication, in which grassroots knowledge is shared from local levels to other levels and in which feedback mechanisms allow those directly affected by a crisis to have their voices heard at other levels, is rarely enshrined in crisis translation or interpreting policy (Federici et al. 2019; Piller, Zhang and Li 2020). Volunteers are key to the successful implementation of policy in this area (Wang 2019; Zhang and Wu 2020). Additionally, more needs to be done in policy-making to understand the multilingual and multicultural communicative needs of both crisis-affected communities and the grassroots volunteers that tend to enact translation and interpreting in a crisis (Sakurai and Bismark 2020; Fujita et al. 2020; O'Brien and Cadwell 2022; Wang 2019; Zhang and Wu 2020).

2.2 Crisis translation and interpreting policy in Japan

The context of the present study is Japan. Its specific policy problems, instruments, and actors will be outlined here.

2.2.1 *Problems*

More than eighty events related to earthquakes, tsunamis, tropical cyclones, and floods in Japan have been classified as disasters by the Japanese government in the last twenty years alone (Geospatial Information Authority of Japan 2022), and Japan and its surrounding areas experience on average ten percent of the world's earthquakes in any one year (Japan Meteorological Agency 2017). At the same time, Japan has resources, experience, and expertise to cope with the crises and disasters that can arise in its hazardscape. For instance, Japan is ranked at low and stable risk in the 2021 INFORM Index for Risk Management, placing 144 out of 191 countries (Inter-Agency Standing Committee and the

European Commission 2021). A number of large-scale events in Japan have been particularly relevant for crisis translation and interpreting policy. Language policy was largely absent the 1995 Great Hanshin-Awaji Earthquake (hereafter 1995 Earthquake). The fatality rate for foreign nationals was higher than that of Japanese nationals, and this was due to language barriers and a concentration of young foreign factory workers and students in densely populated, high fire-risk housing (Sato, Okamoto, and Miyao 2009). Local-level practices were notable in the 2011 Great East Japan Earthquake, Tsunami, and Nuclear Disaster (hereafter 2011 Earthquake). In particular, Japanese nationals and longer-term foreign residents collaborated to support significant multilingual crisis communication (Cadwell 2015). The 2016 Kumamoto Earthquake (hereafter 2016 Earthquake) suggested that ICT and social media were an increasingly important channel of crisis communication, especially for foreign nationals (Leelawat et al. 2017). However, the 2019 flooding associated with Typhoon Hagibis indicated that capacity to engage in multilingual crisis communication via ICT varied greatly among Japanese local authorities (Sakurai and Bismark 2020; Kyodo 2019). Overall, Japanese policy on many occasions has focused on a one-way, top-down approach that has lacked the speed, individualized content, and appropriate channels of distribution required to respond to foreign nationals' crisis communicative needs effectively (Kikuchi 2020; Sakurai and Bismark 2020). Top-down approaches can be beneficial to educate foreign nationals and raise their crisis awareness (Kikuchi 2020). However, expanding local authorities' consultation services in preparation for future crises and linking with foreign resident networks are preferable multidirectional approaches (ibid.).

2.2.2 *Instruments and actors*

As explained in Section 2.1, policy can take many forms. This study focuses on one authoritative and influential policy instrument in Japan: the annual White Paper on Disaster Management[1]. The 1961 Disaster Countermeasures Basic Act[2] requires the Government of Japan to produce an annual white paper to report on hazards, crises, disasters, and countermeasures relevant to that year and recognises local authorities as the unit of government with a great responsibility for countermeasures, being the one closest to residents (Cabinet Office, Government of Japan 2015). The reports are used to apply lessons

[1] 防災白書
[2] 災害対策基本法

learned and revise related acts, policies, and implementation plans accordingly (Cabinet Office, Government of Japan 2017). As such, the white papers allow local authorities in Japan to guide members of the national government and Japan's bicameral parliament to plan and make decisions. Only Japanese versions of the white papers have been examined in this study. Some reference versions in English—incomplete translations of the white papers from 2015 to 2021—are available on the government's public website and no other language versions are at this source[3].

2.2.3 *Research aims and question*

This study aimed at investigating the presence of translation and interpreting of foreign languages in records of policy-making in Japan. To do so, the following research question was posed: How have translation and interpreting of foreign languages featured in Japan's annual White Papers on Disaster Management from 2011–2021? Before answering this question, the method to compile and analyse the white paper corpus will be explained.

3. RESEARCH METHODOLOGY

Computerised, monolingual, lexical analysis of a diachronic corpus of texts was the approach taken.

3.1 Theoretical assumptions and analytical framework

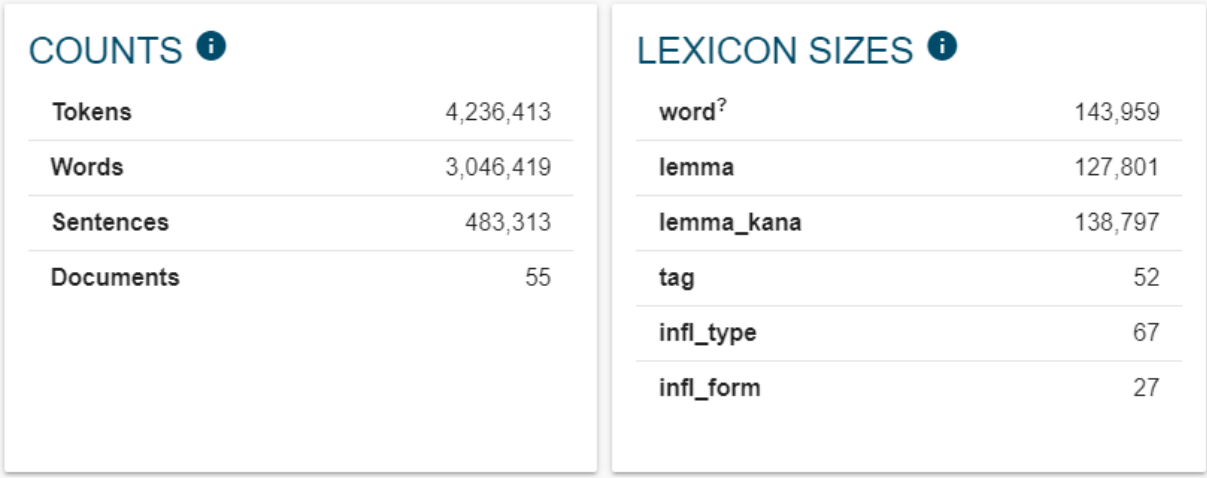
Analysis was conducted within a corpus sociological framework in which linguistic and social changes are seen to be related (Zinn 2018). The basic assumption within the framework is that socially relevant events, such as developments in institutional policy-making and practice in this case, are accompanied by a corresponding lexical development in key discourses. Corpus studies of diachronic social change have been conducted successfully before (e.g. Zinn 2018; Partington 2010; see Laviosa 2004 for a perspective from Translation Studies), and the focus within a corpus sociological framework is on a description of social change and not a detailed linguistic analysis (Zinn 2018).

[3] See reference English versions at https://www.bousai.go.jp/en/documentation/white_paper/index.html

In addition to the considerations of representativeness, diversity, size, language, and balance, an appropriate start and end point must be considered when designing a diachronic corpus (Biber, Conrad, and Reppen 1998; Stefanowitsch 2020). The start and end criteria for inclusion of texts in this corpus were availability. Any White Paper on Disaster Management in Japanese made available by the Disaster Management Section of the Cabinet Office of the Government of Japan on its public website was included in the corpus[4]. This constitutes an exhaustive sample of relevant white papers in the period 2001–2021[5]. Exhaustive sampling is a reasonable approach to achieving a representative corpus for diachronic studies with a narrow research purpose (Biber, Conrad, and Reppen 1998). Furthermore, the white papers are authentic and naturally occurring crisis policy instruments, issued by the Government of Japan, and written in Japanese to allow local authorities, national government, and lawmakers in Japan to report on and learn from disasters and crises and make decisions about other crisis-related acts, policies, and plans.

The corpus query tool Sketch Engine (Kilgarriff et al. 2004) facilitated the examination of the digital corpus. Prior to uploading the documents to Sketch Engine, file names of texts in the corpus were modified to mention the year of publication, and Sketch Engine was configured to display the file name in its interface instead of its ID (generated automatically after compiling the corpus data) to facilitate diachronic analysis. For the years 2001–2010, the website provides white papers in HTML format across various links. In these cases, I copied and pasted data from all relevant links into txt files and saved them in UTF-8 format. Some tabular information in appendices that would not have been readable by the corpus query tool (e.g. figures saved as bitmap images) were not included in the txt files. For the years 2011–2021, white papers are provided as one text or a small number of texts in PDF format. Here, I uploaded the PDFs directly to Sketch Engine without further preparation. The 21 White Papers on Disaster Management comprised 55 documents using this approach and realised a corpus of more than 4 million tokens and 3 million words in Japanese (see Table 1).

[4] See white papers in Japanese at: http://www.bousai.go.jp/kaigirep/hakusho/index.html
[5] 平成 13 年 to 令和 3 年 in the Japanese era calendar



COUNTS

Tokens	4,236,413
Words	3,046,419
Sentences	483,313
Documents	55

LEXICON SIZES

word[?]	143,959
lemma	127,801
lemma_kana	138,797
tag	52
infl_type	67
infl_form	27

Table 1: Description of the corpus compiled on Sketch Engine (Kilgarriff et al. 2004)

3.2 Unit of analysis and query procedure

The unit of analysis in this study was lexis, and frequency lists and keyword in context (KWIC) concordance lines were the tools chosen for this analysis. As such, lexical items were examined from semantic, functional, and collocational perspectives. This approach to lexical analysis using corpus data has proved effective in other studies (see e.g. Laviosa 2004) and can be used to acquire knowledge from a specialised subject field (Laviosa et al. 2017).

The lexical items analysed in this study all related to the core concepts in the research question: translation, interpreting, foreignness, and language. The Japanese for translation is 翻訳 (hon'yaku), interpreting is 通訳 (tsūyaku), and foreign language is 外国語 (gaikoku-go).

I chose four morphemes from these words as the initial corpus queries because they were likely to be present in a wide variety of relevant Japanese lexical units. Specifically, I chose 訳 as a morpheme likely to be present in a variety of lexical items in Japanese related to translation or interpreting. I chose 語 for its likelihood of returning a variety of lexical items in Japanese related to language, and I chose 外 and 国 for their likelihood of returning lexical items related to foreignness. Translation, interpreting, language, and foreignness can be discussed in Japanese using lexical items in which these morphemes are not present. Nevertheless, I argue that using these four morphemes can produce a comprehensive, if not

exhaustive, representation of lexical use around translation, interpreting, language, and foreignness in the corpus.

First, I created a concordance for each morpheme to return all instances of it in the corpus. Then, I sorted the concordance by KWIC and scanned the context in each concordance line to judge whether the lexical items in the KWIC list were in some way relevant to multilingual crisis communication. Next, I filtered each concordance to return only those lexical items that I had deemed relevant to multilingual crisis communication. Following this, I generated a diachronic distribution of hits for each lexical item using graphs mapping frequency against position in the corpus. All filenames in the corpus contained year of publication to facilitate diachronic analysis using these graphs. Finally, I examined the extended contexts and original documents of certain concordance lines to understand how relevant lexical items had been used in the corpus.

Ethically, textual data collected and distributed in corpus studies must be treated in accordance with applicable copyright laws and permissions (Nelson 2010). The Cabinet Office of Japan allows usage of its data for research purposes once it is attributed as a source of the data and editing of the data has been acknowledged (see “Corpus data attribution statement” for this acknowledgment).

Findings from the corpus analysis above will now be presented and discussed.

4. DISCUSSION

This section uses the corpus sociological framework and lexical analysis explained in Section 3 to present evidence that translation and interpreting of foreign languages have been discussed in Japan’s White Papers on Disaster Management between 2001 and 2021. In addition, this section demonstrates that discussion around the core concepts of translation, interpreting, language, and foreignness in Japanese formal policy-making has developed and changed over time. Furthermore, this section suggests that Japan’s institutional policy on crisis translation and interpreting has become more rigorous and comprehensive as a result

of learning from successive crisis events. Nevertheless, some areas of the policy solutions proposed are a cause for concern.

4.1 Policy developments suggested by use of "translation" and "interpreting"

Table 2 indicates that lexical items in Japanese relating specifically to "translation" and "interpreting" appeared relatively infrequently in the corpus, and only ten relevant items were found. They constitute only a fraction of one percent of the more than four-million tokens in the corpus and appear at a rate of between approximately 0.2 and 3 hits per million tokens. Though few in number, the instances are instructive.

Lexical item in *kanji* and alphabet	**English gloss**	**Hits**	**Hits / million tokens**	**Percentage of whole corpus**
翻訳 (hon'yaku)	**translation**	2	0.47	0.00004721
翻訳して (hon'yaku shite)	**translate**	1	0.24	0.00002360
翻訳する (hon'yaku suru)	**translate (alternative verb form)**	1	0.24	0.00002360
英訳 (eiyaku)	**English translation**	10	2.36	0.0002360
多言語音声翻訳システム (ta gengo onsei hon'yaku shisutemu)	**multilingual voice translation system**	14	3.3	0.0003305
多言語音声翻訳技術 (ta gengo onsei hon'yaku gijutsu)	**multilingual voice translation technology**	2	0.47	0.00004721
翻訳アプリ (hon'yaku apuri)	**translation app**	7	1.65	0.0001652
メガホン型翻訳機 (megahon-gata hon'yaku-ki)	**megaphone-like translation device**	1	0.24	0.00002360
翻訳精度 (hon'yaku seido)	**translation accuracy**	4	0.94	0.00009442
通訳 (tsūyaku)	**interpreting, interpretation, interpreter**	4	0.94	0.00009442

Table 2: Lexical items related to translation and interpreting in a corpus of 4,236,413 tokens

The earliest explicit mention of a lexical equivalent of "translation" in the corpus was in the first white paper available for this study in 2001. Here, the Cabinet Office explained how an "English translation" of a book of lessons learned from the 1995 Earthquake was being prepared to disseminate the lessons overseas. Following that, no explicit equivalents of "translation" or "translate" were mentioned until the 2015 white paper, 14 years later. In 2015 Japan hosted the Third UN World Conference on Disaster Risk Reduction in Sendai

(hereafter the Sendai Conference), a city that had been devastated by the 2011 Earthquake (UNISDR 2014). The Sendai Framework for Disaster Risk Reduction 2015–2030 was adopted there and is used worldwide to prevent new and reduce existing disaster risk (United Nations 2015). Following the Sendai Conference, explicit mention of lexical equivalents of "translation" appear at least once in every white paper from 2016 to 2021, suggesting that that "translation" had become a specific consideration in Japan's crisis plans. Further analysis demonstrated that these plans considered a technologically oriented form of "translation" predominantly.

Table 2 lists equivalents of "multilingual voice translation system or technology", "translation app" or "megaphone-like translation device" in the corpus. From the 2015 white paper on, Japanese stakeholders appeared to see translation technologies—specifically voice-synthesised machine translation systems via megaphones or mobile phone applications—as solutions to some of the policy problems outlined in Section 2.2.1. The white papers describe top-down ministerial efforts to fund and drive the development of a broad translation technology platform for crisis response. It is not clear how well these technologies, via megaphones or mobile devices, will accommodate multidirectional communication. However, discussion in recent white papers of efforts to improve the accuracy, speed, and target language coverage of these systems is encouraging. In fact, the only equivalents of "translation accuracy" in the corpus appear in relation to these technological platforms.

There seems to be a lack of human centring in some of this impressive policy-making. Human translators or interpreters are not mentioned in conjunction with this newly developing, top-down, technology-focused approach. Indeed, "interpreters" are mentioned in only two white papers: in 2006 in relation to a local authority planning to use university students as crisis interpreters; and in 2015 in relation to using sign-language interpreters to increase accessibility at a small crisis-related conference.

Consideration of one-to-many crisis translation solutions in white papers from 2015 to 2021 is unsurprising. The 2019 Rugby World Cup and 2020 Olympic Games were due to be held in

hazard prone Japan, and plans would have been needed by key Japanese stakeholders to communicate with large numbers of foreign visitors in case of crisis.

4.2 Policy developments suggested by use of "language"

Table 3 indicates that lexical items in Japanese relating specifically to "language" appeared infrequently in the corpus, but more frequently than for "translation" or "interpreting". Seven relevant items were found at a rate of between approximately one and ten hits per million tokens.

Lexical item in *kanji* and alphabet	**English gloss**	**Hits**	**Hits / million tokens**	**Percentage of whole corpus**
言語 (gengo)	language	43	10.15	0.001015
日本語 (nihongo)	Japanese language	8	1.89	0.0001888
外国語 (gaikoku-go)	foreign language	9	2.12	0.0002124
英語 (eigo)	English language	15	3.54	0.0003541
中国語 (chūgokugo)	Chinese language	7	1.65	0.0001652
韓国語 (kankokugo)	Korean language	5	1.18	0.0001180
ポルトガル語 (porutogarugo)	Portuguese language	3	0.71	0.00007081

Table 3: Lexical items related to language in a corpus of 4,236,413 tokens

Equivalents of "language" only begin to appear in the white papers from 2005, and mentions from 2005 to 2014 are sporadic. This corresponds to a general lack of consideration of language in crisis plans in Japan and elsewhere until recent years (see Section 2). Mentions of language-related lexical items are then found in every white paper from 2015 onward, with lessons learned from the 2011 Earthquake and the Sendai Conference the likely causes. Many of these mentions of "language" appeared in relation to the translation technologies discussed in Section 4.1 rather than to other forms of multilingual crisis communication.

An equivalent of "Japanese language" is mentioned in the white papers in 2005, 2010, 2015, and 2017 mostly to show that "not only" Japanese was provided in certain instances of crisis

communication in Japan. An equivalent of “foreign language” began to be considered in the 2016 white paper in relation to foreign language volunteers and foreign language versions of tsunami advice sheets. The year is significant. The 2016 Earthquake made the news around the world, especially in Southeast Asia, because foreign visitors and residents were affected and near neighbours were concerned about the possibility of another cascading nuclear event. Many lessons learned from the 2011 Earthquake appeared to be applied in the 2016 white paper, and it contained a range of budgeted measures across various ministries and agencies to communicate with foreign nationals. The specific mention of an equivalent of “foreign language” came in an appendix summarising evacuation and emergency measures in the event of flooding and listing pictograms, foreign language guides, disaster prevention apps, and foreign language volunteers as ways to communicate reliably with foreign nationals. While only brief and in an appendix, this example represents a significantly greater presence of “foreign language” in policy-making in Japan by 2016 than in the years prior.

The only languages other than Japanese mentioned in the corpus were English, Chinese, Korean, and Portuguese. The first mentions are from 2005. English is mentioned relatively frequently and consistently and Chinese and Korean are mentioned less frequently and more sporadically. The three are sometimes mentioned together, probably because of the US-Japan Security Alliance, the number of US forces stationed in Japan, the use of English as a lingua franca for communicating with foreign nationals, and the fact that Chinese, Filipino, and Korean nationals constitute the three largest migrant groups in Japan. Portuguese is mentioned in only one white paper in 2009. The relevant passage illustrates the possibilities of lesson learning through the white paper system. It acknowledges increasing foreign migration and travel to Japan, recognises that the fatality rate for foreign nationals was elevated in the 1995 Earthquake, and explains how lessons learned in 1995 about the importance of community radio in foreign languages were applied to produce radio broadcasts for Brazilian communities in English and Portuguese in the 2004 Chūetsu Earthquakes.

4.3 Policy developments suggested by use of "foreignness"

Table 4 indicates that lexical items in Japanese relating specifically to "foreignness" appeared relatively frequently in the corpus. Eleven relevant items were found, and some of these appeared plentifully with hundreds of hits per million tokens.

Lexical item in *kanji* and alphabet	**English gloss**	**Hits**	**Hits / million tokens**	**Percentage of whole corpus**
外国人 (gaikokujin)	foreign national	175	41.31	0.004131
在日外国人 (zainichi gaikokujin)	foreign resident in Japan	1	0.24	0.00002360
外国人観光客 (gaikokujin kankōkyaku)	foreign tourist	8	1.89	0.0001888
外国人旅行者 (gaikokujin ryokōsha)	foreign traveller	39	9.21	0.0009206
訪日外国人 (hōnichi gaikokujin)	foreign visitor to Japan	53	12.51	0.001251
外国人被災者 (gaikokujin hisaisha)	disaster-affected foreign national	3	0.71	0.00007081
災害時外国人支援情報コーディネーター (saigai-ji gaikokujin shien jōhō kōdinētā)	Coordinator of Disaster Information for Foreign Nationals	3	0.71	0.00007081
国際協力 (kokusai kyōryoku)	international cooperation	745	175.86	0.01759
海外ボランティア (kaigai borantia)	overseas volunteer	52	12.27	0.001227
海外展開 (kaigai tenkai)	overseas deployment	95	22.42	0.002242
国際社会 (kokusai shakai)	international community	222	52.4	0.005240

Table 4: Lexical items related to foreignness in a corpus of 4,236,413 tokens

An equivalent of "foreign national" was mentioned in every white paper in the corpus except for the 2003 document. These instances regularly related to discussion of tourism, local authority administration, communication, evacuation, and vulnerability. In many instances, foreign nationals were considered along with the elderly, people with disabilities, infants, and pregnant women as "those in need of assistance in times of disaster" (災害時要援護者; saigaijiyōengosha). Special consideration in the white papers of how to communicate with, support, and assist these groups is encouraging, especially as the diversity of their needs was recognised.

An equivalent of "foreign resident" was mentioned only once in the corpus in the 2004 white paper in a passage about using community radio in foreign languages to support

foreign residents. In contrast, equivalents of “foreign tourist”, “foreign traveller” or “foreign visitor to Japan” were plentiful, starting in 2006. This is probably because Japanese tourists lost their lives in the Indian Ocean tsunami at the end of 2004, and Japanese stakeholders wanted to consider foreign visitors in their crisis policy-making more explicitly from then. An equivalent of “foreign traveller” appears in every white paper from 2012 (the year after the devastating 2011 Earthquake and in the context of preparations for the 2019 Rugby World Cup and 2020 Tokyo Olympic Games). These passages, along with many mentions of “foreign visitor to Japan”, reinforce how the white paper system can be used for reporting and guidance. For example, the first entry for an equivalent of “foreign traveller” was in 2012 under an explanation of funding for projects to survey and understand travellers’ information needs. The reporting of this budgeted item changes each subsequent year to explain how the project moved on to the translation of manuals, the development of a “Safety Tips” app, evaluation of the app through focus groups, implementation of focus group feedback to improve the app, and the app’s eventual roll-out, improvement and expansion. Similar traces from 2014 to 2021 report on a project to research, develop, and improve the multilingual voice translation system discussed in Section 4.1.

Mention of an equivalent of “disaster-affected foreign nationals” was very limited in the corpus. Two of the three instances came from the most recent white paper at the time of writing (2021) and were in relation to another lexical item of interest: the newly emerging role of Coordinator of Disaster Information for Foreign Nationals. The 2021 white paper describes the budget and planned implementation of training for this coordinator role. The coordinators will be trained to match information and support provided by authorities to the needs of foreign nationals affected by a disaster, such as those in an evacuation centre. The clause about matching needs is promising, as it suggests understanding foreign nationals’ needs through two-way communication with them, though this is not stated explicitly in the plan.

The remaining lexical items related to foreignness—equivalents of “international cooperation”, “overseas volunteer”, “overseas deployment”, and “international community”—all relate to Japan’s ties to other countries in terms of crisis preparedness, response, and recovery. “International cooperation” on crisis-related matters with other

countries, especially the US, Turkey, and Japan's near neighbours in East and Southeast Asia, has been mentioned in every white paper from 2001 to 2021. Much of the discussion concerned sharing experiences and information. Instances of "overseas volunteer" were present in all white papers from 2002 to 2010 and related to budgetary and other measures to support members of the public and private sector in Japan—such as firefighters or search and rescue teams—to go overseas to assist other countries, especially to share expertise and technologies. An equivalent of "overseas deployment" was used in white papers from 2013 to 2021 to discuss the same phenomenon. These lexical items do not appear in 2011 and 2012, probably because these white papers were internally focused on dealing with the effects of the 2011 Earthquake. Mentions of "international community" experienced a large spike in 2015, primarily in relation to Japan's hosting of the Sendai Conference.

5. CONCLUSION

This study aimed at investigating the presence of translation and interpreting of foreign languages in records of policy-making in Japan. Using a corpus sociological framework and lexical analysis, it presented evidence that translation and interpreting of foreign languages have been discussed in Japanese by local and national governments in Japan through the White Papers on Disaster Management between 2001 and 2021. The guidance and reporting present in this influential policy instrument demonstrate that "translation", "interpreting", "language", and "foreignness" in Japanese policy-making have developed from being overlooked and underrecognised categories to being present in budgeted plans and guidelines.

Overall, the annual white paper system seems beneficial. It promotes continual reflection on crisis policy and facilitates lesson learning by stakeholders. It also involves regular dialogue from local to national level, meaning that Japanese crisis policy-making appears to be neither entirely top-down nor bottom-up. Adoption of a similar system in other jurisdictions is worth consideration.

Translation and interpreting have been mentioned in various constructive ways in white papers since 2011. The 2021 paper, with a focus on Japan's COVID-19 pandemic

countermeasures, is an illustrative case and many elements are worthy of note. The role and training funding of Coordinators of Disaster Information for Foreign Nationals were explained. Further investment by the Ministry of Internal Affairs and Communications in a multilingual voice translation system and a “Safety Tips” app was reported. Efforts at local level by the Ministry of Land, Infrastructure, Transport and Tourism to translate tsunami evacuation guidance into foreign languages for foreign vessels were described. A need for foreign language activities in primary and middle school curriculums as an element of crisis preparedness was suggested. Finally, a case study of a local authority’s plan to support foreign tourists using evacuation noticeboards was included. As the 2021 white paper will be used by lawmakers and government at all levels in Japan to apply lessons learned and revise other related acts, policies, and implementation plans accordingly, such comprehensive treatment of issues relating to crisis translation and interpreting is encouraging. Nevertheless, the 2021 white paper is also a cause for some misgivings.

Firstly, interpreting is not mentioned at all, despite its importance in multilingual crisis communication, especially in a response phase (Cadwell 2015). Secondly, a focus on short-term foreign visitors remains. Foreign residents receive less consideration, and it cannot be assumed that the needs of both groups are the same. Nevertheless, the new Coordinator of Disaster Information for Foreign Nationals role is promising and appears to be designed to support all foreign nationals. Thirdly, significant investment is being placed in translation technology and ICT solutions. Technology can be a solution to problems in crisis translation and interpreting policy-making, however, a diverse ecosystem of solutions is to be favoured, involving technology, professional translation and interpreting, volunteers, communities and more (Federici et al. 2021), especially in cases where power and connectivity may cause technologies to become unavailable (Cadwell 2016). Finally, while the white papers contain evidence of bottom-up contrition to policy, especially through local authorities, some discussion of translation and interpreting has moved to a predominantly top-down perspective that may lack the speed, individualized content, and appropriate channels of distribution required to respond to foreign nationals’ crisis communicative needs effectively (Kikuchi 2020, Sakurai and Bismark 2020).

The conclusions above come with limitations. This study revealed policy removed somewhat from its implementation; the full extent to which the white papers reflect crisis translation or interpreting practice in Japan is uncertain. Furthermore, the method described in Section 3, while comprehensive, was unlikely to have returned all possible discussion of translation, interpreting, language, and foreignness in the corpus, and further patterns in the data may remain uncaptured.

Finally, this study presents avenues for future work. First, the corpus could be used to analyse other concepts of relevance to multilingual crisis communication, e.g. community, risk, trust, etc. Second, a field study could be designed to confirm how well these policy findings match crisis translation or interpreting practice in Japan. Third, the training offered to Coordinators of Disaster Information for Foreign Nationals could be investigated and evaluated and is likely to be instructive for other jurisdictions.

FURTHER READING

Béland, Daniel, Michael Howlett, and Ishani Mukherjee. 2018. 'Instrument Constituencies and Public Policy-Making: An Introduction'. *Policy and Society* 37 (1): 1–13.

This article provides a highly accessible entry point to understanding the role of policy in society—in general, not just in crisis—and especially the interaction between varied actors about the problems and solutions that policy-making is supposed to tackle.

United Nations. 2015. *Sendai Framework for Disaster Risk Reduction 2015 – 2030*. PDF File. https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf.

In terms of major policy, The Sendai Framework for Disaster Risk Reduction 2015–2030 is essential reading for anyone who wants to understand more about the general principles that guide the work of governments, NGOs, international organisations, and many other stakeholders in crisis-related matters. While language and culture are not the focus, the document provides a blueprint that can help guide crisis translation and interpreting policy-making and practice.

Kikuchi, Akiyoshi. 2020. 'Bōsai seisaku ni okeru saigai-ji tagengojōhō teikyō no jikkō-sei ni kansuru kōsatsu'. *Saigai jōhō*. 18 (2): 235–245.

For those who read Japanese, this article provides a detailed and locally specific examination of efforts in Japan to support foreign nationals in times of crisis and disaster. This work comes out of close collaboration between academic and non-academic partners and has a useful focus on local authorities, one of the most important crisis stakeholders in a Japanese context.

O'Brien, Sharon, Federico M. Federici, Patrick Cadwell, Jay Marlowe, and Brian Gerber. 2018. 'Language Translation during Disaster: A Comparative Analysis of Five National Approaches.' *International Journal of Disaster Risk Reduction* 31 (2018): 627–636.

This article is useful to understand how crisis translation and interpreting policy can be evaluated and critiqued at a national level using a comprehensive and robust analytical framework.

RELATED TOPICS

Computerised corpus analysis, crisis and disaster management policy, Japan

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CORPUS DATA ATTRIBUTION

All texts included in the corpus have been processed from White Papers on Disaster Management available on the Cabinet Office of the Government of Japan website:
http://www.bousai.go.jp/kaigirep/hakusho/index.html
出典：「防災白書」（内閣府）http://www.bousai.go.jp/kaigirep/hakusho/index.html（令和４年３月２２日に利用）を加工して作成