Japan, Moving Towards Becoming a Multi-cultural Society, and the Way of Disseminating Multilingual Disaster Information to Non-Japanese Speakers

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ABSTRACT

Japan is moving towards becoming a multi-cultural society with the increasing number of foreign residents, with a background of the ageing Japanese population and low-birth rate. We discuss the present situation of the level and type of information provided to non-Japanese speakers, and then introduce the Multilingual Disaster Information System to translate a range of information on natural disasters quickly and accurately into multiple languages, which the authors of this paper have developed as members of the Multilingual Disaster Information System Consortium. We present details on how our proposed language service could service the foreign population in Japan.

Keywords

Multi-cultural society, multilingual disaster information system, translate, foreigners, Japan

ACM Classification

K.4.2 Social Issues; Assistive Technologies for Persons with Disabilities

INTRODUCTION

Since the Immigration Control Act was revised at the end of the last century, the number of immigrants to Japan has rapidly increased. Japan is moving towards becoming a multi-cultural society with the increasing number of

foreign residents, the back ground of which is its ageing Japanese population and low birthrate.

Japan is a country frequently hit by earthquakes, and it is predicted that big earthquakes such as the predicted Tokai Earthquake and Tonan-kai Earthquake will occur in the near future. Most of the newcomers to Japan don't understand Japanese, and among them are those who come from countries where earthquakes are rare, if not non-existent. What kind of information is required for those people and how should the information be provided? In this paper we survey how language policies in Japan have changed in accordance with the increased number of foreigners, and also how local governments respond to the situation. Then we explain about our Multilingual Disaster Information (MLDI) System, and discuss effective methods of disseminating emergency information to non-Japanese speaking foreigners in Japan.

As the economy becomes globalized, the world has entered 'the Age of Migration' (Castles and Miller, 1993), when the movement of people is accelerated to a scale that the world has never experienced. In the years of this new century we have encountered earthquakes, tsunami, or floods in every part of the world, where immigrants are more exposed to serious risk, due to language barriers or their social and economic position in the host society. On the other hand, the information technology revolution, the core of which is the internet system, has created an opportunity to deliver information in a manner that lowers the vulnerability of immigrants. This paper discusses the cases in Japan, and we intend to contribute to the solution for this problem on a global scale.

MULTI-ETHNIC JAPAN

Until recently Japan has traditionally been regarded as an ethnically homogeneous nation. However, Japan has had

people from abroad since Japan opened its doors to the world in the latter part of the 19th century. About a century ago, Chinese immigrants, or 'foreign workers,' were forming their own communities in Japan's major port cities, such as Yokohama or Kobe. Also there were frequent migration flows between Japan and the Korean peninsular due to Imperial Japan's colonization of Korea in 1910, with around 2 million Koreans living in Japan by 1945 (Nishinarita, 1997).

After World War II, over half a million Koreans and large numbers of Taiwanese and mainland Chinese remained in Japan. Till the 1980s, the vast majority of foreign residents in Japan were colonial immigrants and their descendants.

Japan has long adopted a strict immigration policy against accepting unskilled labor from abroad. However, due to the forces of globalization, and the ageing population and low birthrate in Japan, the government revised the Immigration Control Act in 1990 to issue visas to foreign nationals of Japanese ancestry to meet the labor shortage.

Japan had sent a quite number of immigrants abroad since the end of 19th century. Initially they went to North America and Hawaii, but post-1924, when the USA prohibited the entry of Japanese people, the main destination became South American countries[1]. In 1973 emigration was abolished, but by then there were significant populations of Japanese in Brazil and Peru, where they were primarily engaged in agriculture. Estimates for current populations of *nikkei-jin* (descendants of Japanese immigrants) are: 1,400,000 in Brazil, 1,000,000 in the USA, 150,000 in the Philippines and 80,000 in Peru (in 2004, estimated by the Association of Nikkei and Japanese Abroad, http://www.jadesas.or.jp).

In accordance with the amendment of the Immigration Control Act, a special visa class was created for *nikkei-jin*, leading to the rapid growth in *nikkei-jin* and their spouses coming to live and work in Japan, primarily in the manufacturing sector. They and those who came to Japan to work in the late 20th century in the era of Japan's rapid economic growth are called 'newcomers,' in contrast with 'old comers' who came to Japan before the end of World War II and their descendants.

By the end of 2007 the number of foreign residents in Japan hit a record-high of 2.15 million, increasing 45.2 percent from 10 years ago, according to the Justice Ministry's Immigration Bureau. This equates to 1.7 percent of the nation's total population.

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[1] The peak of Japan to South America emigration occurred during the 1930's, due to the effects of the Great Depression. In this period most emigrants came from impoverished rural areas. Emigration was suspended during WWII but again picked up in the 1950s due to food shortages.
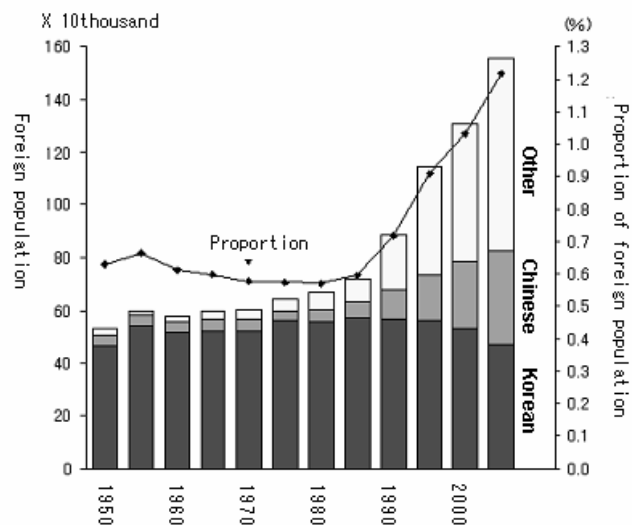
Figure 1: Change of foreign population and its proportion in the total population of Japan (1950-2005)
Source: Population Census of Japan

CHANGE OF LANGUAGE POLICY

Japan has long considered itself to be a mono-ethnic and therefore monolingual society, despite the existence of substantial old-comer ethnic minorities. Increasing immigration meant that policies have begun to undergo a rethink (Gottlieb, 2008).

The Ministry of Home Affairs (presently the Ministry of Internal Affairs and Communications) issued a guideline in 1988 to promote international exchange in Japan, in that each municipality should prepare and provide various kinds of information in foreign languages. At that time the preferred foreign language was assumed to be English, and those who should be provided the information were tourists or business people from abroad. The word 'internationalization' was frequently used in administrative documents, and what it meant in those days was the promotion of exchange between Japanese and non-Japanese.

In the 1990s lots of workers entered Japan from non-English speaking countries. The newcomers to Japan, mostly Brazilians, rarely understand the Japanese language. Japanese people have had to confront these difficulties, telling the newcomers the local regulations such as the way of sorting household refuse and so on.

Since then it has begun to be recognized that the information not only in English but in Portuguese and Spanish is necessary to be provided. In accordance with it, information in Chinese and Korean languages, the languages which had not been considered by that time, began to be provided by administrative offices.
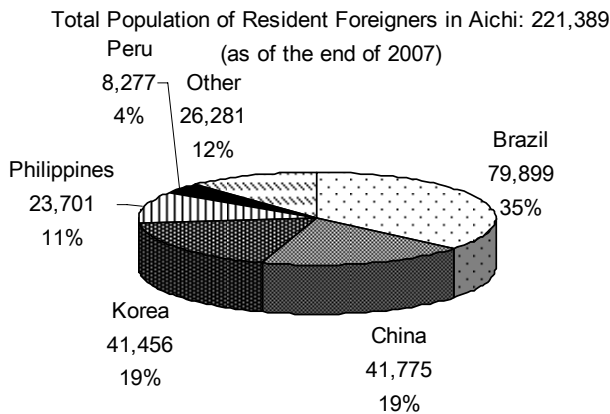
For the first time, the National Population Census of 1990 was translated into foreign languages including English, Chinese, Korean, Spanish, French and German languages.

Thereafter more foreign languages have been added and for the census of 2005, 19 languages were available which covered about 90% of the foreign population (the Statistics Bureau and the Director-General for Policy Planning, Ministry of Internal Affairs and Communications).

The term, 'multi-culturalization,' began to appear in administrative documents to replace the term 'internationalization,' from the second half of 1990's.

LANGUAGE SERVICES FOR FOREIGNERS IN MULTIPLE LANGUAGES BY LOCAL GOVERNMENTS

Each local government in Japan where there are large populations of newcomers has started providing 'language services.' Aichi Prefecture, located approximately in the center of Japan, with a population of 7.1 million people, is notable amongst the 47 prefectures in Japan due to its big population of South Americans. Some 88,000 of Aichi's total foreign population of 220,000 are South Americans, which accounts for 36% of the foreign population. Around 8,800 people from Brazil and Peru reside in Toyota City, mainly working for the subcontract factories related to Toyota Motor Corporation.

Total Population of Resident Foreigners in Aichi: 221,389
(as of the end of 2007)

Peru
8,277
4%

Other
26,281
12%

Philippines
23,701
11%

Brazil
79,899
35%

Korea
41,456
19%

China
41,775
19%

Figure 2: Distribution of the foreign population by nationality in Aichi

Source: http://www.pref.aichi.jp/0000012581.html

Aichi local government provides language services for foreign residents through various kinds of media, such as websites and the publication of brochures and leaflets. Also they have consultation desks so foreign residents can gain assistance with legal problems and so on.
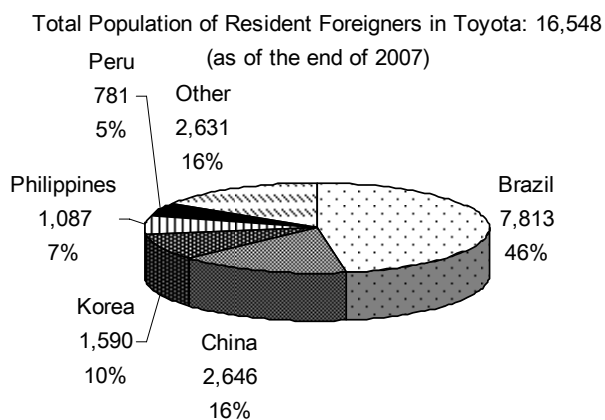
1   Aichi Prefectural Government provides online information about their services in Japanese, Portuguese, Simplified Chinese, Traditional Chinese, Spanish and Korean languages. The information covers the summary of Aichi Prefecture, living information (including general information for residents, education, disaster prevention, tax and so on), sightseeing/culture and industries.

2   I-NET by the Aichi International Association provides information about their services and basic daily life information necessary for foreign residents in English, Korean, Portuguese, Spanish, Simplified Chinese and Japanese on their website.

3   On the Japanese site of I-NET, Template System for Translating Information into Multiple Languages (discussed below) is uploaded.

4   Leaflets and brochures are published about earthquake disaster prevention in English, Chinese, Korean, Portuguese and Spanish.

5   Leaflets are published introducing the features of Aichi, in English, Chinese and Japanese.

6   The Aichi Handbook for daily life information is available in English, Spanish, Portuguese and Chinese, which is also available on their website.

7   Free Legal Consultation for foreigners is conducted in English, Portuguese, and Spanish: for legal problems at their counter.

Toyota City provides information on their website about their services in English, Portuguese and Spanish. For foreign residents the information covers daily life and education, health and social welfare, security, environment and infrastructure, culture, sports and tourism, and general information. Among the various kinds of brochures they have published in multiple languages, what should be noted are the questionnaire cards prepared by the Ambulance or Fire Department of Toyota City. The cards, which ask the person about his/her nationality, name and condition, before taking him/her to the hospital, are available in 13 languages including English, Portuguese, Spanish, Chinese, Korean, French, German, Vietnamese, Tagalog, Thai, Malay, Indonesian and Russian. Okado (2000: p91) evaluates their preparedness highly since, she considers, the pre-knowledge through the cards about the person would enable medical support to be provided more effectively.

However, not all of the municipalities in Japan are prepared with the information service in multiple languages. According to the survey conducted in 2003 by the National Institute of Japanese Language, 44% of them had only Japanese websites. Among those who did have foreign language websites, the majority was in English, while Chinese were 11%, Korean 8% and Portuguese 7%. (The National Institute of Japanese Language, 2004)

Total Population of Resident Foreigners in Toyota: 16,548 (as of the end of 2007)

Peru 781 5%
Other 2,631 16%
Philippines 1,087 7%
Brazil 7,813 46%
Korea 1,590 10%
China 2,646 16%

Figure 3: Distribution of the foreign population by nationality in Toyota

Source: http://www.pref.aichi.jp/0000012581.html

CONTENTS OF INFORMATION IN LANGUAGE SERVICE

What is mostly lacking for foreign people is information. This information gap equates to an inequality in the way Japanese society functions, and this needs to change in order to better create a truly open society.

Kawahara (2007:p11) defines the meaning of 'language service,' although, he admits, the term itself is not academically established yet, as 'to convey the necessary information in the languages foreign people can understand.' Language is the primary barrier for those who are not provided with necessary information, and Kawahara expects to make the issue clear by naming it 'Language Service.'

Kawahara also points out that, from an ideological point of view, to provide the information in the mother language of the information recipient should be a part of language policy, in order to create a society where Japanese and foreign people can live together in harmony, helping foreign people preserve their identity and supporting the advancement of their culture.

Here we would like to discuss 'the information resident foreigners need the most.' Kawasaki City, a city located in Kanagawa Prefecture, between Tokyo and Yokohama, declared the goal of 'community development through promoting multicultural society,' at a comparatively early stage in Japan. They developed ideas about how to provide foreign residents with public informaiton in 1998. In the plan they prioritized the delivery of this information.

（1）Emergency information: disaster, fires, accidents, robbery, emergency medical care, etc.

（2）Information regarding life support services and consultations for foreign residents (information about the business of Kawaski International Association, etc.)

（3）Information about the obiligations foreign residents should perform, including alien registration, immigration control act, and tax system.

（4）Information about healthcare, welfare and education (medical examinations for babies, kindergartens, entrance to elementary school, Japanese classes, etc.)

（5）Information about daily life (garbage collection, paying public utility charges, etc.)

（6）Information about public facilities frequently used by foreign residents (civic halls, public health centers, welfare offices and their business, etc.)

These standards were taken up by many other municipalities, including Toyota City. What we should take note of here is that this information is what the relative administrations wish to disseminate to foreign residents. The standards（3）.(4). (5) mentioned above show that foreign people are responsible for the same obligations as Japanese.

In contrast with the contents of language services from local administrations, The Human Rights Handbook for Foreigners in Japan in 18 Languages (Osaka Bar Association, 1992), contains information on rights to foreigners in Japan. It was written based upon the consultations volunteer lawyers had dealt with. They show a vastly different set of priorities as follows:

(1) Immigration, residential qualifications

(2) Labor matters

(3) Workmen's compensation

(4) Job placement offices

(5) Healthcare

(6) Marriage, giving birth in Japan

(7) Criminal cases

An NPO which works for the protection of human rights of foreign people also points out that to provide them with disaster information is necessary and important. The Solidarity Network with Migrants Japan (2006: p108) clearly mentions three concrete policies that each local government should start at once. (1) the language service in multiple languages; the public securing of their opportunities to learn Japanese language, (2) the public securing of their opportunities to gain their own houses, and (3) disaster information provided in multiple languages and special consideration for the minorities in emergency occasions.

They assert that each local government needs to conduct a survey about the languages used by the resident foreigners, and to be prepared to provide the information in the languages to meet their needs. Also the translation system at hospitals, schools, local offices should be implemented soon.

EARTHQUAKES AND FOREIGN NATIONALS IN JAPAN

According to the priorities expressed in Kawasaki mentioned above, the emergency information is the most important, maybe due to the Great Hanshin-Awaji Earthquake that hit Japan in 1995. On that occasion, foreign people who did not understand the Japanese language found it difficult to get relevant information.

The Great Hanshin-Awaji Earthquake occurred on January 15, 1995, in the southern part of Hyogo Prefecture, which lies in the south-central region of Japan's main island of Honshu. More than 6400 people were killed including approximately 200 non-Japanese people. People in the stricken area had a hard time getting the necessary information. Research conducted one month later by NHK Osaka Broadcasting Company and others made it clear that more than 64 percent of victims were completely unable to get the information they most desired, such as preparation for aftershocks, safety of their families and friends, the scale or focus of the earthquake and the tsunami risk.

The TV media was especially criticized in that they only focused on showing images of disaster and casualties in order to attract viewers for high ratings.

Tokyo Newspaper published an article on January 21, 1995 about the attitude of the media titled 'Let us Know What We can Do,' with comments from their readers such as: TV news is always reporting how miserable the people are and rarely what we, the viewers, can do for them; Hundreds of reporters are in the stricken areas for news gathering, but could they not do something more for the victims?; The questions to the victims by young reporters are so stupid. Why don't they ask the victims about how we could help?; The reporters are too focused on sensational news. We need to know how to support the victims.

An article on the Tokyo Newspaper on January 20, 1995 put an article titled 'Cooperation among Media without Competing for Audience Rates Required.' The article said 'the information we should dispatch is firstly for the victims,' 'More practical information for the victims wanted,' and 'More information for foreigners is required.'

In the Hanshin-Awaji Earthquake, the aged, disabled, injured/sick persons, babies, and foreign nationals with disabilities in obtaining information, were placed in a difficult situation and called disaster sensitive. Foreign people were, in other words, information sensitive.

Table 1 shows the number of fatalities by nationality in the Great Hanshin-Awaji Earthquake in Hyogo Prefecture. It shows the death rate among Brazilian and Chinese people was higher than among Japanese. More newcomers to Japan suffered the tragedy than old-comers, the old-comers being mostly Koreans who had long stayed in Japan and had language skills and experience in these situations.

Table 2 shows the absolute number of foreign deaths and ratio by age group. The death rate among relatively young people is higher, since most of the foreign factory workers were young. Also foreign students studying at universities and working at part-time jobs fell victim to the disaster, often living in cheap wooden houses, mostly built on soft ground and thus suffering the most destructive effects.

Table 1: Number of fatalities by nationality in the Great Hanshin-Awaji Earthquake in Hyogo Prefecture.

Victims	Residents*	Fatalities	Fatality Rate
Japanese	**3,513,038**	**5,293**	**0.15**
Korean	**55,648**	**112**	**0.20**
Chinese	**12,472**	**44**	**0.35**
American	**1,951**	**2**	**0.10**
Brazilian	**1,806**	**8**	**0.44**
Indian	**1,025**	**0**	**0**
Vietnamese	**955**	**0**	**0**
Philippino	**874**	**2**	**0.23**
Other	**-**	**6**	**-**
Total	**3,589,126**	**5,467**	**0.15**

*The number of residents in 20 municipalities in Hyogo Prefecture which suffered the disaster.

Source : Sakai (1995), Sato (2002)

These are the main reasons foreigners suffered disproportionately. The first one was that they were living in less earthquake-resistant buildings built in the area of soft ground. Secondly, most of the newcomers did not understand the information dispatched in Japanese and were being shut out from the necessary information. Brazilians, who in general have never experienced earthquakes, could not comprehend what had happened. It is presumed that they could not respond properly in the panic.

The more serious impact of the language barrier was after the quake occurred. Those who did not understand the information issued in Japanese did not know about evacuation sites, information about the aftershocks, when and where to get food or water, and so on.

During the Great Hanshin-Awaji Earthquake and its aftermath, each local authority issued the disaster information in multiple languages, but it was one week after the quake at the fastest, and one month later at the latest. (The Foreigners' Earthquake Information Center: p129)

Table 2: Absolute number of foreign deaths and percentage by age group.

Age	Total (person)	Foreign Fatalities	Percentage by the Foreign Fatalities
0〜10	249	10	4.0
10 s	310	4	1.3
20s	470	28	6.0
30s	261	20	7.7
40s	468	20	4.3
50s	814	24	3.0
60s	1,061	32	3.0
70s	1,029	29	2.8
80s	736	7	1.0
90s	95	-	-
Total	5,493	174	3.2

Source: The Foreigners' Earthquake Information Center (1996), p76.

The main reason why delivery of up-to-the minute information for foreign people was so late was that it took time to translate the information into multiple languages.

It was after the Great Hanshin-Awaji Earthquake that Japanese people recognized that our society is not homogeneous any more, but one where people from various backgrounds live together as our neighbors, and that they need to get information both on a day to day living basis and especially during emergencies.

The mid-Niigata Earthquake of 2004, which occurred in Niigata Prefecture, located on Honshu Island on the coast of the Sea of Japan, gave nearly 5,000 international residents in the stricken region, who were mostly on short-term visas and thus had little experience of earthquakes, a particularly stressful experience because of the language barrier.

Nagaoka-shi, the second largest city in Niigata, conducted research questionnaires with 1,655 foreign people about the earthquake. The survey was conducted both in Japanese and Chinese, Portuguese, Tagalog or English according to the person's native language. The survey was undertaken two months after the earthquake, and there were 280 responses (16.9%), of which 41% of the respondents were Chinese, 14% Brazilians, and 9% Phillipino.

The result shows that 67% of the Brazilians could not understand what happened when the earthquake occurred, and only 5% went to the evacuation shelters, and 49% stayed in their cars, while 57% of Chinese went to the shelters on the night of the earthquake. 13% of Brazilians did not know that there were shelters. Most of them replied they want the disaster information in their languages in the future. (Nagaoka-shi, Nagaoka International Association: p1-17)

HOW TO DISTRIBUTE DISASATER INFORMATION TO FOREIGN PEOPLE

After the Great Hanshin-Awaji Earthquake, administrative authorities in Japan became aware of the necessity of providing newcomers, and also tourists to Japan who don't understand the Japanese language, with information in multiple languages. Especially in the case of emergencies it is a risk management imperative. They prepared leaflets in order that disaster information could be widely distributed amongst non-Japanese speakers.

However, the information provided by them has mainly been focused on disaster preparedness, in order to develop the preliminary knowledge amongst foreign people. This includes disaster prevention drills or furniture tipping prevention devices, etc. Another problem is that the information leaflets were distributed mainly at local city offices, which did not reach a wide enough pool of foreigners.

In times of emergency it is necessary to dispatch information to the people in the stricken area rapidly and accurately. With the appropriate information, in times of emergency foreign people will be more able to evacuate smoothly with the minimum of disturbance. At the same time it will help to prevent them from being misled by false rumors, and from the follow on emergencies that may arise (such as tsunami after an earthquake).

One of the means to distribute this information rapidly is through templates for disaster information. Most of the disaster information sentences are dispatched in stereotyped forms, and we considered it should be possible to prepare the template sentences beforehand, by analyzing the information issued on previous disaster occasions. When a disaster occurs we can just add the relevant variable information (location, time etc.) in the template sentences to have the information prepared in multiple languages. The accurate translation can be made by the use of the template translation system.

Since information required by people is different according to the progress of time, we mainly focused on the information sentences that will be issued at the time the earthquake occurs, when instant information is most required.

DEVELOPMENT OF THE MULTILINGUAL DISASTER INFORMATION (MLDI) SYSTEM

It has been predicted that a big earthquake could happen in the central Japan area, including Aichi, in the near future, and we set up the Multilingual Disaster Information System Consortium together with earthquake researchers and computer programmers. We then made a proposal to the Aichi government for a subsidy in order to develop a system which could translate the disaster information from Japanese into multiple languages. The proposal was accepted and we started the development in 2002 and have developed a system that translates required disaster

information into multiple languages rapidly and accurately[2].

We researched and amassed information that was issued by the mass media at the time of Hanshin-Awaji Earthquake, including the information targeted at foreign residents. We made a list of short sentences covering information required from immediately after the disaster through to ongoing needs.

The MLDI System is a web-based system, which has more than 1,100 different template sentences classified into 40 categories in 7 groups. The 7 groups are placed chronologically such as warning information; earthquake information; damage situation and relief information; living information; lifelines (electricity, water, gas) and traffic information; safety information and consultation; information for foreign nationals.

The categories of template mentioned above can be selected from the group you need by pushing a button (Figure 4, ① ~ ⑦). A user can easily choose the appropriate template from the list displayed after the category is selected. The blanks in the Japanese text can be filled with numbers, Roman letters or Japanese characters representing the name of places, dates, times, telephone numbers, or other information (Figure 5-a).

In this version, the edited Japanese templates are translated into complete texts in five languages, English, Korean, Chinese, Portuguese and Spanish, just by pushing the translate button (Figure 4, ⑨).

Translated texts can be downloaded as texts coded in Unicode (UTF-8) so that the user can combine them or lay them out suitably using MS-Word or other editors supporting Unicode (Figure 5-c). This translated matter can be printed and distributed or put up as notices. The translations can also be sent by e-mail. You can also search for the sentence you need by putting a keyword in the search section. (Figure 4, ⑧).

Information about disaster terms specific to Japan is included in the template sentences. Concerning *shindo*, or seismic intensity, we added an explanation of what each *shindo* refers to, as this is a measure unique to Japan. For example, "Intensity 3: Felt by most people in buildings. Some people become frightened", "Intensity 6 lower: It is difficult to remain standing."
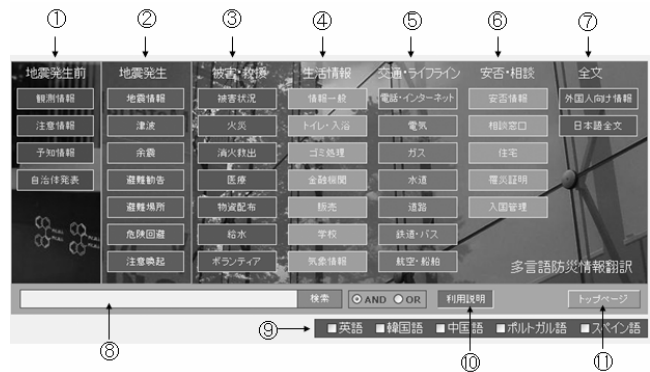
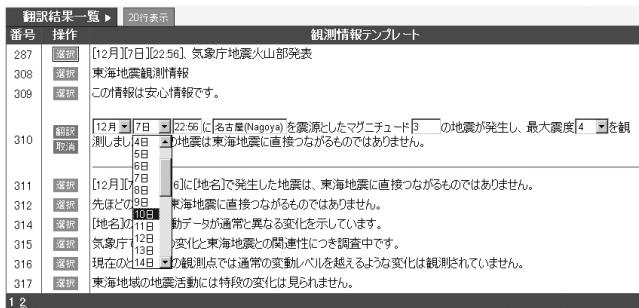**Figure 4: Design of the first page of the Template Translation System for Earthquake Information**

Description of buttons: ① Before the earthquake (information on observation, prediction, warning, announcements from the administrative offices) ②After the occurrence of earthquake (information on earthquake, tsunami, aftershocks, evacuation advises, evacuation places, seek safety, cautions.) ③ Damage and rescue information (damage situation, fires, extinguishing and rescuing, medical care, distribution of rescue goods, distribution of water, volunteers) ④ Life support information (general information, toilets and baths, garbage disposal, financial organizations, sales, schools, weather information) ⑤Traffic and lifeline information (telephone and internets, gas, water supply, roads, trains and buses, planes and ships)⑥Safety confirmation and consultation (safety confirmation, consultation desks, housing, victim certification, immigration), ⑦All of the sentences and Information specifically for foreigners ⑧Search section ⑨ Select the language for the translation (English, Korean, Chinese, Portuguese, Spanish) ⑩Explanation for how to use the system ⑪To the Top Page

Special information for foreign nationals includes the following. { } are fields for filling in specific information.

· There will be a meeting to explain temporary housing for foreigners at {12} o'clock on {1} {July}, at {name of the place}.

· Public information in {English} is distributed free of charge at the following location(s): {name of the place}.

· Consultation for foreigners is available at the following telephone numbers: English {052-001-0001}, Chinese {052-001-0002}, Korean {052-001-0003}, Spanish {052-001-0004}, and Portuguese {052-001-0005}.

· Counseling stations for foreigners have been set up at the following locations: {International Center}.

・ A multilingual broadcast for foreigners will be made on channel {FM Nagoya} at {12} o'clock.

a) Fill in the blanks by selecting the date, by writing the text in Japanese and Roman letters and so on.

b) Example of the output translated into four languages.

c) Edit in MS-WORD file

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<English>
A short time ago there was a strong earthquake at Aichi(愛知).
The seismic intensity for each area is as follows. Seismic intensity 6 lower.: Showa-ku, Nagoya (名古屋市昭和区) .
Intensity 6 lower:  It is difficult to remain standing.
The evacuation site is Kosho-ji Temple (興正寺).

<Chinese>
刚才,在 Aichi(愛知）发生了强烈地震。
各地的震度如下所示。震度为 6 弱。Showa-ku, Nagoya
(名古屋市昭和区)
震度为 6 弱时，难以站立。
避难场所为 Kosho-ji Temple(興正寺）。

<Portuguese>
Hace pocos minutos ocurrió un fuerte terremoto en Aichi(愛知).
A continuación presentamos la lista de los locales y grado de intensidad sísmica 6 abaixe Showa-ku, Nagoya(名古屋市昭和区) .
Grado 6 bajo. Es difícil mantenerse en pie.
El lugar de refugio está en Kosho-ji Temple(興正寺).
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Figure 5: Translated sentences by MLDI System

Although the system was only available as a stand-alone application when first developed in 2003, the Consortium developed a system based upon the SOAP (Simple Object Access Protocol) and made it available on the internet. The system was uploaded to the website of the Disaster Management Office of Nagoya University in March 2005.

http://tagengo.seis.nagoya-u.ac.jp/

MLDI SYSTEM UPLOADED ON THE AIA SITE WITH LIVING INFORMATION ADDED

Requested by the Aichi International Association (AIA), we added the system to translate the living information for foreigners into multiple languages including English, Portuguese, Spanish, Chinese and Korean. The system has been available since April 2007. The 229 sentences uploaded there are divided into 14 categories, such as registration procedures at local governments, insurance, medical care, tax, education, traffic, shopping and so on.

http://www3.lib.aia.pref.aichi.jp/mlis/

The example sentences are as follows:

・ Items required for the Alien Registration process are as follows: Application Form for Alien Registration, Passport, Birth certificate, 2 photographs, (4.5 cm high X 3.5 cm wide). The photographs must be taken within 6 months of the application date: subject should be facing the camera and should not be wearing a hat.)

・ Which department do you need to go to? {Internal Medicine}, {Surgery}

・ If you do not have your health insurance card with you, you will have to pay all the expenses.

・ Please pay your inhabitant tax by {July} {1}. Locations where payment can be made: {Tax Office},{No1.Bank}

・ Collection time for Recyclable refuse is {10:00} to {11:00} on {Mondays}.

We developed questionnaires relating to the usability of the MLDI system, which were then distributed by AIA in August 2008. The questionnaires were sent to 33 municipalities in Aichi prefecture that had standing international association divisions. Of these, 25 replied, and the results are as follows:

・19 of the 25 Municipalities (77%) knew that the MLDI System was available on the AIA website. 12 of the 19 Municipalities had used the system.

・We then asked the employees of the municipalities that had not used the system to test the system, and then comment of ease of use. 21 of the 25 Municipalities (84%) answered 'Yes, it was easy to use.'

・6 municipalities specified where 'items or sentences did not give enough information' These were all related to day-to-day living information, especially content related to schools, such as the school events or school timetables.

・ In the meantime, 4 certain municipalities utilized the system to generate real-time, relevant content. For example, one municipality used MLDI to generate information in Portuguese and Chinese relating to Japanese Class

schedules, utilizing template sentences such as "{December}{14 }is a holiday at {School}".

The ongoing usage of such simple structures cannot be underestimated. Both from the administration perspective (familiarity of data entry and system usage) and from the user perspective strengthens the ultimate goal; providing accurate, current and relevant disaster mitigation information.. The point to make is that expecting users to access a system *only* at the time of a disaster is unrealistic; users need to be familiar with, and capable of, accessing the system before the disaster strikes. Providing general day-to-day life information is a key part of that process.

DISCUSSION AND CONCLUSION

In this paper we researched and discussed what kind of information is most necessary in the society which is moving towards becoming multi-ethnic. Both the government and the civil groups which work for the human rights of foreign workers propose that disaster information in multiple languages is the most important, as long as it is issued effectively and appropriately.

This conclusion is largely based on experiences from the Great Hanshin-Awaji Earthquake that hit Japan in 1995, in which more than 6.000 people were killed. Foreign people who did not understand Japanese were placed in a difficult situation due to the lack of necessary information, and also the lack of communication ability with Japanese people in the local communities. Some foreigners thought they would not be accepted at the evacuation shelters since all the information was in Japanese only. If there was information in multiple languages, they would not have hesitated to stay there. (Reports of the lectures on the networking project at the occasion of disasters, Yokohama City, 2000).

As to the method of delivering language services concerning disaster information, the choices are leaflets, websites and films, many of which are trendily made at many of the local governments these days. However, although the leaflets in Japanese are principally delivered to all of the families in its municipality, the foreign language versions are distributed mainly at local city offices, as addresses of foreigners are not always settled and are not confirmed enough by the authorities. Thus, the disaster information does not reach a wide enough pool of foreigners. Furthermore, foreign people may not always be so interested in gaining information about disasters, which do not look so urgent or serious. Disaster prevention training for foreigners would be a useful measure, but unfortunately participation from a large percentage of foreigners cannot be expected.

The language service mentioned above is for the disaster preparedness, in order to develop the preliminary knowledge amongst foreign people. At the Great Hanshin-Awaji Earthquake, receiving up to date and accurate information after the disaster was a necessity, but many of the foreign victims could not gain access. The necessary information should be provided in a timely fashion, depending on the circumstances, the situation of the stricken area, and the flow of time.

To cope with the increasing number of foreigners in Japan, in the recent years, some of the local governments called for volunteers who can be registered to work as interpreters for foreign people when a disaster occurs. For example, at the Nagoya International Center in Nagoya City, the capital city of Aichi Prefecture, about 300 people are registered as volunteer interpreters in 17 languages, including English, Spanish Portuguese, Chinese, German, French, Korean, Thai, Arabic, Russian and others (Sato: p103). It is desirable that more people are registered and to have more people aware of the multi-culturalized society. However, interpreters might become casualties themselves and might not be able to participate in the supposed volunteer activities. Moreover there are several special terms specific to disasters, such as seismic intensity and so on, which volunteer interpreters might find difficulty in translating correctly.

The Multilingual Disaster Information (MLDI) System, we expect, will support people who are in charge of dispatching information to foreign people, including those responsible for translating the necessary information rapidly and accurately.

The template translation system with its prepared sentences will make it easier as well for the users to get necessary sentences and to have them translated into the languages they need. We can see what kind of information should be provided when we use the system, from the category buttons, and also the sentences in each category.

The first page of the system is in Japanese since we assume that the people who are in charge of distributing the information for foreigners will be Japanese staff at international centers, local community facilities where foreign people visit, and so on.

The MLDI System provides information on daily living and disasters, and we expect the system would be used on a daily basis. It is clear from the questionnaire results that we need to develop further multilingual day-to-day life information provision services. But the intention is that, with increased usage on a normal daily life basis, we can then penetrate these "at risk" groups to a degree that will enable those groups to recognize MLDI as a system to be utilized during emergencies and disasters. At present the MLDI System on the website of AIA is linked with the websites of some other Japanese local governments, including Aomori and Fukuoka prefectures. Also our system is now included in the Language Grid at http://langrid.org/operation/jp/user_list.html. We expect the system will be improved and expanded through the use by the relevant authorities, local communities and general global users.

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