3. Information Sharing on DRR

ADRC shares disaster risk reduction (DRR) information to member countries and the general public primarily through its website https://www.adrc.asia/latest/. Information shared online includes documented experiences, lessons, tools, practices, and analyses of data that are useful for preparedness, mitigation, response, and recovery activities.

3.1 Information Collection

Since member-countries, partner organizations, and networks maintain DRR databases, ADRC collects pertinent information for sharing, such as:

- Disaster risk management systems (e.g., legal and institutional frameworks, disaster management plans, and manuals)
- Disaster response and recovery activities (e.g., emergency response activities in affected area/country)
- Disaster events due to natural hazards (e.g., descriptions of natural disasters such as earthquakes, floods, cyclones, and so on, and the damages)

The visiting researchers (VRs) and the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) greatly contribute in the information collection efforts of ADRC.

3.1.1 Country Reports on DRR

Member countries submit their respective updated country reports to ADRC on a regular basis. These reports contain information about natural hazards, disaster management systems, DRR strategy/plan, recent disasters, and progress in implementing the Sendai Framework for Disaster Risk Reduction. Table 3.1 shows the updated record for FY 2023.

Table 3.1 List of reports from ADRC member countries

Country	Year prepared (Update frequency is different as it is made by VRs of the year.)
Republic of Armenia	2001, 2002, 2003, 2005, 2006, 2010, 2012, 2015, 2016, 2017, 2021, 2022
Republic of Azerbaijan	2011, 2014, 2023
People's Republic of Bangladesh	1998, 1999, 2001, 2003, 2005, 2006, 2010, 2011, 2013, 2020, 2021
Kingdom of Bhutan	2008, 2013, 2014, 2017, 2019
Negara Brunei Darussalam	2024
Kingdom of Cambodia	1998, 1999, 2002, 2003, 2005, 2006, 2013
People's Republic of China	1998, 1999, 2005, 2006, 2012
Republic of Fiji	2023
Republic of India	1998, 1999, 2002, 2005, 2006, 2008, 2012, 2015, 2018, 2020, 2022, 2023
Republic of Indonesia	1998, 1999, 2002, 2003, 2004, 2005, 2006, 2012, 2016

Country	Year prepared (Update frequency is different as it is made by VRs of the year.)
Islamic Republic of Iran	2013
Japan	1998, 1999, 2002, 2005, 2006, 2012, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023
Republic of Kazakhstan	1998, 1999, 2002, 2005, 2006
Republic of Korea (ROK)	1998, 1999, 2001, 2002, 2005, 2006, 2008
Kyrgyz Republic	2005, 2006, 2012
Lao People's Democratic Republic	1998, 1999, 2003, 2005, 2006, 2023
Malaysia	1998, 1999, 2003, 2005, 2006, 2008, 2009, 2011, 2018
Republic of Maldives	2013, 2014, 2015, 2018, 2023
Mongolia	1998, 1999, 2002, 2005, 2010, 2011, 2013, 2021, 2022
Republic of the Union of Myanmar	2002, 2005, 2006, 2013, 2018, 2020, 2021, 2022
Nepal	1998, 1999, 2005, 2006, 2009, 2010, 2011, 2014, 2019
Islamic Republic of Pakistan	2005, 2006, 2009, 2015, 2016, 2017, 2021, 2022
Independent State of Papua New Guinea	1998, 1999, 2005, 2006
Republic of the Philippines	1998, 1999, 2002, 2003, 2005, 2006, 2009, 2010, 2011, 2012, 2014, 2016, 2017, 2018
Russian Federation	1998, 1999, 2003, 2005, 2006
Republic of Singapore	1998, 1999, 2001, 2002, 2003, 2005, 2006
Democratic Socialist Republic of Sri Lanka	1998, 1999, 2003, 2005, 2006, 2009, 2010, 2011, 2014, 2015, 2016, 2019
Republic of Tajikistan	1998, 1999, 2003, 2005, 2006
Kingdom of Thailand	1998, 1999, 2003, 2004, 2005, 2006, 2008, 2010, 2011, 2012, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023
Republic of Türkiye	2019
Republic of Uzbekistan	1998, 1999, 2005, 2006, 2013, 2015
Socialist Republic of Vietnam	1998, 1999, 2005, 2006, 2017, 2021, 2022, 2023
Republic of Yemen	2009, 2012, 2014

3.1.2 Latest Disaster Information (FY 2023)

As of 28 February 2024, a total of 2,658 disaster information items can be accessed on the ADRC website (Figure 3.1). Once a disaster occurs, its latest disaster information is immediately posted on the ADRC website. Each disaster information contains details such as the date of occurrence, location, impacts, and links to reports, articles, maps, relief efforts, and satellite images.

Described below are some of the notable disasters that occurred during FY 2023 which can be found in the ADRC database.

(1) Noto Peninsula Earthquake, 1 January 2024

GLIDE number: EQ-2024-000001-JPN. A large earthquake (M7.6) occurred at 4:10 pm on January 1 in 2024. The epicenter of the earthquake was located in the northern part of Noto Peninsula. Serious damages covering the four prefectures in Hokuriku (Ishikawa, Fukui, Toyama, and Niigata prefectures) due to the earthquake were reported. Damaged caused by tsunami was approximately 160 hectares in Suzu City and Noto City. Power and water supplies were cut, and communications were disrupted. There were districts isolated due to roads cut off. Basic needs such as food, water, blankets and fuel were short in supply. Fires occurred in some cities with hundreds of houses burnt down. As of 16 February 2024, the local government confirmed 241 deaths in Ishikawa prefecture, and at least 1,296 people were injured. More than 60,614 houses were collapsed/damaged, which brought about 12,929 people remaining in 521 evacuation centers.

(2) Earthquake in Nepal, 3 November 2023

GLIDE number: EQ-2023-000214-NPL. After the initial magnitude 6.4 earthquake that struck Karnali Province in western Nepal on 3 November, a series of aftershocks counting over 350 times further damaged homes and buildings that were already partially damaged, forcing people to sleep outside in freezing overnight temperatures. A week and a half after the earthquake, the Government and humanitarian organizations provided winterized shelter, particularly with the start of the winter season. On 15 November 2023, the National Emergency Operation Centre (NEOC) reported that approximately 62,000 homes were affected (35,455 partially and 26,557 completely damaged) by the earthquake. As part of reconstruction efforts, the Government approved and issued building guidelines for transitional shelter and will provide 50,000 Nepali Rupees (NPR) (US$375) to families with completely damaged homes.

(3) Typhoon Mawar, 27 May 2023

GLIDE number: TC-2023-000077-PHL. Tropical cyclone Mawar (local name: Betty) resulted in 2 casualties: 1 dead and 1 injured. Reports from Ilocos Region and Cordillera Administrative Region showed that the production loss and cost of damage to agriculture amounted to PHP133,000.00, while damage to infrastructure reached PHP68,695.58. A total of 11 houses were totally damaged, while 91 were partially damaged. The passage of Betty over the Philippine Sea enhanced the Southwest Monsoon and triggered the onset of the rainy season for areas under Climate Type I. The monsoon brought heavy rains over the western portion of Southern Luzon.

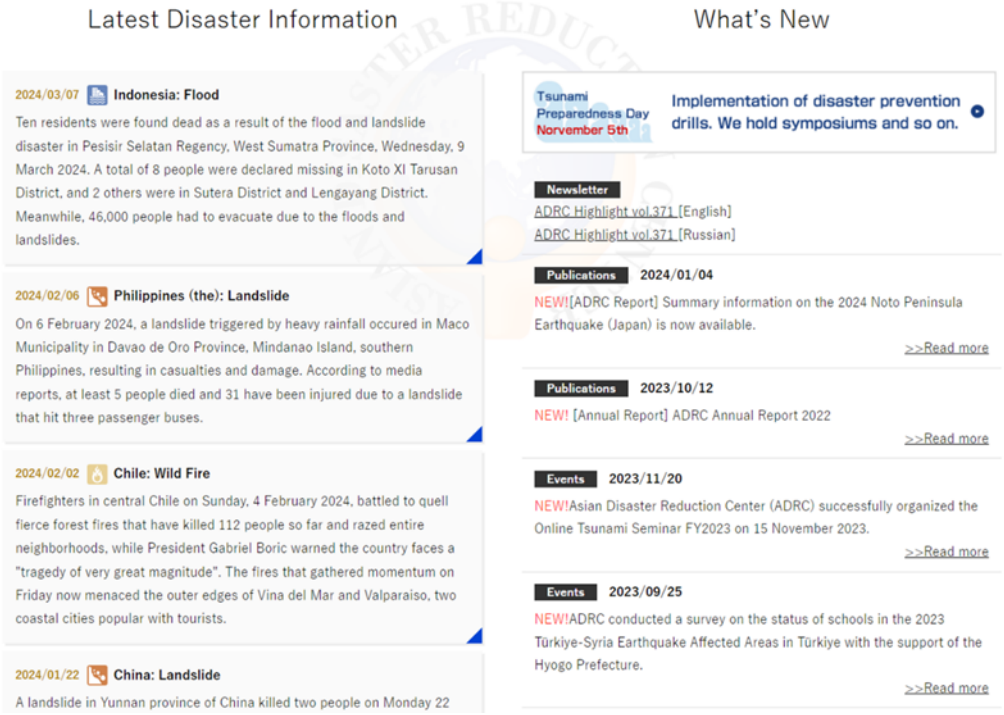

Figure 3.1 Screenshot of ADRC homepage with the latest disaster information

ADRC is able to maintain this massive disaster database due to the contribution and support from a wide range of reliable members and partners that provide the data.

3.1.3 Natural Disaster Databook 2022

ADRC publishes the Natural Disaster Databook annually to provide statistical and analytical perspectives of disaster data. For its 2022 issue, ADRC used the data from the Emergency Event Database (EM-DAT) downloaded on 16 May 2023 to analyze the number of occurrences, deaths, people affected, and economic losses from disaster events – focusing only on eight disaster types: drought, earthquake, extreme temperature, flood, landslide, storm, wildfire, and volcanic activity. Part of the analysis is made by:

- Comparing the natural disasters in 2022 with natural disasters in the last 30 years (1992-2021)
- Comparing climate-related disasters in 2022 with climate -related disasters in the last 30 years (1992-2021)

In 2022, a total of 388 disasters occurred globally. This is higher compared to the annual average for the past 30 years (1992-2021), which is 340. Although there was an increasing trend of disaster occurrence globally, a decreasing trend of disaster occurrence was observed in Asian region in 2022.

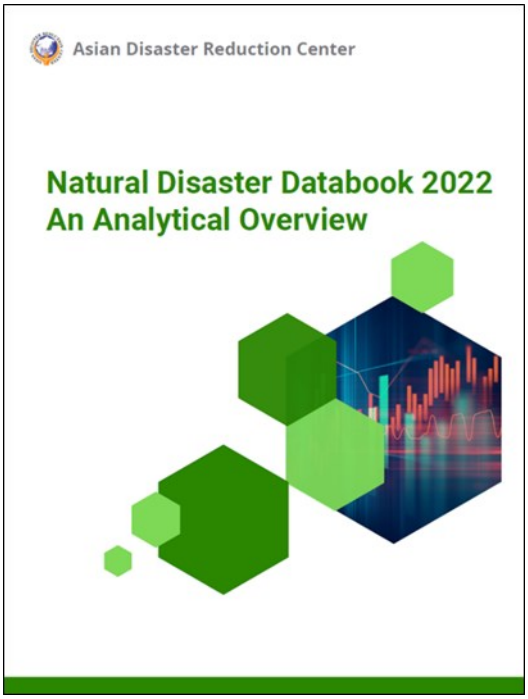

Figure 3.2 Natural Disaster Databook 2022

Likewise, the number of deaths, people affected, and the economic losses from natural disasters in Asia in 2022 were lower compared to the annual averages for the past 30 years (1992-2021). Flood and storm remain to be the frequently occurring disaster types globally and in the Asian region in 2022 and during the past 30 years. It was observed that climate-related disasters (particularly from flood, storm, and drought) account for the highest number of people affected and economic losses in 2022 and during the past 30 years.

The top 10 countries with the highest number of disaster occurrences in 2022 include Indonesia (20 events), Philippines (12), China (12), Thailand (11), Vietnam (8), Afghanistan (8), India (7), Japan (7), Malaysia (6), and Nepal (6) shown in Fig 3.3.

Figure 3.3 Top 10 countries with highest number of disaster occurrences in 2022

Globally, the damage caused by disasters in 2022 (USD 223.84 million) is higher than the annual average disaster damage for the past 30 years (annual average of USD 121.46 million). The situation in Asia is different, where there is a decreasing trend of disaster economic impacts in 2022 compared to the last 30 years (1992-2021). The estimated total economic impact from disasters in 2022 was USD 48.75 million, which was lower than the average annual economic impacts from disasters for the past 30 years, which was USD 52.88 million (Figure 3.4).

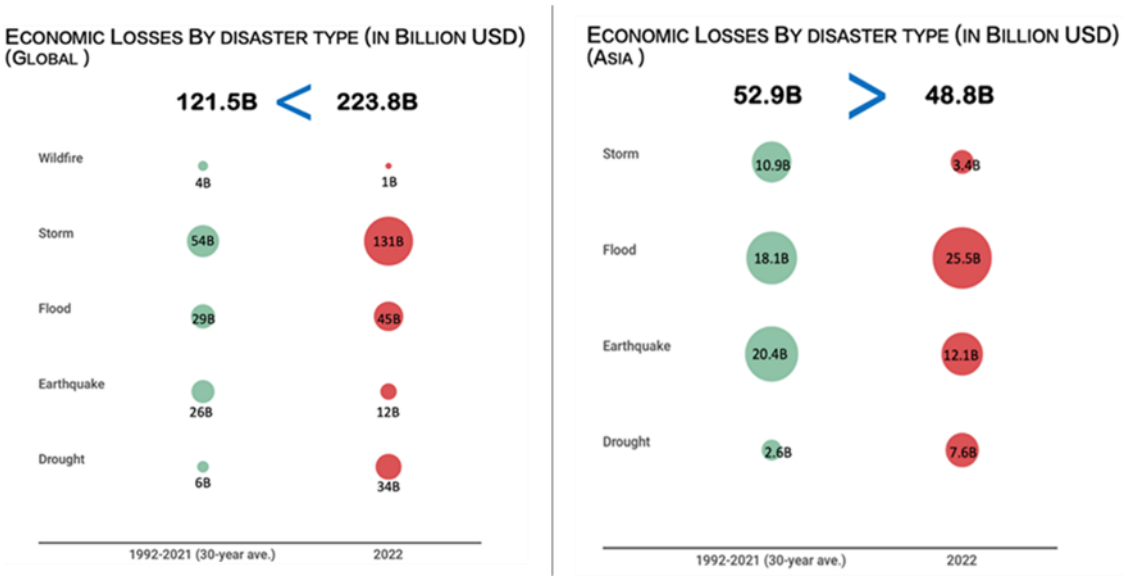

Figure 3.4 Economic losses in 2022: Global data vs. Asian data

Furthermore, the occurrence of disasters in Asia in 2022 was 137. It was lower compared to the annual average of 141 for the past 30 years. The number of deaths was also lower in 2022 at 7,750 compared to 30,909 annual average for the past 30 years. Disaster affected people in 2022 was 64.23 million, less than half of the average number of affected persons per year for the past 30 years, which was 168.81 million.

3.2 Information Dissemination

ADRC disseminates DRR information using a range of channels, including: a) regular issuance of ADRC Highlights, a monthly newsletter, b) dissemination via GLIDE, and c) dissemination through Sentinel Asia, a space-based and service providing platform.

3.2.1 ADRC Highlights

The newsletter “ADRC Highlights” is issued monthly and published in English, Russian and Japanese. As of 29 February 2024, the respective numbers of subscribers are 2,663, 226 and 935. Online version of the newsletters is made available on the website while the text version is shared by email to ADRC counterparts, former visiting researchers, former GLIDE researchers, and others (e.g., participants of ACDR, annual meetings, visitors to ADRC, trainees in JICA’s training courses delivered by ADRC, and participants of international conferences which ADRC took part). Additionally, ADRC registers the email addresses of those who wish to subscribe the newsletter. ADRC regularly updates this mailing lists for efficient and effective dissemination to readers.

Figure 3.5 ADRC Highlights published in Japanese, English, and Russian languages

Articles in the newsletter regularly include the latest ADRC activities such as the VR program, Asian Conference on Disaster Reduction, progress of projects, reports on participation in international conferences, and other events or projects which ADRC organized.

3.2.2 Data Sharing through GLIDE Number System

As of March 2024, over 7,700 GLIDE numbers were issued to support the integration of disaster data and to inform the disaster preparedness, response, and recovery activities. GLIDE stands for “Global disaster IDEntifier”. The GLIDE number system assigns a “global ID” for a disaster for all stakeholders to use in their

databases or in reporting. A GLIDE number (e.g., EQ-2024-000001-JPN) comprises the following components: disaster classification (e.g., EQ for earthquake), year of occurrence, serial number in the given year, and country code. Once a disaster occurs, an operator issues a GLIDE number by inputting disaster information such as location, time, disaster type, and initial damage and then uploaded on the GLIDE website. The number is automatically sent to its over 2,000 subscribers.

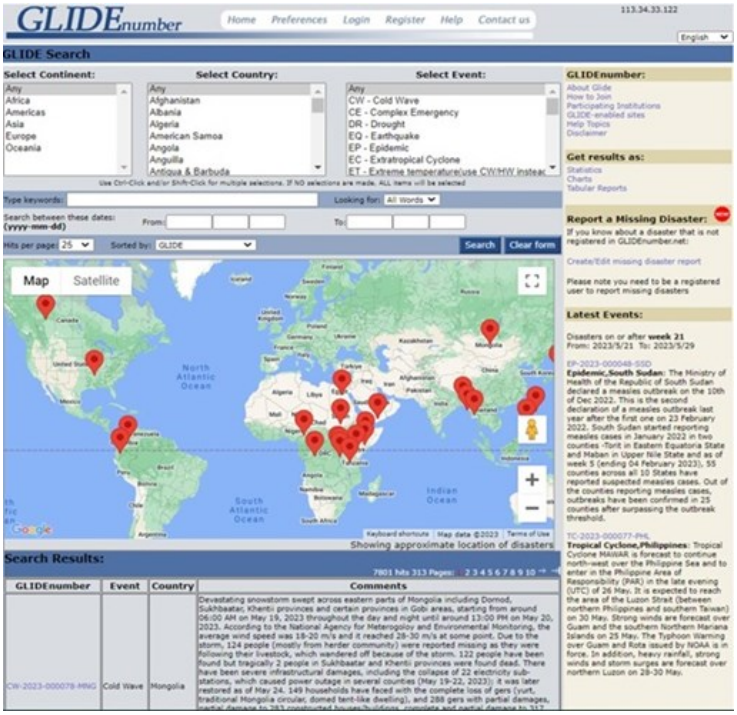

Figure 3.6 Screenshot of the GLIDE Homepage

Established in 2001, GLIDE aims to promote disaster information sharing among databases developed by DRR organisations, research institutions, and governments to contribute in strengthening disaster resilience. ADRC advocates the use of GLIDE number to further facilitate information integration, such as information on damage and loss that maybe available other reports but could be found since the organization did not use GLIDE number. Efforts along this line includes linking GLIDE with other disaster data management tools (e.g., Reliefweb, Sentinel Asia, UNOSAT, ADINet, and ESCAP). In 2021, GLIDE API was adopted to facilitate automatic issuance of GLIDE number by institutions that maintain disaster databases.

3.2.3 Data Sharing through Sentinel Asia

Upon request from member countries, ADRC, through Sentinel Asia, facilitates the sharing of satellite images of emergency observations to help inform their disaster response and recovery plans. In FY 2023, Sentinel Asia received a total of 27 requests from the Joint Project Team (JPT) members and all 27 requests were activated (Figure 3.7). When a member country sends an emergency observation request, ADRC forwards it to eight space agencies under Sentinel Asia: ISRO (India), JAXA (Japan), MBRSC (United Arab Emirates), STI/VAST(Vietnam), GISTDA (Thailand), TASA (Taiwan), CRISP (Singapore), and PhilSA (Philippines) . Sentinel Asia is a network with a wide-range of memberships. As of January 2024, the JPT membership comprises 114

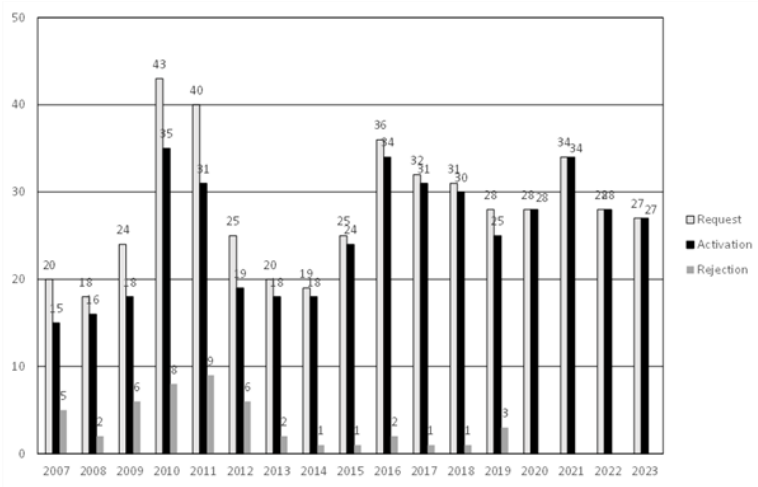

Figure 3.7 Emergency Observation requests record from 2007-2023

organizations from 29 countries. It supports disaster management activity in the Asia-Pacific region by applying space-based technology (i.e., earth observation satellites data) and WEB-GIS technology.

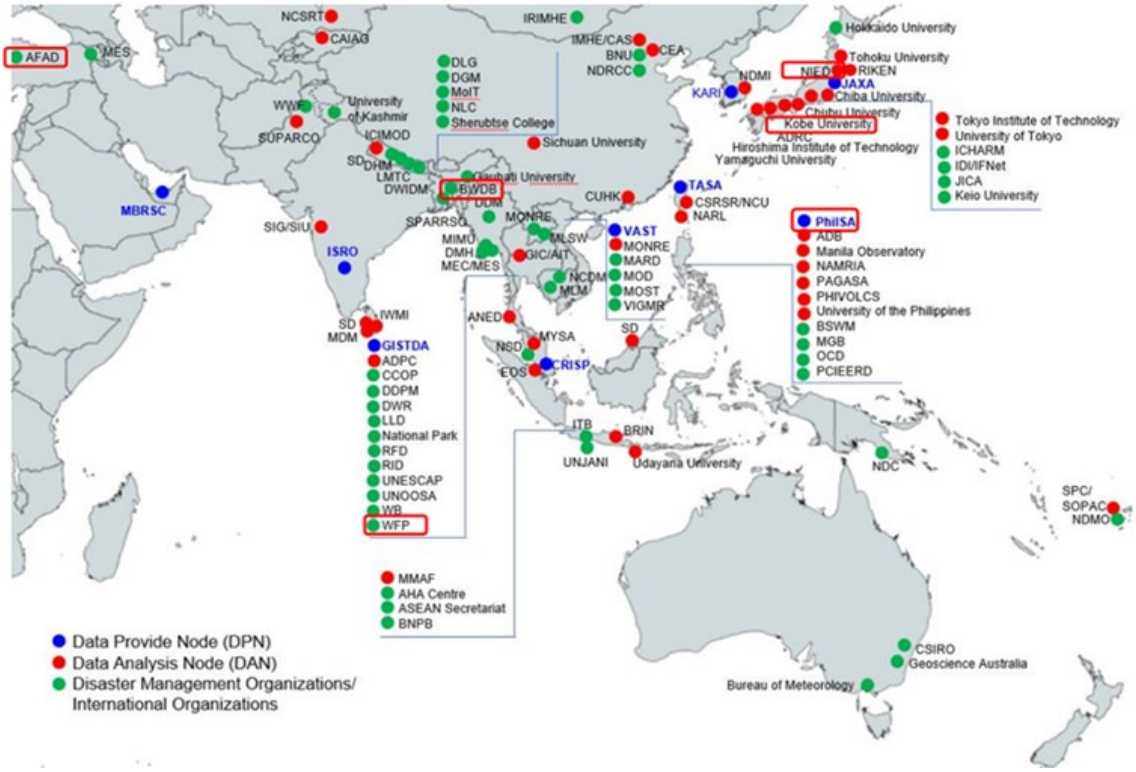

Figure 3.8 Sentinel Asia Network