

Japan struggles for revival supported by friendship and assistance across the world

March 11, 2011 has become a very painful, unforgettable day for the people of Japan. The Great East Japan Earthquake with a magnitude of 9.0 hit the eastern part of Japan and the followed devastating Tsunamis swallowed a large number of people, houses, factories, schools, hospitals, farms and everything in its path. As of the middle of April, over 13 000 people lost their lives, more than 14 000 people remained unaccounted for, and around 150 000 people have been forced to take shelter as evacuees.

By Nobuhisa Iwase*

THE reputation of Japan as 'the most safe and efficient economy' has been severely damaged. Several risks are still ongoing such as an unstable situation at the Fukushima Daiichi Nuclear Power Station and frequent and powerful aftershocks continue. However, Japan has kept the country's most important resources for growth – human capital that never gives up and is ready to do what he or she can. Having high appreciation for the fact that the country has received continuous and heartfelt support and assistance from all over the world, the Japanese people are confident they can realise steadfast reconstruction and achieve a complete revival in the near future. 'Yes, we can!'

Historically Japan has experienced many natural disasters from earthquakes and Tsunamis. In 1923, the 'Kanto Big Earthquake' killed over 100 000 when it destroyed the Tokyo metropolitan area on September 1. Economic damage was reported to amount to 44% of the country's total GDP at that time. On January 17, 1995 the 'Hanshin-Awaji Big Earthquake' shook the Hyogo-Kobe area resulting in a loss of 6437 lives and caused damage amounting to 2.5% of a total GDP. However, the magnitude of the Great East Japan Earthquake on March 11 was the largest, and the terror from the enormous Tsunami waves that followed will enter the history books.

The Tsunami wave climbed a 37.9m high cliff at Miyako city in Iwate Prefecture which shocked the people, not only of Japan, but also across the world. The area flooded by the Tsunami is estimated to be more than 500km², and the totally or half-destroyed houses number more than 200 000. The most badly damaged areas are three prefectures in the northeast of Japan; Miyagi, Iwate and Fukushima. However, there was also loss of life even in Tokyo and on Japan's second largest island, Hokkaido in the north, which suffered major impact causing a large area of devastation.

As a rough estimate, the direct economic loss fixed assets such as roads, houses and other infrastructures amounts to between 16 and 25 trillion yen (around US\$190 to 300bn). Basic lifelines such as supplies of drinking water, electricity, gas and transport are still suspended in many areas. In the most heavily damaged areas it will take a long time for the more than 150 000 evacuees to recover their ordinary daily lives and reconstruct their towns and villages.

From an economic point of view, output from the three prefectures that were heavily damaged accounted for only 4% of the total GDP of Japan. However, under the very efficient supply chain system represented by 'No inventory and Just-in-Time Delivery' lack of only one or a few key materials or components easily causes a bottleneck in supply chain management which brings about stoppages in final assembly or pro-

duction of many manufactured goods. Moreover, in Japan there are many manufacturers that are the sole supplier of specialist high quality components or materials to manufacturers in both domestic and global markets. On March 11 production facilities ranging from such basic materials as metals and chemical products to high-value added mechanical and electrical components were lost or damaged. The government estimated that around 9-16 trillion yen (\$107-190bn) of facilities and equipment were completely or partly destroyed. At the same time, damage to transport infrastructure such as roads, railways, logistics centres and port facilities have made it difficult for Japanese businesses to conduct smooth and efficient production and supply chain management.

Automotive Sector

Supply chain disruption is typified by the automobile industry that requires 20 to 30 thousand parts for final vehicle assembly. Toyota stopped operations at all 15 assembly plants in Japan between March 14 and April 17. Honda did the same for two of its assembly plants until April 10. It is estimated that 400-500 thousands units of car production were lost during this initial period of confusion. It will be June or July before Japanese automobile producers can resume full production capabilities. This disruption is not confined only to Japanese manufacturers but also to manufactures around the world. In the USA, GM was obliged to stop the company's Louisiana assembly plant from 21 March, because Hitachi Vehicle Energy which supplies Lithium-ion batteries for hybrid cars to GM was severely damaged by the disaster. Volvo in Sweden was also reported to be facing problems because it receives 10% of its parts and components for assembly from Japan. Electric appliance manufacturers and other high-tech industries are in the same situation, importing many parts from Japan. Nokia of Finland announced that worldwide consumers may face shortages in some popular models of its mobile phones. In Fukushima, IHI produces turbine blades for aero engines for both Rolls Royce for Airbus and GE for the Boeing 787. Car-navigation systems, microcomputers for control devices in automobiles, electric devices for smart phones and LED panels are all examples of high quality components that manufacturers around the world presently have difficulties in importing from Japan. It was reported that the Japanese government estimated that stoppages and difficulties in semiconductor-related production facilities might negatively affect manufacturing worldwide to the value 40 trillion yen (US\$470bn).

In particular, East Asian countries such as the Republic of Korea, Taiwan and China are heavily dependent on materials, parts and supplies

imported from Japan. South-eastern Asian countries such as Thailand, Vietnam, Philippines, Malaysia and Singapore are the same. In 2010 the value of imports from Japan reached US\$5.19bn in Taiwan, US\$6.43bn in South Korea and US\$17.67bn in China. While South Korea generated a record-high trade surplus of US\$41.2bn in 2010, its trade deficit with Japan also reached a record high at US\$36.1bn. Of this, the deficit in parts and materials including steel products amounted to US\$24.3bn, which was an increase of US\$4.2bn from 2009. In the automobile industry, Japanese affiliated JV companies located in mainland China import the most important parts and materials from Japan. Production by such Japanese affiliates may be reduced for some time due to shortages of parts supply from Japan.

Steel Industry

The Japanese steel industry was no exception from the severe damage caused by the earthquake and Tsunami. Kamaishi Works of Nippon Steel Corporation (NSC) was in the midst of a towering Tsunami that was reported to reach more than 9m on the seashore at the city. The company reported that many NSC employees and their families and those of group and affiliate companies have lost their lives in the disaster. Even now, there are many still missing and the company continues in its search efforts. Fortunately, flooding in the Kamaishi Works itself was not severe, but some parts of surrounding facilities were flooded by the wave and all production was suspended. Although the blast furnaces at NSC Kimitsu, Sumitomo Metal's Kashima and JFE's Keihin and Chiba stopped operations after the disaster, all of them had resumed by the end of March. Moreover, these plants have increased their power generation output as much as possible to supply electricity to the troubled Tokyo Electric Company (TEPCO) so as to mitigate electricity shortages in the Kanto area. However, the supply of raw materials for steel production has also been negatively affected. For example, production of zinc used for galvanising steel declined by 70% compared to the normal level, which makes it difficult for steel producers to conduct stable and smooth operations.

Power Shortage

Another headache for Japanese companies and people are shortages of electricity that are likely to increase in the coming hot summer as well as the concern over the nuclear power plant at Fukushima. TEPCO is the sole supplier of power to the Kanto area which includes the Tokyo metropolitan city and its surrounds which include the three important prefectures of Kanagawa, Saitama and Chiba. GDP in this

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area accounts for close to 37% of Japan's total GDP. To avoid sudden power blackouts, TEPCO conducted planned, rolling blackouts several times in late March. Although this emergency measure has presently ended, the government and TEPCO are making a detailed plan on ways of curbing electricity consumption both by industries and households in the summer. It is estimated that there is a supply shortage of 25% of total electric demands in all TEPCO's service areas. In the medium- and long-term views of economic and social reconstruction, strengthening and achieving a better-balance of energy supply and consumption will be a key issue for Japan. While the country has succeeded in building up a society with a high level of energy efficiency, further efforts to save energy and produce renewable energy will be required. Currently, 25% of Japan's electric power supply relies on nuclear power plants.

Following the March 11 shock, the self-control and the cool mindset of consumption by the Japanese people has generally prevented a shortage of goods. Forecasts of Japan's GDP growth for the late April to June quarter recently announced by 43 major Japanese economic-related institutions was down -2.8% y-o-y. The main cause of this negative growth will be due to a decreased level of exports and reduced domestic consumption. However, many institutions expect that Japan will regain its economic growth in the July-September quarter, which may lead to a just positive GDP growth figure for the whole fiscal year 2011 of around +0.4%. Japan will definitely resume its vitality with further strengthening of global manufacturing and supply chains in the near future. At the same time, given the damage to the reputation of the 'Made-in Japan Brand' due to fears of radiation contamination even for manufac-

tured products, further efforts for reorganising the global supply chain may also be accelerated by many other players in Asia, Europe and the United States, which could well change the map of the global supply chain.

Many Japanese people know and appreciate that 134 countries and regions as well as 39 international organisations kindly offered assistance and that 20 countries and several international organisations have conducted various humanitarian activities in Japan. In particular, the USA has provided manpower and conducted various activities immediately following the crisis. More than 20 000 US soldiers, 20 ships and 160 aircraft have participated in rescue and support activities in Japan. With high appreciation for such assistance and friendship from across the world, the Japanese people well understand that we cannot give up and will 'do it right!' ■