



INSIGHT

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CHINA FLOODS

Millions of Chinese impoverished by recurrent floods

In the late summer of 1999 it became evident that tens of millions of people living in the Yangtze River Valley in south and central China were about to be hit by yet another natural disaster of gigantic proportions. Relentless rain from the middle of June until the beginning of September once again caused the mighty Yangzi River to overflow its banks - risking the livelihood and health of more than 100 million. It proved to be the second worst flood disaster of the century, following the devastating floods of 1998, which had involved the International Federation in relief work in China on a larger scale than ever before. This *INSIGHT* examines the roots and consequences of the disaster its impact for the year 2000, and the successful response of the Red Cross/Red Crescent to assist victims.



Jane Martin/Federation

The floods destroyed all crops on more than a million hectares of land. The economic loss is counted in billions of US dollars, more than four billion in the four provinces where the Red Cross Society of China/Federation have been providing assistance.

Almost two million people were made homeless by the floods of 1999. Water levels rose up far beyond the danger mark in the beginning of August, leaving vast areas of farmland under water. In many regions this resulted in the loss of both of the year's potential rice crops, robbing farmers once again of their income base. When the new disaster hit, they had barely recovered from last year's flooding. Many have not been able to harvest more than one crop of rice during the last five years, due to floods.

The initial response to the 1999 floods was carried out efficiently by the authorities and the Chinese Red Cross. As soon as the floods hit the Yangtze River Valley provinces, local branches mobilized all their resources with the support from headquarters and the Federation. Dozens of teams went to affected areas to assess the situation, help resettle victims, offer medical services and distribute food and other relief goods.

The government's efforts to reinforce dykes seems to have had a major impact on lessening the effects of the floods. The Federation, on behalf of the Red Cross Society of China, was the only international relief agency to launch an appeal in 1999 - seeking US\$ 6.5 million to assist the flood victims. More than two hundred villages in four provinces - Hunan, Hubei, Jiangxi and Anhui - were targeted, and the Red Cross committed itself to provide food for 250,000 people for more than four months, as well as to ensure access to clean water and disinfectants for over one million people.

Sifting out the most vulnerable

Although the floods operation of 1999-2000 was on a smaller scale than the previous year, the Red Cross played an important role in reaching out to those who by now were suffering the effects of floods time and again. Although food is available through govern-

ment loan schemes, many people cannot afford to make use of them, given the general poverty level. Based on the findings of a joint assessment team from the Federation, the Chinese Red Cross and other National Societies, the Red Cross was able to help ease the burden of debt and create an opportunity for a fresh start for quarter of a million people.

"We came up with a formula agreed upon by the Red Cross Society of China and the Federation, where we managed to sift out the most vulnerable - the people who have really fallen through the holes of the system's security net, and have no way of making a fresh start," says Jim Robertson, the Federation's representative in Beijing. "Our assessment both confirmed the priorities which we should concentrate on, and acknowledged the resources that are in place from the governmental side, thereby ensuring no duplication of effort."



Harun Al-Rashid/Federation

Industrialisation and over-population of certain provinces has called for a massive redesign of rivers and lakes to meet the growing need for electricity, land and water. As protection of the urban areas is prioritised, floods affect mostly the rural areas, home to millions of Chinese peasants.

What's causing the floods in China?

Seasonal floods in China are not new by any means. They've been a part of life in the country for thousands of years - and could be for another thousand years. China's paddy rice-based agricultural economy of the south and east developed historically through exploitation of the waters and fertile silts that are a byproduct of the floods.

In the past half century, China's population has doubled. Industrialisation and over-population of certain provinces has called for a massive redesign of rivers and lakes to meet the growing need for electricity, land and water. The main waterways of the country, and the areas around them, are very vulnerable to heavy rains - and since protection of the urban areas is prioritised, the floods affect mostly the rural areas, home to millions of Chinese peasants.

Government scientists have found that flooding on the floodplains of the Yangtze River has been seriously exacerbated by the loss of upland forests and the erosion of their soils. The main reasons are as follows:

- Severe deforestation in the (upstream) mountainous parts of Sichuan, Yunnan, Gansu, Inner Mongolia and Tibet over half a century, causing desertification and soil erosion, leading to decreasing

capacity of the soil to retain water.

- In the densely populated (downstream) areas, spare land on hills and along rivers has been cultivated, thereby often causing a decrease in the capacity of these sites to retain water.
- A large number of lakes and swamps, both up- and downstream, which functioned as natural overflows, have been cut off from the rivers and/or been drastically reduced, with the cut-offs being turned into farmland, industrial sites, fish ponds or urban areas.

- In a number of cases the width of the river beddings was minimised and fixed by erecting huge dykes, up to 20 metres in height, thereby severely decreasing the carrying capacity of these rivers.

In the lower valley of the Yellow River, huge retention basins have been designated to protect the rest of the plain. People live inside these areas - 250,000 in one, a million in another - and must be evacuated each time a large flood is expected.

Traditionally, specialists have thought the best way of keeping floods away from people was to multiply structural measures - building more dykes, dams and reservoirs, making them higher and stronger. Stretches of China's Yangtze River, for example, flow between dykes which tower up to 23 metres above the surrounding land. This strategy has not been entirely abandoned, but it is no longer considered the only, or even preferred, method of tackling the problem of sustainable water management.

But no matter how well the dykes and the dams hold up, the underlying causes of the flooding will take years to remedy. Until then, the devastating cycle is likely to continue.



Harun Al-Rashid/Federation



Sohag Orladentiz/Federation

The south-central provinces, nurtured by the great Yangzi and Yellow rivers, are traditionally the breadbasket of China - and have suffered enormous material losses during recent floods.

The flooded breadbasket

Two thirds of China is mountain, desert or otherwise unfit for cultivation. Excluding the largely barren regions of Inner-Mongolia, Xinjiang and the Tibet-Quinghai Plateau from the remaining third, all that remains for cultivation is a meagre 15-20% of land area. The south-central provinces, nurtured by the great Yangtze and Yellow rivers, are traditionally the breadbasket of China. There is also considerable industrial development in these regions. The average annual wages for a peasant in south-central is around US\$ 500, while it is only half that in the north and even less in Tibet and Inner-Mongolia.

The Red Cross/Red Crescent concentrated its assistance in 1999-2000 on four provinces in south and central China:

Anhui, an important cultural center during the Ming and Qing dynasties but one

of China's most backward regions until 1949, largely due to overpopulation and periodic floods of the Yangtze and other rivers.

Hubei is heavily industrialised as well as being the agricultural heart and transportation crossroads of central China. The province's 57 million people are mostly rural, and the Yangzi and its tributaries touch almost every aspect of life.

Hunan ranks first in rice production. Almost all of the province's arable land can produce two rice crops a year. Most of the 64 million people are rural.

Jiangxi holds an important place in China's revolutionary history and was the starting point of the epic Long March. It is home to 40 million people.

Sources: Lonely Planet, CNN/Time



This map is for information and/or indicative purposes only and has no political significance.

The birthplace of rivers

China is the birthplace of seven of the world's mightiest rivers, originating in melting snow from the mountains of Western China and the Tibet-Quinghai Plateau. The seven are the Yangtze and Yellow rivers, the Mekong, Salween, Ganges, Indus and the Brahmaputra. Most of these stretch through large parts of Asia forming the basis of livelihood for hundreds of millions of people.

At 6,300 km long, the Yangtze is the longest in China and the third longest river in the world after the Nile and the Amazon. It originates in the snow-covered Tanggulusan mountains of south-western Quinghai, and passes through Tibet and several Chinese provinces before emptying into the East China Sea. The Yangtze River plains in central and eastern China are the homeland of the vast majority Han Chinese, their "Middle Kingdom". These are the most important agricultural areas of the country and the most heavily populated.

The Yellow River, about 5,460 km long, is the birthplace of Chinese civilisation. It originates in the mountains of Quinghai and winds its way through the north of China into the sea east of Beijing. Many times in Chinese history the river has changed its course as a result of floods, causing enormous loss of life in areas that were not previously considered in danger. The severest flood in the central provinces occurred in 1954 when over one million people lost their lives.

Positive donor response and vast experience make for success

“Red Cross efforts to mitigate the long-term effects of the floods have made an important impact on the health and nutrition of the people we are assisting,” says Marcel Fortier, the International Federation Secretariat’s desk officer for China. “The positive donor response, and the vast experience and resources of the National Society, have been critical in implementing the Plan of Action and making this operation so successful.”

The Federation’s appeal, issued in August 1999, was for a total of US\$ 6.5 million in cash and services, aimed at supporting the Red Cross Society of China (RCSC) in assisting one million people for a period of four months. The overall objective, according

to the appeal document, was to give victims, most of whom had lost harvests up to three times since 1996, a possibility “to reduce their current debt burden which has seen many families slip into a downward spiral of poverty.”

With donors’ help the RCSC, supported by the Federation, has provided food for 250,000 people in four provinces, water and sanitation materials for one million people, additional food rations for 10,000 high risk victims and quilts and clothing for 20,000 people. The beneficiaries were selected by a set of criteria that took into account factors such as household income, the loss of farm land and loss of homes.



The Red Cross Society of China immediately sent hundreds of medical teams to the affected areas.

Harun Al-Rashid/Federation

“Precision targeted” assistance

“The extensive experience gained by the RCSC and the Federation from past flood operations and the analysis made thereof, have been of enormous value and helped us be very precise in targeting the most vulnerable groups of victims and thus making better use of our human and material resources,” says Hiroshi Higashiura, director of the Federation’s Asia-Pacific department, of the 1999 flood operation.

As floods were ravaging the south and central regions of China in the summer of 1999, a team of highly trained and experienced delegates was sent out to assess the situation in four provinces (Anhui, Hubei, Hunan and Jiangxi with a total population of over 220 million) and make recommendations to the RCSC and the Federation for the upcoming operation. The team, lead by regional health delegate Dr. Stefan Seebacher from the Kuala Lumpur Regional Delegation, included representatives of the Danish, Dutch and Philippines Red Cross Societies, two from the Red Cross Society of China and two from the Hong Kong branch of the RCSC.

The team’s primary recommendation was that the assistance of the

Federation and the RCSC “should be seen as a means to lessen the need for food and break the downward spiral towards poverty.” In addition, it should seek to lessen the burden of debt in order to help “create an opportunity for a fresh start.”

The recommendations - which were then largely turned into the Plan of Actions - were mainly four-fold and concentrated on providing assistance to some 120 villages in the four provinces:

- Be impact oriented;
- Concentrate firstly on food - a three-month ration for 200,000-250,000 people;
- Concentrate secondly on water and sanitation materials - a two month supply of water purification tablets and disinfectants for 1,000,000 people;
- Provide quilts to 20,000 people and a further additional one month’s food ration to the most vulnerable - approximately 10,000 widows and single-parent households.

“This very thorough assessment was of great value and helped us pinpoint the most vulnerable areas and concentrate our efforts where we could make a real difference,” says Hiroshi Higashiura.



A very thorough assessment of the situation helped pinpoint the most vulnerable areas and concentrate Red Cross/Red Crescent efforts where most needed.

Harun Al-Rashid/Federation

Rebuilding lives and homes

Amid the damaged houses and empty fields of Shenzhou village there is a construction site, where 12-15 people are busy raising a small two-storey brick house. The women are preparing something which resembles cement, and the men are assembling the bricks. Zhang Zhong Sheng, 35, and his wife Li Sheng Ping, 33, are rebuilding their home which was swept away by floods last July.

"This house will have only two rooms -

we don't have money to build a larger home," says Zhang, comparing his new home to their previous four-room house. "But at least this is a place to live."

They are not eligible for the governmental loans available as they have lost their crops and, therefore, have no collateral. Instead they have borrowed money from friends and relatives who suffered less in the floods this year. Friends and family are also volunteering

their labour to help build the new family house.

Zhang reveals that they cannot afford to buy cement to glue the bricks together - so they have to substitute with a mixture of mud and lime. He is aware that this flaw makes his house more vulnerable, but still he finds it better than the only alternative - to stay in temporary shelter throughout the winter. "We have to have a home next to our fields," he says.

Zhang and his wife Li have also borrowed some money to keep their two teenage children in school. They find it very important that the children be able to attend the village elementary school - and that they have a decent home to come back to.

Convinced that they can carry on on their ancestral land, and continue to support their children as their own parents did before them, Zhang and Li are optimistic about the future. And they have no second thoughts on rebuilding their new house on exactly the same spot as the old one - although they have lost their crops twice in the past three years. They don't want to be uprooted. "This is the only place for us to live," Zhang says. "We have to stay here. We have no other place to go."



Zhang Zhong Sheng and Li Sheng Ping borrowed money from friends and relatives to rebuild their house in Shen Zhou village, Anhui province, hoping that their two children will have a brighter future without having to fight floods every year.

Camping out

Zhang Han Hu has nothing to do and it's wearing him down. He finds it hard to spend his days in idleness when he should be harvesting his crops, making plans for next year and planting new rice. Instead, he goes through the day chatting with the other men in the village and attending to his mother and wife. And waiting, living in a tent next to the pile of bricks that used to be his home. When asked how he thinks his family will manage to survive the winter, he shrugs. "Survive or not - we have to go on living," he says. "There is nothing else to do."

Gui Mei Fang, 23, stands in the rubble of what used to be her home in the village of Shenzhou, Sosung county in Anhui Province. She is holding tight on to Wu You Lu, her one year old son. There is not much else in life she can hold on to. Her husband has gone away to find work in a nearby village while Guo stays behind with her father-in-law and his sister, who both used to share a house with them.

The young mother does not hold too much hope for the future - it seems too uncertain and too distant to comprehend. She is really anxious about having to spend the winter in a tent with her young son. And there seems a



Zhang Han Hu (front, smiling) sits with friends amongst the debris of their village of Binghu in Anhui province. More than 90 percent of the houses were destroyed in the 1999 floods, nearly all the villagers are spending the bitter winter in tents.

little hope for rebuilding a home - until next year's rice crops have been harvested and sold.

But maybe next year will be a good one.

Celebrating rice

A rice distribution is taking place in Hung Peng village in Anhui Province. And it is no small matter. The local Red Cross branch has made it into a celebration. There are banners everywhere, there are speeches and there is applause - and, of course, plenty of rice, approximately 15 kg for each person.

The whole village is involved in the event. The heads of households line up to sign for

their share as well as of all their dependants - but men, women and children alike participate in receiving the rice and carrying it home.

Instead of targeting individuals the Red Cross, supported by the Federation, is reaching out to entire communities hit by the floods - providing food to approximately 250,000 people in 120 villages until early 2000.

So the rice distribution in Hung Peng is not only an opportunity to receive some much needed food. It is also an occasion for the people of the hardest hit villages to get together with their neighbours - and have a little celebration.

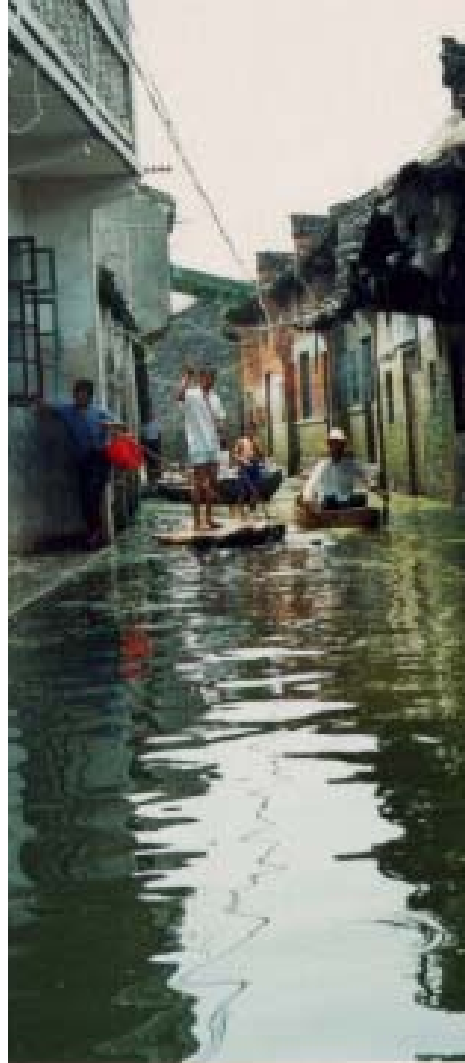
The staggering economic impact

The impact of natural disasters is a critical factor in determining the well-being of many people in China, one of the most disaster-prone countries in the world. The UN Development Programme estimates that on average the economic loss from natural disasters is 3-4% of the annual Gross Domestic Product. No country in the world is as hard hit by floods as China - nor has been through the centuries. The floods of 1998 affected some 180 million people, causing a direct economic loss of US\$30 billion, not taking into account the long-term social impact to people having to live for extended periods without homes and employment.

Exhaustion

The floods of 1996 affected some 100 million people and those in 1999 of another 100 million. Some 5.5 million people had to be evacuated from their homes, most onto the very narrow dykes that criss-cross the central plains of China. In many instances, the same people are being hit year after year. Having lost harvests and the means to support themselves, these people have exhausted their resilience to cope, with many families slipping into increasing poverty. This will increase the burden on the urban areas as many peasants will try and find work in the cities, many of which already have trouble providing work for all.

While the number of deaths associated with floods in China is relatively low, the economic impact is staggering. Out of nearly 12 million hectares of land affected in 1999,



In many instances, the same people are being hit year after year. Having lost homes and harvests and the means to support themselves, these people have exhausted their resilience to cope, with many families slipping into a downward spiral of increasing poverty.

nearly 1.6 million ha of harvest were totally lost - meaning that hundreds of thousands of farmers will be without any form of income until the middle of 2000.

Staggering sums

The China National Committee for IDNDR* says that in the 1950s annual direct economic losses caused by (all) natural disasters were US\$ 5.8 billion, 57 billion in the 60s, US\$ 6.8 billion in the 70s and US\$ 7.3 billion in the 80s. In the early 90s the figure rose to over US\$ 12 billion - reaching a staggering US\$ 37.5 billion in 1998. In 1999, according to the Ministry of Civil Affairs, direct economic losses are again down to around US\$ 8 billion.

Large amounts of money are also being allocated annually by the government to disaster relief (clothing, food, housing) - from US\$ 360 million in 1995 to 1.1 billion in 1998. In addition, the International Federation and other international organisations have raised considerable amounts of money for disaster relief in China, particularly in the late 90s; the 1998 Federation appeal was for US\$ 7.3 million and 6.8 million last year. But the Red Cross is not alone - in total the Chinese government received around US\$ 750 million in donations to assist flood victims in 1998, including an international UN appeal for US\$ 240 million.

* The 1990s was the UN's International Decade for Natural Disaster Reduction (IDNDR).

In the short term ...

The Chinese government is responding to the growing environmental threat from the floods in various ways, in addition to long-term plans:

The government is implementing **agricultural programmes** which aim to change the main crop from rice to wheat, for instance, in flood threatened areas. Unlike rice, wheat can be harvested before the traditional flood season (before June). Such programmes are still mainly in a pilot stage. In addition, peasants are hesitant to change their traditional practices.

The **resettlement programme**, where people are being offered land and housing on higher ground. Although people have been resettling, major problems are lack of funding, lack of suitable plots of land, and, finally, the lack of enthusiasm by the local population. Sometimes people are forced to travel for hours away from their homes to their new agricultural plots - and many have very strong ties to the places where they were born.

The **reinforcement of dykes and embankments**. The problem is lack of funding and the question of what is viewed

as an acceptable construction quality by the authorities. In rural areas, it is common that a damaged part of an embankment is reinforced one year and the following year the next section breaks down.

In addition the government has implemented measures to dramatically improve the ability of the land in the western reaches of the river to retain water through **stopping all logging** and employing the original lumberjacks in tree-planting projects.

Government response and plans



All hands on deck: since the founding of the People's Republic of China mammoth engineering projects have been built, including nearly 250,000 km of flood prevention/control dykes, 84,000 reservoirs of all sizes, 12,000 km of tide barrage and more than 490,000 irrigation and drainage stations.

Twelve million US\$ have been invested in water conservancy projects in China since the disastrous floods of 1998, three times the 1995-1997 figure, according to the State Development Planning Commission. Accepting the premise that unless disaster mitigation is incorporated into development planning, the economic losses from natural disasters will continue to increase proportionally to the economic growth of the country, the government's anti-flood blueprint aims at enabling the embankments along the Yangtze to be able to withstand any full-scale deluge of the 1998/1999 type in ten years time.

Giving back to nature

"We have asked a lot from nature and now we are returning what we have taken," says Zhou Wenzhi, China's vice-minister for water conservation. Various measures have been taken by Chinese authorities - central, provincial and local - to stem the environmental degradation at the root of the problem. Logging has now been banned in the upper reaches of the Yangzi and loggers instructed to grow trees instead. Farmers have been told to restore recently cultivated areas that have traditionally been set aside as flood 'spill off' or drainage areas back to their original purpose. A large number of people had been resettled before the '99 flood season and a combined land area of 1,500 square km had been turned into lakes for floodwater absorption.

By June 1999 embankments along the Yangtze and Yellow Rivers, and Dongting, Poyang and Taihu lakes and other rivers and

lakes, measuring a total of 6,200 km, had been reinforced and 4.6 million tons of silt from river beds had been removed. Xinhua, the Chinese news agency, quoted experts as saying that the projects had reduced the risks for accidents and losses remarkably during the flood season of 1999. Figures show that people affected by the 1999 floods were less than 60% of the previous year's victims, casualties below 30% and direct economic losses were cut by 63.5%.

National plans

Disaster reduction tasks have been incorporated into the middle and long-term national economic and social development plans, according to the Chinese IDNDR Committee. The national policy is to solve the flood problem of the Yangtze and Yellow rivers by controlling the flood of other rivers and stem the accelerating tendency of soil erosion, desertification, soil secondary salinity and grassland degradation.

In a paper presented at the International Workshop on Natural Disaster Management in Beijing in June, 1999, the committee points out that since the founding of the People's Republic of China mammoth engineering projects have been built, including nearly 250,000 km of flood prevention/control dykes, 84,000 reservoirs of all sizes, 12,000 km of tide barrage and more than 490,000 irrigation and drainage stations.

Further engineering projects of major proportions are underway, meant to have direct bearing on flood mitigation. These include the flood prevention and flood division dykes along the lower reaches of the

Yellow River and the middle and lower reaches of the Yangtze; also a comprehensive flood prevention and control project along the Huai River and other megaprojects on both of the great rivers, such as the Three Gorges Dam of the Yangtze, which aim not only to supply electricity and improve rivers' navigability, but also to protect against flooding.



Dykes along rivers and waterways in south and central China provide relief - often only temporary. By June 1999 more than 6,200 km of dykes had been reinforced.

The Three Gorges Dam, to be completed within the next decade, will be the world's largest water storage reservoir and is designed to have great impact in flood reduction. This colossal project involves the construction of a dam wall, 2 km wide and 185 m high, across the Yangtze River at Sandouping, 38 km upstream from the existing Gezhou Dam, creating a 550 km long lake stretching deep into Sichuan Province. An estimated two million people living in the areas to be inundated will be relocated.

New floods in 2000?

Preparing for the worst...



Hanun Al-Rasheed/Federation

On the receiving end: There is every chance that there will be floods again in 2000, and preparedness measures are being put in place

"There have been serious floods in China through the 1990s, and although good fortune could provide the country with a break in this vicious cycle, it is highly likely that there will be floods again this year. It is difficult to judge their scale or location but we will have to prepare for the worst," says Jim Robertson, the International

Federation's country representative in Beijing.

Floods along China's great rivers are a natural phenomenon and play a significant role in maintaining the agricultural productivity of the river valleys. However, the quest for rapid development over the past decades has unsettled the natural

balance that enabled hundreds of millions of people to settle along the rivers' fertile banks.

As the Chinese government makes various attempts to remedy the situation, and prevent future flooding disasters, the lack of resources available to support the growing population continues to take precedence over environmental concerns. Local residents, desperate to find farmland, have reclaimed areas that the government set aside for flood control. New controls imposed to stop logging and investments in massive replanting schemes in the upper reaches of the Yangzi will take years to make a measurable impact on soil erosion and aid water retention.

The Red Cross Society of China, supported by the Federation, continues to place disaster preparedness (DP) high on its agenda, organising training workshops throughout the country and maintaining well-stocked DP centres in the most disaster-prone provinces. The RCSC and the Federation had just held extensive DP/relief training courses a few months before the flooding occurred. As a result, the mechanism for the flood operation was already in place when the real life disaster hit the four provinces targeted in the Federation appeal - and the local Red Cross branches were well prepared for carrying out all relief distribution assigned to them, says Yang Xusheng, RCSC's deputy director for relief.


Informing the public


During the relief operations, the Chinese Red Cross attached great importance to systematic information and communications work, says Xiao Xing, the RCSC's deputy director of information. In the initial stages of the floods, headquarter management closely monitored the development of floods situation in 19 provinces.

"Our work was covered by national media and spread nationwide to the public," says Xiao Xing. "A telephone

hotline running 24 hours a day was opened at headquarters, which enabled Red Cross to communicate with donors and the public. For fundraising and to promote awareness of the importance of Red Cross work, we published a poster and post cards and distributed 15,000 copies in the affected areas. The public has continued to support the Red Cross in its work - not only in the disaster areas, but throughout the country."

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