



旱澇交錯的 河南省 HENAN THROUGH FLOOD & DROUGHT

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河南省位於黃河中下游，被淮河、黃河、長江、海河四大流域覆蓋，是中華文化發源地之一。河南省總面積約一萬六千七百平方公里（約為香港陸地面積十五倍），人口逾九千萬，是內地人口最多的省份。其中農業人口超過七千六百萬，是內地主要的產糧區，主要出產小麥、玉米、水稻、大豆、甘薯以及高粱等。

Henan Province - one of the origins of Chinese civilization, is at the middle and lower courses of Yellow River Basin, with four major rivers including the Huai River, the Yellow River, the Yangtze River and the Hai River passing through. With a total area of about 16,700 square kilometers (about 15 times of the total land area of Hong Kong), Henan Province is also the most populated province in China. It has a population of more than 90 million, among which, more than 76 million are rural population. The Province is one of the major agricultural production regions in China where wheat, corn, rice, soybean, sweet potato, sorghum and so on are grown.

毋庸置疑，「水」是農業的基本元素，水資源對每一個務農之人都非常重要。然而，「水」對於河南人來說亦是矛盾的泉源。由於氣候及地理等因素，河南省境內旱災和洪澇災害頻繁。河南省年均降雨量為八百毫米（註：香港的年均降雨量是二千三百多毫米），其中約七成降水量集中在汛期，也就是每年六至九月。除了年內降雨分佈不平均，河南省於豐水年（即降水較多的年份）與枯水年（即降水較少的年份）的降雨量也可能相差三至四倍，因此出現頻繁的旱、澇交錯現象。同時，河南省在地形上屬於山區到平原的過渡地帶，一旦暴雨來襲，容易引發山洪暴發，洪水直瀉平原，河道來不及排放，常常造成大面積洪澇災害，影響甚廣。

為減低旱災、洪澇災害及其他天災所帶來的損失及影響，並提高省內有需要社群的備災能力，自二零零三年，香港紅十字會在河南省開展一連三期的「農村社區為本備災項目」計劃，

Undoubtedly, “water” is fundamental to agriculture, and water resources are vital for every single farmer. Yet for the people in Henan Province, water can be the origin of paradox. Henan Province is frequently affected by floods and droughts due to its geographical location and climatic conditions. It receives an average annual rainfall of about 800mm (Hong Kong has an average annual rainfall of 2,300mm), of which 70 percent of the precipitation concentrates in the tide season, i.e. between June and September. Besides the uneven rainfall distribution within a single year, rainfall in rainy years can be three to four times that of droughty years in Henan Province, which exacerbates alternate flood and drought in the area. Furthermore, Henan Province is in-between mountains and plains. Thus, flash floods are easily triggered during torrential downpours, and rivers cannot channel the inundation. Flooding of vast plains will occur, devastating significant areas of farmland.

The Hong Kong Red Cross (HKRC) has been supporting three consecutive phases of Community Based Disaster Preparedness (CBDP) Programme in Henan Province since 2003, aiming at reducing loss and adverse impact of droughts, floods and other natural disasters, as well

並期望透過村民參與，備災宣傳教育和小型減災備災工程項目，提升他們的備災意識和自救能力。

在項目正式開始以前，香港紅十字會主要根據當地社區受災害影響程度以及自救能力，並透過中國紅十字會及河南省紅十字會的協助，選出地點推行「農村社區為本備災項目」；再實地考察一些合適的村莊，與村民代表開會。這些在村中舉行的村民會議邀請不同層面的村民參與，包括領袖、婦女及一般村民等，務求盡量收集各方面的意見，從而根據村民的備災需求和能力，制定項目方向及相關細節。

as enhancing the disaster preparedness capacity of the community. The goal is to increase the awareness of local communities on disaster preparedness and their self-help capacity through involvement of local villagers, promotion and education on disaster preparedness and implementation of small-scale disaster reduction hardware projects.

Prior to the commencement of a CBDP programme, HKRC located the villages for launching CBDP according to the level of vulnerability and self-help capacity with the assistance of the Red Cross Society of China and the Henan Provincial Red Cross. Together they conduct field assessments at these targeted villages and hold meetings with the representatives of the villages. Opinions of village leaders, women and other inhabitants were collected for consideration. Programme objectives and relevant details were then determined based on their needs in disaster preparedness and capacities.



劉閔城村以往未曾興建提排站，大部份農田被水淹浸。
Before the construction of the pumping station, most of the farmlands were flooded in Liumincheng Village.

提排站排放積水，防止農田被淹浸。
The pumping station helps remove water from farmlands to prevent water logging.



香港紅十字會在河南省東北部濮陽縣渠村鄉劉閔城村反覆考察，發現村民最關心、最希望和最急切需要的是解決洪澇災害造成的農田積水問題。由於村莊位於灘區，每當降雨量大、河水流量增加或上漲，都形成洪澇災害。加上村莊的位置相對周邊村莊的地勢較低，無處排放積水，如遇大雨，極易形成內澇，農田間的積水無法排放，積水時間甚至長達三至四個月，嚴重延誤了當地小麥的播種時間，導致小麥失收，影響村民生計。香港紅十字會工作人員、村民及當地相關單位商議後，認為透過興建提排站，才能有效及長遠地解決村裡的洪澇問題。

提排站於二零零五年竣工，在季節性洪水來臨時排走耕地積水，解決了八千多畝農地的長期積水問題。為答謝香港紅十字會，村民送上了感謝信：「以前未有提排站，我們都是滿懷希望地播下種子，然後懇求老天不要下太多雨水，但結果卻一次次叫人失望。提排站的建成，使我們這片土地又可以大豐收，我們再也不怕雨水和洪水了。」提排站建成後，流入農田的雨量受到控制，農作物的損失減少，收成自然增多。當地農民的收入，亦由每年只有一千多元人民幣增加到二、三千元。

Since the village is located in the floodplains, whenever there is heavy rainfall, increase of river discharge or rise of tide, flooding will easily result. Besides, the village is at a lower altitude as compared with neighbouring villages, hence hindering the channeling of logged water. Large amount of rain water cause the rivers to divert from their original flow course and spill into the low fields, submerging agricultural land. This critical condition can last for three to four months, seriously affecting the wheat seeding schedule and substantially reduce the harvest. Staff of the HKRC, the communities of Liumincheng and some related local units decided to construct a pumping station as a long-term and effective solution after throughout discussions.

Construction of the pumping station was completed in 2005. It drained water from water logged farmlands when seasonal flooding occurs, ridding more than 8,000 acres of farmland from the problem of inundation. To express their appreciation to the HKRC, the villagers of Liumincheng wrote in their thank you letter, "Before the pumping station was constructed, we always prayed with hope that there would be mercy on us during seeding and not too much rain; however, we were always let down by floods. After the construction of the pumping station, we enjoy bumper harvest again. We are no longer afraid of rainfall and flood." Water flow into the farmlands has been controlled since the pumping station is built. It helped reducing the loss of crops, and hence doubling or even tripling the income of the farmers from about RMB1,000 to RMB2,000-3,000 annually.

劉閔城村村民： Liumincheng Villager： 「再也不怕雨水和洪水了」 "No Longer Fear of Rainfall & Flood"

After repeated assessments in Liumincheng Village, Qucun Township, Puyang County in northeast Henan, the HKRC found that the most concerned and pressing problem of the village is to tackle water logged farmlands caused by floods.

袁馬莊村的 「及時雨」 “Timely Rain” in Yuanmazhuang Village



虞城縣村民使用由香港紅十字會援建的灌溉設備在田地耕種。
Villager in Yucheng County irrigates his crops by the irrigation facilities supported by the HKRC.

情況與劉閔城村剛好相反的，是位於河南省東部虞城縣利民鎮的袁馬莊村。那裡的村民經常面對旱災及缺水問題。由於當地水源與田地距離甚遠，村民挑水灌田非常不便。而且村中只有一口機動水井可供灌溉農田，村民經常要花很長時間輪候取水。可惜水井的水量有限及輪候村民眾多，村民經常未能及時灌溉整塊農田，甚至要輪候至晚上才可以灌溉，農作物經常因缺水而乾旱至死；加上機動水井日久失修，遇上雨量少的季節，村民便會蒙受巨大損失，故香港紅十字會決定在該村推行「農村社區為本備災項目」。

香港紅十字會與村民共同分析過村中的情況後，一致認為解決農田水利灌溉的問題最為迫切，於是採納村民的建議，一方面提高現有機動水井的出水量，另一方面建設五口新的灌溉井。在規劃階段，紅十字會人員與村民一起參與確定打井位置；到建設階段，每戶村民也派出人手義務參與打井工程；孤寡老人戶無法派出人手，則由其它受益村民分攤其工作。項目於二零零八年十月竣工後，村民更成立管理小組，負責管理水井及維修，防止被盜竊及被破壞。

自二零零八年底，內地多個省份出現嚴重旱災，影響小麥生長。然而在袁馬莊村，「農村為本社區為本備災項目」的灌溉井發揮了作用，及時灌溉了小麥田。今年二月，當地紅十字會工作人員到袁馬莊村考察時，村民激動地握住紅十字會人員的手說：「謝謝香港紅十字會，謝謝你們的幫助，備災項目真是及時雨啊！」

Contrary to Liumincheng Village, the residents of Yuanmazhuang Village in Limin Township of Yucheng County located in eastern Henan Province always encounter the problems of drought and shortage of water. Since the water source is far from the farmlands, it has been very inconvenient for the villagers to obtain

water for their fields. There is only one motor-pump well in the village available for irrigation, so they often have to spend lots of time queuing up for water. Water supply for irrigation is inadequate and untimely. Villagers often have to wait until evening for their turn to obtain water at the motor-pump well. Crops often wither and die as a result of the lack of water. The motor-pump well is worn and torn after prolonged usage. Villagers often suffer great loss during dry seasons. The HKRC therefore decided to implement a CDBP Programme in the village.

After analyzing the situation, both the HKRC and the villagers agreed that solving the irrigation problem was the top priority. Villagers' suggestions were adopted: to improve the pumping power of the existing motor-pump well and drill five new wells for irrigation. In the planning phase, the HKRC staff and the villagers worked together to determine the locations of the wells. In the execution phase, every household sent representatives to be engaged in land-drilling as volunteer labour. In the case of widowed and elderly households, the labor work was shared among other beneficiaries in the village. Upon completion of the project in October 2008, the villagers set up a management committee responsible for managing and maintaining the wells, preventing theft, vandalism and damage.

Since the end of 2008, several provinces in mainland China had been affected by serious drought, devastating wheat harvest. However, in Yuanmazhuang Village, with the improved irrigation well system under the CDBP Programme, the villagers did not suffer any harvest loss of wheat. During the local Red Cross staff visit in February 2009, the villagers were very appreciative and emotional, gripping the hands of the staff, “Thanks HKRC. We thank you for the great help. The CDBP Programme is indeed our ‘timely rain.’”

村民義務投入備災項目，建設硬件。
Volunteer villagers participates in the disaster preparedness programme by constructing hardware.



劉閔城村其中一個深水井施工現場。
The construction site of one of the deep water wells in Liumincheng Village.



計劃的成功，為香港紅十字會在河南省推行相關項目奠定了良好的基礎。項目的工程部份直接解決當地社區的問題，而透過提供村民備災培訓、組織項目管理小組等活動，提升了村民的減災備災、自救互救和健康知識等能力，同時提升了河南省各級紅十字會的項目管理能力。自二零零三年至今，香港紅十字會已在河南省推行了三期「農村社區為本備災項目」，更擴展至省內兩個地級市、五個縣、共十五條農村。硬件項目除了建提排站及灌溉井外，亦有打建深水飲用井、鋪設水管及建設緊急救護站等，以配合當地社區不同的備災需要。除了香港紅十字會的捐款，當地紅十字會及政府亦協力在行政上配合或提供資金配套，使項目惠及近二萬人。✧

The success of these CBDP Programmes enabled the HKRC to implement further relevant projects in Henan Province based on the foundation built. These programmes solved not only the community needs directly through hardware components, but also enhanced the communities' capacity towards disaster reduction and preparedness. Self-help and mutual help capacity as well as health knowledge of the villagers have also been improved through various activities such as disaster preparedness training and setting up of Village Disaster Management Groups. Meanwhile, the project management abilities of the local Red Cross branches in Henan Province are also strengthened. Since 2003, the HKRC has implemented three phases of CBDP Programme in Henan Province. The Programme has covered a total of fifteen villages in five counties, across two prefectures in the province. Apart from the hardware projects like constructing pumping station and drilling irrigation wells, the CBDP programmes also support deep drinking water wells, laying water pipes and building first-aid stations to meet the disaster preparedness needs of the local communities. Besides funding from the HKRC, the local Red Cross branches and the local governments also provide administrative or financial support, benefiting approximately 20,000 villagers. ✧

二萬農民受惠 20,000 Farmers Benefitted



為提高村民的自救能力，紅十字會人員在村內舉行急救班，讓村民在發生災害或意外時可即時自救，村民均努力學習。
Red Cross personnel organizes first-aid training course for the villagers to strengthen their self-help capacity in coping with disaster or emergency. The villagers strive to learn the skills in class.

洪澇災與旱災 Flood and drought

洪澇災——洪水是指超出天然或人工限制水道界線的異常高水位水流，並對人類生命財產造成危害的現象。洪水過後，一些低窪的地方被淹沒，形成澇。洪澇最主要是由暴雨造成，也可以因大的水體（如大江大河、湖泊、大水庫）的突然潰決或由冰雪大量融化造成。

Flood is a phenomenon that occurs when the volume of water overflows its natural or man-made courses, endangering human life and property. Low-lying areas may be submerged after a flood, and become water logged fields. Heavy rainfall is the main cause of flood. Flood can also happen when a large water body such as river, lake or reservoir burst its bank or when large quantity of snow melts.

旱災——一段持續的時間內（如季度、年度或多年內）如降雨量不足，導致對植物、動物和人類的供水不足，並令農作物減產。旱災的主要危害有：

- 使農作物減產，乾旱嚴重時，還會使農作物絕收；
- 使人畜缺乏飲用水；
- 極易誘發森林火災及病蟲禍害；
- 使水源污染問題突現，惡化生態環境。

Drought is defined as a deficiency of rainfall over an extended period - a season, a year or several years leading to inadequate water supply for plants, animals and human beings. It may also result in reduction in crop yields. The major damages caused by drought are:

- reduced agricultural production, or even no yield during serious drought;
- shortage of drinking water for humans and livestock;
- bushfires and infestations of pests are induced easily;
- pollution of water sources and aggravation of the ecological environment



何謂提排站？ What is pumping station?

提排站為排澇結合的泵站，提排站可以在季節性洪水來臨時排走農地積水（排），乾旱時抽回河水灌溉農田（提），為中國農村常見水利建設之一。

A pumping station is a water-diversion project that pumps water to outlets during seasonal floods and diverts the water to irrigate the farm lands in times of drought. It is one of the most popular water supply infrastructures in rural China.