

**Implementation Plan between  
the Central Water Commission, Ministry of Water Resources, River Development  
and Ganga Rejuvenation , the Republic of India and the Bureau of Hydrology and  
Water Resources, Tibet Autonomous Region, the People's Republic of China  
upon Provision of Hydrological Information of the Yarlung Zangbu/ Brahmaputra  
River in Flood Season by China to India**

Based on the Memorandum of Understanding between the Ministry of Water Resources, the Republic of India and the Ministry of Water Resources, the People's Republic of China upon provision of hydrological information of the Yarlung Zangbu/ Brahmaputra River in flood season by China to India signed on 20<sup>th</sup> May, 2013 and Memorandum of Understanding between the Ministry of Water Resources, the Republic of India and the Ministry of Water Resources, the People's Republic of China on Strengthening Cooperation on Trans-Border rivers signed on 23<sup>rd</sup> October, 2013, the implementing agencies (hereinafter referred to as "the parties"), the Central Water Commission, Ministry of Water Resources, River Development and Ganga Rejuvenation, the Republic of India (hereinafter referred to as "Indian side") and the Bureau of Hydrology and Water Resources, Tibet Autonomous Region, the People's Republic of China (hereinafter referred to as "Chinese side") have negotiated and have the following agreement:

1. The parties should comply with the Memorandum of Understanding between Ministry of Water Resources, the Republic of India and the Ministry of Water Resources, the People's Republic of China upon provision of hydrological information of the Yarlung Zangbu/ Brahmaputra River in flood season by China to India (hereinafter referred to as "MOU") and Memorandum of Understanding between the Ministry of Water Resources, the Republic of India and the Ministry of Water Resources, the People's Republic of China on Strengthening Cooperation on Trans-border rivers.

2. The parties agree that on the basis of friendly cooperation, equality and mutual benefit, and in compliance with respective laws and regulations, the Chinese side will provide hydrological information of Yarlung Zangbu/ Brahmaputra River in flood season to the Indian side, and the Indian side will provide the Chinese side information regarding data utilization in flood forecasting and mitigation and the information of the related hydrological stations.

3. The three Chinese hydrological stations, which will provide hydrological information in flood season to India, include Nugesha (latitude:29°21'N, longitude:89°42'E), Yangcun (latitude: 29°16'N, longitude:91°52'E) and Nuxia (latitude: 29°28'N, longitude:94°34'E) stations, lying on the mainstream of the Yarlung Zangbu River.

4. Hydrological information of above-mentioned stations will be provided to India within 30 minutes after 08:00 hrs, and 20.00 hrs in Beijing Time (05:30 hrs, and 17:30 hrs in Indian standard time) every day from May 15<sup>th</sup> to October 15<sup>th</sup> each year. The Chinese side also agrees to provide hydrological information if water levels of above-mentioned stations are close to or reach warning water levels in non-flood season.

To guarantee the provision of hydrological information on May 15<sup>th</sup>, the Chinese side will have a trial provision of hydrological information at 12:00 hrs (Beijing time) on May 12<sup>th</sup> each year, and the Indian side should reply in time.

5. The Chinese side will provide the Indian side with information of rainfall, water level and discharge of the above-mentioned three stations.

5.1. Rainfall unit is millimeter. The integer which is greater than or equal to one millimeter is provided, and decimal fractions rounded off to nearest integer. When rainfall data is less than one millimeter, zero is presented. Rainfall data on a day at 08:00 hrs is interval rainfall from 20:00 hrs of the previous day to 08:00 hrs of

the current day, and that at 20:00 hrs is interval rainfall from 08:00 hrs to 20:00 hrs of the current day.

5.2. Water level unit is meter. The record with two decimal fractions is provided. The arbitrary datum is used at every station.

5.3. Discharge unit is cubic meter per second. When discharge data is greater than or equal to 100 cubic meters per second, value rounded off to nearest integer is provided. When discharge data is less than 100 cubic meter per second and greater than or equal to 10 cubic meter per second, the record with one decimal fraction will be provided. When the discharge data is less than 10 cubic meters per second, the record with two decimal fractions will be provided.

6. Discharge data can be derived from the water level-discharge rating curve that is made from the mean average synthetic rating curve or the rating curve last year before flood season. If water level is beyond the extent of rating curve, discharge data can be derived from the extended curve.

In order to guarantee the precision of hydrological information, every station should modify the rating curve of water level and discharge with observed discharge data. The modified curve will be used next year.

**7. Contacting address of the Two Parties:**

**A) The Indian side :**

Central Water Commission, Ministry of Water Resources, River Development and Ganga Rejuvenation, the Republic of India

Email:- [ubd-cwc-asm@nic.in](mailto:ubd-cwc-asm@nic.in), [fmp-cwc@nic.in](mailto:fmp-cwc@nic.in), [ubddbrcwc@rediffmail.com](mailto:ubddbrcwc@rediffmail.com)

Fax : 0091 3732314398, 0091 11 26102935

Tel : 0091 3732314398, 0091 11 26168258

**B) The Chinese side:**

Bureau of Hydrology and Water Resources, Tibet Autonomous Region, the People's Republic of China

Email : xiz\_sq@mwr.gov.cn, sunzg28@163.com

Fax : 0086 891 6352834

Tel : 0086 891 6352834

**8. Channel of data transmission:** the Chinese side will transmit hydrological information to the Indian side directly.

**9. Data transmission mode and format:** The Chinese side will transmit hydrological information to the Indian side in the form of text in accordance with the agreed E-mail addresses via Internet. The text format is given in Table 1.

**Table 1. \*\*\*year\*\*month\*\*day\*\*time hydrological information**

Station name	Rainfall (mm)	Water level (m)	Discharge (m <sup>3</sup> /s)
Nugesha	***	*** **	****
Yangcun	***	*** **	****
Nuxia	***	*** **	****

If the Indian side does not receive the data, it will inform the Chinese side by e-mail or fax immediately, and Chinese side shall send the data again.

**10. Cost and payment:** The Indian side will transfer payments to the Chinese side amounting to RMB 850,000 by US dollar (convert RMB Yuan into US dollar according to exchange rate of pay-day) at the end of every April within the period of validity of the present Implementation Plan. The breakdown of cost is given in Table 2.



**Table 2. Breakdown of Cost for Flood Season**

**Hydrological Data Provision**

<b>1. Personnel Allowance</b>			
A. Stations (3 Nos.)	Days	RMB/day. person	Total in RMB (Yuan)
a) Six observers for all-year maintenance and observing	365	155	339,450
b) Three hydrologists for data checking	154	280	129,360
<b>B. Lhasa Data Center</b>			
Two hydrologists for data checking and transmission daily for five months in the flood seasons (15 May to 15 October)	154	280	86,240
Personnel allowance during flood season	154	60	18,480
Sub – Total:			573,530
<b>2. Operation and Maintenance of Equipments</b>			
Three hydrological stations			30,350
Lhasa data Center			9,555
Sub-Total			39,905
<b>3. Communication and Transportation</b>			180,978
<b>4. Cross-section Measurement</b>			60,000
Grand Total (Yuan):			854,413
			<b>Approx 850,000</b>

**Bank Name: Beijing Industrial and Commercial Bank, Yingtaoyuan Branch**  
**Beneficiary: Water Resources Information Center, Ministry of Water Resources**  
**Account Number : 0200000609003402187**

11. At the meeting of the India-China Expert Level Mechanism on Trans-Border Rivers, the Indian side will provide the Chinese side information regarding data utilization in flood forecasting and mitigation.

The Indian side will also inform the Chinese side the information of the hydrological station which lies on the mainstream of the Yarlung Zangbu/Brahmaputra River and is close to China's Nuxia station. The information includes station's name, latitude and longitude, type of data being observed.

12. In order to ensure normal provision of hydrological information, if necessary, after mutual consultation through diplomatic channel, the parties may dispatch hydrological experts to each other's country to conduct study tour according to the principle of reciprocity.

13. The present Implementation Plan shall come into effect on the day of signing and shall remain valid within the validity period of the MoU signed in May 2013.

14. The present Implementation Plan supercedes the Implementation Plan which was signed on 30<sup>th</sup> May 2013.

Signed on 30<sup>th</sup> June 2014 in Beijing in duplicate in English and Chinese, both texts being equally authentic.

For

Central Water Commission  
Ministry of Water Resources, River  
Development and Ganga Rejuvenation  
The Republic of India

For

Bureau of Hydrology and Water Resources  
Tibet Autonomous Region,  
The People's Republic of China

