

Frequently Asked Questions (FAQ)

Disaster Risk Financing for Jamuna Floods (DRF 4 Jamuna Floods)

1 What is the disaster risk financing component of the Jamuna River Sustainable Management Project, also known as Disaster Risk Financing for Jamuna Floods (DRF 4 Jamuna Floods)?



The disaster risk financing for Jamuna Floods is designed to strengthen the resilience of vulnerable communities living along the Jamuna River by providing timely cash assistance following flood events. The component supports the overall objective of the project, which aims to increase capacity for flood management and navigation along the Jamuna River.

Under this component, two complementary financial protection mechanisms have been established:

1. Climate Risk Insurance (CRI) – a macro-level parametric flood insurance product designed to provide payouts for relatively severe flood events.
2. Community Protection Fund (CPF) – a government-supported fund designed to provide support for moderate and localized flood events, including rainfall-induced flooding that may not trigger the CRI.

Both mechanisms use pre-defined triggers based on water level, flood extent, and rainfall data. When trigger conditions are met, payouts are activated automatically without the need for individual loss assessments.

2 What's the objective of establishing the Disaster Risk Financing for Jamuna Floods program?



The objective is to ensure that vulnerable households exposed to flood risk along the Jamuna river basin receive rapid financial assistance after floods to help them cope with immediate welfare and livelihoods needs, while strengthening the overall financial resilience of flood-prone communities in the Jamuna River basin.

3 When will the program become active?



The program will be active from 1 June 2026 to 30 September 2026, covering the main monsoon and flood season in Bangladesh. It will be renewed annually for a period of at least three years.

4 Who are the stakeholders of the project and what are their roles?



The DRF 4 Jamuna Floods program involves multiple stakeholders working together to design, implement, monitor, and deliver cash assistance to vulnerable households affected by flooding. Key stakeholders and their roles include:

- World Bank – Provides technical and financial support for the design and implementation of the disaster risk financing for Jamuna floods program as part of the broader Jamuna River Sustainable Management Project.

- Project Implementation Unit (PIU) – Provides overall oversight and implementation support for the project, including management of the Community Protection Fund (CPF).
- Ministry of Finance (MoF) acts as the policyholder of the macro-level flood insurance policy and the operator of the community protection fund.
- Beneficiary Households – Vulnerable households living in flood-prone areas of the Jamuna region that are eligible to receive cash assistance when trigger conditions are met. The beneficiary list is aligned with households eligible for anticipatory action support used by WFP.
- Bangladesh Water Development Board (BWDB) – Provides water level and rainfall data used for flood trigger monitoring and assessment.
- Institute of Water Modelling (IWM) and Weather Risk Management Services (WRMS) – the calculation agents responsible for assessing and validating trigger parameter data, performing daily trigger calculations, applying the agreed trigger methodology, determining whether CRI or CPF trigger conditions have been met, and reporting monitoring results to stakeholders.
- Sadharan Bima Corporation (SBC) – Acts as the lead insurer for the Climate Risk Insurance (CRI) component and is responsible for insurance-related operations and payout processing.
- Janata Bank – Supports the digital transfer of payouts to eligible beneficiary households through digital financial services.
- World Food Programme (WFP) – Supports beneficiary identification, beneficiary vulnerability analysis, community partner coordination, and field-level implementation support.

5 What is the difference between the Climate Risk Insurance (CRI) and the Community Protection Fund (CPF)?



Both mechanisms provide cash assistance to vulnerable beneficiary households affected by flooding in the Jamuna region. The main difference is the source of funding:

- CRI payouts are provided through an insurance mechanism where Sadharan Bima Corporation, SBC, is the sole insurance company.
- CPF payouts are funded directly by the Government of Bangladesh to support affected beneficiaries.

The Climate Risk Insurance (CRI) is designed to cover more severe flood events using higher trigger thresholds set at approximately to a 1-in-5-year return period.

The Community Protection Fund (CPF) is designed to cover moderate flood events using lower trigger thresholds set at approximately to a 1-in-3-year return period.

The CPF also helps reduce payout gaps (basis risk) by covering localized pluvial (rainfall-induced) flood events that may not trigger the CRI. The rainfall trigger thresholds for CPF are set at approximately to a 1-in-5-year return period.

¹ CPF has been designed as a parametric or index-based fund for complementarity and objectivity. That said, GoB through its CPF committee can determine payout outcomes that do not align with model outcomes

6 What is basis risk?



Basis risk refers to the difference between actual flood impacts experienced by households and the payout generated by the parametric trigger mechanism.

Examples include:

- flooding occurring but trigger thresholds not being met; or
- trigger thresholds being met but local impacts being limited.

The CRI–CPF structure helps reduce basis risk through:

- multiple trigger parameters,
- dual station mapping,
- satellite confirmation,
- and rainfall triggers for pluvial flooding.

7 What are the parameters used to design the parametric trigger and why?



The trigger design uses three key parameters: (i) water level, (ii) flood extent, and (iii) rainfall. Each parameter captures a different aspect of flooding, and together they provide a more reliable and accurate trigger mechanism.

- Water level data** measures the actual height of the river surface at specific gauge stations monitored by the Bangladesh Water Development Board (BWDB). It is the primary indicator for detecting large riverine floods caused by upstream inflows. Measurements are taken five times a day, where the daily maximum value will be used for trigger, and historical data is available from around year 2000, providing a strong basis for flood analysis and trigger design. There are around 80 water stations in Bangladesh, including 24 stations that will be used to provide data for the DRF for Jamuna.
- Flood extent data** measures the proportion of land area affected by flooding using satellite imagery, including MODIS, Sentinel-1, and Sentinel-2. This helps capture the actual spatial impact of flooding at the union level, including local floods that may not always be reflected in water level gauges. MODIS data has been available since year 2000, while Sentinel data is available from year 2015 onward, both provide a long time series for flood analysis. Satellite data is available at the public domain and provides broad geographic coverage.
- Rainfall data** captures the quantity, intensity, duration, and distribution of rainfall over specific areas and periods. It is used to identify pluvial (rainfall-induced) and short-duration flood events that may occur even when river water levels are not high enough to trigger payouts. Rainfall data is collected daily by the Bangladesh Meteorological Department (BMD) and BWDB using manual gauges and automatic weather stations in some cases. Historical rainfall data has been available since 2000. There are around 58 rainfall stations in Bangladesh, including 13 within the Jamuna project region.

By combining these three parameters, the trigger mechanism balances timeliness, spatial coverage, and accuracy, while reducing payout gaps, the risk of false triggers or missed flood events, i.e., basis risk.

8 Why does the program use a parametric trigger instead of traditional loss assessment?



The parametric approach allows:

- faster payouts,
- objective and transparent trigger determination,
- reduced operational complexity,
- and scalability across large beneficiary populations.

No household-level post-disaster loss assessment is required.

9 What is the trigger design for the CRI?



A union is considered to have triggered the CRI when the following two conditions are met:

- **Trigger 1 (Primary Trigger):** Water Level Trigger – The water level of Bahadurabad station or the water level of the primary station assigned to the union is greater than or equal to the pre-defined threshold assigned to each station for a minimum of five consecutive days. The threshold is set to correspond to a relatively severe flood event with an approximate 1-in-5-year return period.
- **Trigger 2 (Confirmation Trigger):** Satellite Confirmation Trigger – The flood extent within the union is greater than or equal to a pre-defined threshold, measured as the percentage of the union area affected by flooding (inundated). The threshold is also set to correspond to a relatively severe flood event with an approximate 1-in-5-year return period.

Each union can only trigger once within each assessment window (see Question 15 for details).

In addition, each union is eligible to receive compensation maximum two times within a flood season, from June to September.

10 What is the trigger design for the CPF?



A union is considered to have triggered the CPF under either of the following two scenarios:

Scenario 1 – Moderate Riverine Flooding

The following two conditions must both be met:

- **Trigger 1 (Primary Trigger):** Water Level Trigger – The water level of Bahadurabad station or the water level of the primary station assigned to the union is greater than or equal to a pre-defined threshold for a minimum of five consecutive days. The threshold is set to correspond to a moderate flood event with an approximate 1-in-3-year return period.
- **Trigger 2 (Confirmation Trigger):** Satellite Confirmation Trigger – The flood extent within the union is greater than or equal to a pre-defined threshold, measured as the percentage of the union area affected by flooding (inundated). The threshold is also set to correspond to a moderate flood event with an approximate 1-in-3-year return period.

Scenario 2 – Pluvial (Rainfall-Induced) Flooding

The following condition must be met:

- The 10-day cumulative rainfall is greater than or equal to a pre-defined threshold set at approximately a 1-in-5-year return period, representing a relatively severe rainfall event.

11 Why is water level selected as the primary trigger for CRI and CPF riverine flood triggers?



Water level is selected as the primary trigger for CRI and CPF riverine flooding because it is already the main trigger used for anticipatory action (AA) in Bangladesh under the National Early Action Protocol (NEAP). In particular, the water level at the Bahadurabad station is used as the key trigger for activating anticipatory action support.

The DRF 4 Jamuna Floods program is designed to harmonize with the anticipatory action framework and provide a continuum of support for vulnerable beneficiary households. Under this approach, beneficiaries may receive anticipatory action support before a flood event and continue to receive post-disaster cash assistance through the disaster risk financing program after the flood occurs.

12 Why is satellite data required for CRI and CPF riverine flood triggers?



Satellite flood extent data provides spatial confirmation that actual flooding occurred across the union area. It is also an independent third-party dataset, making it suitable for trigger validation. It also has a sufficient historical dataset for analysis and pricing. Historical trends also provide confidence that this data is also reasonably reliable and will be available in the next few years.

This dual trigger mechanism with satellite data helps:

- reduce false triggers,
- improve transparency,
- reduce basis risk,
- and ensure payouts are linked to actual inundation conditions.

13 Why is rainfall included as a CPF trigger?



Some floods are caused primarily by intense local rainfall rather than river overflow.

In these cases:

- water level thresholds may not be exceeded; and
- satellite flood extent may not fully capture localized flooding.

The rainfall trigger helps ensure these pluvial flood events can still receive support through the CPF.

14 What's fallback plan if and when any of the trigger parameter data is not available during the daily monitoring?



The program includes fallback arrangements to ensure trigger monitoring can continue even if certain data sources become temporarily unavailable.

- Water level monitoring – Backup gauge stations are assigned where possible. If data from the primary station is unavailable, data from the designated backup station may be used.
- Satellite flood extent monitoring – Multiple satellite sources are used, including MODIS, Sentinel-1, and Sentinel-2. Using multiple satellite datasets helps reduce the risk of missing data due to cloud cover, technical issues, or satellite revisit limitations. If both MODIS and Sentinel data are unavailable at the same time, the system will use VIIRS as the contingency data source.
- Rainfall monitoring – If data from the primary rainfall station is unavailable, data from a secondary station may be used. If secondary station data is also unavailable, rainfall values may be estimated using Inverse Distance Weighting (IDW). IDW is a method that estimates missing rainfall data using observations from nearby rainfall stations, giving greater weight to stations located closer to the missing station. Only rainfall stations within a 25 km radius are used for this estimation.

The calculation agent will continue to monitor all available data sources and apply the agreed methodology and fallback procedures to ensure trigger assessments can still be completed in a consistent and transparent manner.

15 What is a trigger assessment window, also referred to as a flood episode?



A trigger assessment window is a 25-day monitoring period used to group flood events that meet the trigger across multiple unions as one trigger assessment window or flood episode.

The purpose of the trigger assessment window is to:

- avoid double counting of closely occurring flood events that meet the trigger for the same union,
- group related flood impacts into one flood episode,
- determine whether CRI or CPF payouts (only one or the other, not both) apply for each union during that event period, and
- simplify operational coordination and reporting.

16 What is meant by “one event” or “one flood episode”?



One flood episode refers to all CRI and CPF triggers occurring within the same 25-day trigger assessment window.

Even if multiple trigger conditions occur during that period, they are treated as part of the same event for payout purposes.

17 Why is the trigger assessment window set at 25 days?



The 25-day duration was selected to:

- capture the full evolution of a flood episode, as flooding occurring upstream may take several days to flow downstream.
- reflect the typical duration of a flood event, from when water levels begin rising until floodwater starts to go down (receding).
- avoid duplicate payouts to the same union for the same flood event.
- allow enough time for floodwaters to rise and start going down, especially since CRI thresholds are higher than CPF thresholds.
- provide sufficient time to determine whether a union should receive a CRI payout or a CPF payout (but not both).

Both CPF and CRI payout determinations are finalized on Day 27, allowing two additional days after the 25-day trigger assessment window for the calculation agent to prepare the end of episode trigger and loss report.

18 When does a trigger assessment window begin?



A trigger assessment window begins when the first CPF trigger is breached in any union across the portfolio. This marks the start of a flood episode assessment period.

The assessment window then runs for 25 days, from Day 1 to Day 25. Once the assessment window starts, it applies across all unions covered. This means the assessment window continues even if some unions are not affected by flooding and do not trigger either CRI or CPF during that period.

All CRI and CPF triggers occurring within the 25-day window are treated as part of the same flood episode, even if different unions trigger at different times during the window.

19 When does a new trigger assessment window begin?



A new trigger assessment window can only begin after the previous 25-day trigger assessment window has ended.

A new window starts when another CPF trigger is breached after completion of the previous trigger assessment window.

For example, if the first trigger assessment window starts on Day 1 and ends on Day 25, the earliest a new trigger assessment window can begin is Day 26, provided that at least one union meets the CPF trigger criteria.

20 How many trigger assessment windows can occur in one flood season or policy year?



There is no fixed limit on the number of trigger assessment windows that may occur during a policy year.

The number depends on how many separate flood episodes occur during the monsoon season between 1 June and 30 September.

In practice, based on the 25 years of historical data available from 2001 to 2025:

- 15 years experienced only 1 trigger assessment window,
- 10 years experienced 2 trigger assessment windows, and
- only 3 years experienced 3 trigger assessment windows.

However, while multiple trigger assessment windows may occur during a season, each union remains subject to payout limits.

21 How many payouts can one union receive in a season?



Each union is eligible for a maximum of two payouts per flood season across both CRI and CPF combined.

For example:

- Over the course of a flood season, a union may receive:
 - two CRI payouts; or
 - one CRI payout and one CPF payout; or
 - two CPF payouts.
- However, a third eligible event during the same season, for example during trigger assessment window three, would not result in an additional payout for that union.

22 Can a union receive both CRI and CPF payouts for the same flood episode?



No.

Within a single trigger assessment window (flood episode), a union can only receive one payout.

If both CRI and CPF thresholds are breached during the same trigger assessment window, the union will receive a CRI payout only.

CPF payouts are only provided where CPF triggers are met but CRI triggers are not met.

The table below summarizes the rule used to determine whether CRI or CPF applies to a union:

Scenario	Calculated Trigger Basis	Final Payout Basis
1	CPF only	CPF
2	CPF and CRI	CRI
3	CRI only	Not possible under the trigger design

Note that it is not possible for a union to trigger CRI only without also triggering CPF. This is because CRI and CPF share the same flood trigger criteria (water level and flood extent), but CPF uses lower trigger thresholds (1-in-3-year return period) compared to CRI (1-in-5-year return period). This means that the CPF trigger is always met before the CRI trigger is met.

23 Why is CPF designed to trigger before CRI?



The CPF thresholds are intentionally set lower than CRI thresholds so that moderate flood events can still receive support even if they are not severe enough to trigger insurance payouts.

This layered structure allows:

- CRI to cover severe flood events; and
- CPF to cover moderate and rainfall-driven flood events.

24 What triggers a CRI payout?



A CRI payout requires both:

- Water level thresholds to be exceeded for at least five consecutive days; and
- Flood extent thresholds to be exceeded based on satellite confirmation.

Both conditions must occur within a 7-day period for the trigger to be considered valid. The trigger date is confirmed on the later date when both trigger conditions have been satisfied.

The table below provides an illustrative example of when a union would trigger CRI within a trigger assessment window.

Serial Number	Dates	Water Level Thresholds Met	Flood Extent Thresholds Met	Both trigger criteria Met -> Trigger
1	August 3	Yes – day 1		Not Triggered
2	August 4	Yes – day 2		Not Triggered
3	August 5	Yes – day 3	Yes	Not Triggered
4	August 6	Yes – day 4		Not Triggered
5	August 7	Yes – day 5	Yes	Triggered
6	August 8	Yes – day 6		Triggered
7	August 9	Yes – day 7		Triggered
8	August 10	Yes – day 8		Triggered
9	August 11	Yes – day 9		Triggered
10	August 12	Yes – day 10		Triggered
11	August 13	Yes – day 11		Triggered
12	August 14	Yes – day 12		Not Triggered
13	August 15	Yes – day 13		Not Triggered
14	August 16		Yes	Triggered
15	August 17		Yes	Triggered

Serial Number	Dates	Water Level Thresholds Met	Flood Extent Thresholds Met	Both trigger criteria Met -> Trigger
16	August 18		Yes	Triggered
17	August 19		Yes	Triggered
18	August 20		Yes	Triggered
19	August 21		Yes	Triggered
20	August 22		Yes	Not Triggered
21	August 23		Yes	Not Triggered
22	August 24		Yes	Not Triggered
23	August 25		Yes	Not Triggered
24	August 26		Yes	Not Triggered
25	August 27		Yes	Not Triggered

- On August 3, August 4, and August 6, the union is not triggered because the water level threshold has not yet been exceeded for five consecutive days, and the flood extent does not meet thresholds defined.
- On August 5, the union is still not triggered because the water level threshold has only been exceeded for three consecutive days, even though the flood extent threshold is met.
- On August 7, the union becomes triggered because the water level threshold has now been exceeded for five consecutive days, and the flood extent threshold was met within the allowable 7-day period (including August 1, August 5, and August 7).
- From August 8 to August 13, the union continues to be considered triggered because the water level threshold remains exceeded for five or more consecutive days and the flood extent threshold met on August 7 still falls within the rolling 7-day allowance period.
- On August 14 and August 15, the union is no longer triggered. Although water level thresholds continue to be exceeded for more than 5 consecutive days, no flood extent threshold has been met within the rolling 7-day period from August 8–14 and August 9–15 respectively.
- On August 16, the union becomes triggered again because the flood extent threshold is met and the previous qualifying water level spell still falls within the allowable 7-day period.
- From August 17 to August 21, the union continues to be considered triggered because the flood extent threshold remains met and the qualifying water level spell still falls within the rolling 7-day allowance period.
- From August 22 onward, the union is no longer triggered because the qualifying water level spell no longer falls within the allowable rolling 7-day period associated with the flood extent threshold observations.
- In this trigger assessment window, August 3 – August 25, this union is considered triggered only once, despite multiple trigger occurrences during the period. This is to avoid duplicate triggers and payouts within a short period of time when they are clearly caused by the same flood event.
- Note that on the first day of the trigger assessment window, this union does not trigger either CRI or CPF, yet the assessment window still started on August 3. This is because the trigger assessment window begins as soon as any union within the covered area meets the conditions required to initiate the window.

25 What triggers a CPF payout?



CPF payouts can occur under two pathways:

Option 1 – Moderate Riverine Flooding

- Water level threshold exceeded for at least five consecutive days; and
- Flood extent threshold exceeded.

Option 2 – Pluvial (Rainfall-Induced) Flooding

- 10-day cumulative rainfall exceeds the defined threshold.

The table below provides an example of the trigger thresholds applicable to Erendabari Union in Fulchhari Upazila of Gaibandha District.

	CPF Threshold	CRI Threshold
Water Level - Primary Station SW46.9R	19.71	20.01
Water Level - Bahadurabad station SW46.9L	19.52	19.83
Water Level – Backup Station SW46.9L	19.52	19.83
Flood Extent	0.9	0.95
Rainfall Level CL62	380	Not Applicable

26 What happens if flooding continues across multiple trigger assessment windows?



A continuous flood event for a union is treated as a single event and is eligible for payout only once, even if it extends across multiple trigger assessment windows.

This prevents duplicate payouts for the same prolonged flood event. In particular, if the water level trigger continues to exceed the trigger threshold without interruption, the event is considered ongoing and will not trigger an additional payout in the next assessment window.

An example is shown below for a flood event that continues across two trigger assessment windows:

Window number (Day Number)	Date	Water Level Thresholds Met	Flood Extent Thresholds Met	Both trigger criteria Met → Trigger
...				
Window 1 (Day 20)	July 10	Yes – day 1		Not Triggered
Window 1 (Day 21)	July 11	Yes – day 2		Not Triggered
Window 1 (Day 22)	July 12	Yes – day 3		Not Triggered
Window 1 (Day 23)	July 13	Yes – day 4		Not Triggered
Window 1 (Day 24)	July 14	Yes – day 5	Yes	Triggered
Window 1 (Day 25)	July 15	Yes – day 6	Yes	Triggered
Window 2 (Day 1)	July 16	Yes – day 7	Yes	Not Triggered
Window 2 (Day 2)	July 17	Yes – day 8	Yes	Not Triggered
Window 2 (Day 3)	July 18			Not Triggered

Window number (Day Number)	Date	Water Level Thresholds Met	Flood Extent Thresholds Met	Both trigger criteria Met → Trigger
Window 2 (Day 4)	July 19	Yes – day 1		Not Triggered
Window 2 (Day 5)	July 20	Yes – day 2		Not Triggered
Window 2 (Day 6)	July 21	Yes – day 3		Not Triggered
Window 2 (Day 7)	July 22	Yes – day 4		Not Triggered
Window 2 (Day 8)	July 23	Yes – day 5	Yes	Triggered
Window 2 (Day 9)	July 24	Yes – day 6	Yes	Triggered

In this example, the second trigger assessment window begins on July 16. Although the flood event continues into the new window, the water level trigger has continuously exceeded the threshold since July 10 without interruption. Therefore, the flood is treated as the same ongoing event and does not trigger an additional payout during July 16–18, even though these dates fall under a new assessment window.

On July 23, however, the union is considered to have triggered again under the second Trigger Assessment Window because the triggering conditions were no longer met on July 18, creating a break in the event sequence. The subsequent threshold breach beginning on July 19 is therefore treated as a separate flood event. An additional trigger is confirmed on July 23, once the water level threshold has again been exceeded for five consecutive days and the flood extent criteria is also met.

27 How much payout does each beneficiary household receive?



Each eligible beneficiary household receives a fixed payout of USD 30 per event under both the CRI and CPF. This amount is equivalent to approximately half a month of livelihood and welfare support for a beneficiary household.

Studies show that flood-affected households may require up to three months of support, while many currently receive assistance for only about one month. This means there is often a support gap of at least two months. The program is designed to complement existing assistance and help partially fill this gap.

The payout amount does not vary based on flood severity. Each eligible beneficiary household receives the same fixed payout of USD 30 regardless of the size or intensity of the flood event. However, during more severe flood events, more unions are likely to trigger, resulting in a larger number of beneficiary households receiving payouts.

28 What happens if CPF funding is sufficient?



If sufficient CPF funding is available to cover all eligible households, all households in CPF-triggered unions will receive the standard payout amount of USD 30.

In this case, no beneficiary prioritization process will be required.



29 What happens if CPF funding is insufficient?



If CPF funding is insufficient to cover all eligible households, the CPF Committee applies a prioritization approach to determine which households receive support first.

The prioritization framework is only activated when:

- the gross CPF liability exceeds the remaining available CPF balance; and
- not all eligible households can be paid the full amount.

30 What prioritization options are available under CPF?



Two prioritization approaches are proposed:

Option A – Household Vulnerability Score First

All households across all triggered unions are ranked together from most vulnerable to least vulnerable using household vulnerability scores.

Option B – Union Vulnerability First, then Household Vulnerability

Triggered unions are first ranked by union vulnerability score, and households within each union are then ranked by household vulnerability score.

31 What is a household vulnerability score?



The household vulnerability score is an indicator used to rank beneficiary households based on flood exposure and socioeconomic vulnerability.

The score incorporates factors such as:

- food security,
- assets,
- income,
- gender,
- disability,
- dependency ratio,
- and physical flood exposure.

Higher scores indicate greater vulnerability.

The household vulnerability score ranges from 28 to 92:

- a score of 28 indicates a beneficiary household with relatively lower vulnerability; and
- a score of 92 indicates a beneficiary household with among the highest levels of vulnerability.

32 What happens to households that are not paid because CPF funds are exhausted?



Households that fall below the CPF funding cut-off are recorded as deferred households.

The deferred list is retained for transparency and audit purposes.

33 Can the CPF payout amount per household be reduced?



No.

Reducing the per-household payout amount is generally not advisable for the following reasons:

- The USD 30 payout amount is already modest and is intended to cover only approximately half a month of livelihood and welfare needs for beneficiary households. Further reductions may result in payouts that are too small to make a meaningful difference to affected households.
- Reducing payout amounts may also complicate and delay the CPF Committee's decision-making and payout approval process.

