

FbF Guide # 0

Glossary of Terms for Forecast-based Financing

The terminology presented below has been analyzed in detailed by practitioners that are implementing FbF interventions, as well by a broad number of actors involved in Early Warning Early Action.

Action: (Spanish - Acción, Portuguese- Acção)

The result of using a forecast to take steps toward reducing disaster impacts and preparing to respond to a disaster. Forecast-based actions could be early actions (for prevention and/or mitigation) and preparedness for response actions (for more effective disaster response).

Note: Win-win actions contribute to effective early action and/or preparedness for response whilst also contributing to other social, economic and environmental benefits.

Action lifetime: (Spanish - Tiempo de Vida de la Acción, Portuguese - Tempo de vida)

The length of time that the positive impacts of the action will last after the action is implemented. For example, if drains are cleared in a city to reduce potential flooding, the drains may remain sufficiently clear for a few weeks, having a temporary lasting effect.

Note: If we take an action with a long lifetime based on a forecast, such as distributing a 30-day supply of chlorine tablets, we would not want to take that same action again until the lifetime of the first action was over. Re-occurring extreme events can reduce the action lifetime.

Average Probability of Occurrence: (Spanish - Probabilidad Media de Ocurrencia, Probabilidade Média de Ocorrência)

How often an extreme event can be expected to occur over a given time, considering the changing climate. This is also known as the “return time” or “recurrence interval”, however we these terms assume a stable climate. An FbF mechanism consider Climate Change impacts, therefore it is preferable to refer to “probability of occurrence”.

Climate-smart Social Protection: (Spanish - Protección Social adaptada al Clima, Proteção social adaptada ao clima)

Social protection policies and programs that integrate climate risk management as a key factor in reducing poverty and vulnerability.

Note: Using forecast information enhances the use of already established social protection systems to act more sustainably and predictably. These systems can also offer a financial and institutional platform to activate early actions and preparedness for response actions based on forecast. For example: Social safety nets, a type of social protection program that focuses

more specifically on the poor and vulnerable, can have an immediate impact on helping manage risks, reducing vulnerability and boosting resilience by putting resources in their hands through targeted in cash or in kind transfers.

Contingency planning: (Spanish - Plan de Contingencia, Portuguese - Plano de Contingência)

Establishing predefined arrangement and actions to enable timely, effective, and appropriate responses to possible future risks.

Note: Actions are defined for a specific outcome, for example, if x outcome happens, these actions must occur. Governments and organizations have contingency plans to prepare and respond to disasters. These plans can inspire the selection of forecast-based actions, and also serve as a guide for the development of [standard operating procedures](#).

Cost-benefit analysis: (Spanish - Analisis de Costo-Beneficio, Portuguese - Análise de Custo e benefício)

A systematic process for calculating and comparing benefits and costs of an action, project, decision or government policy

It is a tool that can compare the costs of taking action with the benefits of the action. This tool is used for estimating the return on investment of an action, compare competing choices, and understand the impact of [Forecast-based Financing](#) over time.

Note: If the actions implemented are cost-effective (in terms of reduction of human suffering, protection of development investments and reduction of costs associated with emergency response) it could have a major influence in improvement of current humanitarian financial mechanisms.

Danger Level: (Spanish - Nivel de Peligro, Portuguese - Nivel de Perigo)

The magnitude of an extreme event that will lead to impact. The danger level will depend on the risk of harmful impact from an extreme event, that is determined by exposure to the hazard, vulnerability and willingness to act based on a forecast (as local conditions change, danger levels should be updated)

Example, 100 mm of rainfall during 2 consecutive days have the potential of totally damage houses in a specific location of the amazon river, when a given forecast predicts 100mm of rainfall in 2 days, actions will be triggered.

Ensemble prediction systems: (Spanish - Sistemas de predicción ensamblados, Portuguese-Sistema de Previsão por Conjunto)

Forecast method that uses multiple weather forecast model runs to assess uncertainty in that forecast. Ensemble Prediction Systems are numerical weather prediction systems that allow us to estimate the uncertainty in a weather forecast as well as the most likely outcome.

Note: At a simple level, the percentage of ensembles exceeding a threshold (such as 10% of ensembles exceeding 100 mm of rainfall) is assumed to give the probability of that event occurring.

False Alarm Ratio (FAR): (Spanish - Ratio de Falsa Alarma, Portuguese - Rácio de falso alarme)

The false alarm ratio is the fraction of the forecasts of the event associated with non-occurrences. $FAR = (\text{false alarms}) / (\text{number of forecasts of the event})$. In FbF, this criteria is considered when analysing the reliability of the respective forecast.

Forecast: (Spanish - Pronóstico, Portuguese - Previsão)

A statement of expected meteorological and environmental conditions for a specified time or period, and for a specified area. It provides information about the possibility of an extreme event happening in the foreseeable future.

Note: Forecasts are often divided into short-term weather forecasts (less than 10 days), sub-seasonal forecasts (20-40 days) and seasonal forecasts (3-6 months).

Forecast-based Financing: (Spanish - Financiación basada en Pronósticos - hidrometeorológicos, Portuguese - Financiamento baseado na Previsão)

A mechanism that enable access to funding for early action and preparedness for response based on credible forecast.

Note 1: A core element of Forecast-based Financing is the existence of a financing mechanism. Funding will be disbursed according to standard operating procedures, which will outline specific forecast [triggers](#) and pre-planned [actions](#). This efficient mechanism must allow for the timely implementation of actions, while guaranteeing transparency and accountability with donors and communities at risk. Note 2: In Forecast-based Financing pilot projects, the financing mechanism is called 'Forecast-based Preparedness Fund', other organizations have called these kind of financing mechanism, preparedness fund, early action fund or anticipation fund.

Lead time: (Spanish - Tiempo de espera, Portuguese- Tempo de espera)

The length of time between the issuance of a forecast and the occurrence of the disaster is forecasted to happen.

Note: The length of the forecasted event (e.g. a 3-day heat wave) is different from the lead time of the forecast (e.g. a forecast for heatwaves issued 10 days before its anticipated start).

Menu of Triggers: (Spanish - Menú de opciones de gatillo, Portuguese - Menu de activação)

The Menu of triggers is a document that provides the necessary information for decision makers and Disaster Risk Managers to define early actions and preparedness for response actions that will be implemented in the framework of the FbF mechanism, it gives a set of options according to the lead time of the forecast. It includes analysis of the respective hazard, forecast reliability, false alarm ratios, lead times, disaster impacts, danger levels and triggers.

Residual Risk: (Spanish - Riesgo residual, Portuguese - Risco residual)

The risk of impact from an disaster that remains after disaster risk reduction measures are taken. The presence of residual risk implies a continuing need to develop and support effective capacities for emergency services, preparedness, response and recovery together with socio-economic policies such as safety nets and risk transfer mechanisms.

Note: FbF can contribute to managing part of this residual risk by funding early actions and preparedness for response actions when a disaster is forecasted.

Standard Operating Procedure (SOP) also called Early Action Protocol: (Spanish - Procedimientos Estándares de Operación - Protocolo para la Acción Temprana, Portuguese - Padrões Operacionais de Procedimentos)

An early action protocol for the step-by-step implementation of forecast-based actions. Guidelines for who takes action when, where, and with what funds. The guidelines are triggered by a forecast reaching a predefined danger level.

Note: The protocol must include both the [actions](#) and the [triggers](#) that would define the timing of such actions, turning those planned actions into reality.

Probability Threshold: (Spanish - Probabilidad del Umbral, Portuguese, Probabilidade de Limiar)

The value of forecast probability at which the chances of reaching the [danger level](#) are considered high enough to merit forecast-based action. The probability threshold can be defined based on comparing the risk of acting in vain versus the risk of failing to act. The probability is agreed upon beforehand amongst all stakeholders.

Note: For example, the probability threshold of 100 mm of rainfall during two days is 50%.

Trigger: (Spanish - Gatillador, portuguese - Gatilho)

A forecast that is issued, which exceeds both the danger level and the probability threshold, leading to the initiation of predefined actions. For example, a forecast of a 50% chance of exceeding a danger level is a trigger to disburse chlorine tablets.

Theory of Change: (Spanish - Teoria de Cambio, Portuguese - Teoria de mudança)

It is a comprehensive description and illustration of how and why a desired change is expected to happen in a particular context. It is focused in particular on mapping out what has been described as the “missing middle” between what a program or change initiative does (its actions or interventions) and how these lead to desired goals being achieved. In FbF a theory of change is an essential tool to prioritize forecast-based actions.

Verification: (Spanish - Verificacion, Portugues- Verificação)

Connotes an objective comparison of forecasts and observations to establish accuracy and veracity of the forecast.