# Challenge 1: Future Financing

Respond to impending climate-induced natural disasters by applying weather prediction technologies to autonomous financial mechanisms, with the goal of enabling access to relief funding for pre-event preparedness and early action response.

*Descriptive Vignette:*

A non-governmental disaster relief organization is planning to distribute financial aid to a local population that *could be* affected by seasonal flooding. Aid recipients can use the financial aid to replace lost crops, remove debris, and to mitigate lost income. In the past, financial aid issued *after* the flooding and losses have occurred has taken months to arrive and led to greater individual losses and prolonged disaster impacts.

This organization would like to use correlated indicators of pending disaster, such as heavy rains, to trigger the autonomous release of financial aid to potential victims, with the intent of expediting the distribution of aid. Furthermore, if financial aid can be securely distributed just before the disaster, potential victims could implement flood mitigation procedures, which could significantly reduce individual disaster impacts.

# Potential Applications

* Making aid disbursement more secure and transparent.
* Early predictive triggers to raise funds from the donors.
* Dispersal of funds from the aid organizations to the beneﬁciaries.

# Conceptual Design

Develop a conceptual design to demonstrate the use of blockchain technology for providing financing before the event occurs and other potential applications.

The conceptual design should include initial thoughts on the following:

● Technology architecture

● Business model

● Legal framework

● Deployment plan

# Criteria and Judging

Teams are expected to:

● Pitch their project idea at hackathon through a 5-minute live presentation and a 2-minute video clip uploaded to YouTube under Creative Commons license.

● Provide their final project materials (including any slides, multi-media, documentation, working code, etc.) through a GitHub [https://mitmedialab.github.io/MIT-Humanitarian-Hack](https://mitmedialab.github.io/MIT-Humanitarian-Hack/) repository under an open source license.

Judging criteria will include:

* Technical merit – addressing concerns of commercial application of the technology (e.g., privacy, security, scalability, and interoperability);
* Benefits and improvements relative to humanitarian aid response to crises
* Ability to apply the system within the [United Nation’s Sustainable Development Goals](http://www.un.org/sustainabledevelopment/sustainable-development-goals/).

Context Reference Links:

### [Forecast based financing - Red Cross Red Crescent Climate Centre](http://www.climatecentre.org/programmes-engagement/forecast-based-financing)

### [Forecast-based financing - IFRC](http://www.ifrc.org/en/what-we-do/disaster-management/preparing-for-disaster/risk-reduction/forecast-based-financing/)

### [Forecast-based financing: case studies from Togo and Uganda](https://reliefweb.int/report/world/forecast-based-financing-case-studies-togo-and-uganda)

### [Open Data Institute: The ODI](https://theodi.org/)

### [Asilomar AI Principles - Future of Life Institute](https://futureoflife.org/ai-principles/)

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# Challenge 2: Identity and Consent Management

**Develop tools and techniques that facilitate the effective and efficient delivery of humanitarian aid, in accord with the European Union’s General Data Protection Regulation (GPDR) on digital identity and data management.**

*Descriptive Vignette:*

A non-governmental organization is planning to distribute disaster aid in the form of cash to a local population experiencing famine and malnutrition. Prior cash distributions have been problematic because specific individuals are hoarding cash distributions by repeatedly requesting aid (double and triple dipping), leaving others with none.

This organization is looking for lightweight mechanisms to deliver aid to anonymous recipients, while being able to verify the number of distributions that each recipient received and to prohibit double dipping.

# Potential Applications

* Facilitating faster and cheaper international payments
* Providing a secure digital infrastructure for verifying identity

# Conceptual Design

Develop a conceptual design to demonstrate use blockchain technology for providing financing before the event occurs and other potential applications.

The conceptual design should include an outline or sketch of a realistic approach to deployment and stable operation of the identity system, including a:

* Business model
* Legal framework
* Technology architecture
* Deployment plan

# Criteria and Judging

Teams are expected to:

* Pitch their project idea at hackathon through a 5 minute and develop 2 minutes video clip uploaded to YouTube under Creative Commons license.
* Provide their final project materials (including any slides, video and other media, documentation, working code, etc) through a GitHub repository under an open source license.

Judging criteria will include:

* Technical merit – addressing concerns of commercial application of the technology (e.g., privacy, security, identity, scalability, and interoperability);
* Benefits/improvements relative to humanitarian aid response to crises
* Ability to apply the system within the [United Nation’s Sustainable Development Goals](http://www.un.org/sustainabledevelopment/sustainable-development-goals/).

**Links**

Collaborator Link: [Global Disaster Preparedness Center](http://preparecenter.org/)

<https://www.preparecenter.org/>

Registration Link: [MIT FinTech & Design Hackathon](http://bit.ly/mitfdhack)

<http://bit.ly/mitfdhack>

Challenge Link : [Future Financing & Identity and Consent Management](https://goo.gl/ditqSa)

<https://goo.gl/ditqSa>

GitHub Link: [https://mitmedialab.github.io/MIT-Humanitarian-Hack](https://mitmedialab.github.io/MIT-Humanitarian-Hack/)

<https://github.com/mitmedialab/MIT-Humanitarian-Hack>