



# Cryptocurrencies

## Risks of conflict and opportunities for peace

### RESEARCH BRIEF

## Outline

This paper presents a summary of the findings and recommendations from a research project undertaken by International Alert in late 2021 to explore the impact of cryptocurrencies on peace and conflict dynamics. The findings are based on an extensive desk review of the literature on the use of cryptocurrencies in conflict contexts and supplemented by semi-structured interviews conducted between September and November 2021 in three locations in Africa, the Middle East and Eurasia.<sup>1</sup> A qualitative methodology was chosen to dig deeper into underlying perspectives and allow richer insights into the views and perspectives of people living within the three case study contexts and those of the networks around them, thereby building a holistic and comprehensive picture beyond expert analysis. One case study focused on cryptocurrency trading; another on the growth of cryptocurrencies in the face of sanctions and the increasing financial exclusion of citizens; and the third focused on the boom in cryptocurrency mining. The research examined the relationship between cryptocurrencies and drivers of peace and conflict unique to each location, but also identified commonalities in the risks and opportunities relevant to global peacebuilding.

Researchers in three locations conducted a total of 21 semi-structured interviews (16 men, five women) with individuals who already had some familiarity with cryptocurrencies (randomised sampling was not possible). In one location, the political sensitivities meant that the research methodology had to be adapted: semi-structured interviews were conducted with four respondents, all men. This data was then supplemented

by a written survey, shared via a messenger chat group for people interested in cryptocurrencies, which garnered 18 responses (17 men, one woman). In all locations, because the respondents were self-selecting, it was difficult to achieve a gender balance. It was challenging to find women with the relevant knowledge of cryptocurrencies who were willing to be interviewed, meaning that the research is biased towards the perceptions of men.

## Introduction to cryptocurrencies

Cryptocurrencies are a form of digital currency not issued in a physical form or by any central authority. They are, in theory, available to all and only require the opening of a digital wallet, a process that requires minimal documentation. Bitcoin, the first cryptocurrency, was created in 2009, with the primary aim of facilitating peer-to-peer transactions without the involvement of a third party such as a traditional bank.<sup>2</sup> Since then, thousands of cryptocurrencies have been created.<sup>3</sup> The popularity of cryptocurrencies has increased dramatically, in particular since 2020, with the value of bitcoin rising by 700% between March of that year and early 2021, reaching a record value of around US\$69,000 in May 2021 and ending the year at around US\$50,000.<sup>4</sup> Conflict-affected areas have seen growth in the popularity of cryptocurrencies in recent years: an analysis by TradingView of cryptocurrency-related searches worldwide showed that the majority of countries and territories in the top 10 were affected by conflict.<sup>5</sup>

## Key terms

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**Bitcoin** was the first and remains the most well-known cryptocurrency. It relies on a decentralised peer-to-peer network to process and record transactions without the need for a financial intermediary. Bitcoin uses a tamper-proof, public ledger that stores transactions publicly, allowing for more transparency and accountability. Unlike traditional currencies, bitcoin is neither backed by real-world assets such as gold nor controlled by a central authority such as a bank.

**Blockchain** is the technology through which cryptocurrencies work. It is a decentralised, encrypted ledger that records and confirms transactions without a central clearing authority, such as a bank. This allows the automation of contractual agreements and relationships between parties, also known as smart contracts. Blockchain technology can promise transparency and fully auditable ledgers that store data in an unalterable format. Nevertheless, the transparency of these systems faces a challenge when interacting with the right to privacy and confidentiality of some information.<sup>6</sup>

**Cryptocurrency mining (cryptomining)** is the process of creating cryptocurrencies. How this is achieved depends on the consensus mechanism of the cryptocurrency – the rules by which the cryptocurrency operates and is validated. The most common type of consensus mechanism, including that of bitcoin, is ‘proof of work’ (PoW), where computers compete to solve complex mathematical equations. Once the equation is solved, a new unit of the cryptocurrency is issued and that unit, or coin, can then be bought and sold. As with any other currency, several factors affect its value, primarily supply and demand, but additionally some cryptocurrencies have an in-built scarcity in the form of a limit in the number of coins.<sup>7</sup> As currencies move towards this limit, the equations to mine them become ever more complex. PoW consensus mechanisms are criticised for being energy intensive and some cryptocurrencies have indicated that they plan to change to other less energy-intensive mechanisms.<sup>8</sup>

## Conclusion: risks of conflict and opportunities for peace

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Across all contexts, respondents believed that the cryptocurrency sector would continue to grow. It offers opportunities for people with limited means to either earn

some money or protect what little they have. Nevertheless, it is important to consider the risks that the sector poses to conflict-affected communities.

The research noted that in some instances cryptocurrencies had provided opportunities, particularly for young people, to gain a level of financial independence. Access limitations (along gender, age and socio-economic lines) inherent in how cryptocurrencies currently operate – be it a lack of internet connection, lack of technical literacy, mistrust of scams and online schemes, or patriarchal norms – mean that the advantages of cryptocurrencies from investing and storing value, trading or mining, are not available equitably, globally and within communities. Where there is a lack of justice and equality, real or perceived, there is increased tension. In tense environments, these drivers can evolve into or be manipulated to facilitate violence. Cryptocurrencies, despite being decentralised and transparent, are still susceptible to manipulation and influence by those with power, which in turn can decide the fates of those with less power who engage in buying, selling, and mining them.<sup>9</sup> The bitcoin market transformed and fell immediately following online comments by Elon Musk.

There is a lack of financial literacy in contexts where cryptocurrencies are prevalent. Without proper understanding of cryptocurrencies and the systems that underpin them, ordinary people are cut out from opportunities to save and earn money and are more vulnerable to scams and market fluctuations.

Attempts to regulate cryptocurrencies, by governments or other authorities, are a double-edged sword. Regulation offers a solution to problems such as scams, overconsumption of energy for cryptomining, and corruption and money laundering. (Cryptocurrencies are used for criminal activities,<sup>10</sup> but further research is required to understand the role of criminal use of cryptocurrencies in conflict dynamics, violence and instability.<sup>11</sup>) The research suggests, however, that individuals seek out cryptocurrencies specifically to avoid what they perceive as their government’s autocratic control, to lessen the impact of international sanctions and to access markets and economies outside their (often closed) contexts. Sudden and drastic changes in regulation can have serious impacts on the day-to-day lives of citizens who engage in cryptocurrencies in good faith or out of desperate financial need, leaving them increasingly vulnerable. For example, when cryptominers have taken on debts to start their enterprise only to have the practice banned, this leaves them with an unshiftable debt and no access to additional funds from the planned enterprise. Alternatively, it can mean

that cryptobuyers or traders must hide their interests (even where it is legal), deleting apps and messages, to avoid being pursued by law enforcement. People engaging with cryptocurrencies in conflict contexts must balance the rewards of cryptocurrencies (opportunities to earn additional income and engage in global markets) against risks to personal safety and security. It seems that for the majority of respondents this risk is worthwhile.

While the research did not probe the influence of religious teaching on cryptocurrencies, the perception of cryptocurrencies by religious authorities was noted as a possible source of conflict. In communities where different sectors may have different views on the morality of trading cryptocurrencies, there can be a heightened sense of injustice if one group is gaining a financial boon from a sector that another considers immoral. More research is required to understand the relationships between religious authorities' teaching and cryptocurrency use in more detail and mitigate potential conflict, as the sector continues to grow, particularly in conservative societies.

Cryptocurrencies and the technologies that support them, namely blockchain, could offer some opportunities for people living in conflict-affected communities, and the groups and organisations that work with them, to facilitate aid or cash assistance, or to develop economic relations between communities. Nevertheless, interventions should not use cryptocurrencies for the sake of it: such interventions carry risks and should only be implemented following a proper conflict and risk analysis to ensure that their use will not create new or exacerbate existing tensions at a family, community or regional level. Additionally, conflict sensitivity should be firmly integrated into the monitoring of such projects.

Few respondents reflected on the link between cryptocurrencies and climate change, despite it being a hotly discussed topic<sup>12</sup> and the fact that conflict-affected contexts are more susceptible to the impacts of climate change.<sup>13</sup> Cryptomining has significant implications for energy consumption and the environment in these contexts and has conflict-generating potential. Even where energy for mining is being produced from renewable sources, the creation of energy deficits and increased energy burdens will inevitably lead to an increase in carbon emissions as renewable sources struggle to cope with the increased demand. The promised shift away from energy-intensive PoW models is overdue and new solutions should be prioritised to reduce their climate impact.

## Recommendations

Research is the first step towards understanding how the use of cryptocurrencies intersects with conflict and peacebuilding. Some recommendations have already emerged from this study that can be applied to development and peacebuilding programming:

- Always conduct robust conflict and gender analysis before planning an intervention that uses cryptocurrencies. Cryptocurrencies might appear innovative and exciting, but they are not inherently benign. Assumptions need to be tested rigorously so their implications and potential consequences are fully understood to ensure conflict-sensitive programming. For example, the oft-stated advantage of cryptocurrencies' ability to 'democratise' economies may not hold true in areas where there is a lack of equal access to the internet or electricity.
- A significant driver for people to get involved in cryptocurrencies is the need to secure income to provide for their families or afford basic essentials and foodstuffs, even if it might put them in danger. Therefore, any programming in this area must focus on the wider socio-economic conditions that put potential beneficiaries in a vulnerable position with regard to their livelihoods and can enflame existing tensions within those communities. Low levels of financial literacy should be addressed through comprehensive programmes that include gender and conflict sensitivity components to ensure that the benefits and risks of cryptocurrencies are understood by all community stakeholders.
- This research demonstrated that cryptocurrencies are a particularly divisive topic, with clear camps of 'us' and 'them' presenting pro- and anti-cryptocurrency perceptions. Communities should be engaged in dialogue on the advantages and risks of cryptocurrencies, using peacebuilding and conflict-transformation methodologies.

More research is required to delve deeper into the various dynamics and inform both the literature and programming around cryptocurrencies. Many of the opinions and perceptions presented by those interviewed for this research are not substantiated by quantitative data. Topics of particular interest for further research that arose as a result of this research include the following:

- The gendered patterns in the use of cryptocurrencies: women are clearly active in the sector, but their contribution is not understood and requires in-depth examination, including around gender relations within the sector, to ensure that any programming that might consider engagement with cryptocurrencies is gender sensitive.
- How cryptocurrencies impact on state-citizen relations, and also how state-citizen relations play a role in how men and women approach cryptocurrencies: contexts that lack clear regulatory frameworks have high levels of corruption and/or brittle financial markets, and poor governance pushes men and women to seek out opportunities with cryptocurrencies.

# Acknowledgements

This paper was written by a team of researchers who, for security reasons, wish to remain anonymous. The authors would like to thank the researchers in each context studied, as well as Emerging Impact for their input to the research process. The production of this brief was supported by our key funding partner, the Swedish International Development Cooperation Agency.

International Alert is also grateful for the support from our key funding partners: the Dutch Ministry of Foreign Affairs; and the Irish Department of Foreign Affairs and Trade. The opinions expressed in this brief do not necessarily reflect the opinions or policies of our donors.

# Endnotes

- 1 The three contexts where the interviews took place cannot be named due to political sensitivities and the potential risk to the safety and security of the researchers and participants.
- 2 The reasoning behind the creation of bitcoin was laid out in a white paper by its pseudonymous creator Satoshi Nakamoto: S. Nakamoto, Bitcoin: A peer-to-peer electronic cash system, 2008, <https://bitcoin.modeapp.com/bitcoin-white-paper.pdf>
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