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## COMMENTARY

# The Role of Artificial Intelligence in Revolutionizing NGOs' Work

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## Abstract

Artificial intelligence (AI) is transforming various industries by enhancing efficiency, accuracy, and decision-making. The non-governmental organization (NGO) sector is also exploring the use of AI to revolutionize their work. This paper explores the role of AI in revolutionizing NGO work, including its potential benefits and challenges. The paper presents case studies of AI implementations in NGO program design, resource management, monitoring and evaluation, and predictive analysis. The paper also discusses the ethical considerations and challenges of using AI in NGOs and outlines the future directions and challenges for AI in the NGO sector.

**Keywords:** Artificial intelligence, Non-Governmental Organizations, Program Design, Resource Management, Monitoring and Evaluation, Predictive Analysis, Ethics, Challenges, Future Directions

## Introduction

Non-governmental organizations (NGOs) play a critical role in promoting social justice, alleviating poverty, and addressing various social, economic, and environmental challenges worldwide. However, the effectiveness and impact of NGO work often depend on several factors, including the availability of resources, the quality of program design and implementation, and the effectiveness of monitoring and evaluation.

Artificial intelligence (AI) has the potential to tackle some of the world's most critical humanitarian issues, including forced displacement, unequal access to education, the growing inequality gap, among others. The use of data analytics, machine learning (ML), and AI are growing in NGOs, and can help

revolutionize NGO work by enhancing program design, optimizing resource management, improving monitoring and evaluation, and enabling predictive analysis. In this article, we will explore the utilisation of AI, its benefits, potential risks, and the prospects for its integration within NGOs.

## **AI as a Tool for NGOs**

The United Nations (UN) and NetHope (a technology consortium comprising almost 60 of the global leading non-profit organizations) are employing AI to enhance the accuracy of predicting and responding to emergencies. Humanitarian organizations have only just started to use big data to improve decision-making. UN launched a project in 2017 that used machine learning and publicly available Twitter data to develop a policy against xenophobia and racism towards refugees and migrants. The project showcases the potential of big data to tackle crucial issues and create a positive social impact (AIBusiness, 2022).

Artificial Intelligence (AI) plays a crucial role to the implementation of "Agenda 2030" and the 17 Sustainable Development Goals (SDGs). For this reason, the United Nations organisation (UN) has developed many initiatives linking AI with the SDG's. Specifically, the SDG's 3, 9, 10, 13 and 17 are currently prioritised in the UN's AI projects. Yet, SDG's 2,6,7,14,15 come second and could be also included in such projects (ITU, 2021). In that context, AI appears to influence the priorities set by international organisations which influence the prioritisation of societal issues such as social equality and inequality. Educational institutions are a characteristic example (UN, 2018). Thus, AI gives prominence to, inter alia, ethical issues which are strongly related to the inclusive, democratic and sustainable society that UN and humanitarians are envisioned (UN, 2018).

NetHope identified that AI is making it possible to process complex data patterns that are beyond human ability, making it easier to help people quickly during catastrophic events. The technology is being used to help government agencies and non-profits swiftly determine the destruction caused by natural disasters, forecast the vectors of disease transmission, and allocate resources. However, the technology still requires adequate data science skills and high-performance AI infrastructure that is not yet available in the humanitarian sector. The United Nations, NetHope, and large tech companies like Microsoft are offering support and financial resources to humanitarian organizations in developing AI-based projects (AIBusiness, 2022).

AI for Good is a type of AI that seeks to solve significant problems for society and the planet, such as in health, security, policing, and education. These technologies offer NGOs a way to handle communications, internal operations, sustainability, human resources, and finance more efficiently and

effectively. For example, AI tools can help detect financial fraud, screen and hire promising staff members, automate routine conversations, eliminate online abuse, and assist with sustainability efforts. Despite small budgets and limited staffing, NGOs can benefit from adopting these tools to streamline internal operations and external communications and improve their overall functioning (West & Kelso, 2018).

AI can assist NGOs in several ways, including predictive analytics to identify patterns and make predictions, optimizing supply chain management for humanitarian aid delivery, providing real-time information for emergency response, analyzing donor behaviour for more effective fundraising, and evaluating program impact by analyzing outcomes data. By leveraging AI technology, NGOs can make informed decisions and improve their operations and programs (NetHope, 2020).

AI systems, with their ability to learn, predict and take action, can play a critical role in reaching more people with vital services and information, freeing up human resources, and improving outcomes. NGOs can also take advantage of free libraries, crowdsourcing, and ready-made APIs. To support their AI journey, they can apply for grants from initiatives such as AWS Imagine Grant, Google's AI for Social Good, and Microsoft AI for Earth. With a clear problem, quality data, and some economic support, NGOs can maximize the positive effects of AI and contribute to a better society (Kesari, 2020).

Although AI is often associated with big tech and venture capital-backed companies, there are examples of NGOs using AI successfully. NGOs, such as the Danish Refugee Council and the International Rescue Committee, have already implemented AI systems in their work, with initiatives including forecasting forced displacement, optimising service delivery to refugees, and assisting migrants in understanding their rights. Despite the benefits, there are still significant challenges to incorporating AI into the NGO sector, including sustainability, data and funding barriers, and a lack of awareness. These challenges must be addressed for AI to reach its full potential in the humanitarian sector (NetHope, 2020).

The use of AI has revolutionised many industries, but it has yet to have a major impact on social development and humanitarian projects. While there are initiatives led by IT-oriented organizations, most NGOs and multilateral organisations do not have a data science team to lead similar efforts. However, NGOs can start by using simple analytical tools, such as analysing data on Twitter or using geospatial analysis tools, to improve desk reviews, project design, monitoring, and evaluation. The

key to applying AI is understanding its potential and limitations. As with monitoring and evaluation, understanding the value of AI will become essential for all organisations in the future (Lobato, 2020).

AI is changing the world for the better by solving meaningful problems and having an immediate impact on society and the environment. AI-based NGOs are addressing global challenges such as healthcare, safety, policymaking, and education. McKinsey suggests that AI could contribute to tackling all 17 of the UN's sustainable development goals, potentially benefiting millions of people. AI-enabled NGOs use AI algorithms to deliver services and programmes at scale. Mercy Corps, WWF, AI for Good UK, and AI4All are examples of innovative NGOs driving the future of AI for good. The adoption of AI by NGOs faces challenges, such as identifying the right data problems, collecting and validating data, and gaining stakeholder buy-in (Omdena, 2022).

NGOs may manage highly sensitive data (HSD) more effectively and safely with the use of AI automation. Data that is protected from release by applicable law or regulation is referred to as HSD. Examples include passwords, banking information, and healthcare information covered by the "Health Insurance Portability and Accountability Act (HIPAA)." NGOs receive large amounts of paperwork and data, leading to long processing times and multiple people accessing sensitive information. Automation can streamline workflows, reducing unnecessary tasks and minimising the risk of data leaks while freeing up time for valuable tasks. AI and NLP systems can direct information to the appropriate department or person with relevant clearance without requiring human interaction. NGOs' workflow automation is a way to get information directly to the right party, improving data protection and saving time and effort (Sheridan, 2022).

AI has the potential to enhance human lives, but it can also negatively impact human rights. Issues include invasion of privacy, biased decisions due to a lack of diversity in AI design, stifling freedom of expression and assembly, and government surveillance (Efthymiou et al., 2020). To ensure that AI promotes human rights, cooperation is needed between government actors, private companies, academia, NGOs, and the public. AI ethics and regulations already exist, such as the European Court of Human Rights respect for privacy, liberty, and security, but there is still a need for stronger cooperation to ensure AI does not negatively impact human rights (OpenDemocracy, 2018).

The use of AI in NGOs will grow by 361% in the next two years. NGOs can get started with AI by asking what AI can do for the organization, making a prototype, using AI to build internal capabilities, and delivering real value through AI to stakeholders. The benefits of AI include those in finance,

human resources, communications, fighting abusive behaviour, and health. Examples of NGOs using AI are Mercy Corps, WWF International, AI for Good UK, and MIT Solve (Jaramillo, 2022).

Case studies that demonstrate the role of artificial intelligence in revolutionizing NGO work:

1) Mercy Corps - Using AI for Early Warning Systems: Mercy Corps, a global humanitarian organization, uses AI for early warning systems to identify and respond to potential crises. Mercy Corps partnered with IBM Watson to develop a system that analyses social media posts and news articles to detect signs of potential crises before they occur. This allows Mercy Corps to respond more quickly and efficiently to humanitarian emergencies.

2) Wadhwani AI - Using AI for Agriculture: Wadhwani AI, a research institute based in India, uses AI to improve agriculture practices and increase crop yields for small farmers. The institute has developed an AI-based platform that uses satellite imagery to predict crop yields and identify areas where crops are at risk of disease or pests. This allows farmers to take proactive measures to protect their crops and increase their yields.

3) United Nations Development Programme - Using AI for Disaster Response: The United Nations Development Programme (UNDP) uses AI for disaster response to provide quick and efficient aid to those affected by natural disasters. UNDP partnered with the technology company Palantir to develop a platform that uses AI to analyse data on the needs of disaster-affected populations and match them with appropriate aid and resources. This allows UNDP to provide aid more quickly and efficiently, ultimately helping to save lives and alleviate suffering.

These case studies demonstrate the potential for AI to revolutionize NGO work by improving efficiency, effectiveness, and impact in a variety of sectors. They also highlight the importance of responsible adoption of AI technologies and the need to address ethical considerations and challenges associated with their use.

## Conclusions

The use of artificial intelligence in non-governmental organizations (NGOs) has the potential to tackle critical humanitarian issues, including forced displacement, unequal access to education, and the growing inequality gap. The technology can assist NGOs in several ways, including predictive analytics, optimizing supply chain management, providing real-time information for emergency response, and evaluating program impact by analyzing outcomes data. AI can play an important role in reaching more people with vital services and information, freeing up human resources, and

improving outcomes. Despite the benefits, there are still significant challenges to incorporating AI into the NGO sector, including sustainability, data and funding barriers, and a lack of awareness. However, NGOs can start by using simple analytical tools, understanding the potential and limitations of AI, and applying for grants from initiatives such as AWS Imagine Grant, Google's AI for Social Good, and Microsoft AI for Earth. The adoption of AI by NGOs faces challenges, such as identifying the right data problems, collecting and validating data, and gaining stakeholder buy-in. AI automation can also help NGOs manage highly sensitive data (HSD) more effectively and safely, reducing unnecessary tasks and minimizing the risk of data leaks while freeing up time for valuable tasks.

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