

Civil Initiatives to face the Pandemic using Social Networks, caused by Covid-19

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Abstract—On March 11, 2020, the World Health Organization (WHO) recognized the crisis caused by the Covid-19 virus as a pandemic. This generated sanitary control measures such as the use of quarantine for the population, prohibition of commercial and industrial activities where there is an agglomeration of many people, among others to avoid the spread of the virus through contagion. It is in this context that various citizen initiatives distributed in Peru appear, some of them aimed at mitigating the conditions of economic and health vulnerability in which the population was. The information collection time was established between October 2 and October 9, 2020, the results found that the Peruvian Northern Region has created more initiatives than other ones and the Eastern Macro Region fewer ones. Most initiatives are related to the health sector and food distribution. A good organization and coordination between residents and entities can achieve the formation of support groups to face crises in communities, 50% of food initiatives were carry by non-governmental organizations as Bank of Food and Aid Action, supporting popular pots and soup kitchen to the poorest population of Peru. Most initiatives are related to the health sector and food distribution. 50% of food initiatives were carried by non-governmental organizations like the Bank of Food and Aid Action, supporting popular pots and soup kitchens to the poorest population of Peru. The Northern, Central, and Southern Macro Regions were the ones with the highest percentage of economic initiatives to support e-commerce utilizations by small businesses, local stores, and services.

Keywords—Civil initiatives, Social Networks, Pandemic, Crisis, Covid-19.

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Abstract—On March 11, 2020, the World Health Organization (WHO) recognized the crisis caused by the Covid-19 virus as a pandemic. This generated sanitary control measures such as the use of quarantine for the population, prohibition of commercial and industrial activities where there is an agglomeration of many people, among others to avoid the spread of the virus through contagion. It is in this context that various citizen initiatives distributed in Peru appear, some of them aimed at mitigating the conditions of economic and health vulnerability in which the population was. The information collection time was established between October 2 and October 9, 2020, the results found that the Peruvian Northern Region has created more initiatives than other ones and the Eastern Macro Region fewer ones. Most initiatives are related to the health sector and food distribution. A good organization and coordination between residents and entities can achieve the formation of support groups to face crises in communities, 50% of food initiatives were carry by non-governmental organizations as Bank of Food and Aid Action, supporting popular pots and soup kitchen to the poorest population of Peru. Most initiatives are related to the health sector and food distribution. 50% of food initiatives were carried by non-governmental organizations like the Bank of Food and Aid Action, supporting popular pots and soup kitchens to the poorest population of Peru. The Northern, Central, and Southern Macro Regions were the ones with the highest percentage of economic initiatives to support e-commerce utilizations by small businesses, local stores, and services.

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I. INTRODUCTION

On March 16, 2020, because of SARS-CoV-2 arrival to Peru, was declared the state of national emergency in all territory. Known as the worst respiratory pathogen capable of community transmission registered until now [1], the Covid-19 also called, cause country lockdown and a lot of productive and commercial activities close, quarantine was release to avoid virus spread on all Peruvian regions. The population was affected seriously, sanitary crisis increased because of medicines and care device shortages (mask and shield face protecting, mechanical fans, etc.) and poor capacity public health system. The consequences are thousands of people lost their jobs and subsistence means. More than half of the country's non-agricultural workforce is believed to be employed "informally" in a way that generally involves a hand-to-mouth existence and lack of legal protections yet generates an estimated one-fifth of Peruvian GDP [2].

This article tackles civil initiatives which aim to carry aid and support to the most affected fellow citizens by the pandemic. To do this, we will begin by defining the concept of

civil participation, we will analyze the kind of civil initiatives in relation to the disaster management cycle and we will delve into the impact of the pandemic in Peru.

In recent years, disaster management has been closely related to various fields such as; environment, urban planning, and community participation [3]. Civil participation is defined by the set of decisions and activities in which citizens are involved, and these represent both individual interests and those of the community [4]. Through civil participation, it seeks to know the problems that afflict society and participate in the solution that they demand, to generate changes [5].

Regarding the disaster management cycle, this includes a series of operations for prevention and preparation before a disaster, such as the creation of a protocol for responding to disaster situations [6]. During the disaster, it is essential to execute the action plan to save lives. Finally, after a disaster has occurred, actions must be taken to restore conditions and livelihoods that ensure the sustainability of families and systems in the affected area [7] [8].

The article is organized as follows; A literature review has been carried out to find evidence on historical civil participation during the pandemic, then how disaster managed tackle from civil participation, impact from the Covid-19 pandemic in Peru, and finally the details of the research work made on civil participation on the state of crisis generated by the virus in Peru.

II. LITERATURE REVIEW

A. Civil Participation in Crises

According to [3] to reduce the vulnerability of society, social capital or civil participation plays a critical role. Social capital is defined by its functions, "it is not a single entity but rather a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and facilitate certain actions of the actors - and whether they are people or corporate actors - within the structure" [9].

[10] citing FEMA (The Federal Emergency Management Agency of the United States: FEMA) mentions that an organized and participatory community sought to contribute in three aspects: (1) understands what its needs are and solves them, (2) empowers its citizens, and (3) identifies the strengths they have, to make them grow. An example was given during the rescue efforts after Hurricane Katrina, since, when resources were scarce, citizens began to use social networks to alert about available and scarce resources creating a database [11]. Faced on pandemics, as Covid-19, citizen participation has proven to be important for health control, compliance and control of health standards, and support victims [12] [13]. This

organization, and coordination among citizens are expressions of solidarity, that generate participation to mitigate any need. From the beginning, civil participation was requested to face pandemics, sanitary authorities demand to people staying in homes, maintaining distance among them, washing hands frequently, and avoiding crowded places [14]. During this pandemic have appeared a lot of examples of civil participation, some of them to support the population fulfill sanitary restrictions to avoid contagion by Covid-19:

(1) *New e-commerce businesses.* For instance, those which use social networks to supply house goods and food, access to virtual services such as medical control, entertainment, and real state to facilitate social distancing. For instance, those which use social networks to supply house goods and food, access to virtual services such as medical control, entertainment, and real estate to facilitate social distancing. According to [15], in Peru, there were around 65 800 businesses selling online before the pandemic. By the end of 2020, these had increased to approximately 263 200 businesses. As for users, before the pandemic, there were 5,1 million monthly buyers on average and by the end of 2020, these grew to 11,8 million buyers.

(2) *New products.* For instance, bottles with an alcohol or alcohol-gel sprayer to facilitate frequent hand cleaning [16], or plastic shield masks to protect vulnerable entrances to the body from the virus. The use of masks has become a fundamental part of the prevention of the spread of COVID-19, not only to protect infected people but also healthy persons [17]. Due to the increase in demand for masks, digital thermometers, disinfectants, gloves, waterproof coveralls, or any other protective equipment to faced COVID 19, many enterprises changed or began to engage in trading these sanitary products. In this context, social networks as Facebook and Instagram widely were used for the sale and promote these items [18]. An example of business reinvention was the Arequipa-based startup "Nanovida", which was dedicated to the manufacture of healing, anti-inflammatory, and antiseptic gel based on silver nanoparticles, the disinfection capacity of copper nanoparticles is greater than that of bleach [19].

(3) *Launch virtual public services.* For instance, those related to education, entertainment, information using videoconferences to avoid being in crowded places.

Give education under pandemic times was one of the biggest challenges of 2020, it was had to adapt the face-to-face mode to a virtual one, to do various educational institutions had to use different computer tools to guarantee the continuity of their services. Among these tools, the Zoom videoconferencing software stands out, which has become essential for the development of academic cycles not only in Peru but throughout the world [20].

The virtual modality has also been essential to guarantee the operation of several companies that have chosen to use videoconferences as a more practical way of exchanging information among their workers, which is reflected in the massive increase in users on the Zoom platform since the beginning of the pandemic since it quadrupled its number of

clients in the first quarter of 2020 (50 000) compared to the first quarter of 2021 (220 000) and estimating the number of 370 000 clients by the end of the second quarter of 2021 [21].

Likewise, over the years, the integration of new technologies into social life has made it possible to face various kind of crises, improving different capacities: (1) it enables much more efficient and rapid communication between citizens, (2) it integrates a greater number of information content generated by society, there is an amount number of sources, (3) cooperation between professional organizations increases [22]. Thus, the use of digital media has achieved greater civil participation, becoming a reliable source of information [10]. An example of this occurred during the rescue efforts after Hurricane Katrina, since, when resources were scarce, citizens began to use the Internet on their cell phones or laptops to find out the resources available and those that are needed, thus achieving training a data warehouse [11]. Evidence that, if a group of citizens is presented with the appropriate information and communication technology, they will contribute positively to the community [23].

B. Disaster Management from Civil Participation

Disaster management refers in general to the set of operations and tasks considered needed in disasters. Emergency care, restoration and reconstruction, prevention, and preparation for disasters [24]. The disaster risk management cycle specifically comprises three phases before, during, and after disasters. Before the disaster, specific threats must be prevented and mitigated. Likewise, an emergency team, a plan, and procedures for disaster response should be created as a means of preparation [8]. Post-disaster recovery consists of implementing actions to restore conditions and livelihoods that ensure the sustainability of families and systems in the affected area [25].

Disaster management refers in general to the set of operations and tasks necessary to be carried out to attend to the victims generated by exposure to disasters. Disaster management is a challenge for civil participation due to its complexity. In particular, leaders such as presidents of some nations, managers of organizations, and companies must make cognitively demanding decisions in the face of new and uncertain situations, as well as execute a relief operations plan in a context in which the entirety is not known. affected area or total resources [26].

C. Crisis Generated by COVID-19 in Peru

The crisis is the state which must be dealt with after a disaster has occurred, the pandemic can be understood as a disaster with gradualness and multiplication progression, expressed by the speed of transmission of the disease generated. To be considered a pandemic must generate a large number of deaths in many parts of the planet [27]. In mid-December 2019, the cases of patients with pneumonia in the city of Wuhan, China, made it possible to identify the virus that caused this pandemic, SARS-CoV-2 [28]. In Peru on March 15, President Martín Vizcarra announced that the

quarantine would be implemented, restricting free mobilization of the population [29]; originally for 15 days, this would be extended until June 30 nationally, being as of July 1 that the quarantine would only be applied in the most affected areas: Arequipa, Ica, Junín, Huánuco, San Martín, Madre de God, Áncash). Except in the regions mentioned above, a curfew was implemented that would apply from 22:00 to 4:00 every day, except on Sundays when the free time would be allowed. [30]. By September 2020, more than 780 000 cases of coronavirus and more than 30 000 deaths have been registered in our country.

The World Health Organization (WHO) has provided several recommendations to avoid contracting Covid-19, which have been promoted by the Peruvian government, among the main suggested measures are the following: avoid touching your eyes, nose, and mouth, maintain a distance of five feet from other people, wash your hands with soap and water several times a day for 20 seconds, and use a mask on the street [29]. [31] Since April 2020, a rule was implemented that indicated that it was mandatory to use a mask to circulate on public roads, as a protection measure against the coronavirus [32]. Likewise, as of July 27, the use of face shields to use public transport was established as mandatory, sanctioning with a fine of S/. 430 and retention of the license to drivers who transport passengers who do not comply with this security measure [33]. Since the quarantine in force since March 16 was declared, most companies have implemented teleworking. In Peru, approximately 72% of the population was engaged in informal employment. The main affected by the pandemic were independent workers, street vendors, among others. This generated that several people resorted to other means to continue keeping their businesses functional (applying e-commerce, reinventing their business, etc.). In some cases, many merchants were forced to change their category, an example of this would be the restaurants that, due to the impossibility of operating in person were forced to deliver to selling food directly to the public [34].

D. Civil Participation against Covid-19 in Peru

According to the Johns Hopkins University records (<https://coronavirus.jhu.edu/region/peru>), Peru is one of the 5 countries with the highest number of positive cases of Covid-19. One of the most needed resources worldwide, currently, are oxygen balloons, which due to the health crisis have also caused many people to have to wait in long lines and pay excessive prices to obtain them, triggering in many cases economic ruin for certain families [35]. The problem of scarcity of resources has been mainly due to years of lack of investment in the health sector in Peru and highly centralized resources confined in main cities [36] [37]. In this context, the use of social networks such as Facebook, Twitter, and Instagram have been good means of communication to disseminate the various activities of citizen participation in favor of those most in need, demonstrating that in emergencies participation among citizens contributes to a positive way to the country.

III. METHODOLOGY

This research tackle civil initiatives that appeared in Peru to support the population to deal with crisis state due to pandemic presence, they are analyzed and quantified by type on engagement; improve the economy, supply food, provided health, and education services, and other ones. The country was divided into 5 macro-regions of Peru, defined in 2016 by National authorities: North, South, Central, Lima, and East.

TABLE I
TYPE INITIATIVES

No	Type	Description
1	Health	These comprising distribution of Covid-19 protective equipment (masks, alcohol, gloves, molecular tests, rapid tests, etc.), funding for the creation of oxygen plants, supply equipment to treat affected people (medicines, oxygen balloons, etc.), and donations of medical equipment to hospitals.
2	Feeding	These include donations to popular pots and collections for the purchase and distribution of food to low-income people.
3	Economic	These include support to citizens affected economically by the pandemic; cash donations, promotion through social networks, supporting reinvention business.
4	Education	These include donations to students who follow virtual courses, radios, notebooks, books, etc. And free virtual classes.
5	Others	Any type of initiative not included in the previous categories, such as the donation of coffins, equipment to firefighters, donation of clothing, etc.

To search for information, mainly we use the social networks Facebook, Twitter and Instagram (SN). The search was carried out focusing on each macro-region and department of the country, using the following keywords: (1) Food sector: #donation, #common pot, #food, #food, #basket, #food, #food, (2) Health sector: #donation, #oxygen, #masks, #medicine, #vaccines, #disinfectant, #covid, #alcohol, #hospital, #tests, #quicktest, #molecular test, #clinical, (3) Economic sector: #donation, #reactivation, #tourism, #business, #entrepreneurship, (4) Education sector: #donation, #education, #virtual, #tablets, #laptops, #colleges, #university, #teachers, and (5) Other types of initiatives: #donation, #clothes, #frazados, #teams #help.

Each initiative was accounted for by type of civil participation by department and compiled according to each macro-region to which it belongs to carry out a subsequent analysis of the results. The period considered searching information dated on 16 March, to a fortnight of October, will be counted.

TABLE II
TOTAL INITIATIVES

No	Type	Initiatives
1	Health	65
2	Feeding	26
3	Economic	6
4	Education	12
5	Others	29
	Total	138

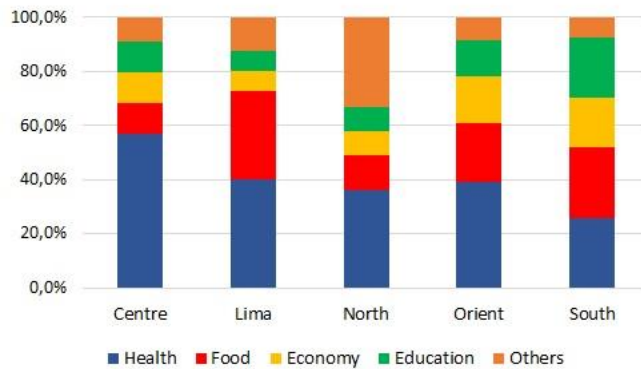


Fig. 1 Initiatives by percentage of participation in each Macro Region

138 initiatives were reported, most of them were related to health and feed issues. Fig. 1 is presented the type of initiative by Macro Region is presented.

A. Health Sector

Main support in this sector was provided donations to health centers of Covid-19 tests, molecular and rapid tests. Donations of oxygen balloons were provided to health centers and to citizens. Collections or donations for the implementation of health centers supplying; mechanical ventilators, masks, oximeters, alcohol, disinfectants, stretchers. Donations of medicine to health centers and citizens who did not have sufficient resources to supply by themselves. Construction of oxygen plants, through money collections made by the citizens.

The Fig. 2 shows resources by types; donations of medicines, equipment for the implementation to hospitals, oxygen balloons, and tests were those with higher percentage participation at civil initiatives.

Results show Northern Macro Region was the most affected by the crisis. It shows that different organizations such as the National Government, citizens, public and private entities, inhabitants of various districts and towns, NGOs and, churches were able to mobilize to face crisis generated scarcity of equipment sanitary sources to beat Covid-19.

According to the study, the Northern and Central Macro Regions were the ones that carried out the highest percentage of initiatives in the Health sector with 30,5% participation.

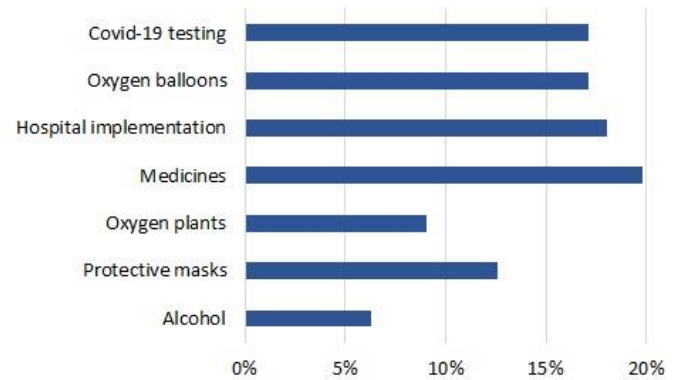


Fig. 2 Initiatives by health sector

In the Northern Macro Region, Ancash and Piura led the initiatives, meanwhile in the Central Macro Region was Ayacucho.

B. Food Sector

Supply popular pots, donations, and deliveries of food baskets through social events as money collections brought food to the poorest people.

Three non-governmental organizations were which have had the greatest participation at the national level attend the poorest population of Peru [38], supplying support to popular pots and soup kitchens in the five macro-regions: Action Aid, <https://ayudaenaccion.org.pe/> (in Spanish: *Ayuda en Acción Perú*), Bank of Food, <https://bancodealimentosperu.org/>; in Spanish: *Banco de Alimentos del Perú*) and *Cáritas del Perú* (<https://www.caritas.org.pe/>).

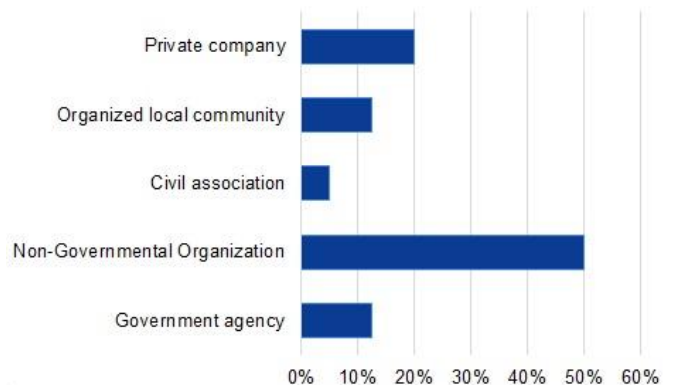


Fig. 3 Types of donors in the food sector

Fig. 3 resume types of donors in the food sector. However, it should not be underestimated that new civil initiatives new emerged. Lima Macro Region is where the most initiatives have found.

C. Economic Sector

In this report, the initiatives that focused on economic reactivation in Peru were considered. Thus, it counted those to provide economic support to owners or managers affected, who would launch a new website to e-commerce. According

to results, the Northern, Central, and Southern Macro Regions were the ones with the highest percentage of initiatives with 26,1%, 21,7%, 21,7% participation respectively. The departments of Lambayeque, Piura, and Cajamarca presented the highest number of initiatives.

D. Education Sector

The types of assistance related to this sector have included lectures, tutorials, and courses, to manage a local business, entertain children and young people, advise small businesses, and share the experience. In addition, donations, and educational kits have delivered; school supplies, laptops, radios, and media support, that allows access to the e-learning courses to primary and secondary school. The Northern and Southern Regions had the highest percentage of initiatives in education, with 26.1% participation in each one. Being Piura and Cusco, which keeping the most initiatives respectively in each region.

E. Other Sector

There are other types of initiatives that are not directly connected to previous sectors, such as donations of tents, folding beds, mattresses, kitchen utensils, blankets, blankets, personal hygiene, and cleaning items. Also, mental health and socio-emotional support programs have been considered.

Dividing Peru's departments into Macro Regions, it was observed that the Northern Macro Region has obtained the greatest civil participation. The regions of Ancash, Piura, and Lambayeque presented the greatest number of initiatives, among which the donation of necessities had the greatest scope

IV. CONCLUSIONS AND FUTURE RESEARCH

From the research carried out, it can be concluded that the main sources of dissemination of citizen initiatives are social networks. Civil participation during the pandemic had an increase in the appearance of initiatives in the months of April and July, with most initiatives related to the health sector and food distribution. There is a greater appearance of initiatives in the North Macro Region, which is because some of the regions most affected by the pandemic are located there. A good organization and coordination between residents and entities can achieve the formation of support groups to face crises in communities. In addition, pre-crisis supporting groups, with good planning, can generate greater value for organizations that are just formed. Finally, it is concluded that a good use of social networks or technology can support and promote various types of civil organizations.

Because this research work was carried out in a limited period of time, the information collected is also limited; Therefore, in order to better complement this research work, it is recommended: First, identify the keywords, such as hashtags, and place them in the main sources of information such as social networks to find news civil initiatives. Second, research should be carried out on the initiatives that have appeared outside the period that the collection of information

has lasted in order to provide a greater context of how the issue of citizen participation has been handled in different times and circumstances. Third, sought causes for which the Eastern Macro Region has a lower percentage of initiatives; scarce utilization of social networks, lower sanitary impact, or poor social tissue are some possible reasons. Finally, for future research it is suggested to use this methodology adding virtual newspapers as source of information.

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