



Challenges in Food Security, Nutritional, and Social Public Policies for Venezuela: Rethinking the Future

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Food security in Venezuela presents signs of individual, family, community and national deterioration. The food and nutrition system has been weakened by the decrease in the production and the installation of parallel, irregular and insufficient distribution networks. Economic turmoil, political instability, hyperinflation, and poverty, the highest in recent history, limit the population's income and the access to quality food. The transition from capitalism to state-centered socialism has not been successful in ensuring enough foods for Venezuelans and the effect on the well-being of the population has been detrimental. This study proposes to design a public policy model based on the analysis of food security indicators, to generate an integrated framework of actions. The proposed model considers Dunn's classic public policy approach (2017) and the criteria of the Public Health Tools/Community Nutrition Program-Nutritional Care Process: Nutrition Care Process (NCP) of the Academy of Nutrition and Dietetics, 2012. The World Food Program survey on food security in Venezuela 2019, and the HumVenezuela.com 2020 platform were used. The integrated model includes two levels, one for bringing assistance to the most vulnerable and the other for strategic planning of structural, legal and institutional problems, and health and food safety gaps, in an ethical and moral framework that challenges corruption and promotes education and culture of peace. It is necessary for public policies to have parallel levels of actions to assist those most in need and to face long-term structural changes, which should begin as soon as possible, to ensure the correct path toward development.

Keywords: Venezuela, food security policies, nutrition policies, poverty, hunger

INTRODUCTION

Venezuela's current economic, political and social crisis is the most severe since its days of independence. In the last 20 years, the ruling party has been taking wrong policy decisions that had negative consequences such as the disappearance of the infrastructure that contributed to establish and maintain the country's food security. The National Food Council (Carmona, 2000) estimated that Venezuela produced \sim 70% of the agriculture and livestock required for domestic consumption, importing the rest. The latest FAO report on Venezuela's agricultural livelihoods and food security in the context of Covid-19, shows that at national level the 2020 cereal harvest, rice, and maize, was almost complete but the production outlook is unfavorable due to

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Herrera-Cuenca M, Landaeta Jimenez M and Sifontes Y (2021) Challenges in Food Security, Nutritional, and Social Public Policies for Venezuela: Rethinking the Future. Front. Sustain. Food Syst. 5:635981. doi: 10.3389/fsufs.2021.635981 considerable reduction of farmed areas and low expected yields. Shortages of agricultural inputs and fuel significantly affected yields, and these factors are not exclusive from the pandemic period, but emerged as significant problems in recent years (FAO, 2020). All this was hindered by the Government by creating parallel markets for the importation of food from Turkey, Iran, Nicaragua and more recently from Brazil and Mexico (CSIS Center for Strategic & International Studies, 2020; Transparencia Venezuela, 2020), to compete in an unfair way with the national production, which lacks the primary inputs (seeds, fertilizers, and agrochemicals). In addition, these actions do not consider the Venezuelan cultural food traditions and the preservation of specific characteristics of our food availability.

Recent history indicates that when oil prices rise, the port economy supersedes domestic production. Imports reached 53,023 million dollars in 2014 (Gutiérrez, 2017), while, after the fall in oil prices, the Venezuelan economy contracted and fell to 18,630 million dollars in 2019 (CEPAL - Comisión Económica para América Latina y el Caribe, 2019). Economic activity fell by 25.5% in 2019, representing a cumulative contraction of 62.2% compared to the 2013 level, and the 6th consecutive year of decline. The GDP of both the public and private sectors showed a considerable fall and a deterioration in private activity of 32.2% in the first quarter of 2019. Likewise, 2019 represented the 5th consecutive year in which oil production decreased [44, 5% according to the Organization of the Petroleum Exporting Countries (OPEC); CEPAL - Comisión Económica para América Latina y el Caribe, 2019].

Besides all of the above, hyperinflation began in November 2017 and has continued, reaching an annualized inflation rate of 113% as of September 2019, and according to the International Monetary Fund (2020) reached 6,500% and continues to be the highest hyperinflation in the world with a current 9,986% estimated by the World Population Review (2021). A study by Su et al. (2020), concludes that Venezuela's dependence in oil prices, contributes to geopolitical destabilization which in return contributes to higher inflation, in a sort of economic vicious circle.

This resulted in an accelerated loss of quality of life, widespread impoverishment, a shrinking middle class, and the emergence of a corrupt economic elite, widening the gap between the lowest-income populations and the wealthiest. This elite, close to the ruling establishment, is getting rich rapidly by accessing international markets, where multimillion dollar accounts have been opened. According to experts such as Hausmann, a renowned Venezuelan economist: "Venezuela is the greatest human catastrophe that has been generated in a period of peace. The erosion of the living standards of Venezuelans, the fall in GDP, the collapse of the food supply, the deterioration of health conditions and the increase in crime. A situation like the Venezuelan has occurred in very few moments in world's history and much less while in peace. In this context, and given the evidence of mismanagement and implementation of erroneous public policies, the Democratic Charter of the Organization of American States (OAS) must be applied to a government that has violated international agreements and standards that must defend." (Hausmann, 2017).

As a consequence, the country was declared within a complex humanitarian emergency (CHE) which, as Klugman (1999) points out, a CHE is not the result of a natural disaster or an armed conflict but arises from a catastrophic deterioration of public services (electricity, water, etc.), lack of financing opportunities, hyperinflation, fall of real wages, loss of institutional rectory, and other conditions that define the quality of life in a country and allow the exercise of the human rights of its citizens.

In Venezuela, most of the salaries, even adding the food benefit represented <\$ 1 a month, while the basic basket accelerated its increase to more than \$ 200/month in 2020 (CENDA - Centro de Documentación y Análisis para los Trabajadores, 2020), and as per the last report in January 2021, the hypothetical acquisitive purchase power of the family income is 0.38% while the basic basket of foods, goods and services is 406.66 USD (CENDA - Centro de Documentación y Análisis para los Trabajadores, 2021).

In addition to all of the above are the sanctions imposed by the international community, particularly by the US, which had been the perfect excuse for the Government to continue justifying its very opaque management of the economy, especially those related to the importation of food (Kirschner, 2020) and the arrival of the COVID-19 pandemic in a country that was not prepared to face any emergency but was already challenged by a severe crisis, deepens pre-existing deficiencies in food availability, access and the shortage of public services. The social distancing measures adopted to reduce the risk of infection by COVID-19 did not help alleviate the country's food insecurity crisis (Van Praag and Arnson, 2020), however it is understandable why these measures are being taken.

The social control of the population, before and after the COVID 19 pandemic, has been implemented through the Committees of Local Supply and Production (CLAP for is acronym in Spanish), by political activists controlled by the government. Theoretically, the government covers 75% of the distributed food in the CLAP box, the rest 25% is covered by beneficiaries and the food distribution occurs in a period of every 30-60 days or more in some cases (ENCOVI, 2020a). Distributors receive the payments from beneficiaries for the subsidized products and maintain close relationships with the military establishment in charge of the supply centers. At the beginning, the program used to distribute 12 kg of products per family and the CLAP boxes included rice, corn flour, pasta, cereals, sugar, oil, tuna, sardines, and powdered milk. Last year (2020) however, the variety and quality of food fell, including basically five or six foods like cornmeal, rice, pasta, sugar, lentils, and sometimes oil.

The supplied food provides 1,300 Kcal/day, compared to the average Venezuelan requirement of 2,200 Kcal/person/day. These requirements are much higher in adolescents, pregnant, and lactating women (Landaeta-Jiménez et al., 2012). The CLAP box content is only enough for five days, for a family of five members, which is an important problem if the box is being distributed every 30–60 days as previously explained. It is a carbohydrate-based diet that can cause harm to the population since it does not discriminate between groups with underlying pathologies

(diabetes, kidney disease, and hypertension) or population groups with special needs such as the elderly, pregnant women and children. In addition, there is evidence that the food distributed did not meet the safety and quality standards, as an example: dairy products distributed as milk were not (Hernández et al., 2019).

The relevance of the above events is due to the fact that a large proportion of Venezuelans depend on this food distribution network, and beneficiaries cannot meet their nutrient needs. Food shortages cause malnutrition in children and adults and have promoted increased general, infant and maternal morbidity and mortality (UNICEF., 2019; Turkewitz and Herrera, 2020). In this context, this study aims to design and conceptualize a public policy model by analyzing existing food security, nutrition, and social indicators and generating an integrated framework of actions to address the country's food insecurity crisis.

METHODS

This study is based on a descriptive approach to understand the food and nutrition security situation in Venezuela and used data generated from different sources during 2019 and 2020. The authors reviewed the data and carried out their analysis. Due to the current critical situation in Venezuela, the public policy model was designed, integrating one of the classic public policy approaches of Dunn, the problem structuring analysis (Dunn, 2017), and the criteria of the Public Health Tools/Community Nutrition Program-Nutritional Care Process: Nutrition Care Process (NCP) of the Academy of Nutrition and Dietetics (AND, 2012) (Academy of Nutrition and Dietetics Toolkit (formerly American Dietetic Association) (2012). The NCP was originally developed for use with patients requiring nutritional advice. Since then, it has been proven useful in disease prevention and health promotion, and it is being used in the US to establish standardized procedures in the provision of care (Academy of Nutrition Dietetics, 2012).

First, the priority of the structuring analysis of the problem from Dunn was developed (Dunn, 2017), and was followed by the steps of the NCP: evaluation, diagnosis, intervention and, monitoring and evaluation (Academy of Nutrition and Dietetics). Both methods allow to systematize the diagnosis of a situation and guide actions aligned with real problems to find adequate solutions. Although the NCP (Swan et al., 2017) focuses on nutrition aspects, the classic policy approach described by Dunn is more social and policy-oriented, so the integrative approach was useful for this analysis. Furthermore, prioritizing problem structuring ensures that a complex multidimensional problem is accurately analyzed.

The evaluation of the factors that could affect the nutritional status according to the NCP were the following: (1) biology (factors such as sex and age), (2) lifestyle (factors such as physical activity, diet, use of medications among others), (3) living, work, and social conditions (housing, education, income, occupation, among others), (4) community conditions (water supply, type and conditions of housing, socioeconomic inequalities/disparities), and (5) background conditions

(national food and nutrition policies, minimum wage, cultural beliefs).

The first phase was to develop the prioritization process of problem structuring and based on the flow chart established by Dunn, the steps are as follows: 1- Problem detection, problem situation 2- Problem structuring 3- Policy problem 4- Is this the correct problem to be solved? Yes or No; if No, go back to the problem structuring step; if so, continue as follows: 5-Troubleshooting 6- Policy solution 7- Correct solution. If not, go back to troubleshooting. If yes, return to the problem situation for evaluation.

The second phase was: the NCP diagnostic step which includes a structured statement called PES by its acronym P: Problem, E: Etiology, S: Signs/Symptoms. It requires defining a problem (describing the alterations of the individual or group of the population); the etiology (list of factors or risks that contribute to the problem); and its signs and symptoms (consisting of objective and subjective data to determine whether the individual or group has the specified nutritional diagnoses). After obtaining the PES, based on symptoms, it is necessary to assign a nutrition category assessment based on the language pattern for the NCP (Academy of Nutrition and Dietetics, 2013). For the purposes of this study, the research will focus on the standardized process described for the design of the public policy model and will not refer in detail to specific domains that could be used in NCP in clinical application. The specific domains addressed constitute the reference for public policy solutions and to guide the reorientation in matters of food security, nutrition and their social components in Venezuela.

A matching procedure between the prioritization analysis and the NCP diagnosis was developed in two steps one for matching both methodologies, and the second to confirm that the right problem was being addressed. Based on the indicators that resulted from the matching procedure that justify the reorientation of policies, a model of public policies was suggested.

Data Sources

The data sources come from the latest World Food Program survey on food security in Venezuela (World Food Programme (WFP)., 2019), and from the recently launched platform: HumVenezuela.com (Hum Venezuela, 2020), which constitutes an initiative that aims to contribute to emergency measurements with an independent, comprehensive, exhaustive, and systematic approach. It is a compilation of factors that could impact food and nutrition in Venezuela, from the most relevant data existing in the country such as ENCOVI 2017, 2019, 2020 (ENCOVI, 2020a,b); WFP (World Food Programme (WFP)., 2019); Cáritas Venezuela (Caritas Venezuela., 2020), and the Bengoa Foundation for Food and Nutrition (2020) (Tapia et al., 2017), among others. WFP-specific results were considered separately due to their importance and relevance, as it is the only specific national study on food security.

A matching between social and food and nutrition security variables was performed between the NCP factors that could affect nutrition and the variables for prioritizing the problem. Some variables were selected for the conceptualization and design of a model public policy to address food security. No bioethics approval was required for this study.

RESULTS

Based on the matching between the factors that can impact nutrition, according to the NCP and the variables established by the sources and the prioritization of the problematic situation, a set of variables were selected for the conceptualization and design of a public policy model to address food safety. The selected variables were included within the following categories: levels of food insecurity: marginal food security (MS), moderate food insecurity (MFI), and severe food insecurity (ISF), means of life, food consumption, and nutrition, as can be observed in **Tables 1, 2**.

As mentioned above in correspondence with the purposes of this study, the authors addressed only specific domains as a reference for nutrition interventions that contribute to the reorientation of public policy on food security, nutrition and their social components in Venezuela, without going into depth in the specific domains used in NCP for clinical outcomes.

Results From Data Review

In **Table 1**, results from the WFP survey during 2019, and published in the 2020 Report on Venezuela can be observed, which shows that 32.3% of the population are either in Moderate Food Insecurity (MFI) (24.4% or 7 million persons) or SFI (7.9% or 2.3 million), and 59.7% of the population is Marginally Food Secure (MFS).

Hum Venezuela is a new platform on information of the CHE launched by a network of organizations of Venezuelan civil society. This initiative intents to contribute to the measurements of the emergency in an independent, integral, exhaustive, and systematic approach (Hum Venezuela, 2020). The platform gives data and evidence on the CHE from a multidimensional model that comprises: *Impacts*: measurement of severity of the needs, damage, and gaps on capacities. *Response*: access, operativity, levels of protection, and efforts for the humanitarian response and *Complexity*: environmental factors, security, rights, and trends that promote the installation and protraction of the emergency (Hum Venezuela, 2020).

Hum Venezuela included data from relevant sources such as ENCOVI 2017, 2019, 2020 (ENCOVI, 2020a); WFP (World Food Programme (WFP)., 2019); Caritas Venezuela (Caritas Venezuela., 2020), and Bengoa Foundation for Food and Nutrition (Fundación Bengoa, 2020) among others.

For the purposes of this study's analysis affected population, population in need and persons with damage were included as can be observed on **Table 2**.

The highlights from **Table 2** are that 13.1 millions of persons (45.9%) had irreversibly lost their means of life and 37% lost their income. 60% invested their savings buying foods, 33% worked in exchange for foods, and 20% was forced to sell goods for covering basic needs.

Regarding food consumption, it was observed that 74% of households decreased the food portions, and there were a 34% of persons with decreased caloric intake. 74% of households had a reduction in variety and quality of consumed foods, and 17.8% of persons had unacceptable deficit of food intake. 40% of children had reduced served portions of foods, 31.5% of persons were in chronic hunger or undernourished, and 55.7% of children under five reported chronic undernutrition or were at risk.

Also, 16.7% of children under five showed acute global malnutrition and the newborn mortality was 18.3 per 1,000 live newborns. 57% of pregnant women were malnourished, 14% of newborns were low birth weight and maternal mortality was calculated on 140.2 per 100,000 born alive.

Designing a Model of Public Policy

From the above reported data, a diagnosis following the PES and matching to the prioritization of problems, described in the Methodology section was conceptualized as shown in **Table 3**.

For better description of the factors and determinants involved in the complex situation of food security on Venezuela, after the variables were selected previously, a matching between the prioritization of problems and PES diagnosis was developed according to the methodology described in the **Table 3** as a first step, and a second step was performed including the prioritization last steps for reassuring that the right problem was addressed.

In **Table 4**, the limited access to water and food is being addressed as the right public problem and the most urgent for ameliorating Venezuelan's well-being.

This analysis shows that the public policy model should include two levels: first, assistance to the most vulnerable and for those who have their lives at risk, and secondly, a strategic planning that integrates, the institutional structural problems, and a legal basis that guarantees health and food safety. All this within an ethical and moral framework that faces corruption, promotes education and a culture of peace.

Figure 1 shows the factors of food security, nutrition and social determinants of well-being, development, productivity, and dignity, as a result of the selection of the team of researchers, which require a comprehensive approach within the framework of public policy.

DISCUSSION

Based on the review of the available data, through the matching of indicators analysis, it was possible to select a set of variables that justify the conceptualization and design of a public policy model to address food insecurity at its different levels: marginal, moderate and severe, in addition, means of life, food consumption and nutrition were integrated to propose actions to be performed when possible.

Phase one on this analysis showed that the public problem was the food insecurity to which the majority of the population is being exposed, as can be observed in **Table 2**, through indicators such as the 59% of households with insufficient income for buying foods, 33% of persons who are working in exchange for foods, and 40% of children with reduced served portions of foods. The second phase, reinforced that the right problem was being addressed and showed elements to be introduced as structural changes which will only give results over time.

TABLE 1 | World Food Program 2019 survey: food security classification.

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Venezuela's Food Security

		Food secure	Marginally food secure	Moderately food insecure	Severely food insecure
Current capacity	Food consumption	82.2		12.3	5.5
	Food coping strategies	21.1	47.4	31.5	
Coping capacity	Livelihood coping strategies	6.8	31.9	45.9	15.4
	Economic vulnerability	8.7	34.8	41.8	14.8
	Food security classification	8%	59.7%	24.4%	7.9%
	24.4%	7 million) + 7.9% (2.3 million) = 32,3% (9.3 million)*		

Venezuela's households. World Food Programme 2020 Report on Venezuela.

*Food security classification as of October 2019.

Source: WFP 2020 Report on Venezuela [World Food Programme (WFP)., 2019].

TABLE 2 | Food and nutrition security indicators of Venezuelan complex humanitarian emergency.

Category	Affected population	Population in need	Persons with damage
Means of life	Population in economic vulnerability to afford basic goods 91.4%	Persons with irreversible loss of means of life (45.9%)	Persons investing more than 65% of their income in foods (56.6%)
Means of life	People who lost their means of life 61.3%	Persons with extreme loss of means of life (15.4)	Persons that invested their savings in foods (60%)
Means of life	Households with decreased means of life 75.0%	People with total loss of income sources (37%)	Persons working in exchange for foods (33%)
Means of life	Households with insufficient income for buying foods 59.0%	People with total loss of income sources (37%)	Persons selling their family goods in order to cover basic needs (20%)
Food security	Population with decreased food security 59.6%	Persons with acute food insecurity (32.6%) With moderate food insecurity (24.4%) With severe food insecurity (7.9%)	Persons depending on government assistance (18%) Persons depending on money transfer from overseas (32%)
Food consumption	Households with insufficient foods for elevated cost or scarcity 70.8 %	Persons going to sleep in hunger (61.2%)	Persons with decreased body weight due to insufficient foods (64.3%)
Food consumption	Households in poverty in food crisis 67.0%	Poor households in food emergency (58.0%)	Households with some degree of food deprivation (56.0%)
Food consumption	Households with a reduction in variety and quality of foods 74.0%	Persons with unacceptable deficit of food intake (17.8%)	Households using unconventional sources for obtaining foods (51.0%)
Food consumption	Households with decreased food portions 60.0%	Persons with borderline food consumption (12.3%)	Persons with decreased caloric intake (34%)
Nutrition	Children with reduced served portions 40.0%	Undernourished persons or chronic hunger (31.5%)	Undernourished persons gap 2015–2019 (313.8%)
Nutrition	Children under 5 years with chronic undernutrition Or at risk 55.7%	Children under 5 years with chronic undernutrition Or growth impairment (30.0%)	Children under 5 years, that stepped into school age phase with growth retardation (23.8%)
Nutrition	Children 7–13 years with chronic undernutrition or at risk 27.1%	Children that had one meal per day (26%.0)	Children 7–13 years which are not going to school due to lack of foods at home (16%)
Nutrition	Children under 5 years with acute global malnutrition 16.7%	Newborn in poverty with GAM (31%)	Newborn mortality (Rate x1,000 born alive) 18.3
Nutrition	Malnourished pregnant women 57%	Low birth weight newborns (14%)	Maternal mortality average (Rate x 100.000 born alive) 140.2

HumVenezuela.org (Hum Venezuela, 2020).

TABLE 3 | Diagnosis and problem prioritization integration.

NCP diagnosis (PES)	Problem (P)	Etiology (E)	Sign and symptoms (S)
Problem prioritization			
Problem sensing Problem situation	Undernourished people, particularly vulnerable groups	Impaired access to foods	Chronic and acute malnutrition ir children under five malnourished pregnant women maternal mortality, infant mortality
Problem structuring	Undernourished population, households with food insecurity	Elevated cost of foods Insufficient income Unemployment rising	Persons with unacceptable deficit of food intake Households with a reduction of a variety and quality of foods
Policy problem	Unequal distribution of food program Lack of health promotion and nutrition education	Weakened employment and entrepreneurship programs Weakened rector and guiding institutions	Increased poverty and economic vulnerability

TABLE 4 | Limited access to food and/or water as a public problem (NB-3.2) (NCP).

Is this the right problem to be solved?	Problem solving	Policy solution	Right solution?
YES	Empowering people Education Dignified salaries Strengthening the institutions	Integrating coordination of actions toward different levels including social determinant of health, people values, education, diversification of the economy	To be checked over time
	At the same time Improving assistance for those whose life is compromised	Strengthen monitoring and evaluation of actions with motivation, education, and anti corruption values	Monitoring and evaluation to define what works best and what can be improved

Limited availability of foods and/or electricity/gas and stability of the dimensions of Food security.

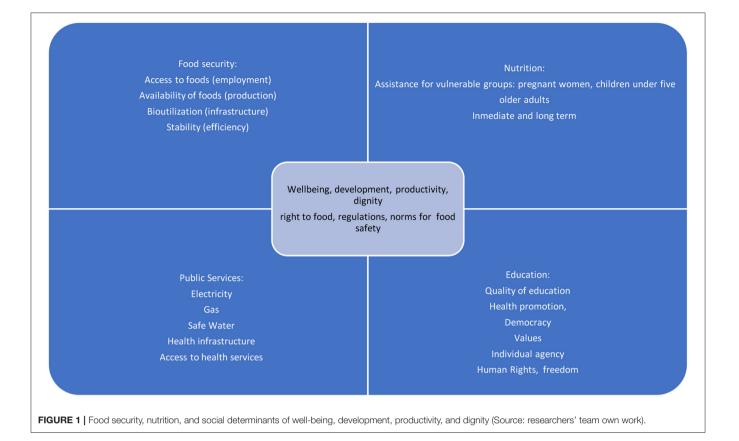
By only addressing the specific domains of public health and nutrition, a model is suggested to reorient public policies located at the center of the deep Venezuelan humanitarian crisis. The results presented in this study intents to give a new route on the policies and require the design of a comprehensive policy for the country in terms of food security, nutrition and social welfare to achieve the future that all Venezuelans deserve.

Policy planning in the coming years and decades will require a parallel course of action. One immediate task is to provide assistance to those in need and the other to address long-term structural changes, which must begin as soon as possible to pave the right path of development. For the well-being and happiness of people, it is necessary to guarantee food and nutritional security, as well as adequate access to public services and living conditions.

The situation in Venezuela shows a general deterioration in the coverage of basic needs that is affecting the daily life of citizens. The fact that 91.4% of Venezuelans present economic vulnerability to pay for basic goods is a figure that speaks for itself of the critical situation (Hum Venezuela, 2020). The present, and other studies (Red Agroalimentaria de Venezuela, 2014; CODHEZ - Comisión para los derechos humanos del Zulia, 2020) agree that an important component of the food insecurity crisis in Venezuela is the high cost of food, thus limiting access that has led to a decrease in the variety and quality of the diet and the malnutrition of the most vulnerable groups.

In addition, the economic crisis of recent years has had an impact on the productive sector (all goods: food, manufacturing, services), has increased unemployment and has altered the livelihoods of at least two-thirds of the population (Salman, 2020). Tourism is also devastated, since the economic slowdown and the lack of public services in the country have led to a decrease in gastronomic and tourist activities, contributing to the general increase in unemployment in the country (Uzcátegui, 2020).

The biological damage caused by the deprived environment that vulnerable people and groups must face every day, has an epigenetic impact from the prenatal stage to the end of the first



1000 days of life (Victora et al., 2008). In the Venezuelan case, there is an increase in maternal and infant mortality, an increase in acute malnutrition in children under 5 years of age and a deterioration in livelihoods, food consumption and an increase in poverty, which are determinants of future health, nutrition, and well-being (World Food Programme (WFP)., 2019; ENCOVI, 2020b; Hum Venezuela, 2020). Also, consequence derived from the type of diet consumed by Venezuelans today includes not only the nutritional consequences described, but also a loss in the country's culinary traditions, since high prices are a real obstacle to accessing them (León, 2020).

In Venezuela, it is estimated that between 267,000 and 384,000 children under the age of five suffer from malnutrition and the number could exceed 400,000 if the crisis passes into the critical category. But the most difficult thing is to help them, due to the obstacles imposed by the government on humanitarian aid NGOs and the few funds available for this purpose (Doocy et al., 2019).

Corruption and the deviation of goods from reception channels to final beneficiaries has been controversial not only in Venezuela, but throughout the world when it comes to addressing subsidy and assistance policies (Aziz, 2001; Transparencia Venezuela, 2019). The CLAP food subsidy distribution network is full of opacities, and obstacles for reaching the people who really need the help (Landaeta-Jiménez et al., 2018). Consequently, a line of actions intended to cover the good use of resources is mandatory. For this reason, the urgency of reorienting public policies that aims to improve the well-being of the Venezuelan people, addressing the real problems and identified needs of its citizens.

Venezuela, once the strongest economy in Latin America, needs to rebuild public actions in an integrated way that promotes new sources of income, development and even energy. As oil production declines and its use and controversies arise over climate change (Kopp, 2006), an exclusive base of the oil economy will not be the alternative that the country needs to overcome the crisis. An integrated approach is needed to build an evidence-based public policy model that takes into account a cross-sectoral approach, and always reminding: framed in the human rights to food, health and life.

As already commented, policies for the Venezuela's rebuilding must include two levels: on the one hand, assistance to the most vulnerable and for those who have their lives at risk, on the other, strategic planning for the structural issues of the reconstruction of the country with an economy sustainable that promotes alternative sources of national income such as tourism (Alcántara et al., 2004), not sufficiently exploited at present, gastronomy, events, arts, humanities and scientific developments and capacities for all. All of this will require sources of funding that, in some way, will be provided by international funding, at least at the very beginning of a new era.

Restrictions and controls must also be eliminated to recover the operation of primary production and the agri-food industry and reactivate oil production, taking into account the new climate, environmental and energy standards.

Also, some lessons from other countries can be inserted in this reorientation of public policies. Interestingly, Yu et al. report in their study on food security policies in India and China that Indian food security is a much more serious concern than in China. First, India uses price-based input subsidies to support agricultural incentives compared to China's adoption of direct transfers to support agricultural incentives, which are more efficient (Yu et al., 2015). But second, as India uses a widely criticized public food distribution system to help the poor, China is using direct income transfers and other social safety nets that have been more beneficial to the poorest (Yu et al., 2015).

As we continue to observe, the challenges are immense, so are the possibilities if the proper and evidence based actions are taken in a reasonable time frame.

CONCLUSIONS

The future planning of policies must integrate parallel levels of actions: an immediate one to provide assistance to those most in need and another to establish long-term structural changes that should begin as soon as possible, to ensure the correct path

REFERENCES

- Academy of Nutrition and Dietetics (2012). *Public Health/Community Nutrition NCP Toolkit*. Chicago, IL: Academy of Nutrition and Dietetics. Available online at: https://www.eatrightstore.org/product-type/toolkits/publichealthcommunity-ncp-toolkit (accessed March 15, 2021).
- Academy of Nutrition and Dietetics (2013). International Dietetics and Nutrition Terminology (IDTN) Reference Manual. Standardized Language for the Nutrition Care Process. 4th Edn. Chicago, IL: Academy of Nutrition and Dietetics.
- Alcántara, M. C., Longa Faría, O., and Rivas Alfonso, B. (2004). La Patrimonializacion de la gastronomía venezolana como estrategia de desarrollo turístico. An. Venez. Nutr. 17, 18–24. Available online at: http://ve.scielo. org/scielo.php?script=sci_arttextandpid=S0798-07522004000100004 (accessed November 28, 2020).
- Aziz, T. A. (2001). "The impact of corruption on food security," in Conference Presented at IFPRI Sustainable Food Security for All by 2020, September. Available online at: http://conferences.ifpri.org/2020conference/ PDF/summary_abdulaziz.pdf (accessed November 28, 2020).
- Caritas Venezuela. (2020). Monitoreo Centinela de la desnutrición Aguda y la Inseguridad Alimentaria Familiar. Boletín XV, Abril-Julio. Available online at: http://caritasvenezuela.org/wp-content/uploads/2020/09/Boletin-SAMAN_Caritas-Venezuela_Abril-Julio2020-r1_compressed.pdf (accessed November 22, 2020).
- Carmona, A. (2000). Consejo Nacional de la Alimentación. An. Venez. Nutr. 13:1. Available online at: https://www.analesdenutricion.org.ve/ediciones/2000/1/ art-13/ (accessed November 28, 2020).
- CENDA Centro de Documentación y Análisis para los Trabajadores (2020). *Canasta Alimentaria de los Trabajadores. Resumen ejecutivo.* Available online at: http://cenda.org.ve/fotos_not/pdf/CENDA.%20RESUMEN %20EJECUTIVO.%20CAT%20JUNIO%202020%20WEB.pdf (accessed November 21, 2020).
- CENDA Centro de Documentación y Análisis para los Trabajadores (2021). Canasta Alimentaria de los Trabajadores. Resumen ejecutivo. Available online at: http://cenda.org.ve/fotos_not/pdf/RESUMEN%20EJECUTIVO %20CBT%20WEB%20ENERO%20%202021.pdf (accessed March 19, 2021).

toward development. It is necessary to guarantee the human right to food and health within the framework of a comprehensive policy, which includes from the primary production of food to its access, in a policy of strengthening employment and the physical and mental well-being of Venezuelans. The call must be for food security integrated with good nutrition and a social protection policy to achieve the country of the future that all Venezuelans deserve.

AUTHOR CONTRIBUTIONS

MH-C and ML were involved in the design of the study along with data collection and analysis. MH-C led the writing including collaboratively drafting all content. ML and YS contributed to review the literature. The final manuscript for submission was read and approved by MH-C, ML, and YS. All authors contributed to the article and approved the submitted version.

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- CEPAL Comisión Económica para América Latina y el Caribe (2019). *República Bolivariana de Venezuela. Balance Preliminar de las Economías de América Latina y el Caribe ? 2019*. Available online at: https://repositorio.cepal.org/ bitstream/handle/11362/45000/91/BPE2019_Venezuela_es.pdf (accessed November 28, 2020).
- CODHEZ Comisión para los derechos humanos del Zulia (2020). La canasta básica alimentaria en la costa oriental del lago. Available online at: http:// codhez.ong/noticias/438-la-canasta-basica-alimentaria-en-la-costa-orientaldel-lago-equivale-a-7-186-46-del-sueldo-minimo.html (accessed November 28, 2020).
- CSIS Center for Strategic & International Studies (2020). The fabulous five: How Foreign Actors Prop up the Maduro Regime in Venezuela. Available online at: https://www.csis.org/analysis/fabulous-five-how-foreign-actors-prop-maduro-regime-venezuela (accessed March 19, 2021).
- Doocy, S., Ververs, M. T., Spiegel, P., and Beyrer, C. (2019). The food security and nutrition crisis in Venezuela. Soc. Sci. Med. 226, 63–68. doi: 10.1016/j.socscimed.2019.02.007
- Dunn, W. (2017). "Structuring policy problems," in *Public Policy Analysis An Integrated Approach, 7th Edn*, ed W. Dunn (New York, NY: Routlege), 1–50. doi: 10.4324/9781315181226
- ENCOVI (2020a). Data from: Encuesta Nacional de Condiciones de Vida. Las cajas CLAP in La Pobreza en sus múltiples dimensiones. Available online at: https://assets.website-files.com/5d14c6a5c4ad42a4e794d0f7/ 5f03875cac6fc11b6d67a8a5_Presentaci%C3%B3n%20%20ENCOVI%202019-Pobreza_compressed.pdf (accessed November 28, 2020).
- ENCOVI (2020b). Data from: Encuesta Nacional de Condiciones de Vida. La pobreza en sus múltiples dimensiones. Available online at: https://assets. website-files.com/5d14c6a5c4ad42a4e794d0f7/5f03875cac6fc11b6d67a8a5_ Presentaci%C3%B3n%20%20ENCOVI%202019-Pobreza_compressed.pdf (accessed Octubre 29, 2020).
- FAO (2020). *Bolivarian Republic of Venezuela*. Agricultural livelihoods and food security in the context of COVID-19: Monitoring Report January 2021, Food and Agriculture Organization of the United Nations, Rome.
- Fundación Bengoa (2020). Alimentación y Nutrición. Available online at: https:// www.fundacionbengoa.org/ (accessed November 28, 2020).
- Gutiérrez, S. A. (2017, Agosto). La crisis avanza, la emergencia alimentaria también. Revista Sic. Centro Gumilla. Available online at: https://revistasic.

gumilla.org/2017/la-crisis-avanza-la-emergencia-alimentaria-tambien/ (accessed November 28, 2020).

- Hausmann, R. (2017). La audiencia de las ODS son los políticos de los países ricos. Interview by Laura Zamarriego, Ethic, June 13, 2017. Available online at: http://ethic.es/2017/06/entrevista-a-ricardo-hausmann/ (accessed November 21, 2020).
- Hernández, P., Marcano, P., and Deniz, R. (2019). Evaluación del contenido nutricional de productos lácteos en programa de alimentación venezolano. *Arch. Latinoam. Nutr.* 69, 113–124. Available online at: http://www.alanrevista. org/ediciones/2019/2/art-6/ (accessed November 28, 2020).
- Hum Venezuela (2020). Informe Nacional de seguimiento de la Emergencia Humanitaria Compleja en Venezuela: Impactos, respuesta y factores de complejidad. Available online at: https://humvenezuela.com/wp-content/ uploads/2020/10/Informe-de-Seguimiento-HumVenezuela-Marzo-2020.pdf (accessed November 28, 2020).
- International Monetary Fund (2020). *República Bolivariana de Venezuela*. Available online at: https://www.imf.org/en/Countries/VEN (accessed March 19, 2021).
- Kirschner, N. (2020). US sanctions on Venezuela explained. Available online at: https://share.america.gov/u-s-sanctions-on-venezuela-explained/ (accessed November 28, 2020).
- Klugman, J. (1999). Social and Economic Policies to Prevent Complex Humanitarian Emergencies Lessons from Experience. Helsinki: UNU/WIDER. Available online at: https://reliefweb.int/sites/reliefweb.int/files/resources/ 3186F057B642B6B9C1256C22002B564E-complex.pdf (accessed November 28, 2020).
- Kopp, R. J. (2006). Replacing Oil: Alternative Fuels and Technologies. Available online at: https://www.resourcesmag.org/archives/replacing-oil-alternativefuels-and-technologies/ (accessed November 28, 2020).
- Landaeta-Jiménez, M., Sifontes, Y., and Aliaga, C. (eds.). (2012). Valores de referencia de energía y nutrientes para la población venezolana. Revisión 2012. Caracas: Fundación Bengoa/ILSI, 92.
- Landaeta-Jiménez, M., Sifontes, Y., and Herrera Cuenca, M. (2018). Venezuela entre la inseguridad alimentaria y la malnutrición. An. Venez. Nutr. 31, 66–77.
- León, D. (2020, febrero 25). El Cambio de la alimentación de los venezolanos por la crisis. *eldiario*. Available online at: https://eldiario.com/2020/02/25/el-cambiode-la-alimentacion-de-los-venezolanos-por-la-crisis/ (accessed November 28, 2020).
- Red Agroalimentaria de Venezuela (2014). Proyecto de seguimiento de la situación del Sector Agroalimentario. Available online at: http://redagroalimentaria.org/ contenido/159 (accessed November 21, 2020).
- Salman, D. (2020). Venezuela forseen economic path under fire. Bussecon Rev. Finance Banking 2, 19–24. doi: 10.36096/brfb.v2i1.179
- Su, C.-W., Khan, K., Tao, R., and Umar, M. (2020). A review resource curse burden on inflation in Venezuela. *Energy* 204, 1–11. doi: 10.1016/j.energy.2020.1 17925
- Swan, W. I., Vivanti, A., Hakel-Smith, N. A., Hotson, B., Orrevall, Y., Trostler, N., et al. (2017). Nutrition care process and model update: toward realizing peoplecentered care and outcomes management. *J. Acad. Nutr. Diet.* 117, 2003–2014. doi: 10.1016/j.jand.2017.07.015
- Tapia, M. S., Puche, M., Pieters, A., Marrero, J. F., Clavijo, S., Gutiérrez, A., et al. (2017). Seguridad alimentaria y nutricional en Venezuela. Secuestro agroalimentario de un país: visión y compromiso. Caracas: Fundación

Bengoa. Available online at: https://www.fundacionbengoa.org/publicaciones/ seguridad-alimentaria-y-nutricional-en-venezuela.asp (accessed November 21, 2020).

- Transparencia Venezuela (2019). Indice de Percepcion de Corrupcion 2019. Available online at: https://transparencia.org.ve/project/corrupcion-todas-lasnoticias/ (accessed November 28, 2020).
- Transparencia Venezuela (2020). Compra de Alimentos por parte del Gobierno genera focos de corrpucion. Available online at: https://transparencia.org. ve/clap-llega-a-so-warto-aniversario-marcodo-por-la-corrupción-y-la-improvisación (accessed March, 20, 2021).
- Turkewitz, J., and Herrera, I. (2020, April 10). Childbirth in Venezuela, where women's death are a state secret. New York Times. Available online at: https://www.nytimes.com/2020/04/10/world/americas/venezuelapregnancy-birth-death.html (accessed November 21, 2020).
- UNICEF. (2019). Data from: Under five mortality rate. Available online at: https:// data.unicef.org/country/ven/ (accessed November 28, 2020).
- Uzcátegui, A. (2020, mayo 25). Pandemia deja al Sector Turismo en Bancarrota. La Prensa. Diario de Lara. Available online at: https://www.laprensalara.com. ve/nota/16481/2020/05/pandemia-deja-al-sector-turismo-venezolano-enbancarrota (accessed November 28, 2020).
- Van Praag, O., and Arnson, C. J. (2020). A crisis within a crisis: Venezuela and COVID-19. Washington, DC: Wilson Center. Available online at: https://www. wilsoncenter.org/sites/default/files/media/uploads/documents/A%20Crisis %20Within%20a%20Crisis_Venezuela%20and%20COVID-19%20%281%29. pdf (accessed November 28, 2020).
- Victora, C. G., Adair, L., Fall, C., Hallal, P., Martorell, R., Ritcher, L., et al. (2008). Maternal and child undernutrition: consequences for adult health and human capital. *Lancet* 371, 340–357. doi: 10.1016/S0140-6736(07)61692-4
- World Food Programme (WFP). (2019). Data from: Report on Venezuela. Available online at: https://reliefweb.int/sites/reliefweb.int/files/resources/ Main%20Findings%20WFP%20Food%20Security%20Assessment%20in %20Venezuela_January%202020-2.pdf (accessed November 28, 2020).
- World Population Review (2021). Inflation Rate by Country. Available online at: https://worldpopulationreview.com/country-rankings/inflation-rate-bycountry (accessed March 19, 2021).
- Yu, W., Elleby, C., and Zobbe, H. (2015). Food security policies in India and China: implications for national and global food security. *Food Sec.* 7, 405–414. doi: 10.1007/s12571-015-0432-2

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

The reviewer, AC, declared a shared affiliation, though no collaboration, with the author to the handling editor.

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