

Food Banks Systems Across Western Balkans During The Coronavirus Pandemic

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Abstract: Within the ancient paradigm with a new name - Circular Economy (CE), based on the ‘principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems’, food production and reduction of represent an inevitable pillar. The circular business models ought to be following the principles that: (1) waste no longer exists, (2) biological materials are renewable, however, technological are not - therefore should be recycled, (3) try to reuse the product as a whole, and if that is impossible, then parts of the products, or eventually recycle materials, (4) first repair, then reuse, then refurbish, then recycle and (5) make use of renewable energy. The EU produced ‘Closing the loop – An EU action plan for the circular economy’ and (among other) worked to develop a common EU methodology & stakeholders platform to measure food waste and define relevant indicators (addressed further more in the analysis and recommendations in this work); clarify EU legislation relating to waste, food and feed and facilitate food donation and the use of former foodstuff and by-products from the food chain in feed production without compromising food and feed safety; and examine ways to improve the use of date marking by actors in the food chain and its understanding by consumers, in particular the “best before” label complementary also to the Waste Framework Directive and Programmes. Finally, the European Union in the European Green Deal sees itself both as global leader and facilitator of a just transition - leaving no one behind, having one of its core elements From Farm to Fork Strategy, focusing on a fair, healthy and environmentally friendly food system. Our motivation is to inspire food banks mechanisms as societal necessity and ambition, and align them with food waste prevention on global, regional and local level, and not vice-versa, generating careless food waste that can be somewhat prevented by giving to the poor. The main subject of interest, that is food banks and food waste prevention, aligns directly with SDG 1 aiming to ‘End poverty in all its forms everywhere’, SDG 2 ‘End hunger, achieve food security and improved nutrition and promote sustainable agriculture’ and SDG 12 ‘Responsible consumption and production (through target 12.3 aiming to half global per capita food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses; and target 12.5 by substantially reducing waste generation through prevention, reduction, recycling and reuse) by 2030.

Keywords: Food Banks Systems, Western Balkans, Coronavirus Pandemic.

1. INTRODUCTION

The direction where this world is headed is not where we would like to be, in fact, the *where*, the *why* and the *how* should pretty much be subject to reconsideration and reconfiguration, if we would like to sustain as socio-technical-environmental systems. In addition to that, the pandemic crisis of COVID-19 has rapidly spread around the world causing enormous social and economic disturbance and even disruption. In this period, the survival of civil society organizations is in question, as properly stated, among others, by WBF research. World leaders are not just political and governing bodies of international, regional and national profiles, but also big players and/or aggregated small players in the realms of businesses, technology, health, religion, global citizens and certainly, the ecosystems of this planet. This is the reason why we need to engage and align in order to co-evolve and sustain individually and collectively. Interrelated concepts of poverty, food production and waste, food poverty, sustainability, circularity, societal transformation and complexity intertwine in the background of the food problem, and its management as activity organized predominantly by civil society organizations are - subject of this research. We are aiming to model the big picture on country-specific level, but also profiling to certain level the six Western Balkan Countries’, with future potentials for policy-advice on local, but also regional level. To the possible extent, global, regional and local aspects will be outlined, through political, economic, societal, technological, legal and environmental lens. The stakeholder analysis brings out diverse

profiles on generic and specific food bank and prevention of food waste aspects, most of which will be invoked through the portrayal of several best practice examples from the world - in terms of models and workflows. Our research plans to scope the implications of the COVID-19 on the civil society organizations in Western Balkans dealing with the food banks activities and systems, including overview of the situation just before pandemic starts drawing data from news and reports from around the region. The analysis will inform the model of stakeholders and processes as-is, so that in future engagements, it can serve as foundation for its sustainability in direction of salvation for food banks during but also after pandemic crisis of COVID-19, policy advice as well as cross-sectoral fertilization of good practices. Food poverty is perceived as “the insufficient economic access to an adequate quantity and quality of food to maintain a nutritionally satisfactory and socially acceptable diet” (Connor et al., 2016). While FAO makes a distinction among food loss, food waste as food appropriate for human consumption being discarded, and food wastage, this article considers the following definition of food waste, as “any food, and inedible parts of food, removed from the food supply chain to be recovered or disposed (including composed, crops ploughed in/not harvested, anaerobic digestion, bio-energy production, co-generation, incineration, disposal to sewer, landfill or discarded to sea) but not including food or inedible parts of food removed from the food supply chain to be sent to animal feed or bio-based material/chemistry processing” (FUSIONS, 2021). Food banks, on the other hand, are perceived as ‘common community-based response to household food insecurity’ (Loopstra, R., 2019). As primary referral reasons for people needing food aid are: social benefit delays, low income, benefit changes, debt, unemployment, homelessness, domestic violence, sickness, delayed wages, and other (Clair, Fledderjohann, Lator, Loopstra, 2019). Up to the pandemic crisis on this field, the main efforts of the global governance outlining priorities and strategy since 2015 have been via the United Nations General Assembly’s Sustainable Development Goals (SDGs) as part of the 2030 Agenda for Sustainable Development. Our subject of interest, the food banks and food waste prevention, aligns directly with SDG 1 aiming to ‘End poverty in all its forms everywhere’, SDG 2 ‘End hunger, achieve food security and improved nutrition and promote sustainable agriculture’ and SDG 12 ‘Responsible consumption and production (through target 12.3 aiming to half global per capita food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses; and target 12.5 by substantially reducing waste generation through prevention, reduction, recycling and reuse) by 2030. The negative consequences of the pandemic to the food banks systems and their main agent - civil society organizations to this date need to be researched. Especially since, as result of the recommendations for physical distance, this type of civil society organizations suffer additional implications having in focus specific category of marginalized groups enlisting poverty, homelessness, Roma population but also, especially visible by the pandemic - families in quarantine, jobless and persons with inability to exit their homes. So, in principle, there are generic workflows and processes that may spill over during the pandemic, to other domains of interest, if we learn properly from functional food banks systems, one more reason this research is valid and necessary. Though much of the news is dire, we suppose that there have been some positive outcomes such as starting cooperation between additional civil society organizations in the ecosystem and food sharing with the help of Red Cross, as example, which caused revival of local food networks and collaborations. The crisis is still unfolding, so there is an urgent need to find a way how to coordinate the process of cooperation, and plan effective short- and long-term coordination with all stakeholders in the process. Our intention is to offer model that will urge all stakeholders and specially governments in the process of policy creating to help these civil society organizations as groups respond to the COVID-19 pandemic, as well as use the model for other civil society organizations if it can offer sustainability, now but also after the crisis. The rest of the paper is organized as follows. Section 2 explains the appropriate methods and methodology to be applied. The third section is devoted to analysis, whilst the fourth section refers to results for North Macedonia and those to be initiated for Western Balkans. The last section concludes and recommends.

2. METHODS AND METHODOLOGY

Our methodology represents a qualitative research of primary and secondary data obtained from interviews, surveys, desk research and data analysis, with design science research elements by producing a novel artefact - Food banks generic model of stakeholders, components and workflow. We are informing our model and recommendations with global best practices research and lessons learned, as well as PESTLE and stakeholder analysis.

Our capture of the current context of the coronavirus pandemic and its implications to the civil society organizations and the food banks systems in the Western Balkans countries is to be performed in the upcoming period, with already shaped model for North Macedonia (as elaborated below, in collaboration with the food

bank Banka za Hrana, North Macedonia and the main CSO leading that project WSS Effect). The activities incorporate desk research for the as-is situation in Serbia, Bosnia and Herzegovina, Montenegro, Kosovo and Albania; surveys to be disseminated via the Western Balkans Alumni Association¹ members with relevant stakeholders and interviews (or written communication) with responsible in CSOs in the respective countries. They ought to result with models for all 6 WB countries of the as-is situation, highlighting experiences in the pandemic, and serve as foundation for policy-advice and recommendations on incorporating and obtaining sustainability of food bank systems and their main agents - the CSOs across WB for this and future crisis. Our hope is to be able to inspire big picture insights on how a regional collaboration and WB-EU bridge can be seen as future work.

3. ANALYSIS

Our motivation is to inspire food banks mechanisms as societal necessity and ambition, and align them with food waste prevention at global, regional and local level, and not vice-versa, generating careless food waste that can be somewhat prevented by giving to the poor. Their necessity, or the necessity of such models of multiple stakeholder action and engagement has been proven during this pandemic of coronavirus, started at 2019, and still lasting.

The big picture. The main efforts of the global governance outlining priorities and strategy since 2015 are via the United Nations General Assembly's Sustainable Development Goals (SDGs) as part of the 2030 Agenda for Sustainable Development. Our subject of interest, the food banks and food waste prevention aligns directly with SDG 1 aiming to 'End poverty in all its forms everywhere', SDG 2 'End hunger, achieve food security and improved nutrition and promote sustainable agriculture' and SDG 12 'Responsible consumption and production (through target 12.3 aiming to half global per capita food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses; and target 12.5 by substantially reducing waste generation through prevention, reduction, recycling and reuse) by 2030².

Within EU-28 more than 16.8% of all citizens are at risk of poverty^{3 4}, while on global level those percentages are from 10% to 23%⁵ (extreme poverty and poverty) pushing more than 60 million people due to the coronavirus crisis into extreme poverty, while in North Macedonia 21.9% are at risk of poverty⁶. The UNFAO states that more than one third of the food which is grown for consumption by humans is wasted. About 8% of global greenhouse emissions annually caused by gasses released from rotting food and also energy used in food production that gets wasted, relating to 20%-30% of food being lost or wasted before reaching the consumer, denoting high inefficiency of (renewable and non-renewable resources)^{7 8}. The Circular Economy Monitoring Framework of the European Commission enlists the indicator of food waste which measures the waste generated in the production, distribution and consumption of food (in mass unit) to 70 million tons, with upward trend⁹. From farm to plate, the food waste is present at each of the stages: production, post-harvest, processing & packaging, distribution & retail, consumption^{10 11} "All actors in the food chain have a role to play in preventing and reducing food waste, from those who produce and process foods (farmers, food

¹ Western Balkans Alumni Association <https://www.western-balkans-alumni.eu>, Renata Petrevska Nechkoska, Head of WBAA Research Team <https://www.western-balkans-alumni.eu/what-we-do/research/>

² United Nations Sustainable Development Goals, accessed on 10th June 2020, <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

³ Eurostat, Income poverty statistics, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Income_poverty_statistics&oldid=440992

⁴ Eurostat, Product Datasets, https://ec.europa.eu/eurostat/web/products-datasets/-/t2020_50

⁵ The World Bank, Understanding Poverty, <https://www.worldbank.org/en/topic/poverty/overview>

⁶ State Statistical Office, Republic of North Macedonia, Poverty line, Laeken poverty indicators in 2018 -final data- http://www.stat.gov.mk/pdf/2019/4.1.19.116_mk.pdf

⁷ UN FAO <http://www.fao.org/docrep/018/ar429e/ar429e.pdf>

⁸ European Commission, Environment, Food Waste Resource Efficiency, http://ec.europa.eu/environment/enveco/resource_efficiency/pdf/Task%203Food%20waste.pdf

⁹ European Commission, Circular Economy Monitoring Framework, Circular Economy Indicators, <https://ec.europa.eu/eurostat/web/circular-economy/indicators/monitoring-framework>

¹⁰ Boston Consulting Group (2018) Tackling the 1.6-Billion-Ton Food Loss and Waste Crisis – values modelled from FAO Global Food Losses and Food Waste (2011)

¹¹ Arcadis National Food Waste Baseline (2019)

manufacturers and processors) to those who make foods available for consumption (hospitality sector, retailers) and consumers themselves”¹².

Within the ancient paradigm with a new name - Circular Economy (CE), based on the ‘principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems’¹³, food production and reduction of represent an inevitable pillar. The circular business models ought to be following the principles that: (1) waste no longer exists, (2) biological materials are renewable, however, technological are not - therefore should be recycled, (3) try to reuse the product as a whole, and if that is impossible, then parts of the products, or eventually recycle materials, (4) first repair, then reuse, then refurbish, then recycle and (5) make use of renewable energy (KPMG Australia, 2020; World Research Institute, 2017)^{14 15}. The EU produced ‘Closing the loop – An EU action plan for the circular economy’ and (among other) worked to develop a common EU methodology & stakeholders platform to measure food waste and define relevant indicators; clarify EU legislation relating to waste, food and feed and facilitate food donation and the use of former foodstuff and by-products from the food chain in feed production without compromising food and feed safety; and examine ways to improve the use of date marking by actors in the food chain and its understanding by consumers, in particular the "best before" label complementary also to the Waste Framework Directive and Programmes (2013/727/EU)^{16 17}. Finally, the European Union in the European Green Deal sees itself both as global leader and facilitator of a just transition - leaving no one behind, having one of its core elements From Farm to Fork Strategy¹⁸, focusing on a fair, healthy and environmentally friendly food system (The European Green Deal, Brussels, 2019)¹⁹.

As far as local strategic guidance, regulatory framework, mindset and logistical preconditions are concerned, the situation is in somewhat rudimentary shape. The landscape is consisted of past activities organised as ‘Народни кујни’ by the Ministry of labour and social policy²⁰, current #ОброкЗаСите, projects funded by the Fund for innovation and technological development²¹, occasional activities organised by civil society organisations and networks (e.g. Food Banks²² ‘Банки за храна’²³, ‘Сите Сити’²⁴), as well as religious communities and sporadic events. The proactive push to influence the top-down strategy and address legal grounds, logistical operationalisation, as well as integration within global networks has been done by the civil society organisations within EU project funding and is persistent, with moderate pace. The legislative is within the same laws that did not incorporate food aid and food waste prevention, but the efforts of the civil-societies working in this domain are conceptual and present.

¹² EU Food Waste and Food Safety Policy website, https://ec.europa.eu/food/safety/food_waste_en

¹³ Ellen Macarthur Foundation, Circular Economy Concept, <https://www.ellenmacarthurfoundation.org/circular-economy/concept>

¹⁴ Guided choice towards a circular business model, http://www.opai.eu/uploads/Guided_Choices_towards_a_Circular_Business_Model_pdf11.pdf

¹⁵ World Research Institute (2017) Champions 12.3 The business case for reducing food loss and waste, <https://champions123.org/the-business-case-for-reducing-food-loss-and-waste/>

¹⁶ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Closing the loop - An EU action plan for the Circular Economy COM/2015/0614 final

¹⁷ 2013/727/EU: Commission Implementing Decision of 6 December 2013 establishing a format for notifying the information on the adoption and substantial revisions of the waste management plans and the waste prevention programmes (notified under document C(2013) 8641

¹⁸ European Food Safety Authority, https://ec.europa.eu/food/sites/food/files/safety/docs/fs_infograph_from-farm-to-fork_en.pdf

¹⁹ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS, The European Green Deal, Brussels, 11.12.2019 COM(2019) 640 final

²⁰ Ministry of labour and social policy, <http://www.mtsp.gov.mk/proekt-narodni-kujni.nspix>

²¹ Government of Republic of North Macedonia, Call for project for social entrepreneurship, <https://vlada.mk/node/14315>

²² Nova Makedonija, Ниту поранешната, ниту сегашната власт не го решава проблемот со гладта, Marijana Mitrovska, <https://www.novamakedonija.com.mk/featured/ниту-поранешната-ниту-сегашната-влас/>

²³ Hrana za site, Banka za hrana Makedonija, https://www.facebook.com/pg/BANKAZAHRANAMK/posts/?ref=page_internal

²⁴ Ajde Makedonija, <http://ajdemakedonija.sitesiti.mk>

Considering global practices to inform the food banks models. The context of any domain dictates its development route and effectiveness. The role of food banks and the problem of food waste prevention are amplified in exceptional circumstances (such as the pandemics with coronavirus Covid-19 of 2019-2020) - where the ethical, societal, economic and environmental aspects are enhanced. However, even though some aspects get amplified and push both on the side of lowering the food wastage and more efficient consumption (Jribi, Ben Ismail, Doggui, Debbabi, 2020), as well as on the increase of the population in the extreme poverty situation, still the generic mechanisms behind the food banks and food waste prevention ought to be in place, while the workflows may differ depending on the regular or exceptional circumstances that impact the new normal.

Global practices. There are numerous examples of food banks across the globe, having some mutual characteristics and context-specific distinctions. To this overview, we are adding also some networks, platforms and actions that align towards prevention and reduction of food waste. Here, we will mention several, in order to shed light to the good practices and lessons learned across the world.

- The EU Platform on Food Losses and Food Waste is a unique forum bringing together key actors representing both public and private interests in order to provide advice to all actors on measures needed to prevent and reduce food waste (including EU-wide actions), facilitate sharing of best practice and evaluate progress made over time²⁵.
- The European Food Banks Federation - FEBA, Brussels, Belgium entailing 421 food banks and branches, full member countries (21) and associated countries (3), active through 46.000 charities, with a mission: To contribute to reducing hunger and malnutrition in Europe, through the fight against food waste and the call for solidarity, by supporting and developing Food Banks in countries where they are most needed²⁶.
- The Australian Fight Food Waste CRC as public-private partnership bringing together industry, research, state agencies and the community to capitalize on Australia's food waste opportunities ensuring focus and effort towards the National Food Waste Strategy, which has a goal of halving food waste by 2030²⁷, as well as foodbank.co from New Zealand²⁸.
- The Trussell Trust Foodbank Network²⁹, Greater Manchester Poverty Alliance³⁰, as well as numerous food bank efforts and initiatives in the UK
- Feeding America Network³¹ in the US and similar networks and associations cascading to operational effects all over the globe.

Stakeholder analysis. The broad list of stakeholders in the food waste reduction and food banks field has the following categories: Consumers (households), Farmers, Processors, Policy makers at various levels, Federations, global networks of food banks, Retailers, Restaurants, Businesses and Industries, Social enterprises, Environmental NGOs, Citizens, Educational institutions, Financing institutions, Research institutes, Waste collectors, Food waste treatment plants, Media (Garci, Vila, Giavini, De Matos, Manfredi, 2016)³².

When we zoom into the food banks ecosystem operational through the collection-distribution approach (collection and distribution of food aid), we could differentiate the categories of: food donors (i.e., suppliers), including supermarkets, retailers, and grocery manufacturers; food banks (i.e., central hubs), and (iii) food agencies (i.e., customers) (Gharehyakheh, Sadeghiamirshahidi, 2018). The global pandemics opened space for out of the box thinking in terms of technology providing data of availability and proximity of stakeholders in the sense of virtual marketplaces 'I need it' to be matched with 'I have it'³³.

²⁵ EU Platform on Food Losses and Food Waste, https://ec.europa.eu/food/safety/food_waste/eu_actions/eu-platform_en

²⁶ The European Food Banks Federation - FEBA, <https://www.eurofoodbank.org/en/mission-vision-values>

²⁷ Fight Food Waste, Australia, <https://fightfoodwastecrc.com.au/about-us/>

²⁸ Foodbank New Zealand, <https://www.foodbank.co.nz>

²⁹ The Trussell Trust, <https://www.trusselltrust.org>

³⁰ Greater Manchester Poverty Alliance, <https://www.gmpovertyaction.org/about-us/>

³¹ Feeding America Network, <https://www.feedingamerica.org>

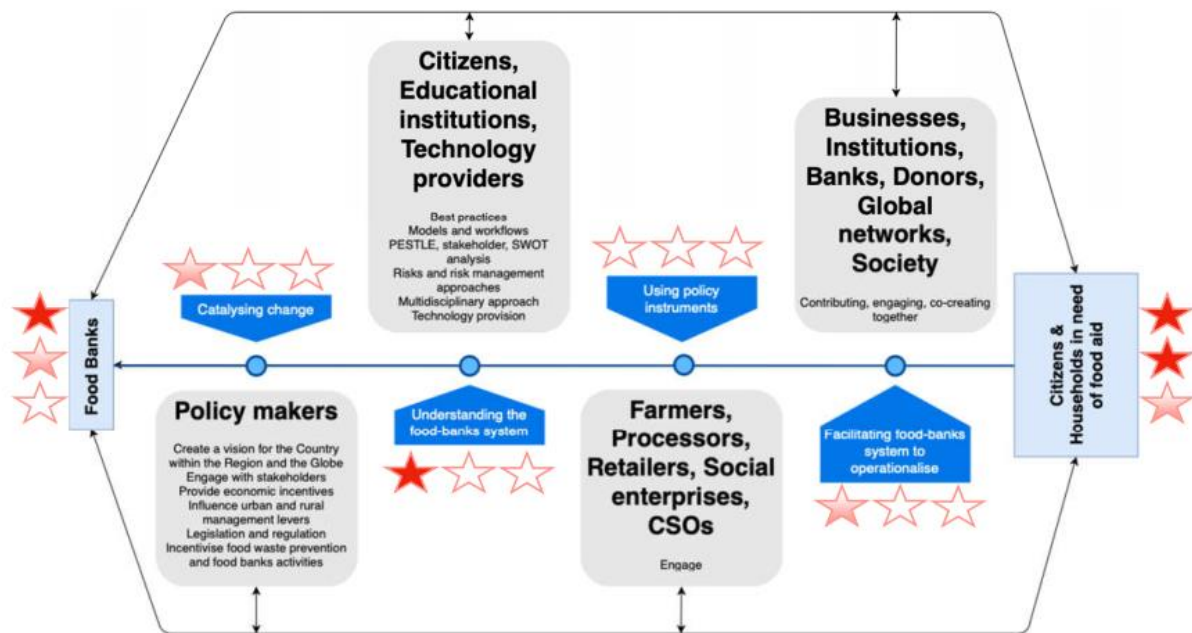
³² Cristobal Garcia J; Vila M; Giavini M; Torres De Matos C; Manfredi S.; Prevention of Waste in the Circular Economy: Analysis of Strategies and Identification of Sustainable Targets - The food waste example; EUR 28422; Luxembourg (Luxembourg): Publications Office of the European Union; 2016; JRC105415; doi:10.2760/256208

³³ Food waste during a global pandemic - an opportunity to change, <https://modernrestaurantmanagement.com/food-waste-during-a-global-pandemic-an-opportunity-for-change/>

4. RESULTS (FOR NORTH MACDONIA, TO BE INITIATED FOR WB)

The Food Banks Generic model (stakeholders, components and workflow) (Figure 1). As elaborated in the beginning, this research aims to set the scene of how humanity helps each other, and improves food use efficiency along the way. The copy-paste special notion means exploring global practices, being part of networks and platforms, aligning with global strategy and instantiating food banks in local context of North Macedonia. Holistic, multi-stakeholder engagement, partnerships, supply-nets and value co-creation on all levels and by all agents are the main change management principles we adhere to. We will portray the workflow for preliminary analysis of the role of different stakeholders through the framework provided by City Regions Food Systems³⁴ for regional implementation of food use mechanisms and concepts. The cross-sectional layers are following the guidelines of the (EU Platform for Food Losses and Food Waste, 2019): *Cross-cutting recommendations for action; Recommendations for action for primary production, at manufacturing stage, at retail stage, in hospitality/food services, at consumer (beneficiary) level and for food donation.*

Figure 1: Food banks generic model of stakeholders, components and workflow in North Macedonia and current status



Source: Authors

Legend: progress complete - filled star,
 incomplete - empty star,
 semi-complete - star with gradient fill;
 max 3 stars

5. CONCLUSIONS AND RECOMMENDATIONS

Our research and analysis so far (Food Bank North Macedonia and global practices) lead us to conclude that the (1) information held by the food manipulators is very scarce; (2) great number of the food manipulators return the food reaching (or near its) expiration date to the distributors, which implies that we need to expand the influence for food banks systems awareness and inclusion to distributors too; the (3) proposals to take serious action for promoting the regulations and legislative (e.g. Law on donating food surplus) to be in force, especially releasing the procedure and incentives and benefits for the donors, complemented with the (4) need for the civil society sector to carry out very thoroughly and effectively in the establishment and functioning of food banks, especially in the segment of food delivery to the right addresses. Our research aims to capture the as-is situation and visualize it in the novel comprehensive model (stakeholders, components, workflow) across Western Balkans Countries, where each stakeholder can situate their own role in the big picture and improve in action and accountability accordingly. We will contemplate and articulate the specific conclusions, policy advise

³⁴ Food and Agriculture Organization of the United Nations, City region food systems programme, <http://www.fao.org/in-action/food-for-cities-programme/toolkit/introduction/en/>

and provide argumentation for evidence-based decision making upon completion of the research as described in the methodology section.

REFERENCES

1. 2013/727/EU: Commission Implementing Decision of 6 December 2013 establishing a format for notifying the information on the adoption and substantial revisions of the waste management plans and the waste prevention programmes (notified under document C(2013) 8641
2. Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: An Economic and Investment Plan for the Western Balkans, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020SC0223>
3. Ajde Makedonija, <http://ajdemakedonija.sitesiti.mk>
4. Amin Gharehyakheh, Narjes Sadeghiamirshahidi, A SUSTAINABLE APPROACH IN FOOD BANK LOGISTICS, Proceedings of the American Society for Engineering Management 2018 International Annual Conference E-H. Ng, B. Nepal, E. Schott, H. Keathley eds.
5. Amy Clair, Jasmine Fledderjohann, Doireann Lalor, Rachel Loopstra, The Housing Situations of Food Bank Users in Great Britain Social Policy & Society, Cambridge University Press (2019)
6. Arcadis National Food Waste Baseline (2019)
7. Boston Consulting Group (2018) Tackling the 1.6-Billion-Ton Food Loss and Waste Crisis – values modelled from FAO Global Food Losses and Food Waste (2011)
8. COMMISSION STAFF WORKING DOCUMENT Guidelines for the Implementation of the Green Agenda for the Western Balkans
9. COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Closing the loop - An EU action plan for the Circular Economy COM/2015/0614 final
10. COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS, The European Green Deal, Brussels, 11.12.2019 COM(2019) 640 final
11. Connor et al., 2016, What is Food Poverty? A Conceptual Framework. British Food Journal, 118 (2), pp.429-449
12. Cristobal Garcia J; Vila M; Giavini M; Torres De Matos C; Manfredi S.; Prevention of Waste in the Circular Economy: Analysis of Strategies and Identification of Sustainable Targets - The food waste example; EUR 28422; Luxembourg (Luxembourg): Publications Office of the European Union; 2016; JRC105415; doi:10.2760/256208
13. Ellen Macarthur Foundation, Circular Economy Concept, <https://www.ellenmacarthurfoundation.org/circular-economy/concept>
14. Enhanced EU engagement with the Western Balkans, https://ec.europa.eu/neighbourhood-enlargement/policy/eu-and-western-balkans_en
15. EU Food Waste and Food Safety Policy website, https://ec.europa.eu/food/safety/food_waste_en
16. EU Platform for Food Losses and Food Waste, Recommendations for Action in Food Waste Prevention, December 2019, https://ec.europa.eu/food/sites/food/files/safety/docs/fs_eu_actions_action_platform_key-recs_en.pdf
17. EU Platform on Food Losses and Food Waste, https://ec.europa.eu/food/safety/food_waste/eu_actions/eu-platform_en
18. European Commission, Circular Economy Monitoring Framework, Circular Economy Indicators, <https://ec.europa.eu/eurostat/web/circular-economy/indicators/monitoring-framework>
19. European Commission, Environment, Food Waste Resource Efficiency, http://ec.europa.eu/environment/enveco/resource_efficiency/pdf/Task%203Food%20waste.pdf
20. European Food Safety Authority, https://ec.europa.eu/food/sites/food/files/safety/docs/fs_infograph_from-farm-to-fork_en.pdf
21. Eurostat, Income poverty statistics, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Income_poverty_statistics&oldid=440992
22. Eurostat, Product Datasets, https://ec.europa.eu/eurostat/web/products-datasets/-/t2020_50
23. Feeding America Network, <https://www.feedingamerica.org>
24. Fight food waste - cooperative research centre, reduce-transform-engage, Fighting food waste Using the Circular Economy, KPMG Australia, 2020

25. Fight Food Waste, Australia, <https://fightfoodwastecrc.com.au/about-us/>
26. -final data- http://www.stat.gov.mk/pdf/2019/4.1.19.116_mk.pdf
27. Food and Agriculture Organization of the United Nations, City region food systems programme, <http://www.fao.org/in-action/food-for-cities-programme/toolkit/introduction/en/>
28. Food banks establishment in Croatia, Feasibility Study, https://poljoprivreda.gov.hr/UserDocImages/dokumenti/novosti/Studija_izvedivosti_banka_hrane.pdf
29. Food waste during a global pandemic - an opportunity to change, <https://modernrestaurantmanagement.com/food-waste-during-a-global-pandemic-an-opportunity-for-change/>
30. Foodbank New Zealand, <https://www.foodbank.co.nz>
31. FUSIONS (Food Use for Social Innovation by Optimising Waste Prevention Strategies), Food waste definition, <http://www.eu-fusions.org/index.php/about-food-waste/280-food-waste-definition>
32. Government of Republic of North Macedonia, Call for project for social entrepreneurship, <https://vlada.mk/node/14315>
33. Greater Manchester Poverty Alliance, <https://www.gmpovertyaction.org/about-us/>
34. Guided choice towards a circular business model, http://www.opai.eu/uploads/Guided_Choices_towards_a_Circular_Business_Model_pdf11.pdf
35. Hrana za site, Banka za hrana Makedonija, https://www.facebook.com/pg/BANKAZAHRANAMK/posts/?ref=page_internal
36. Loopstra, R., Lambie-Mumford, H. & Fledderjohann, J. Food bank operational characteristics and rates of food bank use across Britain. BMC Public Health (Part of Springer Nature) 19, 561 (2019). <https://doi.org/10.1186/s12889-019-6951-6>
37. Ministry of Agriculture, Croatia, Establishment of food banks <https://poljoprivreda.gov.hr/vijesti/osnivanje-banke-hrane-u-rh/3883>
38. Ministry of labour and social policy, <http://www.mtsp.gov.mk/proekt-narodni-kujni.nspix>
39. Nova Makedonija, Ниту поранешната, ниту сегашната власт не го решава проблемот со гладта, Marijana Mitrovska, <https://www.novamakedonija.com.mk/featured/ниту-поранешната-ниту-сегашната-влас/>
40. OECD, THE COVID-19 CRISIS IN THE WESTERN BALKANS, Economic impact, policy responses, and short-term sustainable solutions, TACKLING CORONAVIRUS (COVID-19) CONTRIBUTING TO A GLOBAL EFFORT, <https://www.oecd.org/south-east-europe/COVID-19-Crisis-Response-Western-Balkans.pdf>
41. Sarra Jribi, Hanen Ben Ismail, Darine Doggui, Hajer Debbabi, COVID-19 virus outbreak lockdown: What impacts on household food wastage? April 2020, Springer Nature
42. State Statistical Office, Republic of North Macedonia, Poverty line, Laeken poverty indicators in 2018
43. The European Food Banks Federation - FEBA, <https://www.eurofoodbank.org/en/mission-vision-values>
44. The Trussel Trust, <https://www.trusselltrust.org>
45. The World Bank, Understanding Poverty, <https://www.worldbank.org/en/topic/poverty/overview>
46. UN FAO <http://www.fao.org/docrep/018/ar429e/ar429e.pdf>
47. United Nations Sustainable Development Goals, accessed on 10th June 2020, <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>
48. Western Balkans Alumni Association <https://www.western-balkans-alumni.eu>, Renata Petrevska Nechkoska, Head of WBAA Research Team <https://www.western-balkans-alumni.eu/what-we-do/research/>
49. World Research Institute (2017) Champions 12.3 The business case for reducing food loss and waste, <https://champions123.org/the-business-case-for-reducing-food-loss-and-waste/>