



SUSTAINABLE DEVELOPMENT GOALS

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HUNGER



UPC Joins Alicorp, Mi Banco, Cargill, and Juguete Pendiente to Promote Communal Kitchens Initiatives



In a collaborative effort to foster entrepreneurial spirit and contribute to the sustainability of communal kitchens initiatives, the Universidad Peruana de Ciencias Aplicadas (UPC), Alicorp, Mi Banco, Cargill, and Juguete Pendiente teamed up for the “Ollas que Desarrollan” program. The aim of this initiative was to provide training and support to the leaders of communal kitchens from different parts of North Lima, East Lima and Callao, helping them establish complementary enterprises that generate additional income and strengthen the autonomy of their communities.

A total of 110 leaders representing 55 communal kitchens were involved. They were trained and mentored in various key areas such as sales, value proposition, customer knowledge, finance, and accounting.

UPC’s School of Business played a fundamental role in the program, leading the modules on sales, value proposition, and customer knowledge. Additionally, Mi Banco



provided specialized training in finance and accounting, while Cargill offered seed capital to the enterprises with the highest development potential. The selection of the most promising projects was managed by Juguete Pendiente. Criteria such as consistency, participation, viability, and the performance of the communal kitchens leaders, were considered.



Community Nutrition



During the 2023-1 semester, students from UPC's Nutrition and Dietetics program developed the "Community Nutrition" project at the Divino Jesús and San Miguel de Arcángel Residential Care Centers (CAR) of INABIF, the Barranco nursery: Cristina Carrera de Lértora, and other childcare centers.

The objective of this activity was to conduct a nutritional and situational diagnosis of the target population to provide nutritional care, guidelines, and recommendations for Permanent Care Staff (PAP) regarding the balanced diet that children should receive.

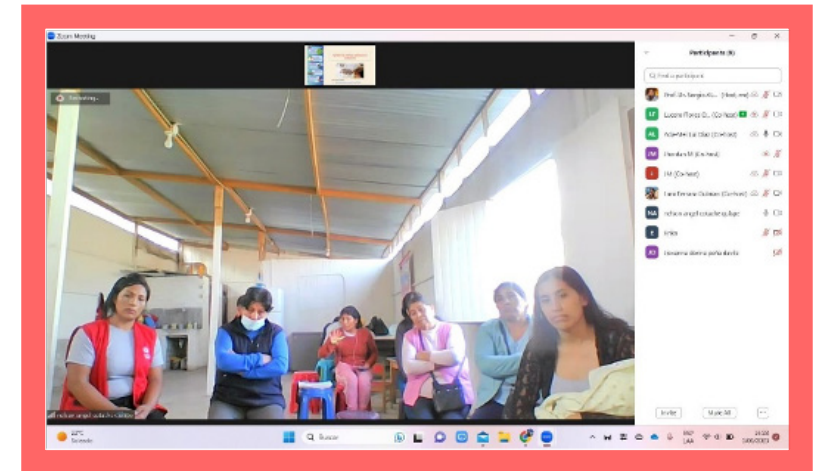
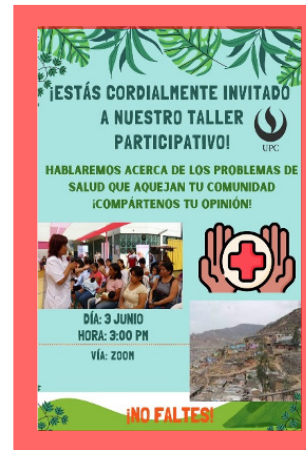


Campaigns for the prevention and control of childhood anemia



Throughout 2023, students from UPC's Medicine program carried out various activities aimed at combating childhood anemia and malnutrition. These activities took place in AA.HH. La Rinconada and Educational Institution 7212-627, located in the district of San Juan de Miraflores; as well as at the San Genaro Maternal and Child Center, Solidarity Daycare, PRONOEI No. 9, and early childhood center Institución Educativa Inicial 570 Integración, located in the district of Chorrillos.

Intervention projects were conducted targeting parents through talks, workshops, and demonstrations on preparing iron-rich foods and proper handwashing. Finally, pre- and post-tests were administered to participants to spread awareness of the causes and reduce prevalence, fostering appropriate cognitive growth and development in the child populations of the intervened communities.



Campaigns for the Prevention of Overweight and Obesity



Throughout 2023, students from UPC's Medicine program carried out activities aimed at reducing mortality caused by obesity in adults aged 30 to 60 from the communities of AA.HH. Pacífico de Villa and the "Cerro de Pasco" communal kitchen, located in the district of Chorrillos.

Participatory workshops were held to analyze the nutritional value of the menu offered at the "Cerro de Pasco" communal kitchen and AA.HH. Pacífico de Villa. Body mass index, abdominal perimeter, and other risks were calculated for users of communal kitchens.

Once the problem and solution alternatives were analyzed, informative talks on obesity and diabetes prevention were given. Demonstrative activities on what the ideal plate should look like were also conducted. Finally, there was an educational talk on healthy eating and a physical activity workshop.

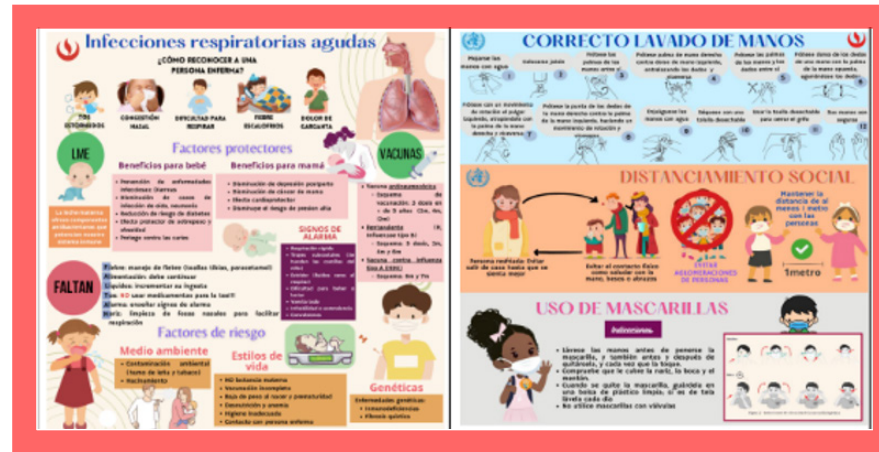




Reducing the prevalence of complications from acute respiratory infections in children under 5

In 2023, students from UPC's Medicine program developed this initiative aimed at reducing the prevalence of complications from acute respiratory infections in children under five years old in the AA.HH. Pacífico de Villa, located in the Chorrillos district. This initiative was carried out by disseminating knowledge about healthy practices within the community.

Once the problem was identified, the intervention included workshops on breastfeeding, immunizations, demonstrations of nutritious lunchboxes, demonstrative sessions on proper hand washing and appropriate mask usage.



City to Countryside Tourism Development Project Contest - 3rd Edition



The School of Hospitality and Tourism Administration at UPC and StartUPC, in partnership with the Ibero-American Institute of Rural Tourism (IBEROATUR), invited students from Tourism, Hospitality, Gastronomy, or related fields from public and private universities to participate in the 3rd Edition of the City to Countryside Tourism Development Project Contest. This virtual event took place on November 22 and 23.

Selected projects had as their main characteristic to propose new employment and income alternatives to diversify the agricultural and agro-industrial activities of rural inhabitants, demonstrating benefits for both the business owners and the rural agricultural communities through the projects.



The goal of this competition was to foster projects that promote tourism flow to areas with great potential and development, with a special focus on rural tourism, such as agrotourism, wine tourism, gastro-tourism, and other related categories.



“Community Nutrition” Campaign



Between March and August 2023, the “Community Nutrition” campaign was conducted at the University Health Center (CUS) on UPC’s Villa campus. The campaign aimed to provide comprehensive nutrition-focused care for the community of Chorrillos and surrounding districts.

Patients received counseling on proper dietary habits, and an evaluation of weight, height and hemoglobin and glucose dosage was performed for all ages.

A promotional poster for a nutrition campaign. It features a smiling female nutritionist in a white lab coat holding a green glucometer. The text is in Spanish and includes the title 'EVALUACIÓN Y ORIENTACIÓN NUTRICIONAL GRATUITA*', the services offered, the dates, and contact information. The poster is framed in red and includes the red flame logo and a WhatsApp icon.

**EVALUACIÓN Y
ORIENTACIÓN
NUTRICIONAL
GRATUITA***

Incluye dosaje de
**hemoglobina y
glucosa** para todas
las edades

del 13 al 23 de marzo

*Capacidad limitada
*Consultar restricciones
*Exámen de glucosa se realizará de 8 a.m. a 9 a.m.

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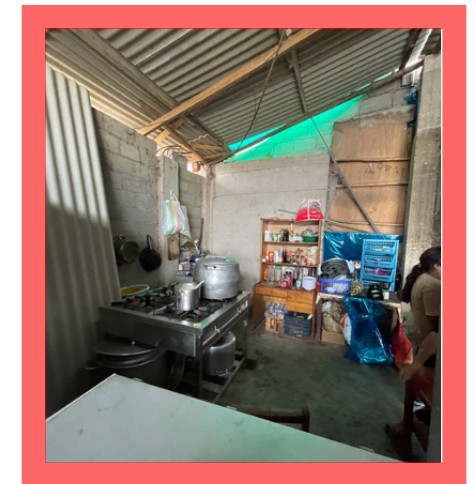


UPC and Juguete Pendiente conduct assessment of communal kitchens enrolled in the “Ollas que Desarrollan” Program



In June 2023, the Communication and Corporate Image Program of UPC collaborated with the volunteer group “Imagina Voluntario” from the organization Juguete Pendiente to conduct an assessment of over 50 communal kitchens enrolled in the “Ollas que Desarrollan” program, managed by Alicorp and UPC.

This assessment was carried out in the districts of Villa El Salvador, Pachacámac, Villa María del Triunfo, San Juan de Lurigancho, Ancón, Santa Rosa, and Ventanilla to understand the needs and limitations these organizations face in their operations.



The objective of the activity was to enable the “Imagina Voluntario” group to become aware of different socioeconomic realities and contribute to the changes needed for these organizations to grow and improve.



UPC joins the fight against anemia through the “Anemia Zero” Campaign



As part of its commitment to combating anemia, the Universidad Peruana de Ciencias Aplicadas (UPC) conducted the “Anemia Zero” campaign in 2023 in partnership with the NGO Peruanos por Peruanos. The first phase of this initiative aimed to detect and prevent anemia in children of employees from the institutions UPC, UPN, Cibertec, and Laureate, aged between 0 and 3 years.

During the months of July and November, employees had the opportunity to bring their children to the UPC facilities for a free anemia detection evaluation. Additionally, specialized nutritional counseling was provided to promote proper nutrition and prevent future cases of anemia.



COVID-19 and Food Insecurity in Latin America and the Caribbean



Authors: Hernández-Vásquez, A., Visconti-Lopez, F.J., Chacón-Torrico, H., Azañedo, D.

Abstract: The objective was to determine the prevalence of household food insecurity (FI) in Latin America and the Caribbean (LAC) during the COVID-19 pandemic. Secondary analysis was performed using the waves 1 to 3 of the 2020 COVID-19 High Frequency Phone Surveys in 13 LAC countries. The countries with the highest FI in the first wave were Honduras (60.3%), Peru (58.1%) and Ecuador (57.9%). Likewise, the countries with the greatest differences in the prevalence of FI between the first and last waves in percentage points (PP) were Peru (-29), Guatemala (-27.7) and Bolivia (-21.8). LAC countries face a great burden of FI.

Keywords: COVID-19, Food insecurity, Latin America

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<https://doi.org/10.1080/19320248.2022.2086023>



Demand management process assessment in food supply chains: an empirical study in coffee supply chains from Peru



Authors: Flores, R., Lazaro, E., Ramos, E., Coles, P.S.

Abstract: High demand management uncertainty and price volatility, food spoilage and other wastes affect operational performance across the food supply chain. The demand management process of the food supply chain can drive improved sourcing and demand fulfilment, minimising the effects of demand variability and meet customer demand. This research creates an evaluation tool based on a literature review of the main processes of demand management in the supply chain. This study evaluates aspects of three principal Peruvian production centres. Data was obtained from farmers, cooperatives, associations, suppliers, intermediaries, and exporters. The results show none of them has yet managed to cover all relevant aspects of demand management, that is, there are still strategic and operational areas in need of further development. Furthermore, with input of experts, we provide a greater understanding of the coffee industry, and other agribusiness sectors of other emerging market economies.

Keywords: demand management; supply chain; process assessment; food supply chain; coffee.

International Journal of Process Management and Benchmarking, Vol. 14, pgs. 261-283

<https://doi.org/10.1504/IJPMB.2023.130920>



Green lean method to identify ecological waste in a nectar factory



Authors: Erquínigo, A.B., Porras, J.O., Saavedra, H.Q., Chamorro, P.C., Alva, R.M., Carhuapuma, P.V.

Abstract: Nowadays, the waste of resources has become one of the biggest problems for industries, due to the serious environmental, social and economic consequences it generates. Therefore, to ensure a production based on sustainable processes, it's essential to have a responsible management of resources, being the first step one of the most important ones, the identification. Thus, the present research work aims to develop and implement a method based on the integration of Green and Lean methodologies to systematically identify ecological waste, taking as a case study a nectar factory in Lima - Peru. Through the implementation of tools such as Environmental Value Stream Mapping, Process Mapping or Failure Mode and Effects Analysis, it was found that the company generated a waste of 1584 litres of water and 38.5 kg of conditioned fruit every month. The identification of green waste is vital, as it is the first link in a long chain that contributes directly to improving the company's efficiency, profitability and reputation, as well as protecting the environment and promoting sustainable development.

Keywords: Green Lean, Food production, Waste identification, Sustainable process

International Journal of Production Management and Engineering, Vol. 11, pgs. 197-207

<https://doi.org/10.4995/ijpme.2023.19598>



Prevalence and socioeconomic determinants of food insecurity among Venezuelan migrant and refugee urban households in Peru



Authors: Hernández-Vásquez, A., Vargas-Fernández, R., Visconti-Lopez, F.J., Aparco, J.P.

Abstract: Introduction: Food insecurity (FI) is a public health problem affecting many regions of the world. In Venezuela, the political, social and economic situation experienced since 2010 has caused a mass migration of its population to other countries, including Peru, which, in turn, may have limited access to and availability of food leading to a high nutritional burden in this population. The objective of this study was to determine the prevalence and analyze the determinants of FI in the households of Venezuelan immigrants in Peru.

Methods: A cross-sectional study was conducted using the “Encuesta Dirigida a la Población Venezolana que Reside en el País” (ENPOVE 2022). The dependent variable was moderate-severe FI (yes/no), which was constructed from an eight-item Food Insecurity Experience Scale (FIES) to measure FI at the household level. Poisson log generalized linear regression models were fitted to assess the association between the independent variables and FI. In addition, the reliability of the FIES as a tool for measuring food insecurity in the target population was determined.

Results: A total of 3,491 households with Venezuelan migrants and refugees were included in the analysis. We found that 39.0% of Venezuelan immigrant households in Peru experienced moderate-severe FI. The determinants of FI included socio-demographic characteristics of the household head, and economic and geographical characteristics of the



Prevalence and socioeconomic determinants of food insecurity among Venezuelan migrant and refugee urban households in Peru



household. Regarding the FIES, we found that the inclusion of 7 of the 8 items had adequate internal consistency and its items assessed the same latent range.

Discussion: This study highlights the need to identify determinants associated with FI to design strategies that mitigate the consequences of health crises and strengthen regional food systems, making them more sustainable. Although several studies have evaluated the prevalence of FI in Venezuelan migrant populations in other countries, this study is the first to evaluate the determinants of FI in Venezuelan immigrant households in Peru.

Keywords: Peru; Venezuela; cross-sectional studies; emigrants and immigrants; food insecurity; prevalence; refugees.

Frontiers in Nutrition, Vol. 10, 15 June 2023

<https://doi.org/10.3389/fnut.2023.1187221>



Food Insecurity and Mental Health among Venezuelan Migrants and Refugees Living in Peru: Secondary Data Analysis of a Cross-Sectional Survey



Authors: Hernández-Vásquez, A., Visconti-Lopez, F.J., Rojas-Cueva, A.C., Grendas, L.N., Azañedo, D.

Abstract: The objective of this study was to analyze the association between food insecurity and mental health in Venezuelan migrants and refugees residing in Peru using data from the Survey Directed at the Venezuelan Population Residing in the Country (ENPOVE) conducted in 2022. The analysis included 7739 Venezuelan adults. The presence of mental health problems was self-reported, and household food insecurity was measured using the Food Insecurity Experience Scale. The study found that 4 out of 10 participants lived in households with moderate to severe food insecurity, and around 10% reported experiencing some mental health problem in the last month. The study identified a positive association between living in households with moderate to severe food insecurity and having some mental health problem compared to living in households without food insecurity. The findings suggest that food insecurity is a common problem among the Venezuelan migrant population residing in Peru, and measures are required to address this problem and mitigate its consequences on mental health and other health problems. The study highlights the need for international organizations to provide assistance and support to these populations and ensure adequate and sustainable follow-up of food insecurity at the national level. It is also necessary to implement early detection tests for mental health problems in the migrant population, especially in individuals exposed to food insecurity. This study provides relevant evidence for addressing public health in the Venezuelan migrant population residing in Peru.

Keywords: food insecurity; mental health; emigrants and immigrants; refugees; cross-sectional studies; Peru

Nutrients, Vol. 15, 15 June 2023

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Trends in stunting according to regions of Peru and sex: Period 2007-2018



Authors: Aparco, Juan Pablo; Morales-Cahuancama, Bladimir; Alvis Chirinos, Katherine; Solis, Gilmer

Abstract: Introduction: Stunting shows a downward trend in Peru; however, this behavior is not homogeneous between regions or sex. Objective: To determine the trend of stunting according to political region and sex in Peru during the period 2007-2018. Materials and methods: An observational analytical study was carried out using the databases of the Encuesta Demográfica y de Salud Familiar (ENDES) between the years 2007 to 2018. Regions were ranked according to their relative difference in DCI reduction. The Chi Square Trend test was used to identify significant differences between the years for each region; In addition, the ratio between girls and boys with stunting by region and year was assessed, applying Pearson's Chi-Square test for difference in proportions. Results: At the national level, the DCI was reduced by 17 percentage points, this reduction was significant in 22 of 24 regions. The regions with high performance in DCI reduction were Tacna, Cusco and Madre de Dios, while La Libertad, Cajamarca and Loreto appeared with low performance. In addition, there was a higher frequency of DCI in boys than in girls and in rural areas than in urban areas in most regions, especially in the mountains. Conclusions: During the study period, the stunting was significantly reduced, this change was heterogeneous, showing regions with high and low performance in the reduction. In addition, a greater involvement of the stunting was observed in men under 5 years of age. It is necessary to evaluate the local factors that prevent a high performance in the reduction of stunting.

Keywords: Child Malnutrition; Health Surveys; Gender and Health; Child; Trends.

Rev. Cuerpo Med. HNAAA, Vol 16 (Supl. 1) – 2023

<http://hdl.handle.net/10757/669053>



Socio-demographic, migratory and health-related determinants of food insecurity among Venezuelan migrants in Peru



Authors: Ali Al-Kassab-Córdova, David Villarreal-Zegarra, Guido Bendezu-Quispe, Pamela Robles-Valcárcel, Percy Herrera-Añazco, Vicente A Benites-Zapata

Abstract:

Objective: To evaluate the factors associated with food insecurity (FI) among Venezuelan migrants residing in Peru. Secondly, to evaluate the psychometric properties of the Food Insecurity Experience Scale (FIES).

Design: A cross-sectional study based on secondary data analysis of the 2022 Venezuelan Population Residing in Peru Survey (ENPOVE-2022, from the Spanish acronym) was conducted. FI was measured with the FIES, whose properties were tested using the Rasch model. Multinomial logistic regression was performed to estimate relative prevalence ratios with their corresponding 95 % confidence intervals.

Setting: This survey was conducted in February and March 2022 in the eight cities most populated by Venezuelan migrants and refugees in Peru.

Participants: Venezuelan migrants and refugees over the age of 18 years living in Peru.

Results: A total of 7727 participants were included. Rasch reliability was adequate (0.73). The prevalence of mild, moderate and severe FI was 36.71 %, 31.14 % and 10.48 %, respectively. Being aged 25-34 and 35-44 years, unemployed, uninsured, having no formal education or secondary, illegal status, living in a dwelling with 2-4 and more than 4 people,

Socio-demographic, migratory and health-related determinants of food insecurity among Venezuelan migrants in Peru



presenting one or more than one chronic disease, residing in Peru for 0-6 months and perceived discrimination were associated with a higher probability of moderate FI. Furthermore, having secondary education, being unemployed, uninsured, never married, illegal, residing in Tumbes, presenting one or more than one chronic disease and perceived discrimination were significantly associated with severe FI.

Conclusion: Four out of ten Venezuelan migrants residing in Peru presented moderate to severe FI. The FIES showed adequate psychometric properties. Differences in the socio-demographic, health and migratory factors associated with FI levels were found. Inter-sectoral and multi-sectoral interventions are needed and should be focused on addressing the determinants of FI.

Keywords: ChFood insecurity; Peru; Transients and migrants; Venezuela.

Public Health Nutrition. 2023;26(12):2982-2994.

<https://doi.org/10.1017/s1368980023002513>



A design and analysis of an autonomous ground vehicle to automate the process of transplanting rice



Authors: Roel Caballero, Ricardo Palma and Leonardo Vincés.

Abstract: Precision agriculture brought with it the implementation of new digital technologies, mainly autonomous vehicles, satellite images, IoT and artificial intelligence, to provide economic, productive, and environmental benefits in the agricultural field. However, the main applications are focused on data management and monitoring of crop fields, so agricultural processes such as planting and harvesting are not yet fully automated. A clear example of this occurs in the cultivation of rice, which despite being one of the most important agricultural products in the world, the manual production method continues to predominate in developing countries. This work presents a design of an autonomous terrestrial vehicle capable of carrying out the rice transplantation process, having as its main characteristics its ability to move in the field of cultivation at a speed of 0.75m/s, transport a payload of up to 20kg and possess an autonomy of 1 hour. Which translates into an effective field capacity (EFC) of 0.21 ha/h, an operational equivalence of 7 workers/hour and an increase in the productivity of the transplant process of 200% with respect to the manual process. It seeks to provide farmers in developing countries with an affordable option, supported by numerical simulations, with which they can obtain the benefits of precision agriculture in the process of transplanting rice. In such a way, that the manual production of rice and its disadvantages such as low productivity, the physical consequences for the farmers and the limitations against expensive machinery are replaced by the automation proposal.

Keywords: Precision agriculture, rice transplantation, UGV, autonomous vehicle, skid-steering mobile robot, numerical simulation. Leadership in Education and Innovation in Engineering in the Framework of Global Transformations: Integration and Alliances for Integral Development”, Hybrid Event, Buenos Aires - ARGENTINA, July 17 - 21, 2023.

<https://dx.doi.org/10.18687/LACCEI2023.1.1.808>



Digital transformation as a contributor of efficiency and resilience in the agri-food supply chain: A literature review



Authors: Claudio Jesús Cabrera Borjas, Nicole Magnolia Chuque Pacheco, Sabrina Beatriz Tutaya Gálvez, Alvaro Mariano Mejia Mendivil, Delia Mercedes Cerna Huarachi and Julio Ricardo Moscoso Cuaresma

Abstract: The main aim of this research is to determine the effects of digital transformation as a factor contributing to efficiency and resilience in the supply chain agri-food value chain as well as, to analyze the main technological trends for the companies of this sector. The methodology employed is a literature review of 31 papers from the Scopus and Science Direct databases. The results show that digitalization brought many benefits, but also challenges. The different ways in which this technology has contributed have been analyzed.

Keywords: Digital transformation, Supply Chain, Resilience, Efficiency, Agri-food Industry

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Can public credit programs improve artisanal fisher performance? The case of FONDEPES a credit program



Authors: Lourdes Alvarez a, Gregory Arcaya, Francisco Cueto, Renato de la Torre

Abstract: In this study, we show the effects of the FONDEPES credit program - a government public credit program focused only on artisanal fishers – on profits, associativity, fish landing centers (DPA), sales destinations, and employment. We take advantage of the program’s selection mechanism and the National Artisanal Maritime Census data 2012 to apply a Propensity Score Matching (PSM) methodology. The results show that receiving the credit from the program improves the profits, associativity, and sales destination. Additionally, the results are robust under different matching types, covariate balance, inverse-probability-weighted (IPW), and non observable tests. Overall, the evidence found in this analysis suggests that the FONDEPES credit program can help artisanal fishers improve their performance. However, there are differences between the outcomes of fishermen and ship-owners, the latter being the largest. It is recommended to focus on the group of fishermen by government entities to provide training and assistance in administrative issues to leap productivity to become a ship-owner. Exploring other credit products that replace the dependence on financing from intermediaries is recommended in ship-owners’ cases.

Keywords: Public credit, Financing, Artisanal fishing, PSM, IPW, Peru

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