Journal Semestre Económico
Vol. 14, No. 1, Month January-June, 2025
ISSN: 2072-0572 (Print version) | 2523-0840 (Digital version)
DOI. 10.26867/se.2025.v14i1.184, pp. 95-106
http://semestreeconomico.unap.edu.pe/index.php/revista/index

ORIGINAL ARTICLE

Management of the National Rural Sanitation Program and its impact on quality of life: Case of the Yunguyo population centers, Puno, Peru

Gestión del Programa Nacional de Saneamiento Rural y su impacto en la calidad de vida: Caso centros poblados de Yunguyo, Puno-Perú

Carol Fabiola Véliz-Gonzales,[*†] Tomás Véliz Quispe,[‡] Elida Vianey Mamani Navarro,[¶] y Jorge Eduardo Véliz Zeballos[§]

†Universidad Nacional de San Agustín, Arequipa Perú; ORCID:[0000-0002-9078-0762]
‡Universidad Nacional del Altiplano, Puno Perú; ORCID:[0000-0003-4383-0365]
¶Universidad Nacional del Altiplano, Puno Perú; ORCID:[0009-0006-6409-4730]
§City Gate Industrial S.A.C., Arequipa Perú; ORCID:[0000-0002-9175-0979]
*Correspondence to email: cvelizg@unsa.edu.pe

(Received November 16, 2024; accepted March 23, 2025)

Abstract
The results chain is a key tool to explain how public services of the State contribute to the creation of public value. The objective of this study was to evaluate the management of the National Rural Sanitation Program - Water and Sanitation Service and its impact on the quality of life of the population centers of Yunguyo, Puno, Peru. Using a quantitative approach and correlational design, a structured survey was applied to a sample of 285 beneficiary users. The data were analyzed using Spearman's correlation coefficient, obtaining a considerable positive correlation (Rho= 0.656) between program management and improvement in quality of life. The results show the effectiveness of corrective and preventive maintenance activities of the water system, although it is recommended to strengthen disinfection and water quality. In terms of quality, improvements are concentrated in the aspects of social inclusion and emotional well-being.

Keywords: Results chain, improvement impacts, water services, rural basic sanitation.

Resumen
La cadena de resultados es una herramienta clave para explicar cómo los servicios públicos del Estado contribuyen a la creación de valor público. El objetivo del presente estudio ha sido evaluar la gestión del Programa Nacional de Saneamiento Rural – Servicio de Agua y Saneamiento y su impacto en la calidad de vida de los centros poblados de Yunguyo, Puno Perú. Utilizando un enfoque cuantitativo y diseño correlacional, se aplicó una encuesta estructurada a una muestra de 285 usuarios beneficiarios. Los datos fueron analizados mediante el coeficiente de correlación de Spearman, obteniéndose una correlación positiva considerable (Rho=0.656) entre la gestión del programa y la mejora de calidad de vida. Los resultados muestran la eficacia de las actividades de mantenimiento correctivo y preventivo del sistema de agua, aunque se recomienda fortalecer la desinfección y calidad del agua. En términos de calidad, las mejoras se concentran en los aspectos de inclusión social y bienestar emocional.

Palabras clave: Cadena de resultados, impactos de mejora, servicios de agua, saneamiento básico rural.

1. Introduction

The United Nations warns that compliance with Sustainable Development Goal (SDG) 06, to ensure water and sanitation for all by 2030, is still far from being achieved (Development Bank of Latin America and the Caribbean [CAF], 2021). In 2015, one in three people using safely managed and uncontaminated water services lived in rural areas; at least 46 million rural residents lack access to safe drinking water and approximately 21 million lack access to sanitation facilities (World Health Organization and United Nations Children's Fund [UNICEF], 2017) and Castro, 2019) . This evidences the difficulties of scarcity and limitations of access to water services, safe and readily available sanitation at home.

In Peru, social inclusion strategies through the National Rural Sanitation Program seek to benefit the quality of life of rural communities, but they are not always adequate because they do not cover the costs of water and sanitation systems, and because they are not fully covered, they generate a low level of attention from the state (Castro, 2019) . The concept of quality of life, is more frequently used as a measure of well-being, derived from the personal satisfaction or dissatisfaction and in health evaluations (Urzúa and Caqueo-Urízar, 2012). In other words, despite the slow progress in rural programs for the installation of drinking water and others, the quality of public service provisions has not yet achieved significant advances.

The department of Puno, is the second region with the second largest deficit in access to drinking water from public network, with this the connection of homes connected to the drinking water network is not optimal, as most districts have a percentage below 25%, only 12.5% of the population consumes chlorinated water; at the level of the province of Yunguyo in water and sanitation infrastructure, only 53% of the population have homes connected to the drinking water network (INEI, 2020) . In this sense, despite the fact that the most reliable way to access safe water is through the public network, a significant percentage of the population in districts of Puno lacks adequate access to this basic service.

Thus, the research objective is to evaluate the management of the National Rural Sanitation Program - Water and Sanitation Service and its impact on the quality of life of the Yunguyo, Puno population centers: A public results chain model.

2. Public results chain model

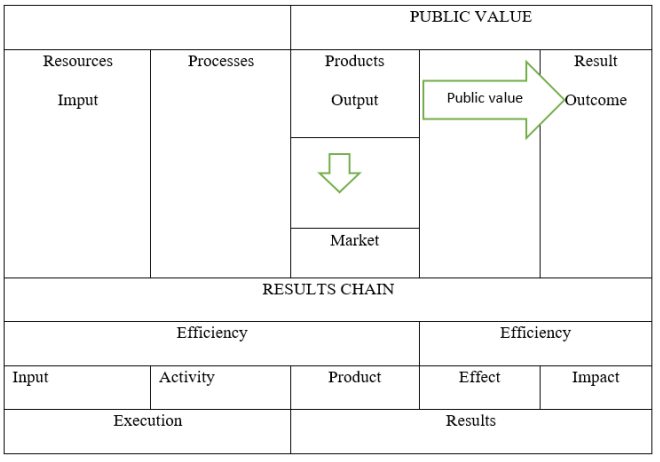
In the management of investment projects, Lupa (2022) emphasizes that budgeting for results is the generation of systematic information on the efficiency and effectiveness of public spending, where efficiency explains the relationship between the physical production of a good or service and the inputs that were used to achieve that level of output.

The "public value chain" model, according to Alarcón et. al. (2020) and Alonso (2008), is a systemic and dynamic tool for integrating elements for evaluating results with effectiveness criteria, can be adapted to service provision and includes the state-society context, based on public policies and the coordination of interests. The planning of actions for capacity building should include the expected impact in terms of improving the management of sanitation services at the national level (Legislative Decree No. 1280, Framework Law on the Management and Provision of Sanitation Services, 2016).

From a perspective of functions in chain management, Sotelo (2012) and the Latin American Center of Administration for Development [CLAD] (2007) integrate five functions: Production of public policies and objectives: strategic planning, operational performance planning, budget formulation, monitoring and evaluation of results measurement.

Under another foundation of relationships the "results chain", consider Durán & Zaclicever (2013); Hernández (2017); García López and García Moreno (2010) is a linear sequence and feedback model of cause and effect relationships: inputs, activities, output, result or outcome, and impact.

Figure 1. Contribution of results-based management: Results chain and public value



Source: Adapted from Latin American Center for Development Administration [CLAD] (2007) and Organization for Economic Cooperation and Development [OECD] - and World Bank (2005).

Currently, according to García López and García Moreno (2010), "The great change proposed by results-based management is to put the desired results first and, based on these, define the best combination of inputs, activities and outputs to achieve them" (p. 8). This perspective differs from the traditional model, which is based on inputs and activities to achieve results management.

2.1 Results chain: In water and sanitation quality and services

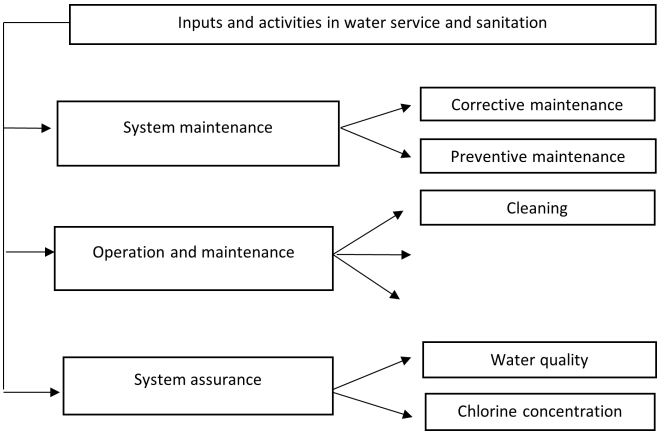
Inputs are defined by Palomino (2021) as physical, technological and human resources that are part of the production of other goods, including materials, equipment, people, methods, instruments, etc.; activities are the actions proposed as goals or objectives; they are operations or activities after the project has been delivered to the beneficiaries. Activities to improve the provision of services and water quality in rural areas include: corrective and/or preventive maintenance; operation in conditions of cleanliness, disinfection and coloration of water; guaranteeing the supply of water for human consumption according to quality standards (Ministry of Economy and Finance, 2021). In other words, the inputs are made up of budgetary resources, materials, personnel, technical dossier; the activities are the transformation of inputs into products, mobilization of resources, construction of works, acquisition of equipment (Lupa, 2022).

In relation to maintenance, the Sp anish Association for Standardization (2011) defines preventive maintenance as predetermined maintenance that is executed with established time intervals according to recommendations and in compliance with standards; and corrective maintenance is executed after the failure leading to a state to develop the required function. In this sense, the system maintenance activity refers to the actions to be performed in the facilities and equipment to prevent or repair damage that impairs its proper functioning.

Water supplied to households must first be cleaned and then disinfected to eliminate negative pathogenic microorganisms in health, with high concentrations of calcium or sodium hypochlorite; the calibration of drinking water meters consists of determining the measurement error of a certain water meter with respect to a volume of reference (Ministerio de Vivienda Construcción y Saneamiento, 2021; Municipalidad Provincial de Junin, 2021). Sanitation services management boards manage, operate and maintain water cleaning and disinfection services.

Chlorine concentration is a process of applying chlorinated substances to the water supply to disinfect it; it is analyzed in the laboratory and is adjusted to sanitary recommendations (Municipalidad

Figure 2. Management of the basic public service system "Water and sanitation".



Note: Adapted from Ministry of Economy and Finance, 2019 Municipal Management Improvement Incentive Program; Improvement in Service Provision and Water Quality.

Provincial de Junin, 2021) . Drinking water supply and sanitation, according to Rojas, et al. (2022) must be adequate and of high quality, using efficient technologies for the sustainable use of the resource, must make use of treatment processes and comply with the permissible limits of contaminants.

2.2 Results chain: impact on quality of life.

The National Water Authority (2017) in monitoring the goals of SDG 6 "Clean water and sanitation" considers water and sanitation as a planning instrument for the management of sustainable public services; this has an impact on sustainable and socially responsible consumption from the perspective of the SDGs and is linked to the impacts of health and well-being SDG 03, education and quality SDG 04, and responsible production and consumption SDG 12 (Acuña-Moraga, 2022). The sustainability of new public services, including drinking water services, means that due to population growth and the lack of awareness of some people, these resources are wasted, affecting the quality of life of many families in rural areas (Hernández, 2009).

The management of performance results products output, effects or results outcome and impact allows the creation of public value (Latin American Center of Administration for Development [CLAD], 2007). Now, according to Lupa (2022), the products are the projects concluded and deliverable to the target population; the results are the projects in operation that are perceived as improvements in teaching and learning processes; the impact changes in the long term, such as the quality of employment upon insertion into the labor market. In other words, the products are the deliverable goods and services, the effects are changes in the citizenry as a consequence of the delivery of the products or services, and the impact are sustainable changes in the social situation of people's quality of life conditions.

The traditional determinants of quality of life, according to the World Bank, include access to education or to public utilities, as well as income and expenses for the characterization of poverty (Pardo & Vásquez, 2007).

Quality of life from a health perspective, according to Schwartzmann, (2003) and Meeberg, (1993) evaluates elements such as: feeling of satisfaction with life; satisfactory or not mental capacity; acceptable physical (morbidity and mortality), mental and emotional (symptoms and emotional state) health status; social relationships (social network, role functioning) and living conditions.

2.3 Results chain: impact on quality of life.

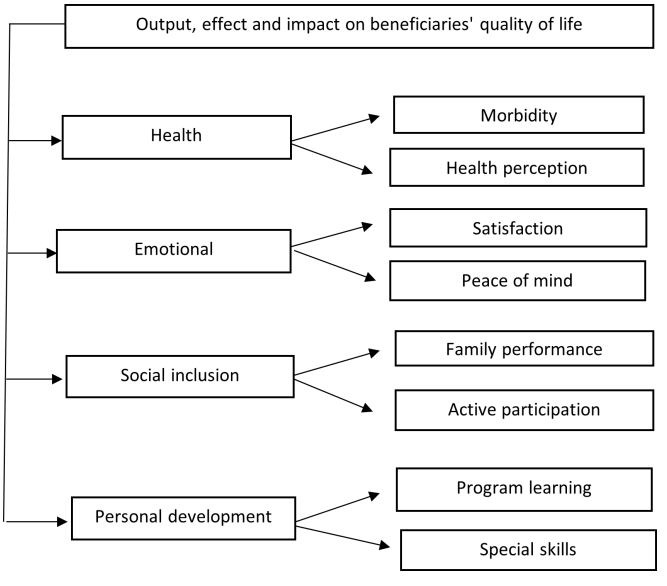
The National Water Authority (2017) in monitoring the goals of SDG 6 "Clean water and sanitation" considers water and sanitation as a planning instrument for the management of sustainable public services; this has an impact on sustainable and socially responsible consumption from the perspective of the SDGs and is linked to the impacts of health and well-being SDG 03, education and quality SDG 04, and responsible production and consumption SDG 12 (Acuña-Moraga, 2022). The sustainability of new public services, including drinking water services, means that due to population growth and the lack of awareness of some people, these resources are wasted, affecting the quality of life of many families in rural areas (Hernández, 2009).

The management of performance results products output, effects or results outcome and impact allows the creation of public value (Latin American Center of Administration for Development [CLAD], 2007). Now, according to Lupa (2022), the products are the projects concluded and deliverable to the target population; the results are the projects in operation that are perceived as improvements in teaching and learning processes; the impact changes in the long term, such as the quality of employment upon insertion into the labor market. In other words, the products are the deliverable goods and services, the effects are changes in the citizenry as a consequence of the delivery of the products or services, and the impact are sustainable changes in the social situation of people's quality of life conditions.

The traditional determinants of quality of life, according to the World Bank, include access to education or to public utilities, as well as income and expenses for the characterization of poverty (Pardo & Vásquez, 2007).

Quality of life from a health perspective, according to Schwartzmann, (2003) and Meeberg, (1993) evaluates elements such as: feeling of satisfaction with life; satisfactory or not mental capacity; acceptable physical (morbidity and mortality), mental and emotional (symptoms and emotional state) health status; social relationships (social network, role functioning) and living conditions.

Figure 3. Quality of life



Note: Adapted from Schwartzmann, (2003) health-related quality of life and Rojas (2019) quality of life of beneficiaries of the National Rural Housing Program, Arequipa. Quality.

The health factor, considers the morbidity or state of well-being, physiological and psychological that affects the person and is part of the physical condition of health ; as well as the recognition either

after having suffered some disease or being with the same (Matos et al., 2005 ; Castro, 2019).

The emotional factor, for Rojas (2019) considers that satisfaction has a connection with emotional well-being. According to Beltran & Arellanez (2020) satisfaction is a subjective value judgment, about some life events that a person experiences in the long term, while happiness is a balance of positive and negative effects caused by an immediate experience. According to Alarcón & Caycho (2015) a person's emotional tranquility is evidence of personal fulfillment, based on an orientation towards important goals for his or her life, and is linked to happiness.

The social inclusion factor is considered as active cooperation of the family members, it is oriented to the context of influence of their first patterns of behavior, values and ideals and reinforces the group significantly. (Martinez, et al. 2020). Active participation, is the implication of a real act of directly and actively intervening in personal actions, which have an interest in a project being carried out and in benefiting from its results (Matos, et al. 2014).

The personal development factor, refers Reyes-Masa et al. (2021) and Valdés, et al., (2020) is the possibility of learning different things, knowledge and personal fulfillment; it includes indicators of work skills, personal competence, adaptive behavior; social skills are learned in different ways: by direct experience and observation; one learns to act as a result of models.

Pardo & Vásquez (2007) "the increase in the coverage of public services improved the quality-of-life conditions of the poorest, thus improving the levels of equity in the city of Bogotá" (Page 60).

According to, Castro (2019) the results of the National Rural Sanitation Program have a medium positive relationship with the level of quality of life, verified by the "r" value 0.683 of the Spearman Correlation test. For, Hilares (2018) the coefficient "r" 0.581 shows a moderate correlation with the quality of life.

3. Materials and Methods

The research was carried out with a target population of residents living in rural communities ranging between 200 and 2000 inhabitants, beneficiaries of the National Rural Sanitation Program in 2020: Populated Centers (C.P.) of the province of Yunguyo, Puno, Peru: C.P. Choquecahaca, Hunumani, Tahuaco, Acari central, Imicate, Sanquira Ujanapa. A "Centro Poblado", according to Supreme Decree N° 019-2003-PCM (February 21, 2003) is defined as any place in the national rural or urban territory, inhabited with the intention of permanence, linked by common economic, social, cultural and historical interests; they can be categorized according to their population as: hamlet, town, village, city and metropolis.

According to Castro (2019) ; Cairampoma and Villegas (2016) the National Rural Sanitation Program - PNSR, was created in 2012, with the main purpose of ensuring and preserving the basic services of rural communities, in relation to the improvement of renovation and/or creation of access to drinking water and sanitation services;

The approach is quantitative, descriptive-correlational and cross-sectional. The population considered was a total of 1099 beneficiaries of the National Rural Sanitation Program of the Yunguyo P.P. and the sample consisted of 285 users. The technique used was the survey and the instrument was a structured questionnaire for both variables. Before being applied, the instruments were reviewed by experts in the field, and their reliability was determined by Cronbach's alpha with a result of 0.77 for the water and sanitation service management variable and 0.89 for the quality of life variable.

4. Results

4.1 Execution in the results chain: National Rural Sanitation Program - Rural water and sanitation services.

Table 1, in relation to the National Rural Sanitation Program - Rural Water and Sanitation Service, mentions in corrective maintenance activities always 44.9%, in preventive maintenance almost always 35.1%, in water system activities calibration always 33.3%, in cleaning almost always 28.1%, in water

Table 1. Perception of the management activities of the National Rural Sanitation Program - water and sanitation service.

Services water and sanitation	Always		Almost always		Sometimes		Almost never		Never		Observac
	F	%	F	%	F	%	F	%	F	%	
Corrective maintenance	128	44.9	41	14.4	50	17.5	38	13.3	28	9.8	Always
Preventive maintenance	58	20.4	100	35.1	65	22.8	34	11.9	28	9.8	Almost always
Cleaning	34	11.9	80	28.1	65	22.8	67	23.5	39	13.7	Always
Disinfection	42	14.7	36	12.6	60	21.1	75	26.3	72	25.3	Almost never
Calibration	95	33.3	59	20.7	39	13.7	37	13.0	55	19.3	Always
Water quality	46	16.1	35	12.3	31	10.9	73	25.6	100	35.1	Never
Chlorine concentrate	98	34.4	83	29.1	45	15.8	29	10.2	30	10.5	Always
Average	72	25.1	62	21.8	51	17.8	50	17.7	50	17.6	

Note: Based on a survey of beneficiaries of the National Rural Sanitation Program - Rural Water and Sanitation Service.

disinfection almost never 26.3%; in water guarantee the presence of chlorine concentration always 34.4% and in water quality never 35.1%. The findings for improvement in the management of the water and sanitation system are concentrated in disinfection and water quality.

4.2 Outcomes in the results chain: impact on quality of life.

Table 2. Perception of beneficiaries' quality of life

Quality of life	Always		Almost always		Sometimes		Almost never		Never		Observat.
	F	%	F	%	F	%	F	%	F	%	
Health	79	27.8	64	22.5	57	20.0	47	16.5	38	13.2	Always
Emotional	64	22.5	49	17.1	69	24.3	54	19.0	49	17.1	Sometimes
Social inclusion	54	19.0	64	22.5	81	28.4	52	18.1	34	12.0	Sometimes
Personal development	72	25.1	78	27.5	55	19.3	37	13.0	43	15.1	Almost always
Total average	67.75	23.6	63.75	22.4	65.5	23.0	47.5	16.7	41	14.3	

Note: Based on a quality of life survey of beneficiaries in communities.

In Table 2, in relation to the quality of life of the beneficiaries of the National Rural Sanitation Program, 27.8% always mentioned in the health factor, 24.3% in the emotional factor sometimes, 28.4% in the social inclusion factor sometimes, and 27.5% in the personal development factor almost always. The findings for the effect of improvement in the management of quality of life are concentrated in the emotional factor and social inclusion.

In the management of the National Rural Sanitation Program – Water and sanitation services in the province of Yunguyo, a correlation of Rho 0.656 was obtained, a considerable positive correlation, with a bilateral sig. of 0.000, that is, less than 0.005.

H1: There is a relationship between the management of the National Rural Sanitation Program – Water and Sanitation Service and the quality of life of the beneficiaries of the C.P. of Yunguyo, Peru.

H0: There is no relationship between the management of the National Rural Sanitation Program – Water and Sanitation Service and the quality of life of the beneficiaries of the C.P. of Yunguyo, Peru.

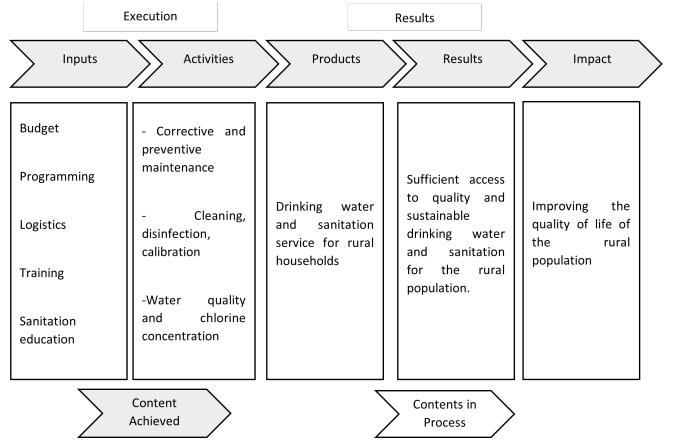
Table 3 shows the significance value which is 0.000 and is less than 0.05 ($p = 0.000<0.05$) so we reject the null hypothesis and accept the alternative hypothesis, that is to say that there is a significant relationship between the management of the National Rural Sanitation Program – Water and Sanitation Service and the quality of life in the beneficiaries of the C.P. of Yunguyo, Peru

Tabla 3. Relationship between the management of the National Rural Sanitation Program - Rural water and sanitation public service and the quality of life in Yunguyo, Peru.

			Quality of life	Rural NSP - Service water and sanitation
Spearman's Rho	**Quality of life**	Correlation coefficient	1.000	0.656**
		Sig. (bilateral)		0.000
		N	285	285
	Rural NSP	Correlation coefficient	0.656**	1.000
	Water and sanitation service	Sig. (bilateral)	0.000	
		N	285	285

**. Correlation is significant at the 0.01 level (bilateral)..

Figure 4. Management Results Chain Model of the National Rural Sanitation Program – Water and sanitation services and their impact on the quality of life.



Source: Own elaboration

5. Discussion

The statistical results of our research showed that the National Rural Sanitation Program – Water and Sanitation Service had an impact on the quality of life of the beneficiary population, obtaining an average value of the Spearman correlation coefficient Rho 0.656. This result is consistent with Castro (2019) with the value "r" 0.683; and Hilares (2018) with the coefficient "r" 0.581 of moderate correlation.

The attention of the state with the National Rural Sanitation Program – Public water and sanitation services, allows providing better quality of life conditions in the rural beneficiary population, it is highlighted in our research the role of the state through local governments and community organizations of Boards of Directors in charge of sanitation services tasks, the responsible participation of efficient and sustainable provision in monitoring and technical assistance in the provision of water and sanitation services. According to Pardo, C. & Vásquez, S. (2007) the increase in the coverage of public services improves the quality of life conditions and levels of equity of the poorest in the city of Bogotá.

The department of Puno is considered the region with the second largest deficit in access to

drinking water from the public network, as most districts have a percentage below 25%, as well as only 12.5% of the population consumes chlorinated water; in the case of Yunguyo only 53% of the beneficiary population have homes connected to the public drinking water network (INEI, 2020) . In our research, the results of water guarantee with the presence of chlorine concentration always 34.4%, but not in water quality never comes very clean 35.1% and in water disinfection almost never 26.3%. In other words, water and sanitation services are not optimal and require improvements in the water system and compliance with quality standards. Rojas, et al. (2022) adds that the efficient and sustainable provision of drinking water and sanitation must adhere to quality standards, treatment processes and comply with the permissible limits of contaminants.

The improvement of the quality of life seeks to rescue the sustainable development goals. According to, the National Water Authority (2017); Acuña-Moraga (2022) and Hernández (2009) we find SDG 06 "Clean water and sanitation", the monitoring or sustainable management of its goals has an impact on health and well-being (SDG 03), education and quality (SDG 04), responsible production and consumption. Given the population growth and the lack of awareness of some people to waste scarce resources such as water, it affects the quality of life of families in rural areas.

The findings of our research on the improvement of the quality of life are concentrated in the social inclusion factor of 28.4% and emotional 24.3%, which are sometimes taken into account. In Peru, the implementation of the National Rural Sanitation Program contributes to social inclusion, with the purpose of benefiting the quality of life of the rural population, these are not adequate because they do not cover the costs of water and sanitation systems generating low attention (Castro, 2019).

6. Conclusions

The management of the National Rural Sanitation Program - Water and Sanitation Services and quality of life show a significant relationship, with a considerable positive correlation of Rho 0.656.

In the National Rural Sanitation Program - Water and Sanitation Service in Yunguyo, Puno, corrective maintenance activities are always carried out (44.9%) and preventive maintenance activities are almost always carried out (35.1%) in the water systems to guarantee their proper functioning; improvements in the water and sanitation system are concentrated in disinfection (26.3%) and in guaranteeing compliance with water quality standards (35.1%). Improvements in the quality of life are concentrated in the emotional factor that is sometimes treated, with 24.3%, and in social inclusion with 28.4%.

In the context of the results chain model of the National Rural Sanitation Program - Rural Water and Sanitation Services, the execution links of inputs and activities have been achieved, but work must continue on the results links that are in the process of improvement and significance for their sustainability, such as output, results and impact on the quality of life of the rural beneficiary population.

References

Acuña-Moraga, O., Severino-González, P., Sarmiento-Peralta, G., & Stuardo-Solar, C. (2022). *Sustainable consumption in Chile: an approach to sustainable development goals (SDGs)*. Información tecnológica, 33(4), 181–190. Disponible en: https://dx.doi.org/10.4067/S0718-07642022000400181

Alarcón, R., Salvador, Y., & Pérez, M. (2020). *La cadena de valor público en la evaluación del resultado de la gestión en los gobiernos locales*. Avances, 22(3), Instituto de Información Científica y Tecnológica. Disponible en: https://www.redalyc.org/articulo.oa?id=637869117003

Alarcón, R., & Caycho, T. (2015). *Relaciones entre gratitud y felicidad en estudiantes universitarios de Lima Metropolitana*. Psychologia: avances de la disciplina, 9(1), 59–69. Disponible en: https://www.redalyc.org/pdf/2972/297233780004.pdf

Alonso, G. (2008). *Marketing de servicios: reinterpretando la cadena de valor*. Palermo Business Review, 2, 83–96. Disponible en: https://www.palermo.edu/economicas/pdf_economicas/business_paralela/review/marketing_servicios.pdf

Asociación Española de Normalización. (2011). *Catálogo de Normas UNE*. Madrid, España. Disponible en: https://repository.uniminuto.edu/bitstream/10656/9922/1/TERLA_AcevedoPrederosCamilo_2019.pdf

Autoridad Nacional del Agua. (2017). *Síntesis del informe final del proyecto monitoreo integrado de las metas del ODS 6 relacionadas con agua y saneamiento (GEMI)*. Lima: Agua. Disponible en: https://www.ana.gob.pe/publicaciones/sintesis-del-informe-final-del-proyecto-monitoreo-integrado-de-las-metas-del-ods6

Banco para el desarrollo de América Latina y el Caribe [CAF]. (28 de abril del 2021). *Innovación social para mejorar el acceso de agua potable en zonas rurales*. Disponible en: https://www.caf.com/es/actualidad/noticias/2021/04/innovacion-social-para-mejorar-el-acceso-a-agua-potable-en-zonas-rurales/

Beltrán, L. F., & Arellanez, J. L. (2020). *Calidad psicométrica de la escala "Bienestar subjetivo y condiciones de vida" en adultos mexicanos*. Behavioral y Psychology/Psicología Conductual, 28(3), 477–497. Disponible en: https://www.researchgate.net/publication/347582755_Calidad_psicometrica_de_la_escala_Bienestar_subjetivo_y_condiciones_de_vida_en_adultos_mexicanos

Cairampoma, A., & Villegas, P. (2016). *El acceso universal al agua potable. La experiencia peruana*. Derecho PUCP, 76, 229–250. https://doi.org/10.18800/derechopucp.201601.009

Castro, R. (2019). *Gestión del Programa Nacional de Saneamiento Rural y su influencia en la calidad de vida de las comunidades del distrito de Pinto Recodo 2016* (Tesis de Maestría, Universidad Cesar Vallejo). Disponible en: https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/35770/Castro_SR.pdf

Centro Latinoamericano de Administración para el Desarrollo [CLAD]. (2007). *Modelo abierto de gestión para resultados en el sector público*. Revista del CLAD Reforma y Democracia, 39, 149–210. Disponible en: https://www.redalyc.org/articulo.oa?id=357533693007

Decreto Legislativo N° 1280. (28 de diciembre del 2016). *Ley marco de la gestión y prestación de los servicios de saneamiento*. Disponible en: https://elperuano.pe/normaselperuano/2016/12/29/1468461-1/1468461-1.htm

Decreto Supremo N° 019-2003-PCM. (21 de febrero del 2003). *Reglamento de la Ley de demarcación y organización territorial*. Disponible en: https://portal.jne.gob.pe/portal_documentos/files/procesoselectorales/Informacion%20Electoral/consulta_vecinal/Resoluciones/Reglamento%20de%20la%20Ley%20NÂž%2027795.pdf

Durán, J., & Zaclicever, D. (2013). *América Latina y el Caribe en las cadenas internacionales de valor*. Comisión Económica para América Latina y el Caribe (CEPAL), Serie Comercio Internacional, 124. Disponible en: https://www.cepal.org/sites/default/files/publication/files/35879/LCL3767.pdf

García López, R., & García Moreno, V. (2010). *La Gestión para Resultados en el Desarrollo: Avances y desafíos en América Latina y el Caribe*. Banco Interamericano de Desarrollo. Disponible en: https://publications.iadb.org/es/publicacion/16304/la-gestion-para-resultados-en-el-desarrollo-avances-y-desafios-en-america-latina

Hernández, D. (2017). *El modelo de la cadena de valor público: la producción pública*. Arxé. Política y Gobierno. Disponible en: https://www.researchgate.net/publication/317411826_El_modelo_de_la_cadena_de_valor_publico_I_la_produccion_publica

Hernández Aja, A. (2009). *Calidad de vida y medio ambiente urbano: indicadores locales de sostenibilidad y calidad de vida urbana*. Revista INVI, 24(65), 79–111. Disponible en: https://dx.doi.org/10.4067/S0718-83582009000100003

Hilares, M. (2018). *Saneamiento Básico Rural y la Sostenibilidad en los Pobladores de la Comunidad de Marcahuasi, Abancay, 2017* (Tesis de Maestría, Universidad César Vallejo, Perú). Disponible en: https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/37497/hilares_cm.pdf

Instituto Nacional de Estadística e Informática [INEI]. (2020). *Perú: Formas de Acceso al Agua y Saneamiento Básico*. Disponible en: https://www.inei.gob.pe/media/MenuRecursivo/boletines/boletin_agua_y_saneamiento.pdf

Lupa, T., Quispe, J. C., Enriquez, M. T., & Pilco, C. R. (2022). *Presupuesto por Resultados en la Gestión de Inversiones de la Universidad Nacional del Altiplano, periodo 2011-2020*. Semestre Económico, 11(2), 12–24. Disponible en: https://doi.org/10.26867/se.2022.v11i2.134

Martínez, G., Torres, M., & Ríos, V. (2020). *El contexto familiar y su vinculación con el rendimiento académico*. Revista de Investigación Educativa de la REDIECH, 11. Disponible en: https://www.redalyc.org/jatsRepo/5216/521662150008/html/index.html

Matos, F., Gómez, D., Del Castillo, L., & Gonzáles, J. (2005). *Fisioterapeuta del servicio de salud de la comunidad de Madrid. Temario*. Disponible en: https://books.google.com/books?id=KRmbq6QExWgC&pg=PA433

Matos, Y., Pasek, E., & Rojas, A. (2014). *Actividades para favorecer la participación de los padres y representantes en el preescolar*. Revista Sustentabilidad al Día, (8), 1–21. Disponible en: http://bdigital.ula.ve/storage/pdf/resustenta/n3/art06.pdf

Meeberg, G. A. (1993). *Quality of life: A concept analysis*. Journal of Advanced Nursing, 18, 32–38. Disponible en: https://doi.org/10.1046/j.1365-2648.1993.18010032.x

Ministerio de Economía y Finanzas. (2021). *Guía para el cumplimiento de la meta 5 del Programa de Incentivos a la Mejora de la Gestión Municipal 2021*. Disponible en: https://www.mef.gob.pe/contenidos/presu_publ/migl/metas/guia_Meta_5_PI_2021.pdf

Ministerio de Vivienda Construcción y Saneamiento. (2021). *Análisis de cumplimiento de la actividad 5*. Disponible en: https://www.mef.gob.pe/contenidos/presu_publ/migl/municipalidades_pmm_pi/meta5_6_Limpieza_y_desinfeccion_de_los_sistemas.pdf

Municipalidad Provincial de Junín. (2021). *Manual de operación y mantenimiento de agua potable y saneamiento*. Disponible en: http://minos.vivienda.gob.pe:8081/Documentos_SICA/modulos/FTA/SECCIONIV/4.14/87927230_manual%20de%20oym.pdf

Organización Mundial de la Salud & Fondo de las Naciones Unidas para la Infancia [UNICEF]. (2017). *Progresos en materia de agua potable, saneamiento e higiene: Informe de actualización de 2017 y línea de base de los ODS*. Ginebra. Disponible en: https://data.unicef.org/resources/progress-drinking-water-sanitation-hygiene-2017-update-sdg-baselines/

Organización para la Cooperación y el Desarrollo Económicos [OCDE] & Banco Mundial. (2005). *Libro de consulta sobre buenas prácticas recientemente identificadas de Gestión Para Resultados en el Desarrollo*. París: OCDE. Disponible en: https://www.oecd.org/dac/effectiveness/36853632.pdf

Organización Mundial de la Salud. (1998). *Guías para la calidad del agua potable*. Ginebra. Disponible en: http://apps.who.int/iris/bitstream/handle/10665/41985/9243545035-spa.pdf?sequence=1

Palomino, M. R. (2021). *Impacto de la Gestión por Resultados en la calidad de servicio de la administración educativa*. Centro Sur Social Science Journal, E4, 246–261. Disponible en: https://www.centrosureditorial.com/index.php/revista/article/view/121/482

Pardo, C., & Vásquez, S. (2007). *Calidad de vida y movilidad social: El caso del acceso a los servicios públicos en Bogotá*. Papel Político, 12(1), 39–62. Disponible en: http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0122-44092007000100003

Reyes-Masa, B. del C., Carrión Berrú, C. B., Rodríguez Delgado, Y., & Cabrera-Aguirre, V. H. (2021). *Indicadores de vulnerabilidad y calidad de vida de los estudiantes de la Universidad Nacional de Loja*. Ciencia Latina Revista Científica Multidisciplinar, 5(3), 3136–3148. Disponible en: https://doi.org/10.37811/cl_rcm.v5i3.518

Rojas, A., Chung, P., & Correa, D. A. (2022). *Servicios urbanos para la construcción de resiliencia en los espacios públicos de tipo abierto en México*. Vivienda y Comunidades Sustentables, (11), 23–49. Disponible en: https://doi.org/10.32870/rvcs.v0i11.178

Schwartzmann, L. (2003). *Calidad de vida relacionada con la salud: aspectos conceptuales*. Ciencia y Enfermería, 9(2), 9–21. Disponible en: https://dx.doi.org/10.4067/S0717-95532003000200002

Sotelo, A. J. (2012). *La cadena de valor público: un principio ordenador que previene la colisión metodológica*. Revista ASIP, 80(1), 15–26. Disponible en: https://content.lpderecho.pe/wp-content/uploads/2022/11/Cadena-de-valor-p%C3%BAblico-Anibal-Sotelo.pdf

Urzúa, A., & Caqueo-Urízar, A. (2012). *Quality of life: A theoretical review*. Terapia Psicológica, 30(1), 61–71. Disponible en: https://dx.doi.org/10.4067/S0718-48082012000100006

Valdés, I., Guerra, S., & Camargo, M. (2020). *Las habilidades de interacción social: un puente hacia la inclusión*. MENDIVE, 18(1), 76–91. Disponible en: http://mendive.upr.edu.cu/index.php/MendiveUPR/article/view/1646