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PROJECT "CHILDREN READING AND NOURISHED" (CREAN), NICARAGUA

FINAL EVALUTATION REPORT 2015-2018

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Project "Children Reading and Nourished" (CREAN), Nicaragua – Final Evaluation Report

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Glossary and terms:

BL	Baseline
CAE	School Feeding Committee
CREAN	Children Reading and Nourish Project
DME	Directorate of Monitoring and Evaluation (CREAN)
FE	Final Evaluation
EGRA	Early Grade Reading Assessment
OS	Operative Strategy
SS	Substantive Strategy
FAO	Food and Agriculture Organization
IDEL	Dynamic Indicators of Reading Success
OECD-DAC	Quality Standards for Development Evaluation
OE	Operational Strategy
MINED	Ministry of Education
MINSA	Ministry of Health
MTE	Mid Term Evaluation
MGD	McGovern Dole Indicators Guide
PINE	Integral School Nutrition Program
PNDH	National Human Development Plan of the Government of Nicaragua
PTA	Parent Teacher Association
SIGES	Monitoring and Project Management Control System
SMART	Specific, measurable, attainable, relevant, and time-bound
TDR	Term of Reference
UNICEF	United Nations International Children's Emergency Fund
UNEG	United Nations Evaluation Group
USDA	United States Department of Agriculture
WV	World Vision

Contents

LIST OF TABLE AND GRAPHS

Executive Summary

World Vision (WV) signed a financing agreement with the United States Department of Agriculture (USDA) *McGovern-Dole International Food for Education and Child Nutrition Program* to implement the *Children Reading and Nourished Project (CREAN).*

Between 2015 and 2018 the CREAN Project was proposed to benefit 38,000 students (annual average) and 2,000 teachers from 613 schools in 8 municipalities located in the departments of León (Achuapa, El Sauce, Santa Rosa del Peñón, El Jicaral) and Estelí (San Nicolás, Limay, La Trinidad and Estelí) in Nicaragua, where WV has had an operational presence and credibility. The main partners of the project were the Ministry of Education (MINED) and the Ministry of Health (MINSA). CREAN Project also coordinated with NGOs and educational community actors such as the School Feeding Committees (CAE) and Parent-Teacher Associations (PTA).

This document describes the objectives, goals, and results of the CREAN Project's final evaluation. In this process, the key criteria of relevance, efficiency, effectiveness, and impact were used. The questions that guided the evaluation were the following:

- Did the project address the priority issues facing the target areas and communities?
- Was the project in line with government policies?
- Were contributions (personnel, time, financial resources, and equipment) used in the best way to achieve project results?
- Were the goals of the activities, products and expected results achieved?
- What changes are observed in the life of the target group product of project implementation?

The evaluation used mixed methods, cross referencing, quantitative and qualitative information from the field work with the information produced by the CREAN Project Monitoring and Management Control System.

Main results.

The CREAN Project met the urgent needs of the population served. It creatively linked the rules and policies of WV with the Education Strategy of the Government of Nicaragua and inserted pragmatically into the operational processes of the MINED to achieve the goals set.

Education, school feeding, access to supplies, school supplies, and teaching materials.

The CREAN project strengthened the learning abilities of children. The results of these learnings show that 43% of third-grade children read and understand a text according to their age, exceeding the results of the baseline that were 29%.

To strengthen the teaching and learning process, textbooks (76,100) and teaching materials have been positively valued by the educational community; highlighting reading corners, traveling backpacks and small libraries.

The departmental delegates of the MINED in León and Estelí stressed that the training strategy for the directors of schools and teachers contributed to improving the quality of the teaching process of student reading, including 244 directors and officials, and 2,312 teachers.

The CREAN Project provided an annual average of 38,000 students with school meals during 160 working days of class per year. During the life of the project, a total 60,574[1] school children (31,036 boys and 29,538 girls) were served meals.

This activity encouraged school attendance, with an average total of 21,652 girls and 21,526 boys regularly attended class. Additionally, teachers stressed that 85% of students attended the orientations in classrooms.

The CREAN Project strengthened the organization and social participation of 445 School Councils (PTA), of the 540 established as a goal throughout the execution period.

Health, nutrition, and sanitation.

The actual result of the project was 97% of the girls and 94% of the boys surveyed reached the minimum acceptable diet, that is, when a child meets the minimum frequency of feeding and the diversity of minimum feeding for their age, then, you are considered to receive a minimum acceptable diet.

The promotion of the Hygiene Club, the provision of a hygiene kit, and constant training on health, nutrition and sanitation, reflect satisfactory results in school children and the recognition of good practices in health, nutrition, and hygiene. We found that 93% of the surveyed children successfully performed the hand washing test (see educational material in Annex 14).

The CREAN Project set out to establish 135 school gardens and 60 demonstration plots in order to benefit 6,060 children and 270 teachers. The final results show that 270 school gardens and 60 demonstration plots were established, benefiting 4,600 students and 245 teachers.

The participation of community school volunteers guaranteed the required workforce, specifically the CAE. The CREAN Project guaranteed technical supervision with the objective of complying with MINED construction standards and, in addition, provided schools with a hygiene kit consisting of hand soap and hand washing towels, as well as water filters, to guarantee safe water access to 38,000 children.

1. Introduction

This document presents the results of the final evaluation of the CREAN Project and is organized in 5 chapters. The first corresponds to the documentary review. In the second, the methodology used is explained. In the third, the findings are presented, structured according to the evaluation criteria: relevance, efficiency, effectiveness, and impact. The lessons learned are described in the fourth chapter. The conclusions and recommendations in the fifth. In the end, there are bibliographic references and annexes.

[1] This number of beneficiaries is accounted for as follows: new income year by year, numbers of children who benefited and are promoted from the primary to the secondary modality, during the life of the project.

a) Background

On September 30, 2014, World Vision (WV) signed a financing agreement with the United States Department of Agriculture (USDA), through the McGovern-Dole International Food for Education and Child Nutrition Program, to implement the Children Reading and Nourished Project (CREAN) for a period of 3 years (2015-17). The agreement was modified several times, being the last signature in July 2019, extending the implementation of the project until December 31, 2019. The agreement between WV and the Ministry of Education (MINED) was signed on January 30, 2015. The project initiated the first activities to beneficiaries as of April 2015.

The CREAN Project proposed to benefit 38,000 students and 2,000 teachers from 613 schools in vulnerable areas of 8 municipalities of the departments of León (Achuapa, El Sauce, Santa Rosa del Peñón, El Jicaral) and Estelí (San Nicolás, Limay, La Trinidad and Estelí), in Nicaragua, where WV has had an operational presence and credibility. The main partners of the project were the Ministry of Education (MINED) and the Ministry of Health (MINSA); CREAN Project also coordinated with NGOs and educational community actors such as the School Feeding Committees (CAE) and Parent-Teacher Associations (PTA). Within the framework of their programming, the project established two strategic objectives: SO1: Improved literacy skills of school-age children and SO2: Increased Use of Health and Dietary Practices.

The project objectives included:

- SO1 Improved Literacy of School-Age Children
  - MGD 1.1 Improved quality of literacy instruction
    - MGD 1.1.2 Better Access to School Supplies and Materials
    - MGD 1.1.3 Improved Literacy of Instructional Materials
    - MGD 1.1.4 Increased Skills and Knowledge of Teachers
    - MGD 1.1.5 Increased Skills and Knowledge of School Administrators
  - MGD 1.2 Improved attentiveness:
  - MGD 1.3 Improved student attendance:
  - MGD 1.4 Increased participation of local organizations and community groups:
    - 1.2.1 Reduced Short-Term Hunger
    - 1.3.5 Increased Community Understanding of Benefits of Education
    - 1.2.1.1/1.3.1.1Increased Access to Food (School Feeding)
- SO2: Increased use of health and dietary practices
  - MGD 2.1 Improved knowledge of health and hygiene practices.
  - MGD 2.2 Increased knowledge of safe food preparation and storage practices:
  - MGD 2.3 Increased knowledge of nutrition:
  - MGD 2.4 Increased access to clean water and sanitation services:
  - MGD 2.5 Increased access to preventive health (interventions):
  - MGD 2.6 Increased access to requisite food preparation and storage tools and equipment.

These objectives would be achieved through implementation, in coordination with the MINED, of a set of activities related to literacy, health, and nutrition, as well as the immediate provision of school materials and water and sanitation services (WASH) and capacity building in a favorable environment that contributes to improving school attendance and the attention of children during class hours, as well as enrollment in preschool and primary childhood in the departments of Estelí and León, following specific substantive and operational strategies. (See Annex 8: Matrix of substantive and operational strategies).

b) Rationale and Purpose of the Evaluation

The purpose of the evaluation was: to identify and measure the progress and/or limitations which occurred during implementation; determine and evaluate the progress towards the objectives proposed; identify best practices; and highlight the impact at community level.

This final evaluation is the culmination of an external analysis process, initiated with the baseline study (WV: 2015), subsequently reviewed (WV: 2016), continued with a mid-term evaluation (WV: 2016) and including activities of the performance monitoring and evaluation plan.

The baseline results (information on the needs, challenges, attitudes, and behaviors of the target groups) were used to establish the overall goals of the project and monitor the performance of implementation. The results of the mid-term evaluation (information on the effectiveness of the project in achieving its objectives, lessons learned, areas to be improved and challenges) led to prioritize and optimize resources to avoid duplicating efforts in terms of the number of performance indicators. It was also used to simplify and digitize field data to reduce the margin of error and improve efficiency.

c) Objectives of the Evaluation

The objective of the final evaluation was to analyze the degree of achievement of the goals, objectives, and results of the CREAN Project and how they have been met. Key learning and challenges were investigated; the strengths, opportunities, weaknesses and threats that the project went through and how they were completed; the potential effects or impacts of the project on the beneficiaries; knowledge, attitudes and practices at the community level regarding water, sanitation and hygiene (WASH) and nutrition issues; as well as teaching literacy skills and the importance of education.

The evaluation was carried out in all of the municipalities in which the project was implemented; Achuapa, El Sauce, Santa Rosa del Peñón, El Jicaral, San Nicolás, Limay, La Trinidad and Estelí located in the departments of León and Estelí respectively.

d) Project Indicators

In the initial CREAN Project design, 111 indicators were established to monitor and eventually evaluate the performance of its implementation. The Mid Term Evaluation (MTE) recommended the reduction of indicators, however, the project, in order not to harm the programming, continued with 111 indicators and proposed the reduction of targets that were above or below budget. The results of the level of compliance of the indicators for the evaluation are presented in the Summary Table of Indicators (See Annex 1).

2. Documentary Review

The purposes of the documentary review were: i) Expand and deepen the team's knowledge about the CREAN Project; ii) Focus the planning (evaluation protocol) of the evaluation information collection activities; iii) Enrich the design and discussion of the evaluation results taking into account the findings of research and other relevant evaluations and meta-evaluations and important issues that have been raised in the specialized literature; iv) Refine the tools and instruments to be used;

and v) Identify, diagnose and analyze the main factors and interrelations involved in the general theme of the CREAN Project.

It was reviewed from the beginning and throughout the entire evaluation period: the base documentation provided by WV; relevant evaluations of available projects, paradigms, theories, concepts, models and approaches that have been adopted by decision makers and specialists in the theme of the intervention of the CREAN Project.

3. Evaluation Methodology

a. Evaluation Design

The evaluation employs a mixed approach combining qualitative and quantitative methods:

- Quantitative methods (surveys of students, parents, teachers, principals of schools; EGRA test; and observation test of schools).
- Qualitative methods (documentary review; focus groups with students, teachers, parents, and students; interviews with school directors, municipal and departmental delegates of the MINED and CREAN Project staff).
- Quantitative and qualitative information produced by the CREAN Project Monitoring and Management Control System.

Based on the purposes and evaluation criteria, the information was cross-referenced to ensure consistency, credibility, and reliability. The findings and conclusions are based on meaningful and informed interpretations. The lessons learned may be considered in future WV initiatives, taking into account specific contexts.

b. Study Population

For this study, the population universe established in the terms of reference was taken as a reference, the calculation of the sample was dependent on the target value of each indicator that implied the selection of different sample sizes based on the related causes and characteristics of each indicator established in the CREAN Project Monitoring and Evaluation plan.

It was taken as a reference for sample selection, 38,000 students and 2,000 teaching staff members from 613 schools located in the municipalities of Achuapa, El Sauce, Santa Rosa del Peñón, El Jicaral, San Nicolás, Limay, La Trinidad and Estelí in the departments of León and Estelí respectively.

c. Qualitative Research

The main qualitative techniques used in the evaluation were: in-depth individual interviews and focus groups. The participating subjects, the contents, and the number of activities were the following:

- **16 interviews with school principals** about the activities implemented by the project, the functions of the management of the schools, the participation of local organizations, the benefits to children, the assessment and recommendations to the project.
- **10 interviews with municipal and departmental officials of MINED** on the general assessment of the project, the relationship between CREAN Project and MINED, and recommendations for future actions.

- **4 interviews with CREAN Project management (Director and DME)** about the four evaluation criteria of the project.
- **8 focus groups with 5th and 6th-grade elementary students** about their literacy experiences, traveling backpacks and reading fairs; new habits of nutrition, hygiene, and sanitary practices.
- **8 focus groups with parents of PTA and CAE family members** on the benefits received by the project, the activities in which they participated, lessons learned and assessment of the project.
- **8 focus groups with teachers** on the benefits of the project to children, the benefits received as teachers, and the assessment of the project and recommendations for future actions.

The information was documented by recording and/or notes with prior consent. During the interviews and focus groups discussions, "testimonials and citations" were identified to illustrate the findings. During the writing of the report, complementary interviews were conducted to address each and every one of the issues. In each of the activities, an attempt was made to establish an environment of security and trust that would foster in-depth dialogue.

d. Quantitative Research

In the investigative process an exhaustive review of the results of the indicators that were measured at the end of the CREAN Project implementation was made (See Annex 1: Summary table of results by indicator), carried out in two phases:

Phase 1: Documentary review through semiannual reports, CREAN Project management reports and the Monitoring and Project Management Control System, which were validated.

Table 1 List of indicators reviewed through semi-annual reports, CREAN Project management reports, and the Monitoring and Project Management Control System.

No. Indicador	List of indicators
MGD SO1	*Number of individuals benefiting directly from USDA-funded interventions (female)*
	Number of individuals benefiting directly from USDA-funded interventions (male)
	Number of individuals benefiting indirectly from USDA-funded interventions.
	Number of individuals benefiting directly from USDA-funded interventions (new)
	Number of individuals benefiting directly from USDA-funded interventions (continuing)
MGD 1.1	*Number of teachers in target schools who demonstrate improved literacy instruction as identified by supervisors, mentors, or coaches.*
Result 1.1.2	*Number of textbooks and other teaching and learning materials provided as a result of USDA assistance*
Result 1.1.3	*Number of target schools with supplemental reading materials available to students*
Result 1.1.4	*Number of teachers/educators/teaching assistants in target schools who demonstrate use of new and quality teaching techniques or tools as a result of USDA assistance.*
	Number of teachers/educators/teaching assistants trained or certified as a result of USDA assistance.
Result 1.1.5	*Number of school administrators and officials in target schools who demonstrate use of new techniques or tools as a result of USDA assistance*
	Number of school administrators and officials trained or certified as a result of USDA assistance

Result 1.2.1	*Number of daily school meals (breakfast, snack, lunch) provided to school-age children as a result of USDA assistance*
	Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (male)
	Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (female)
	Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (new)
	Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (continuing)
	Number of daily schools meals (breakfast, snack, lunch) provided to school staff as a result of USDA assistance.
	Number of school staff receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (male).
	Number of school staff receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (female).
	Number of school staff receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (new).
	Number of school staff receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (continuing).
MGD 1.3	*Number of students regularly (80%) attending USDA supported classrooms/school (female).*
	Number of students regularly (80%) attending USDA supported classrooms/school (male)
Result 1.2.1.1; 1.3.1.1	*Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance (female)*
	Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance (male)
	Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance (new)
	Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance (continuing)
Result 1.4.4	*Number of Parent-Teacher Associations (PTAs) or similar "school" governance structures supported as a result of USDA assistance*
	Number of public-private partnerships formed as a result of USDA assistance
	Value of public and private sector investments leveraged as a result of USDA assistance.
MGD SO2	
Result 2.3	*Number of individuals trained in child health and nutrition as a result of USDA assistance (female)*
	Number of individuals trained in child health and nutrition as a result of USDA assistance (male).
Result 2.4	*Number of schools using an improved water source*
	Number of schools with improved sanitation facilities.
Result 2.6	*Number of schools with appropriate accessory to storage the food. (purlins and plastic)*

Phase 2: Field research, in consensus with the CREAN Project, an intentional, non-probabilistic sampling was determined for convenience given the characteristics of the study population, with the purpose of verifying 13 indicators that are measured with the final evaluation. The indicators are as follows:

Table 2 Results indicators to investigate by primary source.

No. Indicator / Result	Quantitative Instrument – EGRA Test and Intentional Survey
MGD SO1	*Percent of students who, by the end of two grades of primary schooling (3rd grade), demonstrate that they can read and understand the meaning of grade level text (female).*
MGD SO1	*Percent of students who, by the end of two grades of primary schooling (3rd grade), demonstrate that they can read and understand the meaning of grade level text (male).*
MGD 1.3 Result 1.3.5	*Number of parents in target schools that can name at least three primary education benefits (collected through a survey).*
MGD I.I Result 1.1.4	*Number of teachers/educators/ teaching assistants in selected schools demonstrating the use of new techniques and the quality of teaching or tools, as a result of USDA assistance.*
MGD I.I Result 1.1.4	*Number of teachers/educators/ teaching assistants trained or certified as a result of USDA assistance.*
MGD I.2	*Percent of students who have improved attention in classes identified by their teachers (data collected during a single day, on a quarterly basis).*
MGD SO2	*Percent of school-age children receiving a minimum acceptable diet (female).*
MGD SO2	*Percent of school-age children receiving a minimum acceptable diet (male).*
MGD SO2 Result 2.1	*Number of students (and parents) in target schools who can identify at least one local source of information on good health practices (e.g. community health clinic).*
MGD SO2 Result 2.1	*Number of students (and parents) in selected schools that can identify at least one local source of information on good health practices (for example, the community health clinic).*
MGD SO2 Result 2.1	*Number of parents in target schools that can identify at least three important health/hygiene practices (for example, use of latrines).*
MGD SO2 Result 2.2	*Number of food preparers in target schools that can identify at least three key practices aimed at preparing safe food.*
MGD SO2 Result 2.2	*Number of food preparers at target schools who achieve a passing score on a test of safe food preparation and storage.*

To guarantee and facilitate a basic comparative analysis between the results found in the baseline and the final evaluation, it was decided to replicate the instruments of the baseline related to the 15 indicators determined for the final evaluation in the field.

The target populations were as follows:

- **Students of 3rd grade primary school**, to measure the level of advancement of literacy skills, through the standardized test known as EGRA[2].
- **Students of 5th and 6th grade primary school,** with the purpose of inquiring about the topics of eating habits and hygiene and health habits.
- **Parents,** to inquire about the family's eating habits, hygiene and health habits at home, as well as the assessment they have regarding the importance of primary education for their children.
- **Teachers,** to verify the training processes facilitated by CREAN and how the project contributed to improve their professional skills.

[2] The EGRA (Early Grade Reading Assessment) test is an easy-to-apply oral test, which was developed by literacy specialists from the International Research Triangle Institute (RTI), taking as reference the basic skills Expect students to acquire in the initial grades of primary education.

- **Directors (administrators of schools),** to obtain their opinion regarding the work developed by CREAN Project and the benefits of the projects towards the educational community.

e. Sample Size

Intentional non-probabilistic sampling was determined. The target populations to investigate were established in consensus with the CREAN Project: (i) Students in 3rd grade of primary school; (ii) 5th and 6th grade elementary students; (iii) Parents; (iv) Teachers; (v) School principals.

The criteria for selecting schools were agreed with the CREAN / WV Project: (i) Minimum enrollment of 10 students in each of the school grades of interest of the evaluation, based on 2018 data (data from the 2019 of the Ministry of Education were not available); (ii) Accessibility of schools, both urban and rural. In total, 46 schools were prioritized.

Similarly, the criteria for establishing the sample size for each of the target populations was agreed with the CREAN Project: (i) CREAN Project Goals for each type of beneficiary; (ii) Number of beneficiaries for each type of beneficiaries, according to the Monitoring and Management Control System (SIGES) of the CREAN Project, which had been effectively treated.

The universe of each type of beneficiaries is larger than that of the target and those actually benefited, and the size of the intentional sample is smaller than the universe but equally larger than the number of beneficiaries (actual) according to the monitoring system.

Below are the sampling data for each target population and the quantitative instrument that was applied. The effective sample represents the actual sample size after the data collection process in the 8 municipalities. The size of the universe for each population group is what CREAN Project set out to benefit.

Table 3 Sampling data for each target population and the quantitative instrument that was applied

Target Population	Universe (N)	Sample Proposal (n)	Sample Effective (n)	Instrument Investigation
B/G 3rd grade elementary students in public and subsidized schools	38000	870	902	EGRA Test
B/G 5th and 6th grade elementary students in public and subsidized schools		2191	2356	Survey 5th and 6th grade students
Parents of elementary students (Public and subsidized schools)		1291	1293	Parents survey
Primary school teachers (Public and subsidized schools)	2000	254	283	Primary Teachers Survey
Primary School Directors		46	46	Directors Survey
School Observation Instrument	613	46	44	Observation Instrument

f. Design and Sampling Plan

46 schools of the 613 benefited by CREAN Project were prioritized. The criteria for selecting schools were the following: (i) Minimum enrollment of 10 students in each of the degrees of interest for the evaluation, that is, 3rd, 5th and 6th grade based on the enrollment data of 2018; (ii) Accessibility of urban and rural schools. Subsequently, these criteria were made more flexible to accommodate more rural (multigrade) schools and generally with fewer students than urban schools. (See table 4)

Table 4 Total units applied by municipality

Dept	Municipality	N° Schools	EGRA		Student Survey		Parents Suvey		Teachers Survey		Directors Survey		Instrument Observation	
			n	%	n	%	n	%	N	%	n	%	n	%
Estelí	Estelí	23	522	59%	1550	66%	513	40%	153	54%	23	50%	22	50%
	La Trinidad	3	37	4%	135	6%	143	11%	28	10%	3	7%	3	7%
	San Juan de Limay	2	30	3%	55	2%	57	4%	3	1%	1	2%	1	2%
	San Nicolás	1	8	1%	7	0.3	12	1%	0	0%	2	4%	1	2%
León	El Sauce	10	172	19%	297	12%	277	22%	51	18%	10	22%	10	23%
	El Jicaral	2	43	5%	164	7	111	9%	26	9%	2	4%	2	5%
	Achuapa	4	48	5%	100	4%	128	9%	13	5%	4	9%	4	9%
	Santa Rosa del Peñón	1	42	4%	48	2	52	4%	9	3%	1	2%	1	2%
	Total Sample	**46**	**902**	**100%**	**2356**	**99%**	**1293**	**100%**	**283**	**100%**	**46**	**100%**	**44**	**100%**

g. Data and Tools Collection Process

The data collection process involved the following steps:

- Review and adjust the quantitative instruments previously used in the baseline to the objectives of the final evaluation.
- Design a digital tool for the application of quantitative instruments, with the exception of the EGRA Test whose application was made through a physical ballot.
- Authorization management before the MINED authorities by CREAN Project to be able to develop the research process in schools.
- Visit to municipal and departmental delegations of the MINED to facilitate fieldwork.
- Plan the logical route of the field work to optimize resources and ensure the scope of all the proposed goals for each of the quantitative instruments.
- Training for the team of applicators of the EGRA Test consisting of 1 coordinator and 7 applicators.

- Training of team of pollsters, consisting of 1 coordinator and 24 pollsters.

- Implementation of quantitative instruments for the week from June 17 to 21 and June 24 to 27, 2019.

h. Data Analysis

The analysis of **qualitative data** involved an inductive process through a dynamic of collective reflection on the validity and reliability of the information. Each interview and focus group was recorded, transcribed, coded, categorized and analyzed according to the key evaluation criteria. The information obtained by all instruments was validated, cross-referenced and saturated, and some topics were deepened. Systematizations were carried out based on the subjects interviewed and their responses, perceptions and interpretations were also cross-referenced.

The **quantitative data** was collected through a digital application, subsequently, a process of review and validation of the data was carried out. Finally, it was processed in Excel and SPSS. The results were subject to critical reading by each team member. The output tables were designed using the tables presented in the baseline as a model to facilitate the comparison and understanding of data and information.

Based on the instruments and data collection, a team consisting of 20 members was trained. The training of the field personnel was carried out with the purpose of standardizing the criteria and procedures of the different instruments used in the field data collection.

In the case of the data analysis of the EGRA test, the digitalization process began with the training of digitors, installation and adaptation of an ad-hoc program developed in Visual Basic to streamline the EGRA digitalization process. The databases obtained were in the Microsoft Access format.

Subsequently, a process of cleaning, labeling and debugging of the data was carried out using the statistical software for data analysis (STATA Software version 11). Additionally, for the preparation of certain graphs and analysis, SPSS 20 was also used, particularly the graphs on the items with the highest level of difficulty. To construct the data tables, central tendency statistics were used to show differences in the test results by gender, shift, school, among others.

i. Data Management and Quality Assurance

The evaluation adopted the key principles of OECD-DAC “Quality Standards for Development Evaluation”. The Standard 3.2 of Ethics of the United Nations Evaluation Group (UNEG) was adopted in relation to the interaction with participants of the evaluation and UNICEF regarding the treatment of children in the process of evaluation so as not to violate their rights. The information provided by the interviewees has been handled with discretion. Risks were avoided during information gathering. Digitalized databases were built. All types of data were analyzed by at least 3 team members to ensure reliability and credibility through a joint assessment.

4. Challenges and Limitations of the Study

For qualitative research, focus groups with school children, CAE members, and interviews with teachers and principals represented a challenge in the search for questions and techniques that minimized information bias. However, it was about being jovial, avoiding adultistic attitudes and observing the behavior of children (hand washing, use of latrines or toilets) without them becoming aware of it.

Being the closing of the first semester of the school period and approaching holiday dates, we had to work in coordination with the municipal delegates of education and even with the directors of the schools to have the participation of the educational community in the interview process and focus groups.

For the application of the EGRA test, one of the limitations was to complete the samples selected in each school. Since the enrollment for the multigrade modality in many cases is lower, it was necessary to improvise in selecting other school centers nearby to complete the sample.

5. Evaluation Findings

This section presents the results of the qualitative and quantitative evaluation, organized by the evaluation criteria and questions that respond to the dimension of the CREAN Project implementation during the 2015-2018 period.

a) Relevance

Q1. Did the project address the priority issues facing the target areas and communities, and was the project in line with the receiving governments or agencies?

i. The CREAN Project benefited with pedagogical attention (literacy), school feeding, nutritional and health practices that directly met the needs of the educational community, with coverage in 613 pre-school and primary schools in eight municipalities to approximately ***69,517*** direct beneficiaries between 2015 and 2018, contributing in a coherent way to the implementation, mainly by MINED, in the public policy of education, health, food and nutritional security.

ii. In the formulation stage of the CREAN Project, the National Human Development Plan (PNDH for its acronym in Spanish.) 2012-2016 was under implementation. This proposed, among other things, the delivery of school meals to preschool and primary school children; as well as the delivery of educational packages, uniforms and text books to students with scarce economic resources. During the implementation period this approach remained in force at the PNDH 2018-2021 and CREAN also responded to the Social Development Axis, Education in all its forms (Nicaragua, 2017).

iii. CREAN's implementation was clearly framed in contributing to the PINE-MINED strategy, to strengthen coverage with school feeding, food and nutrition education, school gardens, food quality and safety in the eight municipalities served between 2015-2018.

iv. WV signed two agreements, with MINED and MINSA (anti-epidemic campaign and nutritional census), which show the interest of these public institutions in the project.

Q2. What opinion do the actors have about the nature and quality of the project implementation?

i. All respondents (5th and 6th-grade students, parents, teachers, school principals, and departmental and municipal delegates of the MINED), believe that CREAN Project has largely responded to their needs and educational and nutritional priorities (school feeding).

ii. Of the 46 school directors, 69% rated the CREAN Project as excellent and 28% as very good[3].

iii. The teacher training strategies were consistent with the MINED curriculum. In particular, the diploma "Strengthening the quality in the educational management of administrators and school administrators" was highly valued by teachers, directors, and delegates of the MINED in the eight municipalities evaluated.

iv. The people consulted through interviews and focus groups agreed that the delivery of the school feeding, in addition to encouraging school attendance and retention, has contributed to lowering the high levels of food and nutritional insecurity of the educational intervention communities of CREAN Project.

v. The vast majority of the components of the school feeding offered were appropriate to the eating and cultural habits of the educational communities of the dry zone. Two foods: yellow cornmeal and "large" beans were rejected. The project implemented different strategies to promote its consumption, such as, fairs and promotion of recipes for the use of these foods.

vi. Within the framework of the evaluation process, it has been possible to identify a wide range of benefits provided by CREAN that are relevant to the varied needs of the project beneficiaries. CREAN should perform this type of exercise and integrate it as part of its theory of change design

Q3. Under what circumstances and / or in what context would the project be replicated or scaled up?

The CREAN Project during the three years of execution showed the technical and operational capacity to implement educational strategies, promotion of food (nutrition), and health practices.

The key point in this process was the alliance that was made with the MINED, considering that there was previously a legal and political framework in education, combined with the PINE strategy in terms of national coverage with school feeding and other concrete actions that it developed.

This ability to contextualize and articulate CREAN Project with the institutional framework established in Nicaragua will allow in the future to continue with the instituted strategies and even expand the technical and financial contribution to other areas, if defined by both Nicaragua World Vision and the donor counterparts.

[3] A question was added in this regard to the instrument to interview principals and teachers (about the use of innovative teaching methods) that was used for the baseline.

Departmental and municipal education delegates, school directors and CREAN Project officials have stated in the interviews the coherence in the intervention and the need for new contributions in the future.

Q4. Did the officials of the appropriate government departments participate in the project?

Through interviews with eight municipal delegates and two departmental delegates of the MINED, and more than 70 teachers who shared their perceptions through the focus groups, coordination levels have been identified from the central level of the MINED (Vice-Ministry, Cooperation external, PINE), with the departmental delegations and in turn with the municipal delegates, all of them with a work plan agreed with CREAN Project, therefore, it can be concluded that there was an identification of appropriate actors for the development of the strategy.

b) Efficiency

The approach to efficiency evaluation will consider measuring both qualitative and quantitative results in relation to inputs. The objective was to compare alternative approaches to achieve the same results, to see if CREAN Project and MINED adopted the most efficient process. The following questions were used:

Q1. Were contributions used (staff, time, financial resources, equipment) in the best way to achieve the results of the project?

i. Achieving efficiency in the implementation of a project depends, to a large extent, on the degree of mutual trust between the parties involved: donor (USDA), executing agency (WV), partners (mainly MINED), beneficiaries (principals, teachers, parents and students):

   a. CREAN Project implicitly assumed that MINED, as a government institution, already had the capacity required to serve as a project partner; and their assessment has been that this assumption was valid. On the other hand, at the beginning of CREAN's implementation, strong challenges were experienced in regards with MINED, affecting the timely operation of the Agreements with USDA, which represented seven months of delay in the beginning of implementation with the corresponding costs (especially fixed) incurred. Even with this limitation, the project carried out an adequate execution of the available resources.

   b. This was overcome gradually. A recovery of mutual trust led, in the case of MINED, to a little closer relation at both national, departmental and municipal levels. CREAN's substantive and operational strategies; the ability to execute and the proactive attitude of its professional team; as well as the logistic support, were boosted by the confidence gained.

ii. In urban areas there were greater difficulties for all families to integrate into the preparation of food, identifying that from 20 business days, at least 4 days no food was prepared, or another alternative was used, sometimes not effective for children to consume food.

iii. School administrators stated that during the period evaluated (2016-2018), the different components of the project were developed smoothly. Some school principals rated the coordination of their work with CREAN Project as excellent.

iv. In relation to the workplan, the operation was extended for almost another year, without increasing the budget but making more fixed expenses. The overall efficiency of the project has been valued by MINED and CREAN officials as acceptable, despite the 7-month delay in startup and the delay in contextualizing operational strategies with the MINED.

Q2. The Project had sufficient resources (human, financial and capital) and appropriate for its implementation?

i. Regarding the budget, the Mid Term Evaluation had already indicated that CREAN Project did not have sufficient resources to plan and cover a series of activities that were necessary to complement and complete activities explicitly identified ex-ante but that were very conservatively budgeted, at the same time that the initial goals were very ambitious.

ii. Similarly, the organization for the implementation and distribution of the workload among team members presented significant challenges: dysfunctionalities and / or task overload. PINE-MINED technicians did not participate in the implementation of CREAN Project as expected. Although the work team had many capabilities (some developed during implementation) and showed a good understanding and satisfaction for what was achieved in achieving the objectives and expected results of CREAN Project.

Q3. Evaluate the established communication structure and its effectiveness in supporting the implementation of the project?

i. The CREAN Project established an internal communication structure, horizontally and vertically, to ensure the effectiveness of the implementation of the actions. Vertical communication ensured the definition of roles and competencies of each level of the project. Horizontal communication contributed to socialization and learning.

ii. The municipal and departmental officials of the Ministry of Education underlined “the good communication” established with CREAN, contributing to the joint planning of actions. The directors of the schools agree to affirm “the good coordination” established with the project.

Q4. Were there quality control and accountability measures, and they were consistently applied during the review, approval, disbursement, monitoring and reporting phases?

i. CREAN Project has managed a very efficient institutional system for locating and tracking food shipments from the moment they leave the US (sent by USDA), through customs, to the end points of storage in the field. The system facilitates quality control and account delivery. In CREAN’s office in Sébaco the orderly management of administrative and substantive documentation of the project could be observed.

c) Effectiveness

The final evaluation analyzes the degree to which the CREAN Project achieved its goals, objectives, and a comparison is made with the final baseline report developed in 2015. To achieve this assessment, the following questions were considered:

Q1. Establish whether the goal of activities, products, and results were achieved.

For greater ease of understanding the results of the CREAN Project, this section was organized according to the Indicators and Definitions Guide of the Food for Progress and McGovern-Dole Programs (USDA, 2014) and the document Operationalization of the Project Indicators CREAN (CREAN P. , 2015).

Strategic Objective 1: Improved Literacy of School-Age Children

Within the framework of strategic objective 1, the CREAN Project focused on responding to the immediate educational needs of children, strengthening the learning/teaching capacities of children, teachers, and involving the community as the enabling environment to consolidate knowledge and that parents and the community value the teaching of literacy skills to children.

The following results are presented below:

Specific objective 1. Determine the level of literacy of school age children.

The first strategic objective of MGD for the CREAN Project is to improve literacy rates among school-age children. The CREAN Project contributed to this objective through various activities, within these:

1) Distribution: School Supplies and Materials
2) Distribution: Books and Supplementary Reading Materials
3) Training: Teachers and Administrators
4) Establish Activities to Promote Literacy
5) Develop: PTA Action Plans
6) Training: Parent-Teacher Associations
7) Provide School Meals
8) Health: Establish Student Health and Hygiene Clubs
9) Training: Food Preparation and Storage Practices
10) Establish School Gardens
11) Training: Good Health and Nutrition Practices
12) Building/Rehabilitation: WASH Infrastructure
13) Distribution: Food Prep and Storage Tools Equipment

To know the level of literacy of 3rd grade children, it was evaluated using the EGRA test, quickly allowing assessment of the mastery of competencies essential for the literacy learning that students of the first grades of primary school have.

The following table presents the average results obtained in the different sections of the EGRA test.

Table 5 Average results obtained in the different sections of the EGRA test

EGRA Section	León				Estelí				Total			
	Boys		Girls		Boys		Girls		Boys		Girls	
	BL	FE	BL	FE	BL	FE	BL	FE	BL	FE	BL	FE
a. Letters name	42%	61%	46%	61%	48%	69%	50%	71%	45%	66%	48%	67%
b. Initial sound	5%	6%	5%	6%	6%	6%	7%	6%	6%	6%	6%	6%
c. Sound of letters	15%	16%	18%	17%	21%	15%	22%	15%	19%	15%	20%	16%
d. Simple words	39%	46%	47%	48%	48%	51%	51%	57%	44%	50%	49%	54%
e. Invented words	27%	31%	32%	32%	32%	34%	34%	36%	30%	33%	33%	34%
f. Reading fluency (%)	21%	40%	31%	43%	26%	38%	39%	49%	24%	38%	36%	47%
g. Reding comprehension (%)	22%	58%	34%	53%	34%	47%	47%	54%	30%	50%	41%	54%
h. Oral comprehension (%)	57%	50%	61%	52%	59%	48%	59%	52%	61%	48%	60%	52%
i. Dictation (%)	40%	25%	51%	29%	46%	23%	40%	27%	44%	23%	54%	27%

According to the results of the EGRA, the final evaluation (FE) shows that children improved 6 of the 9 reading skills compared to the baseline (BL) results. The skills that should be reinforced are: sound of letters, oral comprehension (included in the measurement in the EGRA) and dictation.

The efforts of the CREAN Project have been positively valued in the discussions of the focus groups with teachers, in relation to the contribution of literacy skills, considering the social context[4] in which it was developed. In this sense, several studies carried out in Nicaragua, particularly by CIASES and Nicaragua Lee[5], confirm that EGRA allows to quickly assess the proficiency of students in the first grades of primary competencies essential for the learning of reading writing

These studies also showed that, in most public schools, opportunities to learn to read depend almost exclusively on the school, since most students come from households in poverty. Because of this, the effort of the educational community so that these students master the precursor skills of reading early is crucial and it was where the CREAN Project had an impact on the years of implementation.

The following tables (6 and 7) show the proportion of children in the 3rd grade of primary school who demonstrate that they can read and understand the material of their respective grades, through the EGRA Initial Reading Diagnostic test.

For this, the calculation was made taking into account the two variables; reading comprehension and fluency, taking into account the established criteria for fluency: 60 wpm for third grade and for

[4] Fifth Report of the Region in Sustainable Human Development Report (PEN 2016) page 79. Website http://repositorio.conare.ac.cr/handle/20.500.12337/959

[5] http://ciases.org/ensenanza-de-la-lectoescritura-inicial-en-aulas-multigrado/

understanding the amount of three or more questions answered correctly was considered as criteria.

Table 6 Percentage of **female** students, who at the end of two grades of primary education, demonstrate that they can read and understand as stipulated for the grade.

Department	Baseline			Final evaluation		
	n	Frequency	Percentage	n	Frequency	Percentage
LEON	154	48	31%	160	68	43%
ESTELI	215	83	39%	292	143	49%
TOTAL	369	131	36%	452	211	47%

Table 7 Percentage of **male** students, who, at the end of two grades of primary education, demonstrate that they can read and understand as stipulated for the degree.

Department	Baseline			Final evaluation		
	n	Frequency	Percentage	n	Frequency	Percentage
LEON	196	41	21%	145	58	40%
ESTELI	262	68	26%	305	115	38%
TOTAL	458	109	24%	450	173	38%

Regarding the results between reading fluency and reading comprehension, we can say that girls have better results with 46.7% compared to boys 38.4%.

The general results of the application of the EGRA test are presented below, considering that CREAN Project planned a 45% goal, generally reaching 42.6%. (See Annex 5 disaggregated by department and municipalities).

Table 8 Percentage of students, who at the end of two grades of primary education, demonstrate that they can read and understand according to what is stipulated for the degree.

Department	Baseline			Final evaluation		
	N	Frequency	Percentage	n	Frequency	Percentage
LEON	350	89	25%	305	126	41%
ESTELI	477	151	32%	597	258	43%
TOTAL	827	240	29%	902	384	43%

Below we describe the international standard that more accurately evaluates reading fluency in Hispanic children (IDEL[6]). This establishes a scale of values with which classifies the reading ability (reading fluency) of the child in 3 categories: At risk, learning and well (without risk) depending on the number of words he reads in a minute. The period taken was when the EGRA test was applied, which corresponds to half a year, see the following table:

[6] More information: https://dibels.uoregon.edu/

Table 9 IDEL standards according to school period for third grade

Reading Fluency Category	Beginning of the year	Middle of the year	End of the year
Risk	<50 pcpm	<60 pcpm	<65 pcpm
Learning	>=50 y <60 pcpm	>=60 y <70 pcpm	>=65 y <85 pcpm
Good	>=60 pcpm	>=70 pcpm	>=85 pcpm

For this final evaluation, the IDEL standard was applied in the middle of the school year with third grade students.

The results indicate that 58% of the students are in an acceptable situation, given that 45% are in the "Good" category and 13% are in "Learning". However, when examining the results by sex, it is observed that girls favor boys, since the category "Good" the percentage difference is 14 points. (See Table 10).

Table 10 IDEL Standard for mid-year school for third grade by sex and department, for reading fluency.

Department	Sex	n	Risk (< 60 pcpm)		Learning (>= 60 y <70 pcpm)		good (>=70 pcpm)	
			Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
ESTELI	Male	305	138	45%	43	14%	124	41%
	Female	292	96	33%	34	12%	162	56%
	Total	597	234	39%	77	13%	286	48%
LEON	Male	145	79	55%	19	13%	47	32%
	Female	160	65	41%	24	15%	71	44%
	Total	305	144	47%	43	14%	118	39%
TOTAL	Male	450	217	48%	62	14%	171	38%
	Female	452	161	36%	58	13%	233	52%
	Total	902	378	42%	120	13%	404	45%

Specific Objective 2. Determine access to school supplies and teaching materials for the education and learning of children.

i. Result 1.1.2: Improved Quality of Instructional Materials.

The teaching and learning process of literacy skills requires access to supplies, school and teaching materials[7], to generate motivation through attractive and welcoming environments for students.

In the interview with the departmental and municipal delegates of the territories served by CREAN Project, the provision of teaching materials has been positively assessed, because it covered the needs that teachers required for the development of the curriculum, as well as the strategy of

[7] During the baseline study, the CREAN Project and the MINED assessed the school supplies and materials needs of each participating school; such as markers, bond paper, colored paper, flipcharts, chalk, glue, erasers, scissors educational games, riddles, educational guide cards, paintings, etc.

"Traveling backpack", "Reading corners "and "building wall charts "was considered by the directors and teachers with good practice, which gave them positive results.

In table 11, it is described that the goal set was exceeded at the end of the evaluation.

Table 11 Access to school supplies, school supplies, and teaching materials

Indicator	Baseline (2015)	Target	Final evaluation (2019)
Number of textbooks and other teaching and learning materials provided through USDA.	0	70, 000	76, 100

Source: Documentary Review Monitoring and Follow-up Information SIGE / CREAN / WV Project

Photo 1 Traveling backpack, Rubén Darío school center, El Sauce, León. June 2019

Photo 2 Mini-Library, Rubén Darío school center, El Sauce, León. June 2019

Photo 3 Teacher showing the library at the Rubén Darío School center, El Sauce, León. June 2019

ii. Result 1.1.3: Improved Literacy of Instructional Materials.

CREAN Project enabled 591 schools with reading materials complementary to a goal of 613. MINED municipal delegates and principals said the materials supported the work of teachers and contributed to student learning.

This consideration was focused on the pre-school and primary modalities, so the difference in the results of the goal, because a considerable number of community preschoolers were included in educational centers formally registered by the MINED.

Specific Objective 3. Identify the skills and knowledge of teachers, according to the MINED curricular competence.

MGD 1.1 Improved Quality of Literacy Instruction.

iii. Result 1.1.4 Increased Skills and Knowledge of Teachers.

In the final evaluation, the team applied a survey to 283 teachres and school administrators in the eight municipalities, 97% said they had trained or certified for the assistance provided by USDA through CREAN Project. (See table 13)

In addition to the results of the survey, they were cross-referenced with the documentary review through the Monitoring and Evaluation System (SIGES) of the CREAN Project, and this served to measure the learning and new techniques adopted by teachers and school administrators.

The CREAN Project trained 3,170 teachers over the life of the proyect, of which 484 teachers have demonstrated the use of new and quality teaching techniques or tools as a result of USDA assistance.

Table 12 Capacities and knowledge of teachers, according to the MINED curricular competence.

Indicator	Baseline (2015)	Target	Final evaluation (2018)
Number of teachers/educators/teaching assistants in target schools who demonstrate use of new and quality teaching techniques or tools as a result of USDA assistance.	0	300	484
Number of teachers / educators / auxiliary teachers trained or certifies as a result of the assistance provided by USDA.	0	1941	3170

Source: Documentary Review Monitoring and Follow-up Information CREAN Project/SIGE

Table 13 Percentage of teachers and school administrators trained or certified as a result of USDA assistance

Geographic Location	Teachres and school administrators trained or certified as a result of USDA assistance					
	Baseline			Final evaluation		
	N	Frequency	Percent	n	Frequency	Percent
Department						
León	126	108	86%	99	95	96%
Estelí	153	129	84%	184	178	97%
Municipality						
Achuapa	30	26	87%	13	12	92%
El Jicaral	15	15	100%	26	23	89%
El Sauce	62	50	81%	51	51	100%
Santa Rosa del Peñón	19	17	90%	9	9	100%
Estelí	75	62	83%	153	148	97%
La Trinidad	33	28	85%	28	27	96%
San Juan de Limay	18	16	89%	3	3	100%
San Nicolás	27	23	85%			
TOTAL	279	237	85%	283	273	97%

The training process was developed in two phases, the first was to train a smaller team made up of pedagogical advisors and administrators, which facilitated the replication of training another larger group of teachers. For this reason, the goal established by the CREAN Project of 1,941, that was overcome with 3,170 teachers; this information was validated with the inputs of the SIGES (CREAN Project).

The strategies implemented by the Education component have been well received by all the schools that participated in the mid-term and final evaluation, and by MINED authorities at the

departamental and municipal levels. The school principals and teachers who contributed to the evaluation also noted the benefits of the different activities implemented by the project and the progress made as a result.

In the focal groups, teachers identified and described a set of educational strategies (activities or dynamics) that they implement to stimulate and encourage children's reading. They recognize that this knowledge has been acquired through the training actions organized by the CREAN Project to provide teachers with better knowledge and skills.

The most mentioned educational strategies are the following (among others):

- **Reading aloud:** a child reads a text aloud.
- **Paragraph reading:** a child read a full paragraph in front of the class.
- **Silent reading:** children read a text silently and then comment.
- **Reading in the field:** outdoor reading in order to stimulate reading and contact with nature.
- **Reading relay:** a child starts reading a text, at one time it stops and another must continue reading in order to motivate the attention and follow-up of the reading.

Teachers know and mention materials delivered by the CREAN Project to contribute to the learning of literacy in school children. The most mentioned are the following:

- **The traveling backpack:** It is a backpack with storybooks. Every so often (a week or several days), a child takes his/her backpack home where he/she reads the stories with the help of his/her mother or father. Upon returning from school, he/she shares the content of what he/she has read and their experience with the classroom.
- **Reading passport:** It consists of a record of the books that each child has read. It is implemented in some school libraries.
- **Use of dictionaries:** They are mentioned because the CREAN project endowed schools with new and illustrated dictionaries.
- **An individual word wall (Componedores):** It is a tool for the formation of syllables, words and sentences. The CREAN Project provided the schools with a large composer for teacher use and individual composers for the use of first-grade children.
- **Story books:** Schools were empowered with a package of story books "of good quality, beautiful, eye-catching, with good stories that stimulate the reading of children." This provision of books has contributed to: (i) have texts for classes; (ii) use it in the traveling backpack; (iii) enable the reading corner for boys and girls.
- **Reading corners:** In the libraries of the schools, spaces with reading texts for children provided by the CREAN Project were created.

The teachers evaluates the progress in the learning process of their students' literacy through: (i) practical exercises; (ii) written exams; (iii) reading compression exercises; (iv) multiple choice test and; (v) daily observation.

Most teachers and principals report having had the opportunity to participate in training processes organized by the CREAN Project. The most mentioned contents were the following: (i) method to read 60 words per minute in a row; (ii) pronunciation and diction of words; (iii) synthetic analytical phonetic method, essential for first and second grade learning; (iv) use and

handling of textbooks; (v) use of active methodology to motivate reading in children; (iv) organization and maintenance of reading corners.

Principals and teachers know the EGRA test and emphasize that their function is to measure the reading compression of children using an instrument of multiple selection. They identify that MINED applies it to third grade students once a year, during the month of September. They recognize that they have received training on how to apply the EGRA, that they know the results of the application made by the MINED, being inputs to improve the learning process and the school strengthening of children.

Likewise, the training process for MINED pedagogical advisors, directors of educational centers, directors and teachers in new strategies and techniques of literacy was systematic throughout the life of the project. A sample was the implementation of the diploma "Strengthening of the quality in the educational management of administrators and school administrators."

iv. MGD 1.1.5 Increased Skills and Knowledge of School Administrators.

Similarly, school officials and administrators have been trained in new literacy techniques, as shown in table 14 below.

Table 14 Capacities and knowledge of teachers, according to the MINED curricular competence.

Indicator	Baseline (2015)	Target	Final evaluation (2019)
Number of school officials and administrators and destination school officials demonstrating the use of new techniques or tools as a result of USDA assistance	0	159	170
Number of school officials and administrators trained or certified as a result of USDA assistance	0	218	381

Source: Documentary Review Monitoring and Follow-up Information CREAN Project/SIGE

Specific objective 4. Identify the level of attention of schoolchildren in the classroom.

v. MGD 1.2 Improved Attentiveness

One of the relevant aspects in the teaching process is that school children are paying attention, can follow instructions, and participate in assignments specified in the classroom. Therefore, according to the focus groups with teachers, the combination of pedagogical techniques applied in their classrooms have given good results.

According to the survey addressed to the directors of schools, the perception is that there was an improvement between the baseline (78.5%) and the final evaluation (85.1%) in terms of school attentiveness, see more details in the table 15.

Table 15 Percentage of students who have improved their attentiveness in the classroom identified by their teachers (data collected during a single day, on a quarterly basis), by department, municipality and sex.

Geographic location	Percentage of students who have improved their attention in the classroom according to their teachers					
	Baseline			Final evaluation		
Department	**Girls**	**Boys**	**Both**	**Girls**	**Boys**	**Both**
León	71%	80%	76%	88%	78%	83%
Estelí	77%	86%	81%	90%	82%	86%
Municipios						
Achuapa	71%	78%	74%	95%	78%	87%
El Jicaral	76%	89%	82%	89%	80%	85%
El Sauce	77%	74%	76%	87%	78%	83%
Santa Rosa del Peñón	67%	81%	74%	83%	71%	77%
Estelí	80%	87%	83%	91%	82%	87%
La Trinidad	74%	89%	81%	87%	81%	84%
San Juan de Limay	73%	86%	79%	80%	72%	76%
San Nicolás	70%	81%	75%			
TOTAL	74%	83%	79%	90%	81%	85%

vi. Outcome 1.2.1 Reduced Short-Term Hunger (MGD 1.2.1.1 Increased Access to Food /1.3.1.1 School feeding).

Within the CREAN Project results framework, there was provision of food for preschool and primary school children to improve school attendance indicators (number of students regularly attending school, at least 80% of the time), reduce hunger for school children in the early hours of the morning, and in this way, I can achieve better concentration in educational activities.

The PINE-MINED in its annual planning with school feeding, plans to give a contribution of 30% of the needs of kilocalories (FAO, 2013) to school children, in the same way CREAN Project follows this same standard, giving a contribution with a food basket[8] containing rice, oil, corn, cereal (corn and soy mixture), beans, flour (tortilla mixes or other recipes).

Throughout the life of the CREAN project, approximately 60,572 schoolchildren (31,035 boys and 29,537 girls) received school meals for an average of 160 business days per year. This number of beneficiaries includes: newcomers year by year, numbers of children who were benefited and promoted from the primary to the secondary modality, during the life of the project.

In addition, 2, 819 teachers from the beneficiary schools were served with food packages.

The provision of sustained and systematic school feeding[9] has been an element that has brought sustainability to the actions, as expressed by the municipal and departmental delegates of the MINED, in addition to this food contribution to school children, it becomes a kind of subsidy for families, as expressed by the focus groups of the eight municipalities. (FAO, 2012)

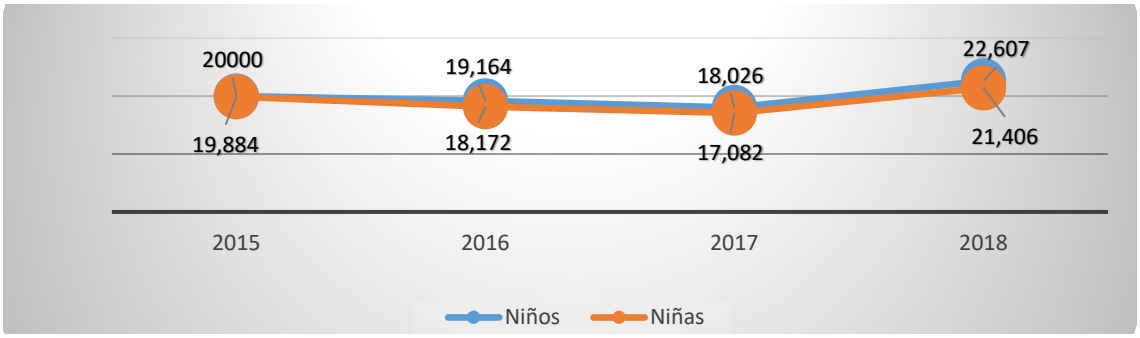
[8] The daily serving size will consist of 35 grams of white rice, 25 grams of red beans, 15 grams of vegetable oil, 35 grams of corn or soybeans and 40 grams of cornmeal.

[9] (...) ECPs are a factor of protection and prevention to: (...) the decrease of the family budget since the ECP can be understood as a transfer of resources to the most vulnerable families (...) more information at: https://www.slideshare.net/FAOoftheUN/declaracion-foro-paesep2012final

Another finding to highlight is the provision of food availability and access, in the eight intervention municipalities (dry zone of Nicaragua), CREAN Project directly benefited 69,517 people (teachers, mothers and fathers, and children who received food school), throughout the life of the project.

In graph 1, it is possible to identify the evolution of school feeding coverage annually, reflecting a decrease in 2017 and then an increase in 2018. The evaluation team identified, that one of the main causes of this variation, is by enrollment of the community modality of preschool, which has the particularity of having an irregular behavior in their enrollment.

Graph 1 Annual evolution of children served with school feeding 2015 to 2018.



Source: Own elaboration based on documentary verification and Monitoring and Follow-up Information CREAN Project. July 2019

Photo 4 CREAN Project guaranteed adequate Means for storage. Felicita Ponce School, San Juan de Limay, Estelí. June 2019

Photo 5 Informative mural on school feeding, Felicita Ponce School, San Juan de Limay, Estelí. June 2019

Photo 6 Information in the winery of Felicita Ponce School, San Juan de Limay, Esteli. June 2019

Specific objective 5. Determine School Attendance

vii. MGD 1.3 Improved Student Attendance

The school attendance rates throughout CREAN Project have been satisfactory, exceeding the established goal, these results can be observed in table 16. In the case of this indicator, the information registered in the SIGE (CREAN Project) was retaken.

Among the factors that favored the fulfillment of this indicator, according to the teachers and directors interviewed in the qualitative research we have: i) Campaigns to promote the importance of education ii) The incentives that are delivered in the participating schools (literacy, school feeding, materials, among others) iii) Constant communication with CREAN participating families, to monitor the performance of their children.

Table 16 Improve student attendance.

Indicator	Baseline (2015)	Target	Final evaluation (2018)
Number of students regularly (80%) attending USDA supported classrooms/schools (female)	13, 918 (91%)	16, 700	21, 652 (98%)
Number of students regularly (80%) attending USDA supported classrooms/schools (male)	14, 970 (92%)	15, 800	21, 526 (92%)

Source: Documentary Review Monitoring and Follow-up Information CREAN Project/SIGE

viii. Outcome 1.3.5 Increased Community Understanding of Benefits of Education.

In the survey of 1,293 parents, 62% listed at least three benefits of primary education (see table 17), among which are: better education for children, option to study Secondary, better opportunity for the future and prevent child labor. (See table 17)

Table 17 Community understanding of the benefits of education.

Geographic location	Number of parents of target schools that can list at least three primary education benefits					
	Baseline			Final evaluation		
Department	**n**	**Frequency**	**Percentage**	**n**	**Frequency**	**Percentage**
León	384	147	38%	568	341	60%
Estelí	505	105	21%	725	463	64%
Municipios						
Achuapa	88	34	39%	128	63	49%
El Jicaral	50	23	46%	111	62	56%
El Sauce	42	7	17%	277	179	65%
Santa Rosa del Peñón	204	83	41%	52	37	71%
Estelí	221	52	24%	513	333	65%
La Trinidad	121	24	20%	143	88	62%
San Juan de Limay	73	17	23%	57	32	56%
San Nicolás	90	12	13%	12	10	83%
TOTAL	889	252	28%	1293	804	62%

Table 18 Percentage of education benefits named.

Benefits	Baseline	Final evaluation
Better education for children	67%	80%
Option to study high school	54%	76%
Best opportunities for the future	61%	71%
Prevent child labor	4%	18%

Specific Objective 6. Identify the participation of local organizations and community groups that support school education.

In the previous sections, it has been pointed out that the PINE-MINED is within the educational strategies that encourage the attendance and retention of school children and therefore improves their educational conditions.

That is why one of the lines of action is to organize and strengthen the School Feeding Committee (CAE), a community expression composed of members of the educational community initiated since 2002, whose core are the School Councils, which are an institutional expression of the MINED[10], and that by normative provision of the PINE[11], guides the annual formation of a CAE for each school.

ix. Result 1.4.4 Increased Engagement of Local Organizations and Community Groups.

Within this institutional framework, CREAN Project set the goal of strengthening 540 School Councils (PTA), reaching 445 throughout the execution period.

Regarding the number of Associations of Parents and Teachers (PTA) or similar 'school' government structures supported as a result of the assistance provided by USDA, the CREAN Project set the goal of organizing 540 Parent Associations, and it was possible to identify in the final evaluation, that they reached 445.

According to the interview with the CREAN[12] Project Manager, during the execution two agreements were given with the Ministry of Education and the Ministry of Health, which allowed a better understanding of the scope and have an institutional framework, to establish important coordination with the main allies in this process.

In the process of searching for public and private sector investments, an agreement was reached with MINSA and another with funds from the national office of World Vision Nicaragua with Gift-in-Kind (GIK) funds, for the sum of USD 3,215,743.

Strategic objective 2: Increased Use of Health and Dietary Practices.

In this section, the results of the strategic objective 2 are presented. Reference and comparison is made to the results of the baseline, where CREAN identified positive and negative practices, which served as input to work together with the communities the correct channels to effectively promote food and health practices, creating the conditions for children and parents to improve their nutritional and health behaviors. The next section presents the results of this work.

Specific objective 7. Identify the use of feeding, health and hygiene practices in children and parents of families

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[10] The Ministry of Education, has organized the educational community by mandate of Law No. 582 "General Education Law", established in Title V of the Educational Community, and Participation in Education, Chapter III Parents o Tutors, which in article 109 states:
"To the Parents or guardians, as first responsible for the education of the children, until the age of majority or until when any modality of emancipation occurs, it corresponds to them:

[11] MINED 2009: Flipchart: Operation Guide for the School Feeding Committee (CAE). Available at: https://drive.google.com/open?id=1nS91CTA6v8QU7of_auCzrYUBpYopVDzJ

[12] E. Morales, interview, May 19, 2019

i. MGD 2.1 Improved Knowledge of Health and Hygiene Practices.

This indicator was measured through the **Survey of students from 5th and 6th grade** of the eight municipalities participating in the CREAN Project. In total 2,356 records were collected (1, 228 girls and 1, 128 boys).

For them the reminder of the food consumption of the previous day was applied, based on food groups (breakfast, lunch, dinner and school feeding in the morning and in the afternoon), as described in the Guide to measure food diversity at the level of Individual and home. (FAO, 2013)

With this, the minimum frequency of food consumption was obtained, and the minimum food diversity, which combined these two indicators, obtained the minimum acceptable diet, disaggregated by sex.

Table 19 shows the results of the minimum frequency of food consumption, the minimum food diversity and the minimum acceptable diet for the girls surveyed, these results exceed the goal established by the CREAN Project, so we have the 82% identified in LB and 97% as a result of the final evaluation.

Table 19 Percentage of girls of school age who receive a minimum acceptable diet. By department and municipality

Geographic Location	Girls of school age who receive a minimum acceptable food					
	Baseline (n 1127)			Final evaluation (n 1228)		
Department	Minimum frequency of food consumption	Minimum Food Diversity	Minimum Acceptable Diet	Minimum frequency of food consumption	Minimum Food Diversity	Minimum acceptable Diet
León	98%	83%	82%	97%	99%	96%
Estelí	98%	82%	81%	99%	99%	98%
Municipalities						
Achuapa	95%	72%	70%	100%	100%	100%
El Jicaral	100%	96%	96%	99%	99%	97%
El Sauce	98%	85%	84%	96%	99%	95%
Santa Rosa del Peñón	98%	76%	76%	91%	96%	91%
Estelí	98%	87%	87%	98%	99%	98%
La Trinidad	98%	76%	75%	100%	100%	100%
San Juan de Limay	96%	86%	86%	100%	100%	100%
San Nicolás	98%	74%	73%	100%	100%	100%
TOTAL	98%	82%	82%	98%	99%	97%

Table 20 shows the results of the minimum frequency of food consumption, the minimum food diversity and the minimum acceptable diet for the boys surveyed. These results exceed the goal established by the CREAN Project, 77% identified in the BL and 94% as a result of the final evaluation.

Table 20 Percentage of school-age boys who receive a minimum acceptable diet. By department and municipality.

Geographic Location	School-age boys receiving a minimum acceptable diet

	Baseline (n 1127)			Final evaluation (n 1228)		
Department	Minimum frequency of food consumption	Minimum Food Diversity	Minimum Acceptable Diet	Minimum frequency of food consumption	Minimum Food Diversity	Minimum acceptable Diet
León	98%	82%	81%	94%	98%	92%
Estelí	96%	74%	73%	96%	98%	94%
Municipalities						
Achuapa	97%	76%	76%	95%	95%	91%
El Jicaral	100%	96%	96%	97%	99%	96%
El Sauce	99%	85%	85%	92%	97%	90%
Santa Rosa del Peñón	100%	61%	61%	96%	100%	96%
Estelí	96%	80%	78%	96%	98%	95%
La Trinidad	98%	71%	71%	91%	99%	91%
San Juan de Limay	89%	73%	72%	100%	96%	96%
San Nicolás	98%	65%	65%	100%	67%	67%
TOTAL	97%	77%	77%	95%	98%	94%

Finally, in the indicator of minimum food diversity, there is an important improvement in the final evaluation in relation to the baseline for both sexes, this reflects an improvement in the access of children to a variety of foods.

In the focus groups with children and parents, they expressed that the training processes on food and nutrition education of the CREAN Project have instructed them on the importance of having a varied diet and including the consumption of fruits, vegetables and other foods nutritious

In table 21, the number of students who identify at least one source of information on good health practices is described by sex, for all the municipalities of intervention of the CREAN Project, although the results of the final evaluation show 97%, slightly below of the results of the BL (99%), the results are considered positive, in which the focus groups of students and parents value the efforts in health promotion.

Table 21 Number of students (girls and boys) from target schools that can identify at least one local source of information on good health practices, for example, community health clinics. Disaggregated by department and municipality.

Geographic Location	Number of students (girls and boys) from target schools that can identify at least one local source of information on good health practices					
	Baseline			Final evaluation		
Department	Girls (1064)	Boys (1127)	Both (n 2191)	Girls (1228)	Boys (1128)	Both (2356)
León	100%	100%	100%	98%	94%	96%
Estelí	99%	97%	98%	99%	96%	97%
Municipalities						
Achuapa	100%	100%	100%	98%	100%	99%
El Jicaral	100%	100%	100%	97%	94%	96%
El Sauce	100%	100%	100%	98%	91%	95%
Santa Rosa del Peñón	100%	100%	100%	100%	96%	98%

Estelí	99%	97%	98%	98%	96%	97%
La Trinidad	100%	96%	98%	99%	92%	96%
San Juan de Limay	100%	100%	100%	100%	100%	100%
San Nicolás	100%	99%	100%	100%	100%	100%
TOTAL	99%	100%	99%	98%	95%	97%

Table 22 shows the results of the **Survey of Parents** that was applied to 1,293 of which 1,020 mothers and 180 fathers, who have children in the schools, where it was possible to appreciate the identification of the source of information related to good health practices that can be found in their environment.

Table 22 Number of parents of target schools that can identify at least one local source of information on good health practices, for example; community health clinics.

Geographic Location	Number of parents of target schools that can identify at least one local source of information on good health practices					
	Baseline			**Final evaluation**		
Department	**Mothers (n 788)**	**Fathers (n 101)**	**Total (n 889)**	**Mothers (n 1020)**	**Fathers (n 273)**	**Total (n 1293)**
León	86%	72%	84%	89%	52%	81%
Estelí	84%	76%	83%	83%	51%	76%
Municipalities						
Achuapa	90%	71%	86%	96%	24%	77%
El Jicaral	89%	100%	90%	91%	70%	87%
El Sauce	84%	69%	82%	86%	63%	82%
Santa Rosa del Peñón	83%	67%	81%	83%	50%	75%
Estelí	80%	71%	79%	84%	54%	81%
La Trinidad	85%	88%	85%	78%	46%	72%
San Juan de Limay	92%	73%	89%	100%	83%	92%
San Nicolás	100%	80%	84%	85%	42%	75%
TOTAL	85%	74%	83%	86%	51%	78%

In the case of parents where the identification of sources of information on good health practices was 51%, below the baseline results, it should be considered that in the context of Nicaragua, the roles of the monitoring of education is given to mothers; additionally, parents are dedicated to agricultural work in rural areas and other service activities in the urban area and the migration factor also weighs.

These conclusions were explained in the focus groups of mothers in the eight municipalities where the CREAN Project was working.

Table 23 shows that 93% of 5th and 6th grade students passed the handwashing exercise. (See Annex 6 Students and hygiene practices). These results are a positive effect of the CREAN training strategy, among these the Hygiene Clubs that were established in each school.

Table 23 Percentage of students in the target schools that obtain a passing score in a test on good hygiene and sanitation practices.

Geographic Location	Children who get an approval rating in handwashing					
	Baseline			Final Evaluation		
Department	**n**	**Frequency**	**Percentage**	**n**	**Frequency**	**Percentage**
León	936	71%	71.0	609	558	92%
Estelí	1255	46%	46.2	1747	1634	94%
Municipalities						
Achuapa	234	85%	84.6	100	88	88%
El Jicaral	125	58%	58.4	164	151	92%
El Sauce	475	74%	74.3	297	282	95%
Santa Rosa del Peñón	102	40%	40.2	48	37	77%
Estelí	567	49%	49.4	1550	1451	94%
La Trinidad	299	44%	43.5	135	123	91%
San Juan de Limay	154	29%	28.6	55	54	98%
San Nicolás	235	54%	53.6	7	6	86%
TOTAL	2191	57%	56.8	2356	2192	93%

In Table 24, at least three good health and hygiene practices were identified through the **Survey of Parents of the Family**, described below:

Table 24 Number of parents of target schools that can identify at least three important practices in hygiene and sanitation (e.i. latrine use).

Geographic Location	Number of parents of the target schools that can identify at least three important hygiene and sanitation practices					
	Baseline			Final evaluation		
Department	**n**	**Frequency**	**Percentage**	**n**	**Frequency**	**Percentage**
León	384	170	44%	568	386	68%
Estelí	505	178	35%	725	460	63%
Municipalities						
Achuapa	88	35	40%	128	73	57%
El Jicaral	50	20	40%	111	76	69%
El Sauce	204	101	50%	277	199	72%
Santa Rosa del Peñón	42	14	33%	52	38	73%
Estelí	221	75	34%	513	326	64%
La Trinidad	121	42	35%	143	84	59%
San Juan de Limay	73	33	45%	57	41	72%
San Nicolás	90	28	31%	12	9	75%
TOTAL	889	348	39%	1293	846	65%

The performance of this indicator increased in relation to the baseline and in terms of the goal set by CREAN Project. Table 25 describes hygiene and sanitation practices identified by parents.

Table 25 Important hygiene and sanitation practices identified by parents.

PRACTICES	Baseline (n 889)	Final evaluation (1293)
Handwashing	80%	89%
Do not wear rings, bracelets on hands	8%	22%
Use of hair cap	12%	19%
Wash the kitchen utensils	70%	79%
Food washing	76%	79%
Food storage	43%	63%
Use of safe water	76%	58%

Specific objective 8. Identify knowledge and practice for food preparation and storage

ii. Result 2.2 Increased Knowledge of Safe Food Prep and Storage Practices.

In Table 26, at least three good practices in food preparation were identified through the Survey of Parents and Mothers, describe below:

Table 26 Number of food preparers / handlers in target communities that can identify at least three key practices aimed at safe food preparation.

Geographic Location	Identify at least three practices					
	Baseline			Final evaluation		
Department	n	Frequency	Percentage	n	Frequency	Percentage
León	384	294	77%	568	481	85%
Estelí	505	327	65%	725	631	87%
Municipalities						
Achuapa	88	61	69%	128	98	77%
El Jicaral	50	36	72%	111	93	84%
El Sauce	204	169	83%	277	247	89%
Santa Rosa del Peñón	42	28	67%	52	43	83%
Estelí	221	152	69%	513	442	86%
La Trinidad	121	74	61%	143	129	90%
San Juan de Limay	73	50	69%	57	50	88%
San Nicolás	90	51	57%	12	10	83%
TOTAL	889	621	70%	1293	1112	86%

For the construction of the results of this indicator, the three practices identified by parents were:

Table 27 Important hygiene and sanitation practices identified by parents.

PRACTICES	Baseline (n 889)		Final evaluation (1293)	
	Frequency	Percentage	Frequency	Percentage
Handwashing	609	69%	1081	84%
Keep kitchen clean	394	44%.	751	58%
Put trash in its place	415	47%	852	66%

In Table 28, through the **Survey of Parents** where they gather five good practices in food preparation, it is described below:

Table 28 Number of food preparers who achieve a passing grade in a food preparation and storage test. Disaggregated by department and municipality.

Geographic Location	Food preparers that met five approval criteria					
	Baseline			Final evaluation		
Department	n	Frequency	Percentage	n	Frequency	Percentage
León	384	229	60%	568	433	76%
Estelí	505	316	63%	725	564	78%
Municipalities						
Achuapa	88	45	51%	128	83	65%
El Jicaral	50	36	72%	111	91	82%
El Sauce	42	32	76%	277	216	78%
Santa Rosa del Peñón	204	116	57%	52	43	83%
Estelí	221	138	62%	513	397	77%
La Trinidad	121	79	65%	143	116	81%
San Juan de Limay	73	54	74%	57	42	74%
San Nicolás	90	45	51%	12	9	75%
TOTAL	889	545	61%	1293	997	77%

The food preparation parents were asked to demonstrate how they prepared the food that the children consume. Eight practices were described as: storage of food in a suitable place (clean and dry), wear appropriate clothing (hat, apron), have short nails and no jewelries on the hands, the table where they prepare food is clean, wash hands before and during preparation, wash utensils before using them, wash food, and cover ready-made food.

In comparison to the results of the BL, 67% passed the test, and in the final evaluation 77% of parents met the criteria of classifying food storage and preparation practices. The preparers who passed the test were those who met at least 5 of the 8 practices mentioned. (See the results in tables 28 and 29).

Table 29 Important hygiene and sanitation practices identified by parents.

PRACTICES	Baseline (n 889)	Final evaluation (1293)
Handwashing	80%	89%
Do not wear rings, bracelets on hands	8%	22%
Use of hair cap	12%	19%
Wash the kitchen utensils	70%	79%
Food washing	76%	79%
Food storage	43%	63%
Use of safe water	76%	58%

Source: Documentary Review Monitoring and Follow-up Information CREAN Project/SIGE

iii. Result 2.3 Increased Knowledge of Nutrition.

According to the documentary review, CREAN carried out mobilization actions with health volunteers, including students and their families with the aim of ending inappropriate health and nutrition practices such as outdoor defecation, environmental pollution, storage and food handling and promotion of the use of safe water through educational and informational materials. (See table 30).

The CREAN project and health volunteers identified health and nutrition practices that brought positive results to school-age children in the community with the aim of promoting and including them in mobilization activities. Parents participated in this process and were given instruments to implement good health and nutrition practices in their own homes.

Table 30 Increased Knowledge of Nutrition

Indicator	Baseline (2015)	Target	Final evaluation (2019)
Number of people (women) trained in nutrition and child health as a result of the assistance provided by USDA.	0	2575	4470
Number of people (men) trained in nutrition and child health as a result of the assistance provided by USDA.	0	1203	2750

Establishment of school gardens: A diagnosis was made, including the identification of soil conditions and access to water in order to select schools that meet the appropriate conditions to implement the gardens and plant fruit trees during the first year.

The selected schools were provided with Creole seeds, fruit trees, organic fertilizers and insecticides. In addition, promoters, teachers, parents, students and other community members were trained in the establishment of school gardens.

The Methodological Guide was used to establish and school gardens[13]. The products obtained from these gardens were used for school feeding.

The CREAN project set out to establish 135 school gardens and 60 demonstration plots in order to benefit 6,060 school-age children and 270 teachers. The final results show that 270 school gardens and 60 demonstration plots were established, and 4,600 students and 245 teachers benefited.

Although the goal of school gardens established in schools of 270 was exceeded, the current enrollment identified where the gardens were implemented was lower in relation to the enrollment planned or programmed by the project.

The focus groups of teachers and parents recognize that school gardens contributed significantly to the school feeding with vegetables, fruits and other products. It is stressed that they declined due to insufficient tools, lack of inputs (seeds and fertilizers) and weak community organization, for this activity.

[13] See : https://issuu.com/nicaragua.nutrinet.org/docs/gu_a_metodol_gica_para_huertos_escolares

Photo 7 School garden in the Flor de Sacuanjoche School, San Nicolás, Estelí. June 2019

Photo 8 School garden in Flor de Sacuanjoche School, San Nicolás, Estelí. June 2019

Photo 9 School garden, Adelita Sorto School, Achuapa, León. June 2019

iv. Outcome 2.4 Increased Access to Clean Water and Sanitation Services.

Construction and / or Rehabilitation: Water, Sanitation and Hygiene Infrastructures (WASH): CREAN, in collaboration with the Ministry of Education (MINED) evaluated the conditions of the water and sanitary infrastructure of schools to identify, if they have to build or restore latrines, sinks and also provide the necessary materials.

The participation of community school volunteers guaranteed the workforce to comply with MINED construction standards and provided schools with hand soap and hand washing towels, as well as water filters, to allow safe water access for 38,000 children (See table 31).

Simultaneously, CAE members of the community were trained in the use and maintenance of water filters, sinks and latrines. In addition, trained CAE members prepared student members of student hygiene and sanitation clubs so that they, in turn, trained their peers on newly acquired knowledge.

Regarding with the number of schools equipped with improved sanitary facilities, the target is low, for the high cost of the investment in place.

Table 31 Access to drinking water and sanitation services

Indicator	Baseline (2015)	Target	Final evaluation (2019)
Number of schools that use an improved water source	*178*	*500*	*502*
Number of schools equipped with improved sanitary facilities	*200*	*190*	*126*

Source: Documentary Review Monitoring and Follow-up Information CREAN Project/SIGE

The CREAN Project, in coordination with the MINED, planned to establish 190 sanitary facilities; however, in the execution they identified that meeting this target represented a high financial cost. Because the schools identified and selected by MINED were scattered and difficult to access, which substantially increased the cost of investment, thus the goal was not reached.

Regarding the results of the number of schools equipped with improved sanitary facilities, 126 schools were verified in the final evaluation, below the project goal.

Photo 10 F Improved water fountain at the Flor de Sacuanjoche School, San Nicolás, Estelí. June 2019

Photo 11 Improved water fountain. Escuela Rubén Darío El Sauce, León. June 2019

Photo 12 Improved latrine modules, San Juan School. Achuapa, León. June 2019

v. Outcome 2.5 Increased access to (interventions) preventive health

Deworming medications and medications to eliminate lice, vitamins and minerals supply: CREAN coordinated this activity with MINSA, to improve its resource capacity by providing deworming medications, iron and vitamin A distributed in preventive health campaigns, for 38,000 children and girls from schools benefiting from the CREAN Project.

vi. Result 2.6 Increased Access to Requisite Food Prep and Storage Tools and Equipment.

In the interviews with the education authorities at the departmental and municipal level, and in the focus groups of parents, we verified the provision of plastic barrels with a capacity of 55 gallons to properly store the necessary food to prepare school meals.

It was also included the distribution of a kits consisting of glasses, plates, and spoons for children, in order to serve the school feeding. This action benefited the amount of 39, 884[14] children from schools accompanied by the CREAN Project. (See table 32)

Table 32 Identification of knowledge and practice for food preparation and storage

Indicator	Baseline (2015)	Target	Final evaluation (2019)
Number of schools with appropriate accessories to store food. (straps and plastic)	*206*	*613*	*613*

Source: Documentary Review Monitoring and Follow-up Information CREAN Project/SIGE

Q2 Did the Monitoring and Evaluation system provide appropriate and reliable quality information when measuring the expected indicators?

i. The Monitoring and Follow-up Strategy was prepared by December 2015. The baseline was belatedly[15] worked between May and September 2015, the collection of field information had already been carried out by the beginning of June 2015, although the final (revised) version of the document was ready in April 2016.

[14] This information is the enrollment of beneficiaries of 2015.

[15] The delay was due to the fact that the MINED belatedly authorized the entry of the municipalities to collect the information given that the WV-MINED agreement had not been signed.

ii. During the baseline survey, the first planned activities of beneficiary care (training to CAE and hygiene clubs) were not carried out, which minimized the risk of data and information contamination generated in the baseline.

iii. The Monitoring and Follow-up Strategy mentioned above is actually a monitoring and evaluation strategy, and is well designed. SIGES handles the information in detail and ensures the estimation of the values of the indicators according to the MGD definitions.

Q3 The ways in which monitoring indicators were measured were practical, and provided quality information?

The EMT reported that initially a very large number of indicators was established and recommended its reduction due to its dysfunctionality and workload that represented, which was not done to avoid damaging the programming. These indicators, for the most part, were taken from the MGD and were well defined, complying with the criteria of being specific, measurable, attainable, relevant, and time-bound ("SMART").

d) Impact

Q1. What changes are observed in the life of the target group, product of the project implementation?

Among the changes observed by all the actors is mentioned:

i. Enrollment improvement and school retention. Children show enthusiasm for attending and participating in classes; interest in reading books in the library and in their homes; Pride because their schools are neat, clean, cheerful and colorful, stimulating school teaching and learning and interest in adopting and putting into practice new habits of food consumption and hygiene learned in school.

ii. Mothers and parents have increased their participation in the educational activities of their sons and daughters; they collaborate in the preparation of school feeding and, put into practice the nutritional and hygiene recommendations.

iii. Teachers show enthusiasm for learning and applying new strategies, instruments and teaching materials that contribute to the teaching of literacy with their students. The diploma has had a high impact on their motivations. However, it should be noted that there is a work overload (for the principal and teachers), due to the many functions they have to assume, including the organization of the work of the CAE and the delivery of food, the promotion of health and hygiene habits to students, the supervision of the cleanliness of schools and the washing of children's hands, among others.

iv. Directors have exercised proactive leadership for the organization and coordination of all activities. They identified as changes: the reduction of diseases in students, greater knowledge about hygiene and health habits, better academic performance and greater motivation in the educational community.

v. In some schools, especially in rural municipalities, the school feeding had a direct and fundamental impact on reducing hunger in the short term. Cases were presented, in which the school feeding was the only quality food that children consumed on the day.

vi. Departmental and municipal delegates of the MINED express commitment to the objectives of improving literacy, school nutrition and the promotion of hygiene and nutrition habits.

Q2. How satisfied are the communities with the response provided?

i. All the people interviewed (students, parents, teachers, school principals and MINED officials) expressed satisfaction with the response provided by the CREAN Project to the educational community.

ii. Children appreciated the books, the reading corners, the traveling backpack, the school feeding and the hygiene kit. In the focus groups, they identified the title of the last book read and summarized its content.

iii. Teachers affirmed that "they have improved their experience as teachers" and that "they now have better methods to innovate in the classes". They valued being able to have the school supplies (fungible) delivered by CREAN Project allowing the creation of creative, colorful and attractive environments for children. They recognized that for them it is a financial relief because they do not have to use their own resources to acquire them.

iv. School administrators said that with the support of CREAN Project, they improved literacy education, teacher training, book provision, fungible materials, school feeding, student hygiene and school infrastructure.

v. MINED officials recognized the good coordination and communication established with the CREAN project for the implementation of the activities.

vi. Although it is recognized that school gardens contributed significantly to the school feeding with vegetables, fruits and other types of products, it is emphasized that they declined due to insufficient tools, lack of inputs (seeds and fertilizers) and weak community organization, for this activity.

vii. The school gardens promoted by the Ministry of Education and that the Project CREATE support throughout the life of the project, has a more educational approach, and although supplies and technical assistance have been delivered, school directives and school councils fail to provide sustainability to them, because every year they start from scratch; this because on school vacations, they do not have the possibility of maintaining the crops.

Q3. Does the program require more time from women?

i. Women have played a central role in the PINE-MINED. Particularly, in the CREAN Project, women have guaranteed, with their unpaid domestic work, that children regularly attend

classes and present adequate school performance. The participation of men is minimal because this part of the activities is not part of the male gender roles.

ii. Women have also participated in school gardens, in the cleaning of schools and in different community structures, particularly in CAE.

iii. The participation of women is given for the preparation of food. They describe how the preparation of the school feeding, getting water, fuel and complementary foods, demands time. They state that they alter their itineraries and resort to getting up much earlier than usual. Mothers who work in a paid way, indicate that sometimes they hire another woman to prepare food, but there is always an additional recharge in their work routine.

iv. This increase in workload weighs especially in rural areas, for example, when there is a lot of distance between home and school.

6. Challenges and lessons learned.

a. Challenges.

i. Working with a public institution is a challenge to underline, considering the centralized institutional culture and little open to change in the public sector. However, implementing operational strategies embedded in the dynamics of the MINED is an effective way to achieve the execution of the activities and achieve the expected results.

ii. The institutional efforts agreed between CREAN Project and MINED are considerable for the promotion of literacy. However, there are important gaps with respect to the development of teachers' capacities and the provision of resources to the education sector, which limit obtaining better results in the short term.

iii. Cultural aspects, including eating habits, should be systematically addressed and considered to identify the food basket to be delivered. The food budget has a considerable weight in the cost structure of the project.

iv. The rotation of the members of the School Feeding Committees dilutes taking advantage of the training efforts provided throughout the school year, as well as strengthening community organization. The project faces the Sisyphus syndrome, of the eternal restart.

b. Lessons Learned

i. The "health and hygiene club" made up of children are good examples that it is possible to generate changes in substantial behaviors and create positive results that move from the school to the family environment without requiring the investment of enormous economic resources. Children showed knowledge about the different practices of hand washing and brushing teeth. They shared this knowledge with their family environment. And they clearly explained the importance of nutrition, hygiene and health practices.

ii. School feeding has been identified as a key factor in improving school attendance and retention. There is a wide recognition that has helped children who come from families

living in poverty. The school feeding has been a solution; partial, but very important to their nutritional needs. For family members, it represents financial relief and a clear incentive to send children to school. The backbones of all this scaffolding have been the mothers who have strengthened their links with school activities. However, a gender reading of the whole experience is pertinent beyond mentioning the strengthening of traditional roles and the expansion of the workday.

iii. The implementation of the diploma "Strengthening the quality in the educational management of administrators and school administrators" was very well valued by the education delegates, school administrators and teachers, stating that it allowed them to substantially improve their skills for teaching literacy.

7. Conclusions

a. Relevance

i. CREAN Project contributed to the work of the MINED through PINE-MINED, with the incorporation of the school feeding in subsidized public and private schools of the eight municipalities, the use of the agricultural vocation of the region with the inclusion of school orchards as a tool education for preschool and school children, food and nutrition education, hygiene, food safety at various levels (teachers, school administrators, PTA and CAE), and one of the most interesting elements such as the inclusion of the literacy improvement axis in the target population.

b. Efficiency

i. The overall efficiency of the project has been valued by MINED and CREAN officials as acceptable, despite the 7-month delay in startup and the delay in contextualizing operational strategies with the MINED.

c. Effectiveness

i. The CREAN Project contributed to the development of children's literacy in the intervention municipalities by improving the competencies of teachers through their training in new and dynamic methodological strategies and their subsequent implementation in the classroom; the delivery of supplies (fungibles, books, traveling backpacks, reading corners, etc.) for the creation of pleasant and stimulating environments for both teachers and students; and the provision of supplies for the school feeding, an important stimulus for the attendance and retention of the students according to the evaluation findings of teachers, principals, and mothers.

ii. Data from the EGRA test show significant improvement in the percentage of children with the ability to read fluently and understand what they have read. Although the results reveal the fulfillment of the goal in women, the percentage of improvement was greater in men. However, even with this demonstrated improvement, less than fifty percent of children have adequate reading and comprehension skills.

d. Impact

i. Enrollment improvement and school retention. Girls and boys show enthusiasm for attending and participating in classes.

ii. Parents have increased their participation in the educational activities of their children.

iii. Teachers show enthusiasm for learning and applying new strategies, instruments and teaching materials that contribute to the teaching of literaracy with their students.

iv. In some schools, especially in rural municipalities, the school feeding had a direct and fundamental impact on reducing hunger in the short term.

8. Recommendations

a. Relevance

i. Continue and scale up the food intervention model for education in Nicaragua, considering the recommendations presented in this section.

ii. The CREAN Project met the urgent needs of the population served. It creatively linked the rules and policies of WV-MGD with the Education Strategy of the Government of Nicaragua and was pragmatically inserted into the operational processes of the MINED to achieve the targets set.

iii. In the planning and nutritional adequacy of the USDA food basket standards it is recommended to consider the dietary habits of the target groups, especially when there are changes in the types of food. Care should be taken not to vary much or replace them with culturally acceptable foods in the area.

iv. In the conclusions of the focus groups with teachers, mothers and children, the foods they did not accept were yellow cornmeal and the variety of beans consumed in that area. This is due to the culture pattern; the tortillas are made of white corn and the beans they consume are red.

v. Nutritional adequacy should be assessed in the menu offered to children and adolescents, although the 600 Kcal (carbohydrates, protein of vegetable origin and fat and their respective fortification) provided by CREAN Project, contribute to eradicating hunger in the short term, it is recommended to contextualize to the tendency of the double burden of malnutrition: on the one hand chronic malnutrition in schoolchildren with 22% in the height delay for age (Size Census 2009 MINSA-MINED), the global trend of obesity in school children (5-9 years) with 20.6%, according to the report of (The State of Food Security in the World. FAO 2019) http://www.fao.org/3/ca5162es/ca5162es.pdf. In a new proposal, the issue of fruit and vegetable intake, physical activity, food and nutrition education and healthy spaces for children and adolescents should be reinforced.

vi. According to the tendency of Central America countries (Costa Rica, Honduras, Guatemala) to establish specific legal frameworks for school feeding (FAO 2013) http://www.fao.org/right-to-food/resources/resources-detail / en / c / 427567 /, in

Nicaragua they are still pending; regulations are fragmented and incomplete since legal gaps were identified in different regulatory areas. The CREAN Project has demonstrated the ability to establish a dialogue with the Government (MIEND-MINSA). It is recommended to establish a sensitization process so that public policy transcends to State policy.

b. Efficiency

i. In upcoming interventions with school feeding, it is recommended to consider urban reality in a more particular way: working parents, with little chance of preparing food, more students in urban centers, habit in the consumption of certain foods in the morning, especially for younger children (preschool, first and second grade).

ii. Formulate a communication strategy that helps to make visible the achievements of the projects, identifying target populations, messages to anchor and communication channels to use. Similarly, define a knowledge management strategy in order to identify good practices and socialize the accumulated experiences of the project with other stakeholders.

iii. Considering the results of the EGRA test, determining what specifically they are doing in the schools of La Trinidad (See Annex 5), will be a key line of work to exchange lessons learned between teachers in that municipality and other surrounding areas. Along this same path, this recommendation could be used to carry out case studies that combine qualitative and quantitative methodology and class observations using the Stalling instrument designed specifically to evaluate the use of time in the Language and Literature class.

In this particular subject, in the focus groups of the municipality of La Tinidad, teachers identified a set of educational strategies that they implement to stimulate and encourage the reading of children; among the mentioned strategies, were the following: reading of paragraphs aloud, silently and reading in turns; dictation of words, phrases and sentences; speech analysis to improve diction; change the end of a story to stimulate the imagination.

Teachers recognized that this knowledge was acquired through training activities organized by the Ministry of Education and the CREAN Project to provide teachers with better skills and the provision of matrices to support literacy (books, traveling backpack, stories , dictionaries, reading corners).

c. Effectiveness.

i. Similarly, the IDEL standard indicates that the same percentage of children read 70 or more words per minute. Having said the above, it is necessary to reinforce the teacher's skills in the method used to improve children's abilities in reading fluency and comprehension and at the same time monitor their performance.

ii. It is advisable to systematize the most relevant experiences of the CREAN Project and implement knowledge management processes in order to socialize with other actors - internal and external to WV - the systematized experiences; for example, the diploma to teachers and directors of schools.

iii. The work of women (mothers) in the organization of School Feeding Committee (CAE), the preparation, distribution and maintenance of school feeding, as well as in the organization

of school orchards, should be made visible and recognized. Similarly, it is necessary to make visible and quantify the contribution of families to the improvement (supplies and labor) of the school feeding.

d. Impact

i. Keep the food allowance and the provision of other incentives to teachers, to cushion their work overload, without undermining a realistic review of their varied roles during daily school life in their work centers. The risk of reaching a point of tension that affects the quality of literacy education must be reduced.

ii. Strengthening the effective performance of the school councils (PTA) requires a little more than the strategies implemented and cascading training. Future interventions should formulate a more versatile strategy duly supported with participatory organizational and networking and resources (horizontal support, exchange of experiences, etc.).

iii. For future interventions it is recommended to design a comprehensive professional development program for teachers that includes a set of strategies for personal and professional development. This plan should include training for teachers in service, preferably “online” or with smart TVs using USBs, a more institutional and systematic process.

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Annex

Annex 1 Indicator Summary Table

RESULTS BY INDICATOR, CREAN PROJECT. Final Evaluation Report November 2019.

No	INDICATOR	BASELINE RESULT	Target	Actual
MGD SO1	***Improved Literacy of School-Aged Children***			
1	*Percent of students who, by the end of two grades of primary schooling, demonstrate that they can read and understand the meaning of grade level text (female)*	*34% 3rd grade*	*45%*	*47% 3rd grade*
2	*Percent of students who, by the end of two grades of primary schooling, demonstrate that they can read and understand the meaning of grade level text (male)*	*24% 3rd grade*	*45%*	*38% 3rd grade*
3	*Number of individuals benefiting directly from USDA-funded interventions (female)* ***(Information provided by SIGE-CREAN)***	*0*	*22, 508*	*36, 235*
4	*Number of individuals benefiting directly from USDA-funded interventions (male)* ***(Information provided by SIGE-CREAN)***	*0*	*20, 975*	*33, 282*
5	*Number of individuals benefiting indirectly from USDA-funded interventions.* ***(Information provided by SIGE-CREAN)***	*0*	*115,932*	*73, 866*
6	*Number of individuals benefiting directly from USDA-funded interventions (new)* ***(Information provided by SIGE-CREAN)***	*0*	*47, 609*	*43, 289*
7	*Number of individuals benefiting directly from USDA-funded interventions (continuing)* ***(Information provided by SIGE-CREAN)***	*0*	*43, 483*	*46, 224*
MGD 1.1	***Improved Quality of Literacy Instruction***			
8	*Number of teachers in target schools who demonstrate improved literacy instruction as identified by supervisors, mentors, or coaches.* ***(Information provided by SIGE-CREAN))***	*0*	*720*	*828*
Result 1.1.2	***Better Access to School Supplies and Materials***			
9	*Number of textbooks and other teaching and learning materials provided as a result of USDA assistance.* ***(Information provided by SIGE-CREAN)***	*0*	*70, 000*	*76, 100*
Result 1.1.3	***Improved Literacy of Instructional Materials***			
10	*Number of target schools with supplemental reading materials available to students* ***(Information provided by SIGE-CREAN)***	*0*	*613*	*591*
Result 1.1.4	***Increased Skills and Knowledge of Teachers.***			
11	*Number of teachers/educators/teaching assistants in target schools who demonstrate use of new and quality teaching techniques or tools as a result of USDA assistance.* ***(Information provided by SIGE-CREAN)***	*0*	*300*	*484*
12	*Number of teachers/educators/teaching assistants trained or certified as a result of USDA assistance.* ***(Information provided by SIGE-CREAN)***	*0*	*1,941*	*3170*
Result 1.1.5	***Increased Skills & Knowledge of School Administrators***			

No	INDICATOR	BASELINE RESULT	Target	Actual
13	*Number of school administrators and officials in target schools who demonstrate use of new techniques or tools as a result of USDA assistance* ***(Information provided by SIGE-CREAN)***	*0*	*159*	*170*
14	*Number of school administrators and officials trained or certified as a result of USDA assistance* ***(Information provided by SIGE-CREAN)***	*0*	*218*	*381*
MGD 1.2	***Improved Attentiveness***			
15	*Percent of students that have improved attentiveness in classrooms identified by their teachers (data collected during a single day, on a quarterly basis).*	*79% (total)*	*84%*	*85%*
		74% (girls)	*n.a.*	*90%*
		83% (boys)	*n.a.*	*81%*
Result 1.2.1	***Reduced Short-Term Hunger***			
16	*Number of daily school meals (breakfast, snack, lunch) provided to school-age children as a result of USDA assistance* ***(Information provided by SIGE-CREAN)***	*0*	*26,421,793*	*18, 298, 993*
17	*Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (male)* ***(Information provided by SIGE-CREAN)***	*0*	*19, 380*	*31, 035*
18	*Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (female)* ***(Information provided by SIGE-CREAN)***	*0*	*18, 620*	*29, 537*
19	*Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (new)* ***(Information provided by SIGE-CREAN)***	*0*	*41, 271*	*39, 884*
20	*Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (continuing)* ***(Information provided by SIGE-CREAN)***	*0*	*38, 000*	*35, 108*
21	*Number of daily schools meals (breakfast, snack, lunch) provided to school staff as a result of USDA assistance* ***(Information provided by SIGE-CREAN)***	*0*	1,170,769	*1, 011, 529*
22	*Number of school staff receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (male).* ***(Information provided by SIGE-CREAN)***	*0*	*232*	*380*
23	*Number of school staff receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (female).* ***(Information provided by SIGE-CREAN)***	*0*	*1768*	*2439*
24	*Number of school staff receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (new).* ***(Information provided by SIGE-CREAN)***	*0*	*1705*	*2502*
25	*Number of school staff receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (continuing).* ***(Information provided by SIGE-CREAN)***	*0*	*2000*	*1987*
MGD 1.3	***Improved Student Attendance***			
26	*Number of students regularly (80%) attending USDA supported classrooms/school (female).* ***(Information provided by SIGE-CREAN)***	*13,918 (91%)*	*16,700*	*21,652 (98%)*
27	*Number of students regularly (80%) attending USDA supported classrooms/school (male)* ***(Information provided by SIGE-CREAN)***	*14,970 (92%)*	*15,800*	*21,526 (92%)*

No	INDICATOR	BASELINE RESULT	Target	Actual
Result 1.3.5	***Increased Community Understanding of Benefits of Education***			
28	*Number of parents in target schools who can name at least three benefits of primary education (collected through a survey) (n=1293)*	*252 (28%)*	*560*	*804 (62%)*
1.2.1.1,1.3.1.1	***Increased Access to Food (School Feeding)***			
29	*Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance (female)* ***(Information provided by SIGE-CREAN)***	*0*	*20, 388*	*31, 962*
30	*Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance (male)* ***(Information provided by SIGE-CREAN)***	*0*	*19, 612*	*31, 404*
31	*Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance (new)* ***(Information provided by SIGE-CREAN)***	*0*	*42, 976*	*41, 936*
32	*Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance (continuing)* ***(Information provided by SIGE-CREAN)***	*0*	*40, 000*	*46, 224*
Result 1.4.4	***Increased Engagement of Local Organizations and Community Groups***			
33	*Number of Parent-Teacher Associations (PTAs) or similar "school" governance structures supported as a result of USDA assistance* ***(Information provided by SIGE-CREAN)***	*0*	*540*	*445*
34	*Number of public-private partnerships formed as a result of USDA assistance* ***(Information provided by SIGE-CREAN)***	*0*	*2*	*2*
35	*Value of public and private sector investments leveraged as a result of USDA assistance* ***(Information provided by SIGE-CREAN)***	*0*	*5,719, 998*	*3, 215, 743 (GIK(WV)_MINSA)*
MGD SO2	***Increased Use of Health and Dietary Practices***			
36	*Percent of school-age children receiving a minimum acceptable diet (female) (n= 1228)*	*812%*	*85%*	*97%*
37	*Percent of school-age children receiving a minimum acceptable diet (male) (n= 1128)*	*77%*	*80%*	*94%*
Result 2.1	***Improved Knowledge of Health and Hygiene Practices***			
38	*Number of students (and parents) in target schools who can identify at least one local source of information on good health practices (e.g. community health clinic)*	2911	*3817*	*3295*
39	*Students (female) (n= 1228)*	*1048 (99%)*	*n.a.*	*1208 (98%)*
	Students (male)s (n= 1128)	*1122 (100%)*	*n.a.*	*1074 (95%)*
	Mothers (n= 1020)	*666 (85%)*	*n.a.*	*873 (86%)*
	Fathers (n= 273)	*75 (74%)*	*n.a.*	*140 (51%)*
	Percent of students in target schools who achieve a passing score on a test of good health and hygiene practices. (n= 2356)	*1245 57%*	*3017*	*2192 (93%)*

No	INDICATOR	BASELINE RESULT	Target	Actual
40	*Number of parents in target schools who can identify at least three important health/hygiene practices (e.g. use of latrines) (n=1293)*	*348 (39%)*	*800*	*846 (65%)*
Result 2.2	***Increased Knowledge of Safe Food Prep and Storage Practices***			
41	*Number of food preparers in target schools that can identify at least three key practices aimed at safe food preparation (n=1293)*	*621 (70%)*	*1, 291*	*1112 (86%)*
42	*Number of food preparers at target schools who achieve a passing score on a test of safe food preparation and storage. (n=1293)*	*593 (67%)*	*861*	997 (77%)
Result 2.3	***Increased Knowledge of Nutrition***			
43	*Number of individuals trained in child health and nutrition as a result of USDA assistance (female)* ***(Information provided by SIGE-CREAN)***	*0*	*2, 575*	*4, 470*
44	*Number of individuals trained in child health and nutrition as a result of USDA assistance (male).* ***(Information provided by SIGE-CREAN)***	*0*	*1, 203*	*2, 750*
Result 2.4	***Increased Access to Clean Water and Sanitation Services***			
45	*Number of schools using an improved water source* ***(Information provided by SIGE-CREAN)***	*178*	*500*	*502*
46	*Number of schools with improved sanitation facilities* ***(Information provided by SIGE-CREAN)***	*200*	*190*	*126*
Result 2.6	***Increased Access to Requisite Food Prep and Storage Tools and Equipment***			
47	*Number of school with appropriate accessory to storage the food. (purlins and plastic) (Information provided by SIGE-CREAN)*	*206*	*613*	*613*

Annex 2 Matrix of Final Evaluation of the CREAN Project

Criterion	Questions	Measure or indicator	Data source	Instruments	Analysis method
Relevance	**Q1** Did the project address the priority issues facing the target areas and communities, and was the project in line with the receiving governments or agencies?	Perceptions and qualitative and quantitative assessment of: The target population on the nature of SO1 and SO2 and the products of the CREAN Project; and of relevant local actors on the relevance with respect to their local priorities	Key informants: Parents; teachers, school directors, 5th and 6th grade students, MINED and MINSA officials, and relevant local government. Technical and S&E Reports of the CREAN Project	Interviews: MINED and MINSA officials. GF: Parents and Teachers Interviews: School Directors Documentary Review and data Workshop Theory of Change	Analysis of meetings and disagreements of actor speeches.
	Q2 What opinion do the actors have about the nature and quality of the project implementation?	Qualitative assessment of parents, teachers, school administrators, local actors and MINED and MINSA.	Key informants: Parents; teachers, school directors, 5th and 6th grade students, MINED and MINSA officials	Interviews: MINED and MINSA officials.	Narrative trends
	Q3 Under what circumstances and / or in what context would the project be replicated or scaled up?	Qualitative assessment (evaluator criteria)	Evaluators Analysis Documentary Review Project Document Change Theory	Documentary review	Analytical Discussion Evaluation Team
	Q4 Did the officials of the appropriate government departments participate in the project?	Number of processes and instances in which they participated Number of signed agreements	Interviews Key Actors Documentary Review	Interviews: WV, MINED and MINSA officials. (municipal and departmental)	Narrative trends

Criterion	Questions	Measure or indicator	Data source	Instruments	Analysis method
Efficiency	Q1 Were contributions used (staff, time, financial resources, equipment) in the best way to achieve the results of the project?	Financial ratio and / or unit costs	Financial and S&E reports, procurement plans, physical-financial, distribution plans and budgets, operational, financial plans of CREAN, former manager CREAN Project.	Documentary review, interviews	Financial and discussion
	Q2 Did the project have sufficient resources (human, financial and capital) appropriate for its implementation?	Professional opinions and % of execution of annual plans.	Former CREAN manager and current manager, WV directors, budget, procurement plans, financial, operational and S&E reports	Documentary review, interviews	Financial and discusión
	Q3 Evaluate the established communication structure and its effectiveness in supporting the implementation of the project?	Professional perceptions and opinions	Former CREAN manager and current manager, WV directors and S&E officer, communication strategy or plan, S&E reports	Documentary review, interviews	Discussion
	Q4 Were there quality control and accountability measures and they were consistently applied during the review, approval, disbursement, monitoring and reporting phases?	Professional perceptions and opinions	Former CREAN manager and current manager, WV directors and S&E officer, communication strategy or plan, S&E reports	Documentary review, interviews	Discussion

Criterion	Questions	Measure or indicator	Data source	Instruments	Analysis method
Effectiveness	Q1 Establish whether the goal of activities, products and results were achieved	% compliance	S & E Reports	Focus group parents; interview, EGRA, 5th and 6th grade survey, testimony, documentary review.	Estimate Discussion
	Q2 Did the Monitoring and Evaluation system provide appropriate and reliable quality information when measuring the expected indicators?	International Standard Criteria	Technical and S&E reports; database;	Documentary Review	Estimate Discussion
	Q3 Were the ways in which monitoring indicators measured practicals, and provided this quality information?	International Standard Criteria	Officials, and technicians of S&E, of WV. S&E reports.	Documentary review, interviews	Discussion

Impact	**Q1** What changes are observed in the life of the target group product of project implementation?	**MGD S 01:** 1. % of students (women) who at the end of two grades of primary education demonstrate that they can read and understand the meaning of a text appropriate to their level. 2.% of students (boys) who at the end of two grades of primary education demonstrate that they can read and understand the meaning of a text appropriate to their level. 4. Number of people (male) who directly benefit from USDA-funded interventions 7. Number of people who continue to benefit directly from USDA-funded interventions. **MGD S02:** % of girls of school age who receive a minimum acceptable diet. % of school-age children who receive a minimum acceptable diet. Perceptions of parents, teachers, principals, 5th and 6th grade elementary students (Adolescents and Youth).	**Key informants:** Parents, teachers, school directors, 5th and 6th students, MINED and MINSA officials.	**EGRA test** **Interviews**: School directors; MINED and MINSA officials. **GF**: Parents / Family Mothers; **GF**: Teachers / Teachers; Teenagers **Testimonials:** Teens and young people **Survey**: Parents **Survey:** 5th and 6th students Documentary Review and data	Analysis of meetings and disagreements of actor speeches. Statistical Discussion

Criterion	Questions	Measure or indicator	Data source	Instruments	Analysis method
	Q2 How satisfied are the communities with the response provided?	Perceptions of members of the educational community	**Key informants:** Parents; teachers; Teenagers and young people **Reports:** Technical and S&M	**Focus Groups:** Parents **Survey:** 5th and 6th students **Survey:** Parents **Testimonials:** Teens and Youth (5th and 6th grade)	Narrative Estimation Discussion
	Q3 Does the program require more time from women?	Perceptions of women from beneficiary communities	**Key informants:** Parents,; Teachers	**Focus Groups**: Parents; Teachers **Interview:** Teachers **Survey:** Parents	Narrative Estimation Discussion

Annex 3 Terms of reference for the final evaluation consultancy of the CREAN Project, November 2018. **TDR Final evaluation CREAN Project**

Annex 4 Instruments for the collection of qualitative information. Final evaluation of the CREAN Project, June 2019. **Qualitative instruments**

Annex 5 Percentage of students by sex, who at the end of two grades of primary education, demonstrate that they can read and understand as stipulated for the degree. Disaggregated by department and municipalities.

Reading fluency and comprehension in students in general

Municipalities	Baseline (n 827)			Fianl evaluation (902)		
	Boys	Girl	Both	Boys	Girls	Both
Achuapa	9%	29%	18%	44%	32%	38%
El Jicaral	33%	40%	36%	21%	29%	26%
El Sauce	22%	33%	27%	47%	51%	49%
Estelí	38%	48%	43%	37%	48%	43%
La Trinidad	20%	38%	27%	58%	67%	62%
San Juan de Limay	13%	31%	20%	22%	42%	30%
San Nicolás	19%	29%	24%	50%	50%	50%
Sta. Rosa del Peñón	29%	20%	25%	25%	36%	31%
TOTAL	24%	36%	29%	38%	47%	43%

Annex 6 Students and hygiene practices

Geographic Location	Baseline (n 2191)		Final evaluation (n 2356)			
	Children washing their hands before eating	Children washing their hands after using the bathroom	Children washing their hands before eating	Children washing their hands after using the bathroom	Daily bath	Brushing teeth
León	75%	81%	96%	92%	98%	95%
Estelí	51%	53%	95%	95%	99%	94%
Municipalities						
Achuapa	88%	91%	99%	88%	100%	96%
El Jicaral	62%	66%	97%	93%	100%	92%
El Sauce	80%	84%	96%	95%	97%	96%
Santa Rosa del Peñón	43%	61%	90%	79%	96%	96%
Estelí	55%	57%	95%	95%	99%	94%
La Trinidad	49%	51%	92%	93%	96%	94%
San Juan de Limay	34%	34%	98%	100%	100%	98%
San Nicolás	57%	58%	86%	86%	100%	86%
TOTAL	62%	65%	95%	94%	99%	95%

Annex 7 Matrix of Substantive and Operational Strategies

Each of the 5 components of CREAN Project has its substantive and operational strategies. Substantive strategies refer to the concatenation or linkage between the preconditions and conditions that are expected to be carried out, as a result of the project activities, to achieve the superior objectives of a project; for example, behavioral changes, knowledge acquisition, etc. Operational strategies refer to the concatenation or link between activities and deliverables (goods and services) and components of a project, for the achievement of expected results (preconditions or conditions).

<table>
<tr><th rowspan="2">“Activity” or Component</th><th colspan="2">Substantive (ES) and Operational (EO) Strategies.</th></tr>
<tr><th>Agreement
Amendment 111</th><th>Agreement 2015 Amendment IV</th></tr>
<tr><td>Reading materials distribution</td><td colspan="2" rowspan="3">ES: Training of administrators and teachers and the provision of texts and supplies and school supplies and supplementary reading materials
EO:
Organization of mini-libraries, school backpacks, book lending system, corners and support for reading club at community level and at home level and promotion of book production at appropriate level.
Assess and meet the needs of school materials.
Train, according to the MINED curriculum, and in a cascade manner, MINED pedagogical advisors and elementary and pre-school teachers and administrators (leaders), highlighting the pedagogical circles.</td></tr>
<tr><td>Distribution of school materials</td></tr>
<tr><td>Administrator and teacher training</td></tr>
<tr><td>Establishment of school gardens</td><td colspan="2" rowspan="2">ES: Reduction of hunger and increased access to food through the daily provision of school snacks and the establishment of school gardens.
EO:
Assessment of conditions, provision of inputs and establish gardens that provide vegetables, which supplement school snacks, together with community agricultural promoters, teachers, parents, students and other community members, using the MINED guide and in partnership with MEFCCA and FAO (seeds).
Training in good agricultural practices, marketing skills and demonstration plots (corn and beans) in interested schools to complement school feeding.
Together with PINE-MINED, daily rations will be distributed to students and school staff and CAEs will be trained to monitor distribution; CAE will ensure safe storage in the school or homes of responsible families and the preparation, service and daily intake of food according to a rotating system; and the capacities of the CAEs will be strengthened.</td></tr>
<tr><td>Supply food</td></tr>
<tr><td>Promoting literacy</td><td colspan="2">ES: Implementation of activities that promote reading and writing and increase community understanding of the benefits of education
EO:
Training parents with a holistic approach to promote literacy and pre-reading-writing integrating health and nutrition using practical strategies, highlighting the importance of pre-school education and mobilizing the community to create a local movement for reading and improving the Learning of your children.
Develop effective and meaningful teaching methodologies.</td></tr>
<tr><td>Development of PTA Action Plans</td><td colspan="2" rowspan="2">ES: Training of parent-teacher associations and development of associations' action plans
EO:
Development of a mixed action plan: i) education: tutors for teachers and identification of positive attitudes and behaviors of parents; ii) nutrition: identify positive solutions in the student environment.
Qualitative evaluation to design a behavior change methodology that addresses gaps between needs and capacities of the PTA, in each school</td></tr>
<tr><td>PTA training</td></tr>
</table>

"Activity" or Component	Substantive (ES) and Operational (EO) Strategies.	
	Agreement Amendment 111	Agreement 2015 Amendment IV
	Train PTA in management, leadership, community outreach, protection and participation of children, gender equity, monitoring of school attendance, communication skills and collaborating with CAE. Help parents communicate better with their children and create a respectful and child-friendly environment at home	
Water and sanitation infrastructure	ES: Increase access to clean water and sanitary services through the construction or rehabilitation of latrines and hand washing stations and the provision of ceramic water filtration systems. EO: Identification of needs with MINED, planning of repairs together with parents and teachers, the supply of materials, components and water filters (more training to CAE and hygiene clubs for their use) by WV and labor Educational community volunteer. Other selected volunteers will monitor latrine cleaning together with MINSA	
Distribution of food equipment and containers	EN: Creation of student health and hygiene clubs and training in good nutrition and health practices EO: Distribution of plastic containers and food preparation equipment. Identify current practices and behavior change methodologies, and train PTA, CAE and PMIE-MINED staff in the proper storage and handling of food using the MINED training guides. Train food preparers in good hygiene and nutrition practices during food preparation. Monitor with the community health volunteers the level of food spoilage and waste and the implementation of good hygienic food preparation practices. Develop with the CAE: food preparation plans and menu, checklist of application of hygienic practices of preparation, and proper handling and storage of food. Establish 4th, 5th and 6th grade student clubs, train them in daily hygiene and health practices by providing them with an initial hygiene package and promoting their participation in peer hygiene education activities and their assistance to community health volunteers that monitor latrines and filters. Mobilize, together with community health volunteers and PTA, students and their families in the understanding of community health issues and the identification and promotion of positive behaviors related to the management and storage of food, water and latrines. Advise parents, and provide them with materials, about the importance of good nutrition practices for their children and provide referrals for health services for parents with children in preschool who need medical attention. Teach CAEs to weigh and measure children anthropometrically using the MINED nutrition guide and monitor the growth and nutrition of preschool-age children. Integrate mothers with malnourished children into the PD / H program.	
Training food storage and preparation practices		
Establishment of hygiene and health clubs		
Training in good nutrition and health practices		

Annex 8 Qualitative Techniques Applied

Techniques	Frequency	Participants		
		Female	Men	Total
Interviews with principals / schools	12	8	4	12
Interviews with municipal delegates of the MINED	6	2	4	6
Interviews with departmental delegates of the MINED	2	1	1	2
Interviews with WV staff	2	1	1	2
Focus groups with 5th and 6th grade students	5	25	25	50
Focus groups with parents	7	40	3	43
Focus groups with teachers	7	29	2	31

Annex 9 List of focus groups carried out

Dpt.	Municipality	School center	Teachers			Parents			Students		
			F	M	T	M	H	T	M	H	T
Estelí	San Nicolás.	Flor de Sacuanjoche	5	1	6	3	1	4	5	5	10
	San Juan de Limay	Felicita Ponce	5		5	4	2	6	5	5	10
	La Trinidad	Divino Niño	3		3	8		8			s/d
	Estelí	s/d			s/d			s/d			s/d
León	Achuapa	Adelita Sorto	5		5	5		5	5	5	10
	Sta. Rosa d/Peñón	José de la Cruz Mena	3		3	6		6			s/d
	El Sauce	Rubén Darío	5		5	9		9	5	5	10
	El Jicaral	Alejandro Vega Matus	3	1	4	5		5	5	5	10
TOTAL			29	2	31	40	3	43	25	25	50

Annex 10 Educational materials developed within the framework of the CREAN Project (2015-2018) Access in:
https://drive.google.com/open?id=1Qw8gKCXXO6zyt6keD96I4cOBJvpCt1bB