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Evaluation of Nutrition Policies and Programs for Preschool and Initial Education in Mexico

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List of Acronyms used

ANSA	Acuerdo Nacional para la Salud Alimentaria (National Agreement for Nutritional Health)
CADI	Centro Asistencial de Desarrollo Infantil (Assisting Center for Child Development)
CENDI	Centro de Desarrollo Infantil
CECE	Comités de los Establecimientos de Consumo Escolar (School Consumption Establishments Committees)
COFEMER	Comisión Federal de Mejora Regulatoria (Federal Commission for Regulatory Improvement)
CONAFE	Consejo Nacional de Fomento Educativo (National Council for Educational Promotion)
CONEVAL	Consejo Nacional para la Evaluación de la Política de Desarrollo Social (National Council for the Evaluation of Social Development Policy)
CRC	Convention on the Rights of the Child
DIF	Sistema Nacional para el Desarrollo Integral de la Familia
ECCE	Early Childhood Education and Care
ECD	Early Childhood Development
EIASA	Estrategia Integral de Asistencia Social Alimentaria (Integral Strategy For Social Food Aid)
ID	Iron deficiency
IDB	Inter-American Development Bank
IMSS	Instituto Mexicano del Seguro Social (Mexican Institute for Social Security)
INEGI	Instituto Nacional de Estadística y Geografía (National Institute of Statistics and Geography)
INSP	Instituto Nacional de Salud Pública (National Institute of Public Health)
ISSSTE	Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (Institute for Social Security and Services for State Workers)
M&E	Monitoring and Evaluation
NOM	Norma Oficial Mexicana (Official Mexican Standard)
OECD	Organization for Economic Cooperation and Development
PAHO	Pan American Health Organization
PND	Plan Nacional de Desarrollo (National Development Plan)
SABER	Systems Approach for Better Education Results
SEDESOL	Secretaría de Desarrollo Social (Ministry for Social Development)
SEP	Secretaría de Educación Pública (Ministry of Public Education)
SSa	Secretaría de Salud (Ministry of Health)
UNESCO	United Nations Educational Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
WB	World Bank

I. Introduction and Background

a. Early Childhood Development and the Child's Environment: Policy Implications

Based on the life course perspective, the early experiences in life play a very important role in defining an individual's health trajectory over time. These first years, commonly known as Early Childhood, are defined as "the period from birth to eight years old" (UNESCO, 2012).¹ This time represents a critical period when children go through a phase of significant growth in neurological development, making them more sensitive to interventions but at the same time more vulnerable to negative influences in their environment. This is why good nutrition, along with proper stimulation and appropriate family care are vital early experiences impacting the quality of the brain architecture by establishing either a sturdy or a fragile foundation for all of the learning, health and behavior that follow (Center on the Developing Child). Given the importance of these early stages, investing in integrated public health programs on Early Childhood Care and Education (ECCE) is crucial as efforts in this field can be translated into "health benefits to young children, health improvements across the life span, and economic returns to society in the form of reduced health care costs and increased economic productivity" (Guyer, et al., 2009).

The objective of early childhood development (ECD) policies is to ensure that children and their families have adequate healthcare, nutrition, early learning, and social protection services available. These can take the form health policies, education policies or nutrition policies. It should also be taken into account that there are multiple settings where policies can help improve the environment so that it is suitable for child development: schools, daycares, community centers and hospitals (SABER, 2013).

It is through these policies that governments set standards for service, allocate sufficient funding and ensure accountability. Nevertheless, before targeting a particular policy it is necessary to understand the 'policy context', which refers not only to the policies that are immediately relevant to a particular set of concerns, but also to the formal and informal mechanisms that determine the policy agenda as well as policy-setting and implementation (International Fund for Agricultural Development, 2009).

Early childhood development is the result of the complex interaction of diverse variables. On the one hand there are variables that cannot be modified by the policies implemented, such as genetic endowment (Behrman, 1996). On the other hand, factors, such as poverty food insecurity and access to quality education during the early years can be addressed through a comprehensive policy framework. The importance of policies relies on the effects that they have on the social

¹ For the purpose of this study, only preprimary programs that service children under 6 years old will be addressed.

determinants of health and the child's environment. One of the aims of health and nutrition policies is that "practicing more healthful behavior becomes the 'optimal default'— that is, choosing a more healthful behavior becomes easier, if not automatic" (Yale Rudd Center, 2013). Policies represent a primary mechanism to modify the environment through formal and informal rules, laws or regulations (Schmid, Pratt, & Witmer, 2006). Policy can play the role of mediator between the individual and the environment by "inhibiting or enhancing the structures and social norms of a community that promote healthy activities" (Safdie Kanan, 2013).

These instruments can take many forms, ranging from social protection in the form of safety nets that alleviate the negative impacts of poverty, to regulations that improve accessibility and quality of the services. Nutrition policies directed at preschools represent an opportunity to promote healthy eating among a great number of children from diverse backgrounds in this critical stage. These policies are usually based on the premise of environmental interventions which do not require the individual to select him/herself into an intervention program (French & Stables, 2003). There are several methods on which the interventions can be based such as limiting availability of unhealthy foods, increasing access to nutritious food, introducing incentives to improve dietary patterns, or providing information that help people make better choices (Seymour, et al., 2004).

Consequently, policy can help counterweight adverse scenarios by changing the existing environment in terms of the quality and quantity of the services provided. However, it can also influence the size and training of the workforce available to assist the target population, adequate and sustainable funding, equitable coverage and appropriate monitoring of outcomes (SABER, 2013). These mechanisms are key components to ensure that a child attending a preschool program is ready for learning in the primary school setting. School readiness is defined as the solid developmental foundation of emotional, behavioral, cognitive and motor skills and competencies that children need to learn, work, and function successfully at school and beyond (Rafoth, Buchenauer, Crissman, & Halko, 2004). School readiness is an important determinant of academic performance in primary school; furthermore, poor school performance is related to insufficient preparation and training for economic opportunities – and eventually results in the perpetuation of intergenerational poverty cycles (Engle, et al., 2007).

In the past decades the Mexican Government has enacted laws and policies addressing Early Childhood from different perspectives (Vargas-Baron, 2009). There are numerous programs that address early childhood health and nutrition; however it has been pointed out that child development in Mexico is still regarded as the automatic outcome of good health and nutrition, thus implying that absence of disease and correct feeding are the sole factors that determine cognitive, motor and emotional development of children (Myers, et al., 2013). Fortunately, there is

increasing attention on availability of early childhood care and education (ECCE) in the country, but the expansion of services has not always been followed by an improvement in quality. In order to be able to increase quality programs it is necessary to understand the issues that contribute to their success or failure and upgrade them accordingly.

The goal of this master's thesis is to present an analysis of the current state of preschool nutrition policies in Mexico in the preschool-setting. The intention of this study was to analyze Mexico's policies and programs based on the School Feeding SABER framework, in order to explore the foundation required for ministries and governmental agencies to provide quality services to the population.

b. Nutritional and Health Policies for ECD: an Overview

Nutrition and health policies are seen as a resource to improve child survival, given that child undernutrition and suboptimal breastfeeding are responsible for about 35% of child deaths and 11% of the global burden of disease (Black, et al., 2008). Nevertheless, the impact of maternal and early childhood nutrition goes beyond survival. Persistent malnutrition represents a significant threat for development, and in turn this has long term negative repercussions on economic productivity (Yousafzai, Yakoob, & Bhutta, 2013).

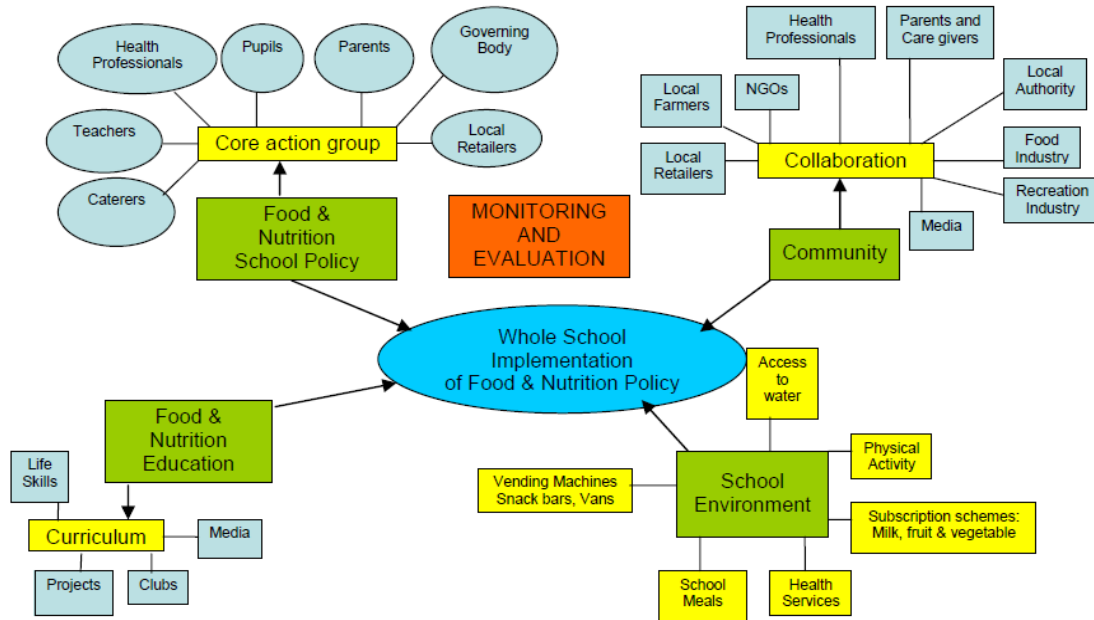
Early Childhood Nutrition is a complex process, as it depends on adequate dietary intake and absence of disease as well as on a broader set of factors of the sociopolitical and economic context (UNICEF, 1998). Further evidence also highlights the importance of not only ensuring adequate food availability but also of “the process by which the child is fed and the caregiving capacity of the mother and the family” (Yousafzai, Yakoob, & Bhutta, 2013). This refers to responsive feeding practices and social interactions between the caregiver and the child during meals.

Nutritional policies for early childhood must address a wide range of issues: maternal nutrition, breastfeeding and responsive feeding, micronutrient supplementation and preschool feeding in the setting of daycares and preprimary schools. Specific school policies can promote the empowerment of the students through the acquisition of particular skills and knowledge on nutrition (Scriven & Stiddard, 2003). A comprehensive school nutrition policy has the capacity to influence all the actors involved in the process: students, parents, teachers, and even providers (WHO Europe, 2006). Figure 1 shows the multiple contexts through which policies affect nutrition in the school setting.

The School Feeding SABER framework is designed to assess school nutrition and school feeding policy frameworks, including the elements detailed in Figure 1. This framework is based on evidence that school nutrition and feeding interventions can contribute to the three following

objectives: (i) ensure that children are ready to learn and enroll on time; (ii) keep children in school by enhancing attendance and reducing dropout rates; and (iii) improve learning at school by enhancing cognition and educational achievement (SABER, 2012).

Figure 1: Whole school implementation of a food and nutrition policy²



According to the SABER framework there are five policy goals that are necessary to have a quality program in terms of school nutrition and feeding (SABER, 2012):

1. **A national policy framework:** the national government has identified school feeding and nutrition as a priority and a national policy framework is in place.
2. **Stable and predictable funding:** School feeding programs are included in national planning and budgeting.
3. **Sufficient institutional capacity for implementation and coordination:** Existence of an institution that is accountable for the implementation of the program with adequate resources. Intersectoral coordination is also important in this aspect.
4. **Sound design and implementation:** The programs implemented are context appropriate. The design clearly identifies problems, objectives and expected outcomes.
5. **Community involvement:** Programs are responsive to community needs and ideas and incorporate some form of parental and community contributions.

In addition to the analysis of the policy framework and goals stated above, it is important to understand the factors that may hinder or bolster the implementation of the programs and policies. These factors are usually situations related to the cultural and socioeconomic context such as

² Sustain (2005). The alliance for better food and farming. Available in (WHO Europe, 2006)

commercial interests of the food industry, administrative issues at school level with the school committees, cultural perceptions about adequate nutrition or even lack of adequate information on this topic in the media. In order to consider the full picture it is necessary to understand the interaction between these factors and the established policy framework.

c. Preschool education & nutrition in the school setting

In the past decade preschool has gained attention, as it set the basis for learning in the years to follow. In addition to basic skills in numeracy and literacy, preschool can also promote self-regulation and other social skills. One of the most relevant functions of preschool programs is to “to help children acquire learning-related skills, such as the ability to express thoughts, adapt behaviors to situational demands, control impulsivity, show curiosity, remain concentrated and be socially competent” (Melhuis E. , 2012). Studies have observed that children who participate in this type of programs show higher cognitive levels and improved performance in primary school and later in adulthood (Schweinhart, 2003; Bracey & Stellar, 2003; Melhuis E. C., 2011). However, in order to obtain the optimal results expected from the preschool program, the child must be well-nourished in order to be able to perform tasks and activities in the classroom (Kristjansson, et al., 2012; Walker, et al., 2007).

As mentioned above, nutrition is not only necessary for the child to get an adequate intake of nutrients that allow him/her to grow and prevent diseases, but also influences academic performance. Several studies have linked lowered cognitive functioning and poorer school performance to malnutrition in preschool children (Alderman, Hoddinott, & Kinsey, 2006; Grantham-McGregor, et al., 2007). Cognition and performance problems can also be related to short-term nutrient intake, e.g. the relation between breakfast and cognitive performance of preschool, primary children and adolescents (Adolphus, Dye, & Lawton, 2013). It is important to mention that not only can undernutrition affect school achievement, but studies have also suggested a negative association between academic attainment and obesity. Research shows that there is an association between obesity and low academic performance in kindergartners (Datar, Sturm, & Magnabosco, 2004). Several causal pathways are suggested for this finding, some suggest that obesity might be related to poorer mental health due to discrimination and bullying that in turn results in lower academic attainment while others explain this association through health problems related to sleep complications or even micronutrient deficiency for children aged 6 to 16 (Caird, et al., 2011). Given the recent research outcomes that show that children who are overweight in kindergarten are more likely to become obese later on and that obese children are very likely to remain obese (Solveig, Kramer, & Narayan, 2014), it should be a priority to ensure

that children in this age bracket are provided not only with adequate nutrition but also with quality education that instills proper nutrition habits.

Although nutrition is a crucial part of ECD, proper stimulation must not be neglected. Even when children are adequately nourished, neglect and lack of stimulation may result in a failure to grow appropriately. Research shows that in contexts “where children are adequately nourished, children without early opportunities for cognitive and social stimulation develop poorly cognitively and socially, which puts them on a trajectory toward low school attainment, early exit from education, and limited economic potential” (National Institute of Child Health and Human Development Early Child Care Research Network, 2008). Additionally, stimulation components can be integrated to nutrition interventions making them more cost-effective and useful to boost school-readiness (Nadeau, 2009).

d. Preschool Nutrition Policies and ECD in Mexico: Determinants of Nutritional Health in Mexico

In order to have a better understanding of the dynamics between the actors and the policy arenas, it is essential to understand the social and political context in the country. With this purpose in mind, the following sections briefly describe key elements to evaluate the policy framework.

i. Nutritional Status of Children in Mexico

Mexico, along with other middle-income countries such as India and Brazil, is going through a nutrition transition. This refers to the shifts in dietary and physical activity patterns that result in changes in body composition, which are in turn associated with chronic and degenerative diseases (Popkin, Adair, & Wen Ng, 2012). As a result, Mexico is experiencing lingering malnutrition rates coupled with increasing obesity rates among children. Consequently policies have to address the double burden of ill nutrition in the country: while 2.8% of children under five are underweight and 13.6% are stunted (pointing to chronic malnutrition) there has also been an increase in the number of overweight children under 5, with this number reaching 9.7% in 2012 (Gutierrez, et al., 2012). According to data from the National Survey on Nutrition and Health, this tendency is prevalent across the country, regardless of socioeconomic status and geographical location (Gutierrez, et al., 2012).

In addition, there are population groups suffering from both problems simultaneously. The prevalence of overweight with concurrent stunting in children aged 24-60 months old represents approximately 5% in non-indigenous children and near to 10% in indigenous children (Fernald & Neufeld, 2007). This represents increased health risks and consequently further obstacles for children to reach their full development.

Another issue related to child nutritional status includes micronutrient deficiencies underlying malnutrition problems: in children coming from middle-income sectors inadequate nutrition is represented mainly by high levels of obesity reaching 25%-30% for this group (Lopez-Ridaura, Rivera, Lazcano, & Hernandez, 2012). Even if the levels of undernutrition in this group are low, the obesity status does not imply that they have proper intakes of necessary micronutrients; this makes them susceptible to micronutrient deficits such as iron deficiency (ID). 23.3% of Mexican children under 5 present this condition (Gutierrez, et al., 2012). A recent study shows that risk of ID among obese Mexican children (aged 5-12y) is 2-4 times higher than for normal-weight individuals with similar iron intakes (Cepeda-Lopez, et al., 2011). This is particularly harmful for school achievement given that ID is one of the main factors affecting attention, cognitive development and academic performance (Walker, et al., 2007).

ii. Cultural Perceptions on Child Nutrition

Although food availability in the school is an important factor in determining nutritional habits, it cannot be ignored that nutritional habits are strongly related to family dynamics and perceptions. Several studies show that the perception of Mexican parents, especially mothers, is skewed towards practices that promote weight gain. In a study of mothers of children aged 9 to 10, it was observed that although mothers feel responsible for the food children eat, many times children skip breakfast or are given ready-made foods of low nutritional value. Mothers justify these decisions arguing that is difficult to provide food that children dislike and highlighting their preference for high-fat high-sugar foods. Additionally, many parents pointed out that lack of time given complicated work schedules was a main cause for failing to prepare adequate meals for consumption during school time (Cabello G. & Reyes, 2011).

Another study of the perceptions of Mexican mothers of children aged 4 to 6, showed that parents tended to prefer “chubbier babies who were perceived as ‘healthy, cute, and growing appropriately.’ Several mothers believed that chubby babies were genetically predisposed to be plump, rather than attributable to parenting practices” (Guendelman, Fernald, Neuffeld, & Fuentes-Afflick, 2010). Furthermore, this same study observed that mothers failed to acknowledge their child as overweight and dismissed child obesity as a health problem disapproving food restriction, even if recommended by a physician.

iii. National in-Classroom Preschool and Initial Education Programs

In Mexico there are two different types of education levels related to early childhood. For the purpose of this study, only in-classroom programs will be included. The sector of Initial Education provides services for children under three years old. Children aged three to five are serviced by Preschool Education (educación preescolar) (Myers, et al., 2013). It is important to note that the

target population for both programs overlaps, whereas preschool education is solely targeted at children over 3 years old, initial education can comprise children until age 5, highlighting the disintegration even within the system (Myers, et al., 2013). Both sectors have separate administration and regulations, which translates into different nutrition actions at each level. These services show a certain fragmentation and overlay, signaling a working point for further discussion in this sector. According to the regulations in place, education for children under the age of 6 is provided in two different formats:

[1.] **Initial Education Programs:** Initial education programs are envisioned to provide services for integral child development for children aged 0 to 3 years old. Initial education is based on the Model for Integral Care for Initial Education published by the Ministry of Public Education (SEP) (Myers, et al., 2013). This set of guidelines, designed by SEP, is meant to define the environment and care for children under the age of 3 who attend ECCE centers. It places special attention on providing a caring and stimulant environment. In terms of nutrition, the model suggests that meals should be interactive, leaving space for stimulation and discovery of varied foods (SEP, 2013).

A major issue of initial education is its ambiguous status within SEP. As Myers and his colleagues noted, the office for Initial Education is located within the Basic Education section which formally only includes preschool, elementary and secondary school. (Myers, et al., 2013). Additionally, as shown in Table 1 there is a strong fragmentation in the programs, which are not aligned with target ages for service. The current fragmentation induces inequities in the quality of services provided. According to a UNICEF report, only 22% of the resources available for daycares were used for children serviced by the Ministry of Social Development (SEDESOL) and National Family Development System (SNDIF) daycares while 78% of resources were destined to daycares run by the Social Healthcare Institutes, IMSS and ISSSTE centers. In numbers, the estimated monthly cost of running an IMSS daycare amounted to \$950,000 MXN and \$4,567 MXN per child compared to just \$34,680 MXN for a SEDESOL daycare and \$665 MXN per child (Gerhard Tuma, 2009).

This imbalance represents a challenge in terms of the quality of foods that can be provided with the available resources, taking into account that SEDESOL and SNDIF are directed at the most vulnerable populations. The lack of adequate funding puts vulnerable children at increased risk of nutritional problems and lower academic performance later on. In addition to the financial imbalance there are problems with instructions for the unification of services. Although the law defines basic rules for CENDIs, each one has its own guidelines and none of these are specific on the nutrition component, most of them specifying that “nutrition must be age-appropriate” or

“determined according to institutional guidelines” but there are no unified manual to define appropriate nutrition for all the programs.

Table 1: Initial Education Programs³

Programs	Agencies Involved	Ages	Coverage in 2011	Target Population
<i>SEP Initial education program-Centers for Child Development (CENDI) IMSS Daycares</i>	SEP and state ministries of education	45 days to 3 years 11 months old	236,924 children	Subject to availability, but in theory it is open to the general population.
	IMSS, SEP	45 days to 3 years 11 months	206,078 children	This program is open exclusively to children of working parents entitled to IMSS services.
<i>ISSSTE Child Development and Wellness Centers (Daycares)</i>	ISSSTE, SEP	60 days to 5 years 11 months old	37,740 children	This program is open exclusively to children of government workers.
<i>SNDIF Centers for ECCE (Daycares)</i>	DIF and SEP, state DIFs and ministries of education.	45 days to 5 years 11 months old	52,248 children	This Program designed to service children of parents subject to social assistance, low SES and with no social insurance.
<i>SEDESOL’s Daycares for Working Mothers (PEI)</i>	SEDESOL, DIF	1 to 5 years 11 months old	265,415 children	This program is open to children of working mothers or single fathers with no social benefits.

[2.] **Preschool Education Programs:** According to the General Education Law, all children must receive three years of mandatory preprimary schooling, starting at age 3 (General Education Law). Starting in 2002, the education reform made three years of preschool mandatory starting at age 3 (Myers, et al., 2013). There is a general preschool modality and a modality for indigenous populations which is given in the child’s native language. While SEP is responsible for the curricula and evaluation, the responsibility for the provision of the service rests on the states. Based on the results for the academic period of 2011/2012, the overall coverage of preschool education in the country is 69.8%. However there are significant differences among states with coverage ranging from 57.7% in Quintana Roo to 84.2% in Tabasco (INEE, 2013). Official data on enrolment puts at 4.71 million the number of children attending preschool education, of this number about 83.7% are public schools and the rest are funded with private resources (INEE, 2013). By age, the estimated coverage reaches almost 100% for 4 years olds and 97.7% for 5 years olds, but it is only 43.4% for three year olds (INEE, 2013). Around 96% of the children enrolled in preschool attend general preschool or indigenous preschool, both based on the same model but the latter is offered in diverse languages according to population needs. (Myers, et al., 2013) Unless the school is targeted by the DIF school meal program, the law envisions no general school feeding scheme that addresses the needs of the entire population.

³ Table based on information extracted from (Myers, et al., 2013)

As described above, there are numerous types of services provided for early childhood care and education. Each service is managed by a different governmental institution or even private providers. The type of service determines what food is available for the children during school time. While children in initial education have a right to nutrition in the school or daycare, most children in preschool education bring meals from home or have to buy foods available at the school. In 2010, a study by the INSP of school children ages 6 to 12 showed that the three most consumed foods in the school setting were: fried foods, sweetened beverages and candies (Shamah-Levy, Morales-Ruan, & Ambrocio-Hernandez, 2010). Given that children spend a significant amount of time in these centers, defining what food is provided or available to them may have a significant impact on their nutrition and health.

iv. Nutrition programs for in-classroom preschool and initial education

In the same vein as the diversity of initial and preschool education programs, the nutritional components are offered in multiple formats according to the needs of the population. For the purpose of this study school nutrition and feeding will be analyzed in three components (Myers, et al., 2013):

[1.]Initial education nutrition and feeding: In 2011, the Federal Government put in place the General Law on the Provision of Services for Integral Child Care and Development and its corresponding regulation. By means of this law, all early childhood centers operating under this format (regardless of the modality) must provide meals that promote the adequate nutrition of children under their care. Meals usually include breakfast, snacks and lunch for services running full-time.

[2.]Preschool education nutrition and feeding: Unlike initial education, preschool education does not offer any mandatory meal service, except for children enrolled in full-time programs who represent barely 0.65% of the total (Myers, et al., 2013). Children are expected to bring a packed lunch from home or they can consume products from School Consumption Establishments, also known as *'tienditas'*. School Consumption Establishments are regulated by the guidelines established by SEP in collaboration with Ministry of Health (SSa).

[3.]SNDIF schools meal program: Along the same line as the SNDIF daycare program, this public service is reserved to the most vulnerable populations. The target for this program is children with a certain degree of malnutrition or at risk of becoming malnourished who attend public preschools and primary schools in marginal rural and urban areas and/or with indigenous population. School meals are offered in two versions: hot meals that include skimmed milk, a main dish with vegetables, cereals and a protein from animal origin, and fruit; and cold meals that include skimmed milk, whole cereal and fruit (Secretaría de Salud, 2012).

According to the latest National Survey on Health and Nutrition, 12.2% of the homes in Mexico were part of SNDIF school meals program in 2012, a 5% increase from 7.1% in 2006 (Gutierrez, et al., 2012).

All of these programs are coordinated by a variety of ministries and governmental agencies including: SEP, Ssa, SEDESOL, SNDIF, the Social Healthcare Institutes (IMSS & ISSSTE), and the National Council for Educational Promotion (CONAFE), among others (OECD, 2006).

In view of the complex preschool nutrition and feeding context in Mexico, this master thesis seeks to dissect the diverse programs and policies in this topic in the hope of contributing to the expansion of knowledge on the factors affecting their performance. By understanding what lies at the root of implementation issues, this study may inform strategies aiming to improve current practices.

II. Objectives and Research Questions

Research questions

- What is the level of development of preschool nutrition policies and programs in Mexico in terms of the five policy goals defined by the SABER framework?
- What are the factors that obstruct adequate nutrition and provision of food in the classroom setting for preschool children?
- How does the current regulatory framework interact with these factors?
 - Provision of food during school time
 - Regulation of the sale and distribution of food

Objectives

The primary objective of this study is to assess preschool nutrition programs and policies in Mexico based on the framework established by the World Bank through SABER. Secondary objectives are as follows:

- a. Linking national preschool nutrition policies to outcomes in order to identify possible shortcomings. These indicators will be obtained from national health and nutrition surveys as well as population census.
- b. Gaining insight into stakeholders' (authorities, teachers and parents) perceptions and attitudes towards the nutrition components for ECCE in the school setting and their impact on the implementation of the programs.

Justification

Impact assessments of existing nutrition policies in the school setting constitute a key element of the policy-making process, as they can identify policy gaps and factors that hinder the application

of laws and effectiveness of programs. Additionally, it is necessary to explore the implications of policies on the overall population and identify potential adverse effects. Nutrition policy analysis should go beyond studying nutritional status, taking into account that ECD nutrition is a complex social and psychological process that involves caregiver-child interaction and consequently represents a key step for integral child development.

III. Methods

The methodology objective is to conduct a descriptive study that includes quantitative and qualitative information from literature review and interviews with experts on the field. The framework used for the policy analysis was created as part of the SABER initiative by the World Bank in collaboration with multiple agencies. The aim of this project was to facilitate the policymaking processes and improve understanding of the advantages and shortcomings of existing policies. The structure used in this study draws information from additional interventions mentioned in other sources. (OECD, 2001; OECD, 2006; Ruel & Hoddinott, 2008; Yousafzai, Yakoob, & Bhutta, 2013).

Based on the SABER framework, policies in the mentioned sector are analyzed and classified into five main policy features: policy frameworks, financial capacity, institutional capacity and coordination, design and implementation, community roles (reaching beyond schools) (SABER, 2012). The assessment was based on a questionnaire designed specifically for this topic and which includes evaluation of policies and related indicators (Annex 1). The information obtained through the questionnaire was then analyzed based on the rubric designed by the World Bank. (Annex 2). Each of these policy goals was evaluated and placed in a stage of development: “Latent is the lowest level of performance; it represents absence of, or deviation from, the attribute. Emerging is the next level; it represents partial presence of the attribute. Established represents the acceptable minimum standard on the indicator. Advanced represents the ideal or current best practice” (SABER, 2013).

The process of classification consisted of three steps:

- [1.] Take stock of the preschool nutrition programs and policies existent in Mexico. Evidence for the policy analysis came from official sources such as the official gazette (Diario Oficial de la Federación), official websites of the Ministry of Health and the Ministry of Education, as well as online reports and documents from international organizations (IDB, OECD, World Bank). Available indicators were obtained from national and international sources: INEGI, UNICEF, UNESCO, Ministry of Health, Ministry of Public Education, and SEDESOL.

[2.] Once collected and classified, the policy process was explored with the help of the questionnaire and matched to the topics resulting from a round of interviews with experts on the Mexican context. Individual semi-structured interviews were planned with representatives of a variety of sectors, especially the academia and research institutions. A semi-structured interview model was used to give the interviewer flexibility to cover the agenda, while adapting questions according to the interviewee field of expertise; it also provided an opportunity for interviewees to expand on the questions that were deemed most important or to explore additional themes not considered in the original topic guide (Green & Thorogood, 2009).

Initially, 12 experts were invited to participate in the interviews. However, only 6 accepted to be part of the project. Unfortunately, 2 of them did not respond after the first positive answer. All the interviews were conducted in Spanish via Skype with an average duration of 30 minutes.⁴ The goal of these interviews was to get a deeper understanding of the topic, become more familiar with the on-the-ground implementation and raise questions between the process stated in the regulations and the actual services provided to the population.

[3.] After these two processes were completed, the SABER rubric on School Feeding was used to evaluate the level of development of the policies along the dimensions already defined. The classification was based on the answer to the questions posed for each dimension. Each of the five policy goals mentioned was classified into four levels of development that range from the least developed 'latent' to the most developed 'advanced' using the rubric established by the WB.

IV. Results

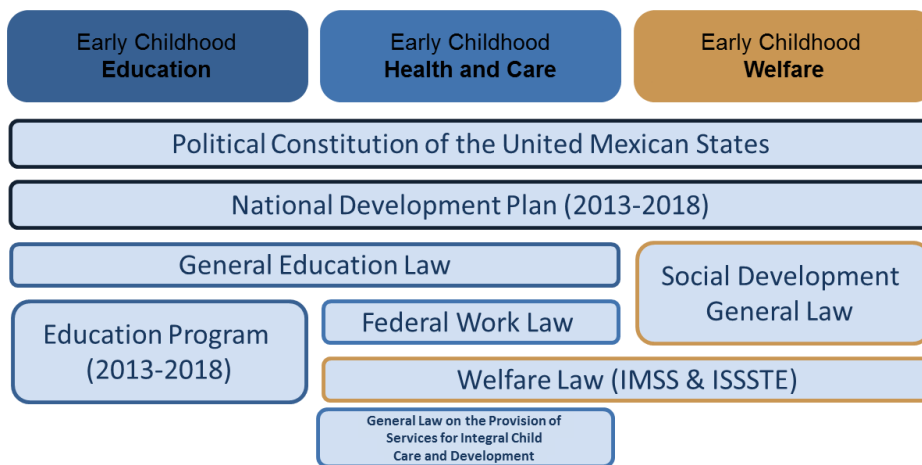
The following section presents the preschool nutrition programs and policies in Mexico. This section was divided into five parts corresponding to the five policy goals mentioned in the SABER School Feeding Framework: policy framework in the form of regulations and policies set in place regarding preschool nutrition and feeding in the school-setting; stable and predictable funding; sufficient institutional capacity for implementation and coordination; sound design and implementation; and community involvement. Each section will include an assessment of the factors that obstruct adequate nutrition practices in the school, among these are factors there are administrative issues at school level with the school shop, cultural perceptions about adequate nutrition, and lack of parental involvement in the school.

⁴ The complete questionnaire used is available in Annex 3.

a. National regulatory framework and programs for preschool nutrition in Mexico

The national legal framework on school nutrition refers to multiple fields of action: child rights and nutrition, Centers for Early Childhood Care and Education and the provision of school meals, including regulations on the sale and distribution of foods and beverages in the preschool setting. With regards to nutrition, there are at least three national levels of regulation that must be taken into account: the Mexican constitution, general laws and Mexican Official Standards (NOMs). Figure 2 presents the legal framework that rules the programs described above. Each of the elements shown in the figure includes a nutrition component and objectives for early childhood. Current health, nutrition and education broad objectives for children are enclosed in the National Development Plan 2013-2018 (PND), which is the main policy at national level that guides governmental action. The plan entails as one of its main goals to “contribute to the improvement of academic performance through better nutrition and health status of children and adolescents” (Gobierno Federal, 2013). Besides this general objective, the document does not explicitly mention school feeding or school nutrition.

Figure 2: Legislation on Early Childhood Education and Care⁵



Whereas the general objectives can be found in the PND and the laws presented in Figure 2, the processes and specific goals related to preschool nutrition and feeding are detailed in two important federal strategies. First, there is the *Integral Strategy for Social Food Aid (EIASA)*, which is supported by SNDIF. This strategy is focused on programs providing social food aid to the most vulnerable populations. Included in this document is the School Meals and Breakfast program. SNDIF is the responsible agency for the design of school menus and the strategies for acquisition and distribution of the foods. It is also responsible for the adaptation and equipment of school canteens (Secretaría de Salud, 2012). Moreover, although the budget is allocated at the national

⁵ See Annex 4 for a detailed list of the regulations on childcare and nutrition in the school setting. Based on the figure presented in (Nateras, 2009)

level, each state has the prerogative to allocate resources according to its standards (Shamah-Levy, Morales-Ruan, & Ambrocio-Hernandez, 2010).

The second document that is fundamental to understanding preschool feeding and nutrition is the *National Strategy for the Prevention and Control of Overweight, Obesity and Diabetes*. Created in 2013, this plan was envisioned to curve the continuous increase of overweight and obesity rates across the country. This plan has its origins in the National Agreement for Nutritional Health (ANSA) established in 2010, which was concerted as an intersectoral effort (Secretaria de Salud, 2013). This was an important step forward since school nutrition began to be recognized as an important determinant of school achievement. The National Strategy is based on several laws that are further described in Annex 4. One of the strategic axes is the promotion of adequate nutrition at both individual and collective levels in the school, workplace and the community.

The main goals impacting nutritional health in basic education settings (including preschool) are: to limit the availability of foods of low nutritional value; to develop actions that promote the consumption of plain water; to inform students and family members on the nutritional characteristics of food to help them have a balanced diet; and to advise students and caregivers on the preparation of healthy snacks and lunches through communication and education campaigns (Secretaria de Salud, 2013). In order to achieve the aforementioned goals, the document impels the coordination of SSA, SEP and SNDIF to devise schemes for adequate nutrition, strengthen the content on nutrition and health in school materials, and ensure that facilities have drinking water.

Another important document that resulted from intersectoral coordination was the publication of the *Guidelines for Sale and Distribution of Processed Foods and Beverages in the National School System*. The original version of this document was created in 2010, and included an annex that described the nutritional characteristics of the foods to be provided in education centers across the country. In the policy process, Mexican authorities identified the existence of an “obesogenic environment” in schools. Among the factors that favor this environment, they mentioned that: 1) during school time children had many opportunities to eat, consuming as much as half of the recommended daily calorie intake during this time; 2) schools had a high availability of energy-dense foods and low availability of fruits and vegetables; 3) most children bought food in the school instead of bringing lunch from home; 4) there were difficulties in accessing drinking water (Secretaria de Salud, 2010).

The recent regulatory reform was based on this premise, trying to reverse the negative trends in the school environment. The new guidelines try to promote a balanced diet that prevents children from being at both ends of the spectrum. The original document was later updated by the

2013 reform of the General Education Law. The new project envisions that guidelines become pertinent to all levels of education (including initial and higher education) and contains an extensive annex with guidelines on forbidden items and nutritional recommendations for school breakfasts where applicable. Furthermore, in 2013, SNDIF school feeding program was placed under the same regulation as other school nutrition programs in terms of the quality of food. The guidelines envisioned the gradual application of the rules in three school cycles, increasing the restrictions along time. The first phase started during the 2010-2011 cycle; second phase in the 2011-2012 and the third in the 2012-2013 cycle. The final set will be defined by the Federal Commission for Regulatory Improvement (COFEMER) and implemented for the new school cycle August 2014.

Even though the above-mentioned policies and guidelines include the whole National Education System, it is important to note that after 2010, initial education centers and daycares are required by law to provide school feeding for all the children enrolled in the program, unlike preschool centers.

Overall the policy framework in Mexico is well-established and in theory promotes appropriate dietary consumption. School feeding and the principle of adequate nutrition in the preschool setting are clearly expressed in the national regulations. However, one of the main problems identified is lack of unified nutritional guidelines for initial and preschool education. This overlap between programs causes a great variability in the type of nutritional services provided especially for children aged 3 to 4.

b. Stable and predictable funding

While the existence of a regulatory framework is an essential part of establishing an enabling environment for preschool feeding and nutrition in the classroom setting, having appropriate funding allocated for this goal is necessary to implement the policies, ensure that the services are available to the population, as well as having enough resources to monitor the implementation and reach the goals.

The national budget planning for 2014 includes a complete section on the resources allocated to the attention and care of children and adolescents. This section includes special considerations for initial education and child development, budgets for daycares at IMSS and ISSSTE, maintenance of school infrastructure, obesity and chronic disease prevention and SNDIF school meal program (Diario Oficial de la Federación, 2013). However, the specific documents regarding the regulations for school feeding in Mexico such as the National Strategy for the Prevention and Control of Overweight, Obesity and Diabetes, ANSA and the guidelines, do not explicitly mention any allocation of funding to implement the policy. In addition, Safdie remarks that resources intended for the implementation of the policy seem to be limited and at the discretionary use of state

authorities, causing concerns on the sufficiency of the resources to adequately implement the policy (Safdie Kanan, 2013).

Regarding feeding in initial education programs, they are included in the Federal budget under their specific tag and usually involve different types of funding. The funds that each center receives usually come from the ministry or institution in charge (i.e., SEP, SNDIF, ISSSTE, IMSS, SEDESOL or private funds) plus the contributions that families pay, which vary from center to center. The CENDIs are funded through the SEP as well as state and municipal authorities and family fees. Nevertheless, IMSS services are funded through general taxation and a special tax paid by companies, alongside family fees if services are provided directly to them. ISSSTE services are paid through federal funding as well as regional funding and contributions from the users (Myers, et al., 2013). As the provision of food is mandatory by law, all these centers must provide meals so the budget must include these specifications.

However, this is not the case for preschool education. Although the new regulations establish that it is mandatory for schools to ensure the availability of healthy foods for students, there is no concrete regulation that defines the source of the funds to achieve this goal; schools must find funding by themselves to attain the standards. Both the documents reviewed and the interviews raised the same concern on this problem faced by the School Consumption Establishments (Cabada, 2014; Safdie Kanan, 2013). As a consequence this creates great inequity with regards of the quality of the meals.

In terms of sources of funding for the provision of meals at preschool level by SNDIF, a study by the SSa and a Mexican university on the program mentioned three important financial issues in regard to this program (Soto & Lorenzo, 2008):

1. National SNDIF has weak financial authority given that the system is decentralized and each state defines how these funds are spent. The lack of clarity in the operation rules creates difficulties in evaluating the revision of costs (Vega, 2012).
2. Although the program has a defined budget from the national plan, it is part of a larger strategy and the resources for the program are not tagged.
3. There is a great variability in terms of the budget allocated to each meal across the states. For example: the national average cost per meal was \$4.3 MXN (¢ 35 USD) in 2010, however it was as high as \$13.9 MXN (\$1.14 USD) in the state of Aguascalientes compared to \$1.6 MXN (¢ 13 USD) in Durango (Auditoria Superior de la Federacion, 2010).

In addition to the points mentioned above, the states use the funds discretionally, which in turn makes the resources subject to misuse. In 2012, lack of planning and maladministration of the funds in the state of Mexico led to a gap in the program resulting in approximately 700,000

students left without breakfast for several days. Joanna Cristo, SNDIF director for Nutrition and Community Development mentioned that lack of clear rules regarding financial accountability made it difficult for SNDIF to evaluate spending in the program (Díaz Navarro, 2012).

There is a procedure manual which provides formats for biannual financial follow-ups, and certain guidelines. However, in terms of the obstacles that affect timely disbursement of funds for school feeding, a great problem is the lack of efficient regulation for the local distribution and assignment of resources. Each state DIF has no obligation to report any financial results to the national SNDIF; there is no homologation of financial process of the state DIFs at the national level. The information provided by states is inconsistent; this complicates planning process and evaluation of results at the national level (Soto & Lorenzo, 2008).

Regarding school infrastructure funding has a more stable source. In November 2013, the Congress approved a budget of more than 9,000 million pesos (USD\$680 million) to install water fountains in more than 240,000 public schools over a period of three years (Damian, 2013). This action supports the continuity of the project over the long term.

Overall, funding is intermittent and subject to changes at different administration levels. The absence of a constant flow of economic resources represents an obstacle to build on institutional capacity, which is expanded on in the next section.

c. Sufficient institutional capacity for implementation and coordination

In order to meet the diverse requirements to provide children with a balanced diet that promotes their development and school achievement, regulations and financial resources are crucial to create an enabling environment. However, the institutional capacity to implement such programs defines their success. “Capacity requirements range from expertise in procurement and transportation of high quantities of food, to managing frequent disbursements of funds, food preparation, ensuring nutritional quality and safety standards of food, and M&E” (SABER, 2012). Government coordination is essential, both horizontally across different sectors as well as vertically from local to national levels (SABER, 2013).

One of the policy levers needed, according to the SABER framework, is the existence of strong intersectoral coordination in the shape of a multisectoral steering committee (SABER, 2012). In the case of Mexico the coordination varies at the vertical level. At the National level, there is coordination in terms of the creation of the multiple policies and regulations especially between SEP and SSa. In spite of protracted efforts there is no single steering committee that overviews both the creation and implementation of nutrition guidelines and the school feeding process for children under 6 years old. There is no task force working on school nutrition for early childhood, despite the wide range of needs from infants to children near school-age. There are multiple

overlaps in terms of programs so integration is deficient (Myers, et al., 2013). Although the latest framework update mentions several ministries, the main responsible for school feeding and nutrition is each entity that is responsible for the numerous services mentioned above, i.e., SEP is responsible for nutrition in preschools, while SNDIF is in charge of the school meals program, and IMSS and ISSSTE are responsible for the nutrition and feeding at daycares.

For the school meals program, intersectoral coordination and integration issues can be seen at both vertical and horizontal levels. SNDIF, which has the mandate to implement the program and monitor it, is mostly linked to SEDESOL and has little contact with other ministries to implement the program. As a result this is also problematic at the horizontal level since each dependency is responsible for negotiating with providers. Based on the interviews it was observed that overall, the provision and distribution of meals are characterized by a lack of intersectoral integration (Cabada, 2014). The coordination efforts are not systematic. One of the problems observed for the systematization is the lack of continuity. During the presidency of Felipe Calderon (2006-2012), the first effort to coordinate the diverse ministries took the form of ANSA, however this agreement did not include the guidelines of the SNDIF school meals program, which is now included in the most recent update (Valderrama Alvarez, 2014).

Another policy leverage of this goal is the existence of management and accountability structures, and more specifically the existence of an efficient national level unit in charge of the overall management. In the case of the school meals program as mentioned above, not only does SNDIF lack the power to manage the process at the national level, but states are also not obliged to report to the national agency. The SNDIF has no official attributions to manage directly what takes place at the state level. It is the responsibility of each state DIF to manage the program according to its technical capacities. Consequently, the actors in charge vary according to the state (Soto & Lorenzo, 2008).

As for the nutritional guidelines in preschool and school feeding for initial education, the implementation depends on the institution responsible for the facilities. For initial education, many institutions have their own evaluation system (e.g. IMSS) and the evaluations show high satisfaction in terms of feeding (Myers, et al., 2013). However for preschools, which sometimes share facilities with primary schools, the responsibility for the application of guidelines rests on the School Consumption Establishments Committees (CECE) (Rivera, 2014). These committees, that must be conformed mostly by parents (50%+1) and other members of the education community, are in charge of promoting healthy nutrition practices in the school, as well as supervising food and beverages that are available on the premises in coordination with health authorities (SEP, 2014). The methodology and information for these committees are not uniform and most parents are not

trained for this responsibility. A preliminary report of a study by Dr. Juan Rivera, director of the INSP, and his colleagues shows that at the primary level a high proportion (40-80%) of the actors involved in the community, including the members of the CECE, had no knowledge on the nutritional criteria of the guidelines established at national level. In addition, less than 40% of the schools had the materials to apply the regulations (Rivera, 2014). This situation led to low levels of compliance with the rules.

Institutional capacity is still in development, there are gaps in terms of coordination of the responsible agencies. In order to have a successful program, agencies need the planning to be context appropriate and well designed. This topic is evaluated in the next section.

d. Sound design and implementation

Important elements of effective design and implementation include targeting of the right beneficiaries, selection of the right modalities of food delivery, and a food basket of the right quality (SABER, 2012). In order to assure program quality and cost-effectiveness, the SABER framework includes the existence of a functional Monitoring and Evaluation (M&E) system that can be used as a resource for implementation and feedback. School nutrition and feeding have multiple M&E strategies depending on the responsible governmental agency. However the National Council for the Evaluation of Social Development Policies (CONEVAL) is the overall authority in terms of monitoring and evaluating the programs.

In regards to Monitoring and Evaluation (M&E), the national school feeding program in charge of SNDIF presents no national M&E system that provides a transversal view of results and processes. Thus there is no annual report at the national level, only scattered state and municipal reports that are not consistent with each other. This lack of consistency was explained during one of the interviews: *“Only programs that are subject to operation rules must have an external annual evaluation. DIF’s strategy is not under this category and thus, it is not mandatory to have a constant reporting”* (Perez Yarahuan, 2014). The dissociation between the coordination role at the national level and the implementation role at the state level was a cause for concern in several reports (Soto & Lorenzo, 2008; DIF & SSa, 2009). State autonomy hinders homologation of reporting processes on matters of time, quality and availability of information. Among these tools are inventories of state inputs, surveys for the beneficiaries of the program and questionnaires for the directors of the centers (Soto & Lorenzo, 2008). Moreover, there are no indicators to measure the efficiency, quality and cost-effectiveness of the operation program that are used systematically at regional and national levels. Although flexibility is important so the program is adapted to the context, the system is also missing an identification process for outdated and overlapping activities (Soto & Lorenzo, 2008). In spite of the existence of the Sub-directorate of Evaluation and Follow-

Up in charge of monitoring the progress of the programs, there are no continuous evaluation reports of the impact on the system. The last Consistency and Results Evaluation was published in 2009, after this date there has been no individual national report for the program itself that is now included with other SNDIF programs in the evaluations by CONEVAL.

As of the application of the nutritional guidelines in initial and preschool education, the CECE mentioned above are also in charge of monitoring the implementation of the guidelines at school level. SEDESOL, SEP, SSa and other affiliated agencies have the authority to evaluate the progress of the adoption of the regulation in schools at regional and national levels. The National Institute of Public Health has had an important role in the supervision process with numerous reports and recommendations, which include impact evaluations (Shamah-Levy, Morales-Ruan, & Ambrocio-Hernandez, 2010; Gutierrez, et al., 2012; Gonzalez-Castell, Gonzalez-Cossio, Barquera, & Rivera, 2007; Safdie Kanan, 2013). Aside from governmental evaluations, several NGOs such as *El Poder del Consumidor* and *Alianza por la Salud Alimentaria* publish reports on surveys related to the compliance of regulations in schools (El Poder del Consumidor, 2012). COFEMER stated in the final ruling on the general guidelines for school nutrition that although the initial proposal submitted by SEP had five indicators to monitor the progress of the implementation, these indicators were not in the final text of the regulation (COFEMER, 2014). One of the experts on this topic pointed out the need to improve M&E at state level, with a possibility to enhance the process through technology (Perez Yarahuan, 2014).

Regarding the alignment of the objectives and methodology of the program with the national nutrition goals for early childhood, the general objectives of preschool nutrition and feeding are now in line with the efforts to continue the decrease in malnutrition rates and curve the increasing obesity problem among young children. Nevertheless, there are important gaps in the design of this methodology, which could pose an obstacle to the achievement of these goals. For example, in terms of Initial Education, there is a large gap in the design of the nutrition component for the youngest children. In many cases daycares are not accommodating for breastfeeding mothers. Information from the interviews and the rules of several daycares funded by the government show that breastfeeding is not adequately promoted (Cabada, 2014). In one case, for the CENDI at the lower chamber of the Congress, they require the caregivers to provide a can of baby formula and breastfeeding is only permitted until the infant is 6 months old (Camara de Diputados, 2010), when the WHO recommendations mention it should continue until age 2 (WHO, 2003). These practices not only directly affect the nutritional and health status of children but also their cognitive development and further academic achievement (Yousafzai, Yakoob, & Bhutta, 2013). Results from the Millennium Cohort Study in the UK show evidence that term children that were breastfed

for 4 months or longer had a lower probability of having abnormal SDQ scores, which measure conduct problems and pro-social behavior among other factors (Heikkilä, Sacker, Kelly, Renfrew, & Quigley, 2011).

In other cases, the alignment of programs is obstructed by the lack of adequate foodstuffs. In 2012, officers from SNDIF reported that in the north of the country the drought had resulted in the absence of fresh fruits and vegetables for almost a year (Vega, 2012). Both the constitution and the regulatory framework mention the need to include local micro-businesses to feed vulnerable groups but local producers are usually not part of the planning. Related to this aspect is the lack of integration of the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA) in the provision of the inputs for schools. According to the comments in the interviews, the integration of this ministry should be a priority to guarantee that the goals proposed by the policies are aligned with the country's food production objectives. From the interviews, it was observed that even if it is mentioned in the regulations, there are no concrete actions to achieve these goals (Jacoby, 2014; Cabada, 2014; Perez Yarahuan, 2014). Even though the policies name the agency as an important stakeholder, in practice SAGARPA is not a strong player. Including SAGARPA in the planning of the school meal supply chain could help not only improve the quality of the meals but also boost the agricultural sectors that support the programs, especially small-scale farmers.

In addition to farmers and the agricultural sector, another relevant stakeholder is the food industry. In Mexico, the food industry is one of the strongest determinants of food availability in schools, as of eating habits. The most recent reform counts on the participation of the food industry to improve the provision and quality of foods, but still the interviewed experts at national and international level expressed their concern about the influence of messages from the industry, which permeate schools through marketing and sponsorships (Cabada, 2014; Jacoby, 2014). In order to comply with the law, the industry adapted its products after the first reform in 2010 to make smaller packages that complied with the regulations. Nevertheless products never disappeared from schools, instead they were sold in smaller packages but children could buy several small portions that amounting to the same calorie intake.

Furthermore the coverage and targeting methodology for the SNDIF schools meals program is faulty. The evaluations showed that the program had no systematic method of determining and quantifying the target population. There was no systematic information that clearly stated the demand for support and the characteristics of the beneficiaries (Soto & Lorenzo, 2008). A result of this problem is excessive food consumption. In the study of eating practices in DIF Estado de Mexico, 79% beneficiaries of the school breakfast program also had a meal before school inducing

excessive eating and potential weight gain (Shamah-Levy, Morales-Ruan, & Ambrocio-Hernandez, 2010).

Given the recent changes in the regulation, it is still early to evaluate the third stage of implementation of the guidelines. However, the ongoing study by the INSP on the Nutrition Guidelines for basic education in Mexico showed that in a survey of primary schools, 70.9% of the food offered inside the school were sweetened beverages, fried foods and sugary pastries (Rivera, 2014). More than 40% of the surveyed children reported that school lunches never included vegetables and 25% said it never included fruits. A high proportion of schools did not comply with the second stage of the guidelines (Rivera, 2014).

For the school meals program by SNDIF, of the children that received meals, 85% had breakfast at home (Rivera, 2014). This observation is in line with the remarks that 4 out of 5 children serviced by DIF Estado de Mexico had breakfast before receiving the meal at school. Moreover, 36% of these children had meals that were considered inadequate (Shamah-Levy, Morales-Ruan, & Ambrocio-Hernandez, 2010).

This situation points to two important considerations: first, the need to design a better method that ensures the correct targeting of beneficiaries of need-based school feeding programs, and second, the importance of raising awareness among parents and caregivers about early childhood nutrition, and involving them in the nutrition of their children. This topic will be further explored below.

e. Community involvement

Regarding community involvement, the SABER framework points out the importance of programs being responsive to community needs and ideas and successfully incorporating some form of parental and community contributions (SABER, 2012). As seen in the previous sections fragmentation is a big part of the problem. Each type of service requires a different degree of parental community involvement. At the initial education level, parents almost have no responsibility for the food that children receive during school time. This food is usually provided by the school and supervised by the corresponding authority as mentioned above.

However for children enrolled in the preschool program, the main responsible for the food that children eat are parents. Parents are not only supposed to prepare school lunches and snacks and send them to school but also collaborate with the implementation of nutritional regulations in canteens. As mentioned in the institutional capacity section, parents are also supposed to be involved the School Consumption Establishments Committees (CECE). Analysis of the interviews brought up the concern of lack of parental preparation to perform the assigned tasks, due to lack of interest or scheduling problems. Moreover, regulations fail to take account of the time and efforts

parents are willing to spare for these activities (Cabada, 2014; Hernandez, 2014; Perez Yarahuan, 2014). The contradiction is that while parents are barely consulted for the creation of the guidelines, they have the responsibility of making sure the rules are implemented. Additionally, the integration of parents to the design of the program is incomplete since there are no formal mechanisms in place by which parents can hold regional or municipal SNDIF accountable for the school feeding programs.

In terms of parental participation in the preparation of the meals, there is a lot of space for improvement. In order to improve the quality of meals that children bring from home, the government has made efforts to inform parents about the correct composition of children's meals and preparation of lunch through documents and websites (SEP & SSa, 2010; INSP, 2012). Information from the interview with the person in charge of a SEDESOL daycare in Mexico City showed that in some schools that have both initial and preschool education, teachers could verify that the preparation of lunches is appropriate, sending messages back home in case the food does not comply with nutritional standards, but in bigger schools this might not be the case (Hernandez, 2014). Checking individually for compliance proves to be a complicated task, especially for centers of preschool education. An alternative to this individual supervision is the provision of adequate nutrition information to parents who prepare school lunches. Nevertheless, one of the major problems identified through the interviews was that although parents can identify "junk food" easily, (e.g., chips, cookies, candy) correctly defining appropriate beverages proves to be more difficult. Caregivers and parents continue under the impression that processed juices and fruit beverages are adequate for children's diet (Hernandez, 2014; Cabada, 2014). Another related concern was that mothers refused to give children vegetables in school if they disliked them, even if children were overweight (Hernandez, 2014).

Overall community participation is addressed by the national school nutrition and feeding policy at preschool and initial education level. Nonetheless, there is a dearth of ways to inform and educate parents on the ways to ensure best nutrition at preschool. The design of the programs must also take into account working mothers, who are increasing in number. Information and plans should include viable alternatives for mothers with complex work schedules.

V. Discussion: Assessment of School Feeding and Nutrition for Early Childhood in Mexico

Developed with the objective of helping policy makers assess the level of development of the school feeding program, the SABER framework focuses on five policy goals that define what matters most in order to have a quality project: (1) a national policy framework; (2) stable and predictable funding; (3) sufficient institutional capacity for implementation and coordination; (4)

sound design and implementation; and (5) community participation. Each of these items was examined above. In the results, the most pressing issues that emerge from the analysis are as follows: lack of consolidation of the services of multiple governmental providers, overlaps and gaps in terms of regulations, budgets and implementing agencies, and misinformation of the stakeholders involved—parents, teachers and school directors.

Based on the SABER School Feeding Rubrics and the results from the analysis, the five policy goals were classified from 'latent' to 'advanced'.

Policy Framework: Mexico is at an **established** stage, in terms of the policy framework. It was observed that the national policy framework for preschool nutrition and feeding in Mexico has been enriched in the past years. The increased concern for school nutrition and feeding is likely to be the result of multiple factors that include the goal of reducing malnutrition in children under five (from 15.6% in 2006 to 13.6% 2012) and addressing the increase in overweight rates in the same age group (from 8.3% in 2006 to 9.7% 2012) (Gutierrez, et al., 2012). This trend is visible in the multiple regulations that focus on school nutrition and early childhood development. The numerous laws and regulations in place are envisioned to ensure the provision of better foods in schools. Policies include the relevant sectors of health, education and development. There are sectoral strategies in place with defined responsibilities and goals. The technical policies include detailed specifications on the population that must be addressed and clear nutritional guidelines that are age-appropriate for the children. The creation of the Attention Model with Integral Focus for Initial Education is of particular relevance, as it highlights the importance of stimulation during feeding, an essential part for ECD (SEP, 2013).

However, there is clear a lack of policy alignment of the services offered. The main issue is that regulations are not clear on overlapping and fragmentation of the diverse programs. As described above, both initial and preschool education programs have children aged 3 to 4 years old. While those in initial education must receive meals as indicated by the law, children attending preschool education are not granted the same right. This raises a crucial problem in terms of nutrition in early child education. Even if it is true that the SNDIF school program covers school breakfasts and meals for the most vulnerable populations, the provision of meals for preschool students is not universal by law with significant variability depending on the geographic zone, SES and whether the school is private or public. Further clarification of the regulations could be useful, since the ECCE system in Mexico is separately managed by multiple institutions, with limited coordination among and within sectors.

Stable funding: Mexico is in an **emerging** stage regarding financial capacity. School feeding and nutrition for early childhood are included in the national budget planning process and national

funding is stable through a budget line but unable to cover all needs. Although there are budget lines at regional and municipal levels, school budgeting is lacking. The amount spent on school feeding inputs varies largely across states. There are no uniform guidelines on how budgets must be spent. Each program manages its nutrition component based on different regulations and budget lines, which in turn results in budget overlaps and gaps. Given that each program obtains its funds from different sources, it is difficult to ensure financial equity. There are several safety nets and programs in place for the most marginalized populations; financially the program has no capacity to include children from middle classes. Despite the strong efforts at the national level, budget lines for school feeding and nutrition, at regional and school levels are weak, with no clear definition. As a result of the poor regulation funds are disbursed to the implementation levels intermittently, with the possibility of public fund diversion.

Institutional Capacity and Coordination: Mexico is at an **emerging** stage in this policy goal. Multisectoral steering committee coordination efforts are led at least by two agencies, SEP and SSa. However, coordination is difficult due to the fragmentation of the system. Currently there is no single governmental body that overviews school feeding and nutrition during early childhood. The need for engagement between the government and other school feeding stakeholders is recognized, and there are currently discussions on the topic to bring all the bodies involved under the same objectives. While several government-led preschool feeding and nutrition programs may exist, coordination of these by the government is lacking. Given that the private sector is also involved in the provision of services, the responsible authorities should make sure that the providers own the resources to comply with the requirements established in the law. A school feeding unit exists at national-level, but it has limited authority over state and municipal implementation; even though coordination mechanisms between the national-, regional-, local-, and school-levels are in place, they are not fully functioning. Most schools have a mechanism to manage school nutrition, based on national guidance but implementation has been gradual. Finally the lack of institutional preparedness poses a great problem for the further implementation of the new stricter regulations that are about to be put in place in the next school cycle 2014-2015.

Design and Implementation: Mexico is at an **emerging** stage in this policy goal. A situation analysis was conducted that assessed school feeding and nutrition needs. A government M&E plan exists for school feeding with intermittent data collection and reporting, occurring especially at regional- and local-levels. National monitoring is still defective and needs homologation to be efficient and provide enough background information to give appropriate feedback to the program. The same situation is observed in M&E of the implementation of the nutrition guidelines in School Consumption Establishments, where indicators for monitoring are weak. School feeding and

nutrition programs are not coordinated and overlap. The need for targeting is recognized, but neither targeting criteria nor a targeting methodology are used systematically. The fragmentation of the ECCE programs results in great disparities of school nutrition even for children with the same socio-economic status, especially for children enrolled in preschool education. There is also recognition of the need for national standards for food modalities and the food basket, but these do not exist yet. Finally, there is recognition of the need for national standards for procurement and logistics arrangements, but these do not yet exist. As seen in the results, there are worrying indicators of poor targeting, with many children duplicating their intakes and highlighting the urgent need to develop better methods for identifying potential beneficiaries.

Community Roles—Reaching Beyond Schools: Community roles are at an **emerging** stage in this policy goal. Although the national planning includes school feeding management committees (CECE) that comprise representatives of teachers, parents, and community members, the accountability mechanisms to hold school feeding programs accountable at school-level are still weak. Parents have little education on adequate early childhood feeding and participation is difficult due to time constraints. Misinformation and cultural misconceptions continue to play an important role in the way parents enforce eating habits at home and at school. The parental disregard for nutritional recommendations at home in spite of the efforts made at school is cause of concern for education authorities.

Another part of the community involvement is the regulation of local street vendors, especially those surrounding schools. Although the legal framework is there, in practice it is difficult to control. Many of these vendors offer fried snacks and sugary beverages. There have been numerous newspaper accounts over the last couple of years on the continuous sale outside of schools in spite of the regulations (Poy Solano, 2012; Rodriguez, 2014; Villagrana, 2014). People in charge of schools mention that even parents can request permission to sell products at school doors, where there are blurry definitions of what foods should be sold. Additionally, the inherent mobility of street vendors has made it difficult to control what children eat once they are outside of the premises. The regulation and control of these vendors is an essential part of the success of nutritional policies in schools.

VI. Recommendations and Proposals for Action

a) Creation of a task force that aligns nutrition goals and programs for early childhood

As preschool education is considered part of basic education, guidelines that rule nutrition and feeding programs are not specific for this early age. Given the age-overlap of beneficiaries of initial and preschool education, there should be a coordinated effort to develop policies specific for this stage. Through the research process it was observed that fragmentation of the system resulted in

great inequalities in terms of access and resources allocated for each child even within each program. If children with the same characteristics were assigned to different programs, the quality of foods received could vary dramatically. In turn, lack of access to adequate nutrition or even a stimulating environment for nutrition could result in further problems for disadvantaged students.

A first step in this integration could be the organization of a task force on school nutrition and feeding that includes the main actors for ECCE, such as SEP, SNDIF, SSa and SEDESOL. The task force could give the needed specificity to the project bringing all the stakeholders under unified terms of reference. It could bring best practices, lessons learned and persistent gaps in services into the conversation. One of the main responsibilities of the tasks force would be to develop a protocol for in-classroom nutrition that includes a comprehensive feeding manual for early childhood. The existing Model for Integral Care for Initial Education could be updated on its nutrition component, focusing on providing detailed information on early childhood nutrition for center directors, teachers and parents. This would address another gap in the implementation of the policies, related to lack of training and misinformation that was one of the main problems in terms of institutional capacity.

b) Alignment of agricultural goals and school nutrition and feeding objectives

In February 2014, a Mexican NGO organized a forum in Mexico City on healthy eating in schools. Among the participants of this forum was Dr. Fabio da Silva Gomes from the Brazilian Ministry of Health. In his talk, he pointed to a key issue present in the Brazilian school feeding system but still missing in the Mexican system: at least 30% of the foods for the program in Brazil comes from family agriculture (da Silva Gomes, 2014). In spite of the efforts to include the importance of local providers in the Constitution and the laws, state and municipal regulations do not impose a minimum threshold for the contribution of local producers. Another observation that could be adopted is the view of school meals as part of a wider concept of food security and nutrition. To achieve this goal, one of the most important stakeholders would be SAGARPA which so far is still a minor contributor to the program.

In the World Bank evaluation of school feeding programs it was observed that successful programs in middle-income countries tend to rely on local sources for the procurement of commodities (Bundy, et al., 2009). Mexico has the opportunity to align two key components to improve diet: boosting local agricultural production and improving the quality of foods available in preschools and initial education centers. Boosting local production can also result in an “increase of the potential for public money to assist sustainable businesses and local employment”, which was the case of Guatemala and Chile (Bundy, et al., 2009).

c) Reappraisal of the importance of traditional foods

Latin America has been the target for the growth of the food industry focusing on processed foods for children. The consumption of these products increased given the intense advertising efforts and wide availability of this kind of products (Cabada, 2014). During their early years, children develop nutritional habits and attitudes that will prevail in the long term (Plazas, 2007). This is why it is important to instill good nutrition education at this age. This task requires efforts from multiple angles. First, preschool can be seen as a setting not only to learn about nutrition but also about traditional foods. Recently traditional Mexican foods have been relegated to a secondary status, replaced by fast foods with low nutritional quality. Although traditional Mexican food is thought to be high in fat and cholesterol, many items commonly consumed such as tortillas, beans, rice, and nopales (cactus) are rich in proteins, fiber, calcium and other micronutrients. In this case, school can be framed as an opportunity to educate children following an integral approach, comprising both requirements of a balanced diet and food education, teaching them to value their own food culture and denormalizing the consumption of junk food.

Directly related to this point is the education of parents and caregivers. Even if it is true that time constraints are an important factor that hinders the preparation of meals at home, there are ways to support families, especially for children in preschool, to prepare school lunches that are both attractive and nutritious. The importance of home-made lunches was shown by Rivera and colleagues (2014), proving that children that consumed foods prepared at home had lower consumption of sugar, fat, sodium, and calories.

VII. Limitations

The findings of this master thesis should be interpreted in light of the following limitations. First, an important limitation was expert participation. Given the lack of response from participants coming from government institutions it was not possible to ensure their voices were well represented in this study. In spite of the small number of interviews, the information obtained was rich and sizable to inform the study. Additionally, although all the laws, regulations and evaluations were obtained directly from the official online sources, as a result of geographical distance the researcher did not have access to non-digitalized documentation, which may have obstructed the presentation of the most recent figures in this topic. Finally, due to the complexity of the ECD nutrition in the school setting in Mexico, it was not possible to give a meticulous account of all the nutrition programs in the school setting for early childhood. Further research should be conducted on each program to accurately assess the specific problems of each program.

VIII. Conclusion

The present study has provided an overview of the policy context and functioning mechanisms of preschool nutrition and feeding in Mexico. Although the Mexican government has recognized that good nutrition and proper stimulation are vital early experiences that impact physical and mental well-being of children and their school achievement later on, there are still many issues that obstruct the optimal performance of the nutrition and feeding programs in schools.

In spite of the robust national policy framework that includes regulations to address both sides of the spectrum of nutritional problems in the country, there is great fragmentation of the services offered for early childhood. The current system presents overlaps in terms of target population but at the same time there are also gaps in coverage. Problems with stable funding and sound design and implementation affect the integrity of the programs. Funding imbalances among and within programs and insufficient institutional capacity for the implementation result in high variability of the quality of the services offered by the several types of programs.

Another crucial element that hinders the correct implementation of the programs is lack of adequate training and formation on the topic for school actors, especially those in charge of monitoring an evaluation. There are not enough indicators and tools to have timely feedback that would help refine and update the programs. Even though the system is designed to include the community, the dearth of relevant information for stakeholders contributes to the reinforcement of prevailing cultural misconceptions on early child nutrition and feeding.

However, it is still too early to determine the results of the most recent changes to the regulations. Further work is needed to develop a protocol that unifies and gives coherence to school feeding and nutrition for the multiple education services available for early childhood in Mexico.

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Annex 1: SABER-School Feeding Data Collection Instrument for School Feeding⁶

SECTION 1: POLICY FRAMEWORK

Overarching policies for School Feeding - sound alignment with the national policy

- 1.1. Does the country have a poverty reduction strategy (PRSP) or equivalent national policy?
- 1.2. (If YES or IN PROCESS on 1.1) Is school feeding included in the published PRSP or national policy or will it be included?
- 1.3. (If NO on 1.2) Was school feeding discussed during the preparation of the PRSP or the equivalent national policy?
- 1.4. (If YES on 1.2) Has the government set targets and milestones for school feeding programs in the PRSP or the equivalent national policy?
- 1.5. Is there published national policy on school feeding? (This can also be any nationally recognized policy document that 1) provides evidence of the government's recognition of school feeding as a strategically important intervention and 2) encapsulates the government's policy on school feeding.)
- 1.6 (If YES on 1.5) Which sectors were involved in developing the policy?

SECTION 2: FINANCIAL CAPACITY

Governance of the national school feeding program - stable funding and budgeting

- 2.1. Is school feeding included in the national planning process?
- 2.2. Is school feeding funded through a national budget?
- 2.3. (If YES on 2.2) What percentage of the total school feeding budget comes from the government?
- 2.4. What is the budgeted school feeding cost per child/per year?
- 2.5 Do regions/districts have the capacity to plan and budget their needs and request resources from the central level to implement school feeding programs?
- 2.6 Do schools have a budget line for school feeding?
- 2.7 Does each ministry involved in the program have a budget line for school feeding?
- 2.8 Are school feeding funds currently being disbursed to the implementers in a timely and effective manner?

⁶ This questionnaire was adapted from the SABER- School Feeding Data Collection Instrument for School Feeding created by the World Bank in the Human Development Network in July 2011.

2.9 (If YES on 2.8) Please identify any existing mechanisms in place to enable effective disbursement of funds to the implementation level.

2.10. (If NO on 2.8) Please identify any perceived obstacles to this process.

SECTION 3: INSTITUTIONAL CAPACITY AND COORDINATION

School feeding coordination - strong partnerships and inter-sector coordination

3.1. Is there a multisectoral steering committee coordinating the implementation of school feeding?

3.2. Is there a specific ministry or institution with the mandate of managing and implementing the school feeding program?

3.3. (If YES on 3.2) Which ministry or institution has this mandate?

3.4. (If YES on 3.1) Please identify which sectors are part of this steering committee (e.g. Education, Health, Agriculture, Social Protection, Local Government, Water, etc.).

3.5. Is school feeding and nutrition discussed in any national-level coordination body (technical working group, task force, or the like) that deals with education, health, agriculture, nutrition, or other cross-cutting issues?

a. (If YES on 3.5) How often does this body meet? Are partners involved in this meeting?

b. Do they have a clear work plan and objectives?

Management and Accountability Structures

3.6. Is there is a specific unit at the national level in charge of the overall management of school feeding within the lead institution and responsible for coordination between the national, regional/local (if applicable) and school levels?

3.7 Does the unit have staff that is fully trained and knowledgeable on school feeding issues?

3.8 Are there coordination mechanisms in place between cross government (national/regional/school level) stakeholders?

3.9 (If FORMAL COORDINATION MECHANISMS ARE IN PLACE on 3.8) Please give a brief description of how these coordination mechanisms function, and more specifically, what is the MANDATE of the national unit in ensuring this coordination process).

3.10 Is there any pre/in-service training program in place to train staff at each level on school feeding program management and implementation?

SECTION 4: DESIGN AND IMPLEMENTATION

Quality assurance of programming and targeting, modalities, and procurement design, ensuring design that is both needs-based and cost-effective

4.1. Is there a monitoring and evaluation plan for the school feeding program?

4.2. (If YES on 4.1) Please identify which of the following components are included in the M&E plan:

Data collection	Data analysis	Systematic reporting of data analysis
Program indicators are developed	Guidelines	Data collection tools
Systematic impact evaluation	Program baseline report	Situation Analysis

Please briefly describe any quality-related information that may be relevant for the above.

4.3. (If YES on 4.1) Is this M&E system integrated into a national monitoring or information management system?

4.4. (If YES on 4.1) Is the M&E plan used to refine and update programs or components of the program?

4.5 Have there been any impact evaluations carried out, or are any planned?

4.6. Are progress reports produced?

4.7. Is there a specific program implementation document?

*If YES, please describe these three components below: program objectives, beneficiaries, and any formal targeting criteria

4.8. Does the program have objectives (targeting criteria and methodology) that correspond to the context of the country and the poverty reduction strategy or equivalent national policy?

4.9 Are there national standards on food modalities and the food basket?

4.10. (If YES on 4.9) Do these standards correspond to nutritional content requirements (e.g. recommended daily intakes), local habits and tastes, and the availability of local food?

4.11. Have the food modalities been chosen based on the objectives of the program, the duration of the school day, and the feasibility of implementation?

4.12. Are there national standards on food management, procurement and logistics?

4.13. Have there been discussions on possible procurement modalities for school feeding that can be more locally appropriate, including the possibility of linking procurement with agriculture-related activities (that is, local-level support to small-scale farmers)?

4.14. Have there been discussions on possible service provision models for school feeding that could potentially create jobs and profit-making opportunities for community members (e.g. in processing, cooking, etc.)?

4.15 Has the Ministry of Agriculture been involved in making the connection between school feeding and national agricultural production?

4.16. Has the private sector been involved in making the connection between farmers and the school feeding market?

4.17 At the school level, are the requirements for the school feeding program communicated to the agriculture sector to support the links between food production and the school feeding market?

4.18. (If YES on 4.17) Is there a multiyear plan/project to facilitate this?

4.19. Is there is an appropriate calibration of demand and supply (e.g., has the percentage of food demanded by the program that can be sourced locally been established)?

4.20. What percent of school children are covered by this program?

4.29. What is the total number of provinces/ districts (or equivalent sub-national administrative divisions) covered by the program?

4.30. What is the program's actual cost per child/per year?

SECTION 5: COMMUNITY ROLES—REACHING BEYOND THE SCHOOL

Community participation and accountability - strong community participation and ownership (teachers, parents, children)

5.1. Is there a school feeding management committee that involves parents, teachers and local community in the management and implementation of the school feeding program?

5.2. (If YES on 5.1) Is this committee involved in the design of the program?

5.3. (If YES on 5.1) Is the committee involved in the implementation of the program?

5.4. (If YES on 5.1) Does this committee act as an interface between the community and the school, manage and monitor the school feeding program, and ensure appropriate utilization of the food in the school?

5.5. (If YES on 5.1) Are there mechanisms in place by which the community can hold school feeding programs accountable at the national, and regional levels, as well as at the school level?

5.6 How does the community work with the school feeding program?

5.7 What are the main constraints in terms of community involvement?

5.8 Which key stakeholders can be involved to support community engagement?

5.9 Has the role of the community been addressed in the national school feeding policy?

Annex 2: SABER-School Feeding Framework-Rubrics

Policy Lever	Indicator	Latent	Emerging	Established	Advanced
Policy Goal 1: Policy frameworks					
Overarching policies for school feeding - sound alignment with the national policy	National-level poverty reduction strategy or equivalent national strategy as well as sectoral policies and strategies (education sector plan, nutrition policy, social protection policy) identify school feeding as an education and/or social protection intervention, clearly defining objectives and sectoral responsibilities	There is recognition of school feeding as an education and/or social protection intervention, but school feeding is not yet included in the published national-level poverty reduction strategy, equivalent national policy, or sectoral policies and strategies	School feeding discussed by members and partners during preparation of national-level poverty reduction strategy, equivalent national policy, or sectoral policies and strategies but not yet published	School feeding included in published national-level poverty reduction strategy or equivalent national policy (including specifications as to where school feeding will be anchored and who will implement); published sectoral policies or strategies have clearly defined objectives and sectoral responsibilities	School feeding included in published national-level poverty reduction strategy or equivalent national policy (including specifications as to where school feeding will be anchored and who will implement and accompanied by targets and/or milestones set by the government); published sectoral policies or strategies have clearly defined objectives and sectoral responsibilities, including what school feeding can and cannot achieve, and aligned with the national-level poverty reduction strategy or equivalent national strategy
	An evidence-based technical policy related to school feeding outlines the objectives, rationale, scope, design, and funding and sustainability of the program and comprehensively addresses all four other policy goals (institutional capacity and coordination, financial capacity, design and implementation, and community participation)	There is recognition of the need for a technical policy related to school feeding, but one has not yet been developed or published	A technical policy and situation analysis under development by the relevant sectors that address school feeding	A technical policy related to school feeding is published, outlining the objectives, rationale, scope, design, funding and sustainability of the program and covering some aspects of all four other policy goals, including links with agriculture development	A technical policy related to school feeding is published, outlining the objectives, rationale, scope, design, funding and sustainability of the program and comprehensively covering all four other policy goals with a strategy for local production and sourcing, including links with agriculture development and small holder farmers; policy is informed by a situation analysis of needs and aligned with national poverty reduction strategies and relevant sectoral policies and strategies

Policy Lever	Indicator	Latent	Emerging	Established	Advanced
Policy Goal 2: Financial capacity					
Governance of the national school feeding program - stable funding and budgeting	National budget line(s) and funding are allocated to school feeding; funds are disbursed to the implementation levels (national, district and/or school) in a timely and effective manner	There is recognition of the need to include school feeding in the national planning process, but this has not yet happened; the government is fully reliant on external funds and does not have provision in the national budget to allocate resources to school feeding; there is recognition of the need for mechanisms for disbursing funds to the implementation levels, but these are not yet in place	School feeding is included in the national planning process and national funding is stable through a budget line but unable to cover all needs; there is no budget line at regional and school levels; existing school feeding funds are disbursed to the implementation levels intermittently	School feeding is included in the national planning process and is fully funded through a national budget line; all ministries involved in the program implementation have a budget line or funds allocated; budget lines also exist at regional and school levels; school feeding funds are disbursed to the implementation levels in a timely and effective manner	School feeding is included in the national planning process and is fully funded through a national budget line consistent with the school feeding policy and situation analysis including options for engaging with the private sector; budget lines and plans also exist at regional and school levels, sufficient to cover all the expenses of running the program ; school feeding funds are disbursed to the implementation levels in a timely and effective manner and implementers have the capacity to plan and budget as well as request resources from the central
Policy Goal 3: Institutional capacity and coordination					
School feeding coordination - strong partnerships and inter-sector coordination	Multisectoral steering committee coordinates implementation of a national school feeding policy	Any multisectoral steering committee coordination efforts are currently non-systematic	Sectoral steering committee coordinates implementation of a national school feeding policy	Multisectoral steering committee from at least two sectors (e.g. education, social protection, agriculture, health, local government, water) coordinates implementation of a national school feeding policy	Multisectoral steering committee from at least three sectors (e.g. education, social protection, agriculture, health, local government, water) coordinates implementation of a national school feeding policy; this government-led committee provides comprehensive coordination (across international agencies, NGOs, the private sector and local business representatives as well) and is part of a wider committee on school health and nutrition

Policy Lever	Indicator	Latent	Emerging	Established	Advanced
Management and accountability structures, including staffing - strong institutional frameworks for implementation	National school feeding management unit and accountability structures are in place, coordinating with school level structures	A specific school feeding unit does not yet exist at the national level; coordination between the national, regional/local (if applicable), and schools is lacking	A school feeding unit exists at the national level, but it has limited resources and limited staff numbers and lacks a clear mandate; while coordination mechanisms between the national, regional/local (if applicable), and school level are in place, they are not fully functioning	A fully staffed school feeding unit with a clear mandate exists at the national level, based on an assessment of staffing and resources needs; coordination mechanisms between the national, regional/local (if applicable), and school level are in place and functioning in most instances	A fully staffed school feeding unit exists at the national level, based on an assessment of staffing and resources needs, with a clear mandate, and pre- and in-service training; coordination mechanisms between the national, regional/local (if applicable), and school level are in place and fully functioning
	School level management and accountability structures are in place	Mechanisms for managing school feeding at the school level are non-uniform and national guidance on this is lacking	National guidance on required mechanisms for managing school feeding are available at the school level, but these are not yet implemented fully	Most schools have a mechanism to manage school feeding, based on national guidance	All schools have a mechanism to manage school feeding, based on national guidance, with pre- and in-service training for relevant staff
Policy Goal 4: Design and implementation					
Quality assurance of programming and targeting, modalities, and procurement design, ensuring design that is both needs-based and cost-effective	A functional monitoring and evaluation (M&E) system is in place as part of the structure of the lead institution and used for implementation and feedback	The importance of M&E is recognized, but government systems are not yet in place for M&E of school feeding implementation	A government M&E plan exists for school feeding with intermittent data collection and reporting occurring especially at the national level	The M&E plan for school feeding is integrated into national monitoring or information management systems and data collection and reporting occurs recurrently at national and regional levels	The M&E plan for school feeding is integrated into national monitoring or information management systems and data collection and reporting occurs recurrently at national, regional and school levels; analyzed information is shared and used to refine and update programs; baseline is carried out and program evaluations occur periodically

Policy Lever	Indicator	Latent	Emerging	Established	Advanced
	Program design identifies appropriate target groups and targeting criteria corresponding to the national school feeding policy and the situation analysis	The need for targeting is recognized, but a situation analysis has not yet been undertaken that assesses school feeding needs and neither targeting criteria nor a targeting methodology has been established as yet	Targeting criteria and a targeting methodology is being developed corresponding to the national school feeding policy; a situation analysis assessing needs is incomplete as yet	Targeting criteria and a targeting methodology exists and is implemented corresponding to the national school feeding policy and a situation analysis assessing needs	Targeting criteria and a targeting methodology exists and is implemented corresponding to the national school feeding policy and situation analysis (including costing for various targeting and designs); M&E information is used to refine and update targeting and coverage on a periodic basis
	Food modalities and the food basket correspond to the objectives, local habits and tastes, availability of local food, food safety (according to WHO guidelines), and nutrition content requirements	There is recognition of the need for national standards for food modalities and the food basket, but these do not exist yet	National standards on food modalities and the food basket have been developed and correspond to two or more of the following: objectives, local habits and tastes, availability of local food, food safety (according to WHO guidelines), and nutrition content requirements	National standards on food modalities and the food basket have been developed and correspond to objectives, local habits and tastes, availability of local food, food safety (according to WHO guidelines), and nutrition content requirements	National standards on food modalities and the food basket have been developed and correspond to objectives, local habits and tastes, availability of local food, food safety (according to WHO guidelines), and nutrition content requirements; M&E information is used to refine and update food modalities and food basket on a periodic basis
	Procurement and logistics arrangements are based on procuring as locally as possible, taking into account the costs, the capacities of implementing parties, the production capacity in the country, the quality of the food, and the stability of the pipeline	There is recognition of the need for national standards for procurement and logistics arrangements, but these do not exist yet	National standards on procurement and logistics arrangements have been developed and are based on three or more of the following: procuring as locally as possible, taking into account the costs, the capacities of implementing parties, the production capacity in the country, the quality of the food, and the stability of the pipeline	National standards on procurement and logistics arrangements have been developed and are based on procuring as locally as possible, taking into account the costs, the capacities of implementing parties, the production capacity in the country, the quality of the food, and the stability of the pipeline	National standards on procurement and logistics arrangements have been developed and are based on procuring as locally as possible, taking into account the costs, the capacities of implementing parties, the production capacity in the country, the quality of the food, and the stability of the pipeline; M&E information is used to refine and update procurement and logistics arrangements

Policy Lever	Indicator	Latent	Emerging	Established	Advanced
<i>Policy Goal 5: Community roles—reaching beyond schools</i>					
Community participation and accountability - strong community participation and ownership (teachers, parents, children)	Community participates in school feeding program design, implementation, management and evaluation and contributes resources (in-kind, cash or as labor)	Systems and accountability mechanisms are not yet in place for consultation with parents and community members on the design, monitoring and feedback of the school feeding program	A school feeding management committee exists but parent and community member participation could be strengthened and awareness on the opportunity to monitor and feedback on the school feeding program is lacking	The school feeding management committee comprises representatives of teachers, parents, and community members and communities have accountability mechanisms to hold school feeding programs accountable at the school level	The school feeding management committee comprises representatives of teachers, parents, and community members and has clearly defined responsibilities and periodic training. Accountability mechanisms are in place by which communities can hold school feeding programs accountable at the school, regional, and national levels

Annex 3: Preschool Nutrition and Feeding Questionnaire and Interview List

List of interviews

- 11.04.14—Dr. Enrique Jacoby, Regional Advisor in Healthy Eating and Active Life at the Pan-American Health Organization (PAHO)
- 14.04.14—Ms. Xaviera Cabada, Nutritional Health Coordinator: El Poder del Consumidor, NGO
- 26.04.14—Ms. Edith Hernández, Director SEDESOL Daycare in Estado de Mexico
- 29.05.14—Dr. Gabriela Pérez Yarahuán, Researcher at the Social Sciences Department, Universidad Iberoamericana

Questionnaire

I. *Policy framework*

- a. In your opinion is the policy framework in terms of preschool nutrition developed enough to effectively promote adequate nutrition in the target population as a whole?
- b. What are the gaps that you identify in the Mexican policy for school feeding and nutrition especially for the overall population?
- c. Do you think that there are sectors that were left out in the planning process for the school nutrition policies in Mexico that should be more involved?
- d. Are the goals put in place by the policy framework feasible in the timeframe defined?

II. *Institutional Capacity*

- a. Do you think that the appropriate structures are in place to manage the programs and ensure accountability?
- b. Given that the education providers in Mexico are public and private, what would be the main differences in institutional capacity to follow the guideline?
- c. What are the main problems at the regional and school level in terms of the implementation of the policies?
- d. In your opinion are the guidelines clear enough for the schools to implement them?

III. *Design and Implementation*

- a. In your opinion are the targets for these policies clearly defined and based on actual population needs and socioeconomic and cultural context?
- b. The regulations emphasize the importance of locally produced foods for the school meals; in your opinion is the design suitable for the Mexican context, especially in urban areas?
- c. In your opinion, is there the adequate M&E structure in Mexico to ensure compliance with the regulations?
- d. How can these regulations benefit ECD in the context of preschool education?

- e. Do you think that well-designed in-classroom preschool feeding programs can counteract deficient feeding practices at home?
- f. In addition to the provision of a balanced diet, what other provisions should nutritional policies include in order to support early childhood development?

IV. *Community Roles*

- a. Are the policies structured to allow the involvement of the community in the provision of school meals?
- b. How are parents involved in promoting healthy eating in school? What should be their role to promote adequate nutrition in the school setting?

V. *Factors related to the implementation of school feeding and nutritional guidelines*

- a. What are the cultural perceptions that could hinder the implementation of these policies?
- b. What would be an option to address these cultural perceptions in view of the nutritional transition in Mexico?

VI. *Results*

- a. Do you consider that policy environment in Mexico enables the improvement the nutritional status of preschool children especially in terms of reduction of obesity, anemia and malnutrition? How can this impact school performance in the short and long term?
- b. In your opinion, what are the next steps to improve preschool nutrition and feeding in the classroom setting in Mexico?

Questionario

I. *Marco regulatorio*

- a. En su opinión, ¿el marco regulatorio en materia de nutrición preescolar está suficientemente desarrollado para propiciar una adecuada nutrición de la población en general?
- b. ¿Cuáles son las mayores carencias que identifica en el marco regulatorio mexicano en esta materia para la población en general?
- c. ¿Considera que hay sectores importantes para este tema que fueron dejados de lado durante la planeación de las políticas nutricionales?
- d. ¿Piensa que las metas establecidas en los planes gubernamentales son factibles en el tiempo definido para su implementación?

II. *Capacidad Institucional*

- a. ¿Cree que existen las estructuras adecuadas para el manejo de los programas y la rendición de cuentas?
- b. Dado que la educación en México está significativamente dividida entre pública y privada ¿Cuáles son las principales diferencias en cuanto a capacidad institucional para poder seguir los lineamientos?
- c. ¿Cuáles son las mayores carencias a nivel regional y en las escuelas en términos de la implementación de las políticas y lineamientos?

- d. Desde su punto de vista, ¿los lineamientos son suficientemente claros para poder ser fácilmente implementados en las escuelas?

III. *Diseño e Implementación*

- a. En su opinión ¿los objetivos de estas políticas están bien definidos y basados en las necesidades de la población y en el contexto cultural y socioeconómico?
- b. Las regulaciones enfatizan la importancia de que los alimentos sean producidos localmente ¿es esta opción factible en el contexto mexicano, en especial en las áreas urbanas?
- c. ¿Considera que en México existe la estructura adecuada de monitoreo y evaluación para asegurar el cumplimiento de las regulaciones?
- d. ¿Cómo podrían beneficiar estas regulaciones al desarrollo infantil temprano en el contexto de la educación preescolar?
- e. ¿Considera que programas de nutrición preescolar bien diseñados pueden contrarrestar prácticas nutrimentales deficientes en el hogar?
- f. En adición a la provisión de una dieta balanceada, ¿qué otras propuestas deben incluirse en las políticas nutricionales para apoyar el desarrollo infantil temprano?

IV. *Roles de la Comunidad*

- a. ¿Considera que las políticas permiten que la comunidad se involucre en el proceso nutricional de las escuelas?
- b. ¿Piensa que las políticas motivan a los padres a involucrarse en dar a sus hijos una mejor nutrición en las escuelas? ¿Cuál sería su rol en la promoción de una nutrición adecuada en el contexto escolar?

V. *Factores relacionados con la implementación de los lineamientos*

- a. ¿Cuáles consideraría que son las percepciones culturales sobre la nutrición de los niños y padres de familia que obstaculizan la efectividad de las políticas a nivel escolar?
- b. ¿Cuál podría ser una opción para abordar estas percepciones culturales en vista de la transición nutricional en México?

VI. *Resultados*

- a. ¿Considera que los lineamientos son suficientemente sólidos para mejorar el estado nutricional de los niños preescolares, en especial en la reducción de obesidad? ¿Cómo pueden impactar estas medidas el desempeño académico a corto y largo plazo?
- b. ¿Cuáles son los siguientes pasos en este tema?

Annex 4: Laws on the Provision of Childcare and Nutrition in the School Setting

The laws and regulations are described below and divided in two main aspects: ECCE centers and their nutrition component and regulation of the provision, sale and distribution of the preschool setting.

ECCE Centers and the provision of school meals

- **General Law on the Provision of Services for Integral Child Care and Development and corresponding regulation:** As part of the services included Child Care Centers should provide age-appropriate nutrition. Failure to comply with the nutritional plans or with the minimum nutritional requirements may result in fines or other penalties for the centers.
- **General Social Development Law:** In its 18th article this law establishes that programs for social development are a priority for public interest. Thus, these programs must be evaluated, given appropriate follow-up and protected from budget cuts. Among the programs mentioned are those for mandatory education and those for the nutrition and feeding of mothers and children.
- **Social Security Law:** Both laws for the National Social Security Institutes establish that working mothers, as well as other sectors other population are entitled to the daycare service. This service, envisioned to promote healthy development, includes feeding, health care and education.

Regulation on the provision, sale and distribution of foods and beverages in the school setting and nutrition education

- **The Convention on the Rights of the Child (CRC):** Ratified by Mexico in 1990, the CRC mentions three important government actions related to health rights in terms of nutrition: to provide of adequate nutritious food and clean drinking-water to combat disease and malnutrition; to ensure that all segments of the society, especially parents and children, have access to information on child health and nutrition; to give material assistance and support to nutrition programs to give the best possible living standard for children.
- **The Mexican Constitution:** There are two main articles in the Mexican Constitution related to nutrition rights and practices. The 4th article grants the right of children to fulfill their health, nutrition and education needs in order to have an integral development. In February, 2014 the 3rd article that grants education rights was reformed. The reform mentions that Congress is required to establish efficient schemes for the provision of nutritious food in schools through local micro-business for vulnerable groups.

- **General Education Law:** Article 7 establishes that all schools with official recognition must provide nutrition education and promote physical education and sports. Additionally it establishes that all foods that do not favor students' health are forbidden in the school-setting. Furthermore, art. 24bis sets the basis for intersectoral cooperation between the Ministry of Public Education and the Ministry of Health to define the nutritional guidelines on the sale and distribution of prepared meals inside the school.
- **General Health Law:** Labor, health and Education authorities must support programs that promote child health and recreational activities that promote physical and mental health of families. Health authorities are in charge of defining the Official Mexican Standards (NOMs) to protect students' health and of making dietary recommendations that lead to optimal nutritional intake of the population. The Ministry of Health is in charge of developing educational programs and activities related to nutrition, focusing on the prevention and control of obesity and malnutrition. These programs promote healthy eating habits, especially for vulnerable groups. (art. 65, 66 and 115)
- **NOM-043-SSA2-2012 (Health promotion and education—Nutrition guidelines):** This standard complements and specifies the requirements established in the 2013 education reform; it offers nutritional recommendation for children, both at home and in school. Among the suggestions this NOM includes: to ensure that children have an affectionate environment when having meals to facilitate stimulation needed for an integral development; to adjust portions to his nutritional needs; to stimulate good nutritional habits by encouraging the child to have breakfast before going to school and informing caregivers how to prepare lunches that contribute to a balanced nutrition and most important access to drinking water in schools.
- **NOM-009-SSA2-2013 (School Health promotion):** This standard requires that children's nutritional status is kept in his health record. This health record should be also used for monitoring purposes. The monitoring process should also include ensuring that schools offer low energy-dense foods of high nutritional quality and drinking water (water fountains).

Abstract

Title: Evaluation of Nutrition Policies and Programs for Preschool and Initial Education in Mexico

Context: Adequate nutrition in early childhood is a key component needed to ensure integral ECD. Mexico has numerous in-school programs that address the nutritional needs of children during this stage. The objective of this study was to analyze in-classroom preschool nutritional policies and programs in Mexico.

Methods: This is a descriptive study based on an in-depth literature review, complemented by interviews with experts. The process was developed in three stages based on the School Feeding Framework by the World Bank: First, take stock of the preschool nutrition programs and policies in Mexico. Second, match the emerging topics from the research to those resulting from the interviews. Third, use the SABER rubric to evaluate the level of development in 4 stages: 'latent', 'emerging', 'established' and 'advanced'.

Results: The policy goals analyzed were: (1) a national policy framework—**established**. School nutrition policies include the relevant sectors of health, education and development. There are gaps in terms of alignment; (2) stable funding—**emerging**. Preschool nutrition is comprised in the national expenditure plan but the amount is insufficient to cover all needs; (3) institutional capacity—**emerging**. Multisectoral coordination efforts are present. Coordination of stakeholders is difficult given the fragmentation of the system; (4) sound design and implementation—**emerging**. A government M&E plan exists for school feeding with intermittent data collection and reporting. National monitoring needs homologation; (5) community participation—**emerging**. National planning includes school feeding management committees integrated by community members, but misinformation obstructs participation.

Conclusions: Despite the robust national policy framework, there is great fragmentation of the services offered for early childhood. Problems with stable funding and sound design and implementation affect the integrity of the programs. Further work is needed to develop a unified protocol for school nutrition for early childhood.

Key words: nutrition policies, early childhood, preschool, school meals.

Résumé

Titre : Evaluation des politiques et programmes nutritionnels au sein de l'éducation préscolaire du Mexique

Contexte: Une alimentation adaptée est un élément essentiel au complet développement de l'enfant pendant la petite enfance. Le Mexique propose de nombreux programmes au sein des crèches et systèmes préscolaires afin de répondre aux besoins nutritionnels des enfants pendant cette période. Cette étude a pour ambition d'analyser les programmes et politiques nutritionnels dans l'éducation préscolaire du Mexique.

Méthodes : Il s'agit d'une étude basée sur une revue littéraire détaillée, étayée par des entretiens avec des experts. En conservant le modèle du Cadre de l'Alimentation scolaire de la Banque Mondiale (SABER), le procédé s'articule en trois étapes. D'abord, un recensement des différents programmes et politiques alimentaires en vigueur au Mexique. Ensuite, un alignement des thématiques identifiées par la recherche avec les résultats des entretiens. Enfin, l'utilisation de la rubrique SABER pour évaluer le niveau de développement à travers quatre dimensions : « latent », « en voie de développement », « établi » et « avancé ».

Résultats : Les objectifs des politiques analysés étaient : (1) Un cadre de politique nationale (**établi**). Les politiques nutritionnelles scolaires embrassent justement les secteurs de la santé, de l'éducation du développement. Mais les efforts restent disparates. (2) Un financement stable (**en voie de développement**). Le Plan de budget national comprend l'alimentation préscolaire. Cependant, les sommes ne suffisent pas pour répondre à l'ensemble des besoins. (3) Une capacité institutionnelle (**en voie de développement**). Des efforts de coordination multisectorielle sont notables. Pourtant, la coordination entre les acteurs est difficile en raison de la fragmentation du système. (4) Conception réfléchie et mise en œuvre (**en voie de développement**). Le gouvernement a mis en place un plan M&E dans le domaine de l'alimentaire scolaire, lequel procède périodiquement à un recueil de données et à l'élaboration de rapports. Le suivi national, cependant, reste soumis à homologation. (5) Une participation communautaire (**en voie de développement**). Le plan national prévoit des Comités de gestion de l'alimentation scolaire composés de membres de la communauté. Seulement, la désinformation fait obstacle à la participation.

Conclusions : En dépit d'un cadre national politique fort, les services de la petite enfance sont confrontés à une segmentation notable. Les difficultés liées à l'absence de stabilité des ressources et de conception et mise en œuvre pensées affectent l'intégrité même du système. Davantage d'efforts sont nécessaires pour développer un protocole unifié dans le domaine de l'alimentation préscolaire.

Mots-clés : Politiques nutritionnelles, petite enfance, crèche, éducation préscolaire, repas scolaires.