
The efficacy of PRONAA and self-managed community (soup) kitchens in Metropolitan Lima, 2002

Pablo Lavado Padilla
Universidad del Pacifico
lavado_pa@up.edu.pe

Guillermo Grande Wong¹

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Abstract

The accumulation of social capital in kitchen communities have created and strengthened a local social protection network in civil society in Peru. However, the stagnation of levels of poverty in the 90s, the clientelar utilization by government and the lack of monitoring and evaluation of the activities have stopped the target of kitchen communities: food security. The study evaluates the efficacy of investment made from PRONAA (food program) in favor of self-sustained kitchen communities. We estimated the level of undercovery (96%) and filtration (74%) of the program. Additionally, we find that the gap between the investment made and what is regulated by law is 53%. In that sense, members of kitchen communities must do voluntary work (especially by women) and to sell some rations and, as a consequence, they have deficits and no opportunity to reinvest in order to improve their capital. What is the exit if kitchen communities are to poor? Elimination of levels of undercovery and filtration, regulated by a monitoring and evaluation system, implementation of cross subsidies by PRONAA and a program in social management for women members of the kitchens seem to be a beginning in order to insert them to the market.

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¹ Bachelor of Economics at Universidad del Pacifico, Lima, Peru. Specialist in Finance and Macroeconomics

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Introduction

Since the sixties, community kitchens had become into social conclaves sprung from popular initiative and lack of food security, aggravated because of economic crises.² Those organizations, in general terms, are defined as "...organizations that grouped between 20 and 40 women, that assumed operative tasks related to buy, preparation and distribution of daily rations, that are sold at reduced prices".³ In this context, where economics crises reduced household incomes, the objective of community kitchens had been and is food security.⁴ Food insecurity is understood by many as just "...lost of ration of food by the lack of them in the house or because run out of money to buy them", as is mentioned by Bhattacharya and Currie (2000)⁵, but, they leave beside other aspects like nutrition and efficiency spending. That is why, evaluations to community kitchens, policies and women from kitchens are worried just for the success in preparation and distribution of rations at any cost.⁶ However, according to the Food and Agriculture Organization from the United Nations (FAO), food security is referred to permanent access of food that makes possible a healthy life. FAO considers three important topics: enough availability of food, national or imported, access to food, what supposed adequate incomes and, appropriate use of them, what implies nutritional knowledge and health access.⁷ In resume, food security refers to the appropriate use and access of food and health services combined with income policies that permit reach a basic food basket per capita.

At sight to this situation, the paper tries to evaluate community kitchens since the point of view of the efficacy from the State.⁸ That perspective drives us to observe the food Program under two aspects: the supply and the demand.⁹

It is widely known that supply it is referred to the marginal costs in which the producer incurs in order to offer a final good or service. Behind the Community Kitchens (CK) program, we can consider as suppliers to all CK, which are little enterprises where a

² Beltrán, Arlette, María Elena Planas, Hanny Cueva y Armando Millán, *Social context where food assistance actions are developed with social organizations*, Final Paper, Ministry of Social Development, Lima, July, 2001, pp. 15-16.

³ Cueva, Hanny y Armando Millán, *Women food organizations and their relation with the government sector*, paper prepared to the Regional Comparative Project of Civil Society and Democratic Government of Ford Foundation and Social Sciences Department of Catholic University of Peru, Lima, April, 2000, p. 4. As is mentioned in Tovar (1996), the fact that food is supplied at reduced prices is due to clonation of ingredients, bought of large quantities of them and voluntary labor force of women to the final product. Tovar, Jesús, *Dinámica de las organizaciones sociales*, Lima, Servicios Educativos El Agustino – SEA, 1996, p.115.

⁴ Beltrán, Planas, Cueva y Millán (2001), op. Cit. P. 16.

⁵ Bhattacharya, Jay y Janet Currie, *Youths at nutritional risk: malnourished or misnourished?*, Working Paper No. 7686, National Bureau of Economic Research, May, 2000, p. 3. www.nber.org/papers/w7686

⁶ Interview with Eliana Caro of FOVIDA, Advisor of the Community Kitchens Federations of Lima, Lima, November, 2002. It is said that evaluations made to community kitchens must be considered just under the basis of food security, taking apart the nutritional side of the rations.

⁷ Portocarrero, Felipe, Arlette Beltrán, María Elena Romero y Hanny Cueva, *Public Administration and Food Policies in Peru*, Pacific University Research Center, Lima, 2000, p. 87-88.

⁸ To reach that objective, we did a recompilation of diverse instruments of evaluation proponed by many authors. In that sense, it is important to mention the evaluation done by USAID with support of PRONAA in 1996 where, additionally to the efficacy, they evaluated nutritional aspects and efficiency. Cuanto, *Nutritional impact evaluation of community kitchens*, Final Paper elaborated by Cuanto Institute asked for by USAID, July, 1997.

⁹ Under microeconomic characteristic of CK, and in general all social programs, is easy to distinguish the costs and profits since the distinction of supply and demand. It was in the eighties when consensus was the need of supply and demand analysis of food assistance. Assumption behind consensus was that who really must have regularly access to a balance dietary were confronting, basically, extreme poverty obstacles. Portocarrero and others, (2000), op. Cit. p. 87.

ration of food is sold to the objective population (consumers) at a given price. Since a neoclassical point of view, CK try to offer a ration of food minimizing the cost of preparation and distribution, with the objective to sell the ration of food at a given price which is in the possibilities of consume boundary of poor families, and which allow CK being self sustained, in other words, a price which allows CK keeping on operating in the long run. For that reason, the first order condition must be kept: marginal income equals marginal cost and average cost at long run. In terms of private projects evaluation, the minimum price in which CK are going to be interested in business is the sum of all variable costs plus the fixed average costs plus the annualization by ration of the physical capital.

Under the rationality of the kitchens looking for the cost minimization of average costs, they are always seeking the minimum ingredients market prices. Food Assistance National Program (PRONAA) is one of their suppliers, which donates an amount of food to every kitchen, rising down the average costs of the latter. PRONAA's principal action is to help with respect to ingredients and labor force expenditure and, with less attention, supervises and teaches to the better manage of food. The legal scheme by which CK and PRONAA interrelations are regulated is in Law 25307. In this Law the State compromises to subsidy 65% of the ingredients cost and labor force, leaving the rest in hands of beneficiaries that have to distribute between them the other 35% to cover food preparation.¹⁰ There are two ways in which help is made: i) through food provision and, ii) through a monetary subsidy.¹¹ Through food provision, Pronaa is in charge of buying them from national producers and donates them to the CK all over Peru.¹² Through the monetary subsidy, this is given to less than 17% of all CK.¹³ The given subsidy is between US\$ 89 dollars (to CK that prepare less than 50 daily rations) and US\$ 214 dollars (to CK that prepare more than 120 daily rations).¹⁴ It is important to say that Pronaa distinguishes CK in those that are self sustain, which are those that receive food, and subsidized, which receive not only food, but money. The latter are called mother clubs.

¹⁰ Law No. 25307 passed by Congress of the Republic of Peru on November 1993 y ruled on march 2002.

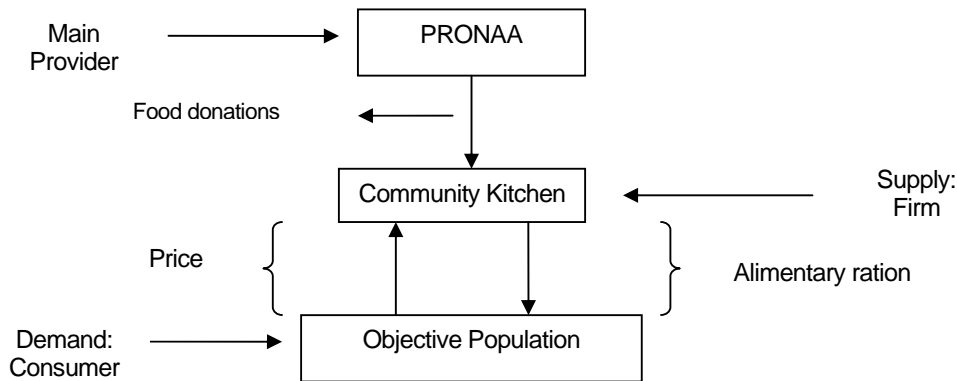
¹¹ In this aspect, Pronaa distinguishes CKs in two types: self sustained and subsidies. The former are those that only received support through donations. The latter, received a monetary subsidy too. The subsidy CKs are found in the city of Lima. Interview to Gloria Velorio. La totalidad de éstos últimos se encuentran ubicados en Lima Metropolitana. Interview to Gloria Velorio, Chief of the Central Cone of the CK Targeting Office of Pronaa

¹² Ingredients purchases involve high transaction costs because acquisition is conditioned in national producers supply and prices. Transaction costs they incur are reflected in spending more time and labor force used, the quantity of food purchased is going to differ, in many cases, in what effectively is needed and demanded and y a low management efficiency. According ton Portocarrero (2000), Pronaa burocracy management made impossible relate national food purchases with nutritive supplementation. Even worse, was impossible to make a quality control of food and several times there were unavailability when they were required. Portocarrero y others, (2000), op. Cit. p. 190-191.

¹³ Instituto Cuánto (1997), op. Cit. p. 4.

¹⁴ Nacional Food Assistance Program (Pronaa), CK Targeting Office, Lima, September, 2002. Help would be about US\$ 90 for CK that served nearly 50 daily rations and US\$ 215 for those which prepare more than 120 daily rations.

Table N° 1
Interaction between Supply and Demand in the Community Kitchens Program



On demand side, as it was mentioned above, the final consumers are all people who are objective population of the program, in other words, people who live in extreme poverty. In this case, it is difficult for them to access to a minimum food basket. Their consume possibilities boundary is tight. In order to take a decision about buying a food ration in a CK, they realize a cost-benefit analysis in which they are utility maximizing agents subject to a tightly budget restriction. In that sense, they take account of all available market information, principally; the ration price compared to those other alternatives, for instance, cooking in their own houses. Additionally, widening analysis, they would take account transit cost to the CK and the cost (or benefit) of became a socio and participate of the common roles.

Then, demand could be observed and evaluated in relation to access to CK and the impact they have over their objective population. People access is based upon standard utility maximizing theory of human capital. People choose their diets with the objective of maximize their utility subject to two restrictions: the first one, refers to available information about linkage between food and its impact on health. The second one, more important than the first, takes in consideration the household budget constraint.¹⁵ In the other hand, with respect to impact, what is suitable to observe are four aspects of evaluation theory about the results of a program: efficiency, efficacy, equity and accountability.¹⁶ In sum, supply and demand sides condition the result what is desired to achieve from CKs. It is important to note that in terms of evaluation, each aspect is analyze in an independent way, all of them are widely connected and influenced over the final result.¹⁷

This paper tries to analyze the scope of some problems from the demand and the supply side. On demand side, we are going to do a review of CKs access at a national level. Access is going to be measured through leakage and undercover. In order to measure them, we are going to use Household National Survey 2001 Fourth Term, elaborated by the National Statistics and Informatics Institute. Levels of intrahousehold ration dilution are measured, too. On supply side, the nutritional support will be analyzed from Pronaa to self-sustained CKs of Lima. Additionally, we evaluate Pronaa food spending and remainder investment that they have to complete in order to help CKs to offer a ration of food that ensures food security and allow their sustainability. In order to achieve those

¹⁵ Bhattacharya y Currie (2001), op. cit. p. 1.

¹⁶ Vásquez, Enrique, *The evaluation of social investment: needs and tools to measure the impact*, pp. 178-180 and Conterno, Elena, *Construction of indexes for decision making in social investment*, in *Impact of Social Investment in Peru*, Enrique Vásquez, editor, Research Centre of Universidad del Pacífico, International Development of Research Centre, Lima, 2000, pp. 60-62.

¹⁷ Ibid..

objectives, this paper is divided in six sections. In the first section, we analyze the situation of CKs in 2002, using Household National Survey and a review of last program evaluations. The undercovery and leakage estimation is going to be presented in the second section. The third section refers to the efficacy evaluation of the food transfers from Pronaa to the self sustained CKs of Lima. In that sense, we are going to analyze the food donations of 99 self sustained CKs of Lima and the investment required which CKs must incur to offer an optimal ratio. Levels of intrahousehold dilution for the case studies will be shown in the fifth part. Finally, policy recommendations and conclusions are presented.

Situation of Community Kitchens in 2002

At the beginning of 2002, there were, approximately, 15 thousands CKs in Peru. From those, 83% were self sustained and 17%, subsidized.¹⁸ Both were under the Law No. 25307, passed in February of 1991.¹⁹ The referred law recognizes the kitchens as jury people which receive help from State. The support is through food and/or monetary Pronaa. The law No. 25307 mentions that Pronaa must cover the 65% of the cost of food and women voluntary work hours.²⁰ However, that support is far away from what the law affirms and, as a consequence, the high the spending women must do in order to prepare a balance diet. That expenditure makes more inefficient help from Pronaa, actually, because it is just short run assistance instead food security.²¹

In the same way, discrepancies exist between different CKs organizations in Peru. In one hand, there is the "Organized women in CKs in Lima and Callao Federation" (FEMOCCPAALC). That organization constitutes a strong politic base. It is important to remember that this kind of CKs just receive help in kind. In the other hand, we can find the Mothers Club Federation that, additionally to food assistance, they receive monetary subsidy. The principal difference between them we could find is in the more politic participation of the latter than the former.²² But above them there is the Nacional CKs Coordinator which was created in a controversy sphere. That coordinator, of fujimorist side, was worried in food provision conditioned to the politic support instead achievement of objectives in food security.²³ At the end of November 2002, was created with a lot of expectation because of the implementation of regional governments and a law that promotes participation of civil society. In that scene, CKs would have a more proactive participation in strategies design and budget elaboration and the improvement of their service. With that, it would be an efficient and accountable use of CKs, in order to make compatibles support and the specific need from each region.²⁴

In that scenario, the CK's would have a more active participation in the design of strategies, budget making and improvement of the service. With that, the CK's resources

¹⁸ Cuanto Institute (1997), op. Cit. p. 4.

¹⁹ The regulation for this Law has been enacted in 2002, in other words, accountability (of effective help to community kitchens) can be requested to PRONAA only since 2002.

²⁰ First Complementary Disposition of Law N° 25307, enacted in February 1991

²¹ Pronaa (2002), op. cit., pp.22-27.

²² Mother's Clubs have a strong leaning to APRA (a Peruvian political party) due to the fact that during its government the help was bigger to the community kitchens that were created under its ideology. In an interview performed to the chiefs of the Organized Women in Community Kitchens in Lima and Callao Federation (FEMOCCPAALC), they expressed disagreement with the position of Mother's Clubs (supported by APRA). In November 2002, Mrs. Rosa Castillo (president of the National Coordinating Committee of Community Kitchens and Mother's Clubs) reported a supposed deficiency in the fish received by the entity that she headed. Nevertheless, the chiefs of FEMOCCPAALC mention that her behaviour is a very usual practice to discredit the government. November 2002.

²³ In an interview to the chiefs of FEMOCCPAALC, they told that to create the Coordinating Committee of Community Kitchens, all the community kitchens were tricked to go and there was no election to form the Directive Board. Even worse, there were presented the signatures of partners of self-managed community kitchens, as if they agree with the new board; those firms were collected with the objective of having a record of the delivering of food (not to show agreement with a directive). Later people from the Coordinating Committee were requesting the community kitchens partners to go to government's political meetings as a condition to the delivery of food. November 2002.

²⁴ At the end of November 2002, after regional elections of November 17, FEMOCCPAALC was preparing a proposal to incorporate civil society to political participation in the new regional governments. November 2002.

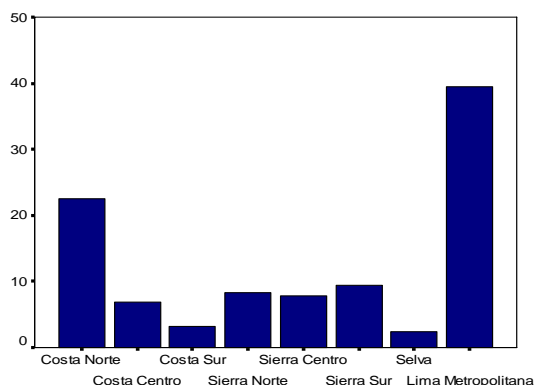
would be used in a more efficient and transparent way in order to match the help provided with specific needs of each region.

In spite of the political problems that different CK's organizations have, what causes surprise is the consecutive decrease of the PRONAA budget in contrast to the growing number of CK's. On 2000, the PRONAA budget was 100 millions of dollars and, on 2002, it has fallen to 70.4 millions.²⁵ Regarding the CK's increase, between 2001 and 2002, there have been created 400 CK's and there remains 2 809 incorporation applications to be approved.²⁶

Given the rising of CK's, at the beginnings of 2002 there were established 29 local managers, 19 coordination offices and 73 warehouses throughout Peruvian territory in a way that help could be decentralized.²⁷ However, the great concentration that exists between Lima, Callao and the North Costa would indicate a level of centralization in two poles and concentration of the CK program's resources of 60%.²⁸

Despite the previous results, The CK's program is one of the main alimentation programs in Peru; being only defeated by the "Vaso de Leche" program and the "Desayunos Escolares".²⁹ In contrast, it was expected that the levels of leak and undercovery of the program would be high as a consequence of the great concentration of beneficiaries in Lima and the North Costa.³⁰ That situation implies lesser resources for zones where food security is a major priority and exist a greater incentive for the untargeted population to use the CK's because of the lower prices of the portions. The hypothesis that explains the concentration asserts that during Garcias' (1985-1990) and Fujimori's (1990-2000) government (the periods in which the CK's grew the most), the concentration was caused by political preferences; at first, being the North Costa mainly in favor of Garcias' party (APRA), and then during Fujimori's government there was a great influence of Fujimori's politics in Lima for being the capital.

Graph N° 1
Use of Community Kitchen per regions
In percentages



Source: National Survey of Homes 2001-IV Trimester. INEI.

²⁵ Pronaa (2002), op. Cit. p. 22.

²⁶ "El Peruano", official newspaper, *Mothers of Community Kitchens will participate in the direction of Promudeh*, December 2001

²⁷ Pronaa (2002), op. Cit. p. 14.

²⁸ ENAHO 2001-IV Trimester, 60% is referred to the total of community kitchens beneficiaries only in Metropolitan Lima and the North Costa of Peru.

²⁹ At the end of 2001, community kitchens had a participation of 10.6% among all social programs for alimentation, being only beat by the "Vaso de Leche" program (53.2%) and the "Desayunos Escolares" program (27.3%). ENAHO 2001-IV Trimester

³⁰ Among community kitchens beneficiaries, 39.5% belongs to Metropolitan Lima and 22.6% to the North Costa, being less benefited the Selva (2.4%) and the South Costa (3.3%). ENAHO 2001-IV Trimester.

In a nutshell, the decrease in the resources of PRONAA, the rise and high concentration of CK's, and the political management of PRONAA warn an unstable future regarding the efficient achievement of the objectives of the program.

Previous Findings

Previous researches on the impact of community kitchens, in general terms, have talked about the importance of those organisations as social groups, the food security that they assure, the efficiency in the making and distribution of food, the population that they attend and finally the consumption proportion per ration of a beneficiary. To sum up, these studies have prioritised the relevance of community kitchens as social organisations that have an influence in the social capital formation.

About social capital formation, it is emphasized that community kitchens have become spaces that allow women to get out of their homes and achieve personal satisfaction.³¹ Besides, it's important to notice that the promotion of activities as social meetings with end of achieving community and educational activities and promotion of microenterprise.³² In this aspect, Beltrán, Planas, Cueva y Millán (2001) have pointed that community kitchens "...are a source of social dynamic that encourages relationships between their participants and receive and offer help in a reciprocal way".³³ Given that, it can be said that community kitchen as an institution is a start point regarding the inclusion of poor women in social, economic and politic life in society.

With regard to food security, Alternativa, in a study carried out in San Martin de Porres district, found that 53.7% of mothers were affected with overweight (32.9% pre-obese and 20.8% obese). Despite obesity, the nutritional health of these ladies is critical. For instance, many of these people suffer anaemia and iron deficiencies.³⁴ That evidence seams clearly when one visits a CK. That is why it is have to be clear the importance not only of weight but of regular exams on nutritional impact.

Concerning the beneficiaries, Cuanto institute found that 23.5% of CK's users is population in risk (18.3% are pregnant women or women in their lactation period and 5.2% are children under 6 years old).³⁵ Likewise, it was found that the mean of CK's users is 5.4 persons by home, from which 4.3 use CK's services with equal number of rations per home owing to the fact that, generally, the person that perceives some kind of income is the one that doesn't eat at the CK's.³⁶

In what refers to efficiency, Cuentas (1987) of Fovida found that the system of CK's allows to save in food's price, as a consequence of the scale economies that are generated by the wholesale prices and the economic and social advantages of organizing the demand for CK's in an optimum way.³⁷ Besides, it was observed that commercialisation costs represents 13.7% of work capital per month and that the greatest

³¹ Cueva, Hanny y Armando Millán (2000), op. cit., p.6.

³² Tocón. In that sense, Cueva y Millán (2000) mention that partners of community kitchens have gathered to develop works as the cleaning of schools, reforestation and even environmental jobs.

³³ Beltrán, Arlette, Maria Elena Planas, Hanny Cueva y Armando Millán (2001), op. cit., p.9.

³⁴ Miyaray Benavente Ercilla, Laura Retamozo Correa, Dina Tineo Carvajal, Alliance between a non-governmental social organization and a base social organization for the surveillance and intervention on the women nutritional level. One of the main findings of this study is that women at community kitchens have showed motivation and ability to develop actions aimed to improve their nutritional level. It's possible to have an impact on anaemia and the reduction of weight, from joint actions of these entities.

³⁵ CUANTO, 1997, p.14.

³⁶ CUANTO, 1997, p.15.

³⁷ Cuentas, Martha, *Alternative system of commercialisation and distribution of food*, Program of Community Kitchens, FOVIDA, p. 127-159.

costs of CK's were concentrated in the distribution of food (43.9%) and storing (25.9%).³⁸ On the other side, Cuanto (1997) found out that the mean price of a ration delivered by a CK was of S/.1.25 (US\$ 1.47) in Lima.³⁹ The previous results reflect a positive aspect of the fight for food security because the relative cost of a ration in a CK is low.

Finally, Sara Lafosse (1984) found that the group of people who attend to the CK's was composed in 35% by adults, 12% by teenagers (between 14 and 17 years old), 37% by children between 6 and 13 years old, and 16% by children under 6 years old, being the mean number of assistants (to the CK's) by family of 6.2.⁴⁰ Another fact that it is worth to mention is the number of rations that each person consumes: 32% eats less than one ration, 43% eats conveniently and 25% eats more than one ration. Besides, if the improvement of nutrition is contrasted with the frequency of attendance to CK's, the result is positive.⁴¹ There are two main facts in this point: an important participation of girls and boys between the beneficiaries of CK's and the dilution of rations within the family. It is assumed that one person eats one ration but the results show the opposite. Given that, this fact should be analysed deeply to find the causes of that dilution because is a source of undercovery (eat less than one ration) and leakage (eat more than one ration).

³⁸ Ibid..

³⁹ CUANTO, 1997, p.15.

⁴⁰ Sara-Lafosse (1984), op. cit., p. 43.

⁴¹ Sara-Lafosse (1984), op. Cit. p. 54.

Leakage and Undercovery in Community Kitchens Use

Theoretical Framework

The instruments that will be used to measure access to community kitchens are the degrees of leakage and undercovery.

The level of leakage would give us an idea of the bad use of resources assigned to a specific group of beneficiaries because it indicates a percentage associated to the number of beneficiaries that is outside the objective population. Formally:

$$F = \frac{n_1}{N} * 100 \quad (1) \qquad N = n_1 + n_2 \quad (2)$$

donde: F is the leakage level measured in percentage

n_1 is the number of beneficiaries who do not belong to the objective population

n_2 is the number of beneficiaries who do belong to the objective population

N is the total number of beneficiaries

The level of undercovery will show the degree of efficacy and equity to benefit all the objective population that the program refers to because it indicates a percentage associated to the entire of the objective population that is not being beneficiated by the program. Formally:

$$S = \frac{POB - n_2}{POB} * 100 \quad (3)$$

donde: S is the level of undercovery measured in percentages

POB is the objective population of the program

Nevertheless, it has to be clear that these indexes don't take in account the attendance frequency to CK's. It is thought that this phenomenon would increase the level of undercovery and reduce the leakage.

Besides, it has to be stated that these indexes have their limitations. The first one is that the objective population is established, a priori, under an imaginary line, in this case, the poverty line: the ones over these lines are not considered part of the objective population but there are beneficiaries located over the line and near to it, which could make us judge them as infiltrators in the social program. The second is that a static analysis of the situation could lead to think about the inefficacy of a social program and make it end but to eliminate a social program because of its levels of leakage and undercovery would be harmful for the objective population. That is why it has to be carried out a marginal analysis of these indexes with relation to the expenses, in other words, find the

sensitivities indexes – expense of social programs. In that way one can know the interval of persons in which the program is being more efficient to direct efforts to it.

In the present work, there would be presented the indexes of leakage and undercovery showed above. That is because of the lack of budget information to carry out an exhaustive analysis. However, it has been taken in account the attendance frequency of people, in or out the objective population, who uses the CK's. That approximation will help to diminish an overestimation of leakage and an underestimation of undercovery.

Results

Regarding the leakage between the beneficiaries of the CK's, 26% are in extreme poverty, 39% are poor and 35% are not poor. So, the degree of leakage is of 35%, if we consider the poor and the extreme poor as part of the objective population; and, 74% if the objective population is only composed by extreme poor, these will implies that 74% of these people should not be receiving help from the government.⁴²

With regard to undercovery, between the extreme poor, only 3.7% is beneficiary of the CK's program; between the poor, 5.9%; and, between the non poor, 2.4%. The undercovery, if we consider the objective population only composed by extreme poor, is 96.3%. That will mean that the program is inefficient to help the most needed.⁴³

According to chart N°1, if the undercovery and leakage is measured with respect to poor children under 6 years old,⁴⁴ it is observed that there are high levels of undercovery in all regions. In other words, 97.2% of poor children under 6 years old are not being beneficiated by the CK's program. Regarding leakage, it is showed that there are less levels of leakage in the Costa, excluding Lima. On the contrary, in Lima and the Selva, 54% are children non poor under 6 years.

Table N° 2
Leakage and Undercovery in poor children under 6 years old
(Per Regions)

	Objective Population (a)	Beneficiaries (b)	Beneficiated Objective Population (c)	Undercovery (a-c)	%	Leakage (b-c)	%
Lima	245013	29603	13464	231549	94.5%	16139	54.5%
Costa	303502	31763	20106	283396	93.4%	11657	36.7%
Sierra	782200	17055	10424	771776	98.7%	6631	38.9%
Selva	292011	1636	741	291270	99.7%	895	54.7%
Total	1622726	80057	44735	1577991	97.2%	35322	44.1%

Source: ENAHO 2001 – IV Trimester.

⁴² Extreme poor are the objective population because they don't have access to an alimentary basket and, given that, they lack food security or abilities to generate this security.

⁴³ The misión of PRONAA is: "Contribute to increase the alimentary and nutritional level of extreme poor and vulnerable groups, in order to achieve food and nutritional security in the country". www.pronaa.gob.pe

⁴⁴ This kind of measurement for community kitchens is proposed by Cortez (2001). He mentions that a low nutritional and alimentary level of children in Peru, confirm a limited human and social development, what is very worrying considering that children are a high percentage of poor population in Peru. In that document, using the National Survey of Life Levels 2000, he shows that the level of undercovery for kids under 6 years old is 98.9% and leakages reaches 37.8%. Cortez. Rafael, *Social expenditure and its effects on children's nutrition*, Research Centre of Universidad del Pacífico, Working Paper N°38, Lima 2001.

In Table N°2, another measure of leakage and undercovery is done with extreme poor over 6 years old.⁴⁵ There are high levels of undercovery in all regions, being the mean of 98.1% of people who lives in extreme poverty (and is over 6 years old) that are not covered by the program. Likewise, it is observed that in the Sierra and the Selva there are lower levels of leakage (55% and 56.2% each). Nevertheless, in Lima and the North Costa, where 60% of the beneficiaries are located, there are higher levels of leakage.

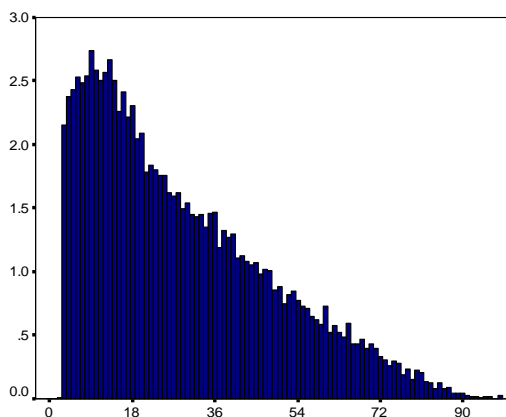
Table N°3
Leakage and Undercovery in extreme poor children over 7 years old (per regions)

	Objective Population (a)	Beneficiaries (b)	Beneficiated Objective Population (c)	Undercovery (a-c)	%	Leakage (b-c)	%
Lima	142670	201530	5652	137018	96.0%	195878	97.2%
Costa	496940	160724	27148	469792	94.5%	133576	83.1%
Sierra	3422640	133902	60242	3362398	98.2%	73660	55.0%
Selva	1089753	12630	5531	1084222	99.5%	7099	56.2%
Total	5152003	508786	98573	5053430	98.1%	410213	80.6%

Source: ENAHO 2001 – IV Trimester.
Elaboración: Propia

Regarding the beneficiaries, the most beneficiated group in the CK's is the one conformed by people under 18 years old. This result shows the relevance that this program should have on the achievement of objectives related to an approach on boys and girls rights.⁴⁶ However, half of the beneficiaries under 18 years old are situated out of the objective population and the levels of undercovery are about 99%, in other words, community kitchens are feeding, mainly, non poor girls and boys, and the objective of helping the extreme poor is being neglected. (Table N°3)

Graph N°2
Use of a Community Kitchen per age (In percentages)



Source: National Survey of Homes 2001-IV Trimester. INEI

⁴⁵ With regard to this measurement, Cortez (2001) found that there is a level of undercovery of 98.2% and leakage reaches 89.3%. Ibid.

⁴⁶ Regarding the age of beneficiaries, 7.6% are under 5 years old and 32.5% are between 6 and 18 years old. In total, 40.1% of the beneficiaries are boys and girls (under 18 years old). The results show the importance of children as one of the main groups beneficiaries of the program. Regarding this, one of the recommended objectives is to pay a lot of attention to the impact that community kitchens may have on girls and boys. On 2000, 41.6% of beneficiaries were under 18 year old. (National Survey on Life Levels 2000, Cuanto Institute) and on 1997 the level of beneficiaries under 18 years old was of 39% (National Survey on Life Levels 1997, Cuanto Institute).

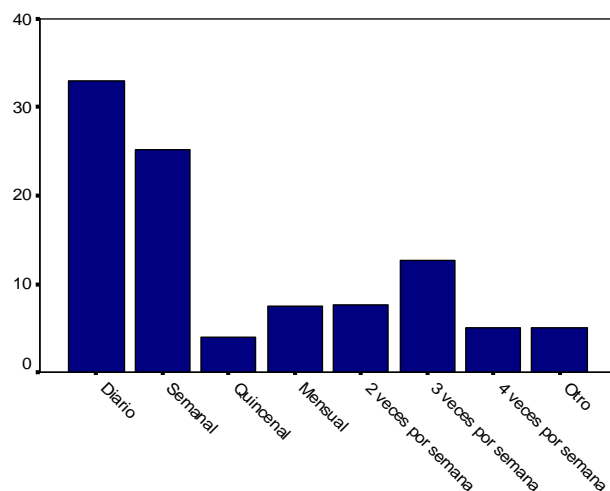
Table N°4
Leakage and undercovery in extreme poor under 18 years old
(Per regions)

	Objective Population (a)	Beneficiaries (b)	Beneficiated Objective Population (c)	Undercovery (a-c)	%	Leakage (b-c)	%
Lima	92219	94879	55331	36888	40.0%	39548	41.7%
Costa	305997	91237	47879	258118	84.4%	43358	47.5%
Sierra	1971772	57522	17688	1954084	99.1%	39834	69.3%
Selva	668333	6440	2999	665334	99.6%	3441	53.4%
Total	11026363	250078	123897	10902466	98.9%	126181	50.5%

Source: ENAHO 2001 – IV Trimester.

On the side of frequency in which the help is received, it is surprising the high percentage of people who receive help once a week and the ones who receive it three times a week. This result affects the efficacy of the program because the objective population is not being attended daily.⁴⁷ Some hypothesis are the possibility that cooking at home is cheaper than going to the CK because of distances, or that some aspects of the organization of the program would make the assistants uncomfortable.⁴⁸ The previous situation and the high levels of leakage and undercovery reflect an inefficient use of the resources assigned to the fight in favor of food security. If the degree of undercovery on extreme poor is analyzed taking in account that there is not daily attendance to the CK, this would be of 99.26%. In the same way, the degree of leakage decreases to 40.25% due to the fact that users outside the objective population are not assisting daily to the community kitchens.

Graph N°3
Attendance to Community Kitchens
(In percentages)



Source: National Survey of Homes 2001-IV Trimester. INEI

⁴⁷ 33.1% receives daily; 12.7%, three times a week and 25.1%, once a week.

⁴⁸ The stipulated hypothesis can't be verified as long as there no exists a survey that gathers the main reasons that people have to don't go to CK's daily. However, this are some of the answers that have been obtained in visits to community kitchens.

Table N°5
Frequency of attendance to community kitchens per levels of poverty, 2002
(In percentages)

Frequency of attendance to CK's	Poverty			Total
	Extreme Poor	Poor	Non poor	
0	98.2%	96.2%	98.6%	97.8%
Daily	0.4%	1.4%	0.5%	0.7%
Weekly	0.4%	0.8%	0.5%	0.6%
Biweekly	0.2%	0.1%	0.0%	0.1%
Monthly	0.2%	0.2%	0.1%	0.2%
Twice a week	0.2%	0.3%	0.1%	0.2%
Three times a week	0.2%	0.7%	0.1%	0.3%
Four times a week	0.2%	0.1%	0.1%	0.1%
Others	0.1%	0.2%	0.0%	0.1%
Total	100.0%	100.0%	100.0%	100.0%

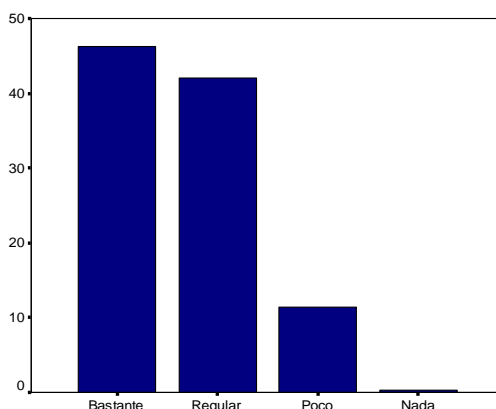
Source: ENAHO 2001 – IV Trimester.

There is a subjective component in the increase of welfare in the beneficiary population, in that sense it's observed that there exists a relative acceptance by the beneficiaries of the perception of increasing welfare as a consequence of the help received on CK's: people feel that going to a community kitchen is worthwhile.⁴⁹ On the basis of human capital theory, it can be said that this people have the information about what a community kitchen can offer to them and how they can improve their lives by assisting to one.

To sum up, the levels of leakage and undercovery reflect two main facts. First of all, there is a high degree of lack of attendance to the program of community kitchens. Consequently, the decrease of population in alimentary or nutritional risk is not evident. This fact is contrasted to the political use of PRONAA because the objective population is replaced by population that will increase the preference on the government in turn. The second point to be noticed is that the expenditure is being inefficient, when exists the evidence that if it is used correctly, there could be a positive impact because people would know the benefits of community kitchens. In conclusion, the Program of Community Kitchens, in the way that is performed now, must suffer a reform to manage the resources in a way to help the neediest.

⁴⁹ That conclusion is obtained from the fact that 46.2% of the community kitchens beneficiaries feel that the program has improve their home welfare a lot, while 42.1% say that it was only improved in a regular way and 11.4% mention that it was only improved a little.

Graph N°4
Degree of satisfaction in the increase of welfare related
to the use of community kitchens
(In percentages)



Source: National Survey of Homes 2001-IV Trimester. INEI

But, the way in that the reform would be done will depend on the factors that have an influence in the existing levels of leakage and undercovery. As said before, the two aspects in community kitchens are supply and demand. Then, on the supply side, the observed phenomena could be explained by the lack of an efficient focalisation plan that distinguish the potential users and diminish leakage; by the distortion caused by policy makers who mainly seek to enhance their political preferences through social programs: the objective population is being neglected (undercovery) to increase political preferences (leakage); by the lack of a proper social management of community kitchens and PRONAA; and, finally by the incapacity of the government to give all the help needed to community kitchens.

On the demand side, the objective consumer of community kitchens is the extreme poor. That is why the availability of a bigger payment by the extreme poor (compared with poor and non poor) influences in the choice made y them. The equilibrium price of the program would be attractive for some consumers that will be outside the objective population; however, given the lack of an adequate evaluation mechanism it's easy for these consumers to accede to the community kitchens. The aforementioned obeys to the rational decision of individuals that is governed by a simple scheme of labour model.

For some people, their real wage would be higher and if the income effect is bigger than the substitution effect, they will stop working to accede to the lower prices of the community kitchens, worsening the levels of leakage. Furthermore, if income restriction and limited resources f CK's would be taken in account, one could think that one ration is being offered to a non poor instead of offer it to a potential consumer. Finally, along with all the explained reasons, it could be think that the same group of extreme poor take their own rational decisions on the basis of the leisure – work model. In other words, they will choose between going to a CK or cooking in their own house (or another available alternative). If the prices of community kitchens are considered high, the substitution effect will be bigger than the income effect, and this people would stop going to the CK's.

Interaction between the previous mentioned factors, demand and supply ones included, determine the degrees of leakage and undercovery existing in the Community Kitchens Program. While these factors increase, it will depend on the sensitivities of demand and supply worst will be the results on a successful achievement of objectives: food security

and nutrition would be in high risk. The most important thing is to know in what degree these factors are stopping goals to be achieved. That is why an evaluation mechanism would benefit the program: it will give available information to make changes in order to improve the results and processes of policies.

Evaluation of efficacy of PRONAA's help to self-managed community kitchens in Metropolitan Lima

Methodology

Efficacy implies the achievement of goals where the priority is to assure that benefits of policies reach the objective population.⁵⁰ An important fact is that efficacy of these interventions is greater and sustainable only if other interventions are performed in a synergetic way.⁵¹ To make an impact evaluation of case studies, it will be taken in account the efficacy of PRONAA's work, understanding this as the physical and financial achievement of the help provided to community kitchens. For that purpose, there will be used indexes as the number of nutrients per ration, the cost of nutrients and the cost per ration to find the effective help that PRONAA is providing under Law N°25307. It was used the data of 99 community kitchens, number that was higher than the one that resulted from the analysis of minimal size of sample.⁵²

The methodology to be used is explained in the following steps:⁵³

1. Search for the mean quantity of food delivered to the community kitchen by PRONAA during the months of June, July, August and September. The aliments are: Pota, Oil, Rice, Charqui, Beans, Potato, Chicken and Habas. It is important to notice that the delivery of this food is not done in a daily or monthly way, sometimes there are months in which some of this food is not delivered.⁵⁴
2. Find the quantity of kilocalories, proteins and iron in the food previous mentioned.⁵⁵
3. Find the mean quantity of nutrients consumed per ration.

⁵⁰ Vásquez, Enrique, *Methodology of analysis of social investment in favour of girls and boys of Peru*, Research Centre of Universidad del Pacífico, Lima, 2002.

⁵¹ Synergy refers to the coordination between a range of interventions, not only the activities performed inside the institution but also those performed in coordination to other institutions. *Ibid.*

⁵² The minimum sample size was estimated taking in account a confidence level of 95% and an error margin of 10%. For p , must be used the probability that a person was beneficiated with a ration from a self managed CK, given he or she goes to a CK. In that sense, the correct probability is the proportion of self managed CK in Lima that is 52.78% (2,850 self managed CKs over 5,400 CKs in Lima). Given the formula: $n = \left[\frac{1.96 * \sqrt{0.5278 * (1 - 0.5278)}}{0.1} \right]^2$, it was found that the minimum

sample size was 96.

⁵³ Cuanto (1997), op. cit.

⁵⁴ Information collected during the Surveillance Census of 99 self-managed community kitchens in Lima.

⁵⁵ The nutrients were found in the Peruvian Tables of Food Composition (1996), published by the Health Ministry, National Institute of Health and the National Centre for Alimentation and Nutrition.

$$Qpc_j^n = \frac{\sum_i Q_{ij}^{Pr onaa} * M_{ij}^n}{NRC_j} \quad (4)$$

where: Qpc_j^n is the average quantity of nutrients “n” consumed by ration en kitchen j

$Q_{ij}^{Pr onaa}$ is the average quantity in kilograms of food “i” consumed by the kitchen j.

M_{ij}^n is the average quantity of nutrients “n” that food “i” contains and supply to the kitchen j.

NRC_j is the average number of rations produced by kitchen j.

n is the kina of nutrient: calories (c), proteins (p) and iron (h).

Additionally, it will be done a comparison between the quantity of nutrients in rations of analysed community kitchens as a result of PRONAA’s subsidy, and the mean quantity of nutrients consumed in the community kitchens in all Lima.⁵⁶ That will determine consume of different types of nutrients and find how balanced is the diet that PRONAA’s subsidy provides.

4. Make an economic-nutritional analysis of Law 25307 about what should the government give per ration, on the basis of the expenditure proposal that the Federation of Community Kitchens made in year 1993. For that, it was used the following Table where it is defined the cost per item inside the community kitchen (base for the analysis in steps 5, 6 and 7)

⁵⁶This analysis will be done with the help of obtained results in the Cuanto study (1997), as it will be detailed in the results section.

Table N°6
Requirements and Costs of a Community Kitchen
For the elaboration and distribution of food rations (per headings)

Headings	Requirements ⁵⁷	Costs (in nuevos soles)	Cots (in dollars)
Food	1250 kilocalories daily ⁵⁸	0.18 per 100 kilocalories ⁵⁹	0.051 per 100 kilocalories
Fuel	2.65 gallons daily	7.32 per gallon ⁶⁰	2.091 per gallon
Labour	4 ladies working full time	420 monthly per lady ⁶¹	120 monthly per lady
Capital goods	Equipment ⁶²	2657.2 per equipment ⁶³	759.2 per equipment
Current expenses			
Water	75 cylinders	1.01 per cylinder ⁶⁴	0.289 per cylinder
Cleaning material	Equipment	125.99 monthly ⁶⁵	35.997 monthly
Light		21.14 monthly ⁶⁶	6.04 monthly
Local		152.24 monthly ⁶⁷	43.497 monthly
Training		304 monthly ⁶⁸	86.857 monthly

Source: Alternativa, *Law N° 25307, its political and economic viability*, Working Paper elaborated by the Departments of Alimentation and Law at the conference: Diagnosis and perspectives of the National Movement of Community Kitchens and Law N° 25307, November 1993.

- Use the previous Table to find the real expenditure that must spend the government and find the amount that is really being spent in food subsidies for the community kitchens.

In that sense:

$$Brecha(S/.)_j^{Pr onaa} = Pot_j^{Pr onaa} - Efec_j^{Pr onaa} \quad (5)$$

⁵⁷ It is assumed as requirements that they work 25 days monthly or 312 days per year, and 200 rations are prepared daily. It has to be mentioned that the analysis of each self managed community kitchen will be done according to the real number of rations and days worked, this requirements are the basis of a more precise analysis.

⁵⁸ Following the recommendations of USAID in Cuanto (1997), "to compare the nutritional contribution of community kitchen's rations it was used the requirement of 2,500 Kcal. Per day for each individual, that is related to an adult with a moderated activity. It is considered that a lunch, because it's the main food of the day, should satisfy at least 50% of the calories requirements. Given that the given ration should contribute with 1,250 Kcal." op. Cit. p. 54

⁵⁹ The cost per 100 kilocalories was found in Cuanto study (1997), op. Cit. p. 66. It's the cost per 100 kilocalories on 1996 in prices of October 2002= (cost found by Cuanto/ IPC dic1996)*(IPC oct2002) = (0.14/0.79)*(1.0196)=0.18 nuevos soles per 100 constant kilocalories on October 2002.

⁶⁰ The use of fuel was found in the Federation proposal, Alternativa (1993), op. Cit., p. 31. The price of a gallon on October 2002 was found from INEI= 1.83 nuevos soles per litre*4 litres in a gallon=7.32 nuevos soles per gallon.

⁶¹ Minimum legal wage in Peru on October 2002.

⁶² Equipment of capital goods: one kitchen, two big pots, two frying pans, buckets and bowls. www.pronaa.gob.pe

⁶³ The cost of capital goods is proposed by the Federation, Alternativa (1993), op. Cit., p. 31. The price of capital goods was at prices of may 1993 so it was converted to prices of October 2002 with the price index of machinery=(1310.4/0.503)*1.0598=2657.2 nuevos soles. Similar methodology to the one used in note 71.

⁶⁴ The cost of a cylinder of water proposed by the Federation, Alternativa (1993), op. Cit., p. 31. The price of a cylinder of water at prices of may 1993 was converted to prices of October 2002 with the price index of use of potable water=(0.5/0.503)*1.014=1.01 nuevos soles. Similar methodology as the one used in note 71.

⁶⁵ The cost of the cleaning equipment is proposed by the Federation, Alternativa (1993), op. Cit., p. 31. The price of a cleaning equipment was at prices of may 1993 and was converted to prices of October 2002 with the price index of house maintenance (62.5/0.503)*1.014=125.99 nuevos soles. Similar methodology as the one used in note 71.

⁶⁶ The cost of energy (light) is proposed by the Federation, Alternativa (1993), op. Cit., p. 31. The price of energy was at prices of may 1993 and was converted to prices of October 2002 with the price index of use of electric energy (10/0.503)*1.014=21.14 nuevos soles. Similar methodology as the one used in note 71.

⁶⁷ The cost of local is proposed by the Federation, Alternativa (1993), op. Cit., p. 31 The price of local was at prices of may 1993 and was converted to prices of October 2002 with the price index of use of house= (75/0.503)*1.0632=152.24 nuevos soles. Similar methodology as the one used in note 71.

⁶⁸ The cost of training is proposed by the Federation, Alternativa (1993), op. Cit., p. 31. The price of training was at prices of may 1993 and was converted to prices of October 2002 with the price index of consumer= (150/0.503)*1.0196=304 nuevos soles. Similar methodology as the one used in note 71.

where: $Brecha(S/.)_j^{Pr onaa}$ is the gap that exists on donation Pronaa gives to the kitchen j

$Pot_j^{Pr onaa}$ is the expenditure that must do Pronna according to the Law No. 25307 in kitchen j

$Efec_j^{Pr onaa}$ is the expenditure that is Pronaa doing in kitchen j

$$Pot_j^{Pr onaa} = \sum_1^j C * 1,250kcal * 0.65 \quad (6)$$

$$Efec_j^{Pr onaa} = \sum_1^j C * Qpc_j^c \quad (7)$$

where: C is the cost in nuevos soles by kilocalory.

Qpc_j^c is the quantity of kilocalories which are consumed in kitchen j as a producto f the subsidy from Pronaa

6. Find the amount that the community kitchen must spend and how much is needed to reach that level. For that, the methodology applied for the analysis of PRONAA's gap was used, for the case of community kitchens.
7. Find the gap of food not only of the government but also of the community kitchens, by comparing it with the quantity that each of them should provide.

$$Brecha_j(\%) = (1 - (Efec_j^k / Pot_j^k)) * 100 \quad (8)$$

where: K could be Pronaa or a Community Kitchen

Results

After applying the methodology on the sample studied of 99 community kitchens in Metropolitan Lima, they were grouped according to the district that they belonged to. To determine how important is the level of nutrients per ration, as a product of PRONAA donations, the results were compared through two parameters:

1. The levels of nutrients recommended by Cuanto (1997) study. These are showed in the next table:

Table N° 7
Quantity of nutrients recommended per ration

Nutrients	Energy (Kcal.)	Proteins (mg)	Iron (mg)
recommended by Cuanto study	1250	56	12

Source: Final Report of Community Kitchens Evaluation in populations at risk, Cuanto, 1997.

2. The level of nutrients that Cuanto (1997) study found for community kitchens in Metropolitan Lima, detailed in the next table:

Table N° 8
Quantity of nutrients consumed per rations in
community kitchens of Metropolitan Lima

Nutrients consumed according to Cuanto study	Energy (Kcal.)	Proteins (mg)	Iron (mg)
	872	25.6	4.5

Source: Final Report of Community Kitchens Evaluation in populations at risk, Cuanto, 1997.

Then, it was valued the contribution that PRONAA makes to each of the community kitchens and the means per district were found. The results can be seen in Table N°6. In general terms, it is observed that the help of PRONAA doesn't cover 65% of the caloric contribution valued in soles. PRONAA covers only 47% of what is recommended, being the districts with the greatest gaps Independencia and San Juan de Miraflores.

Table N° 9
Average of nutrients per ration in the districts were donated
food by PRONAA is received

Community Kitchens	Calories (Kcal)	Percentage regarding to what should be donated (65% de 1250 = 812.5)
Independencia	8	310.62
Carabaillo	10	371.31
San Martín de Porras	13	427.13
Comas	12	428.62
San Juan de Miraflores	11	318.17
Villa María del Triunfo	12	399.88
Puente Piedra	9	386.38
Los Olivos	11	395.95
Villa El Salvador	13	379.15
TOTAL AVERAGE	382.02	47%

Source: Census of Surveillance of FEMOCCPAALC 2002

As it can be seen in Table N°6, the mean level of nutrients of the food donated by PRONAA represents only 47% of the calories per ration recommended in Cuanto (1997) study. The districts with highest levels of nutrients were Comas and San Martín de Porras.

Using the information provided by Cuanto study about the number of kilocalories consumed per ration in community kitchens of Metropolitan Lima (Table N°2), it is observed that the subsidy made by PRONAA covers an important part of all the nutrients that users receive per ration. This situation doesn't mean that the goal of food security is being achieved because all the requirements covered by community kitchens are only 70% of what is recommended and, furthermore, PRONAA can't cover 65% of what is really consumed in CK's.

Nevertheless, it has to be mentioned the real cost per ration because one ration does not imply only food but also combustible, work, capital, expenses in public services and administrative costs. At this point, it's useful to explain that all the costs are valued on the basis of FEMOCCPAALC proposal (specified in Table N°3). The results show that food and work are the most expensive components and of greatest participation in the cost per ration offered to users of CK's. The total cost per ration is S/2.831 (prices at October 2002), from which PRONAA should assumed 48.8%,⁶⁹ that would mean that the

⁶⁹ 48.8% refers to the cost of 65% of kilocalories that should be given, in relation to the cost of one ration, in other words, $0.65 \times 2.250 / 2.831 = 0.488$.

community kitchen should expend and charge per ration S/.1.3685. The following Table would help us to understand the structure of the cost per ration:

Table N° 10
Cost per ration in a representative community kitchen
In nuevos soles and prices of October 2002

Headings ⁷⁰	Cost per ration in S/.	Cost per ration in US\$
Food	2.250 ⁷¹	0.643
Fuel	0.094 ⁷²	0.027
Labour	0.336 ⁷³	0.096
Capital goods	0.014 ⁷⁴	0.004
Current expenditure	0.076 ⁷⁵	0.022
Training	0.061 ⁷⁶	0.017
TOTAL	2.831 ⁷⁷	0.809
What should be spent by the government	1.4625 ⁷⁸	0.418
What should be spent by community kitchens	1.3685 ⁷⁹	0.391

Source: Alternativa, *Law N° 25307, its political and economic viability*, Working Paper elaborated by the Departments of Alimentation and Law at the conference: Diagnosis and perspectives of the National Movement of Community Kitchens and Law N° 25307, November 1993.

Regarding the valuation of the work performed by the partners (mainly women) of community kitchens, these jobs are being sub valued by the government due to the fact that they receive few rations (generally associated to the number of members of the family) as a payment for all the work done. There are three arguments that explain the reasons to value adequately the jobs of these women. First, they (partners of CK's) constitute a source of resources used to make the program viable. Second, there is an opportunity costs on distracting these people from productive activities. Third, women's work is part of the contribution of families to the program. The reasons mentioned would induce to remunerate the partners that work at the community kitchens. However, work in this program can't be different from the choice of any other job. In that sense, it can be mentioned that a person chooses a job for 4 reasons: wage, work environment, professional development and status. So a woman who decides to work in a CK, takes in account these points: the wage that they receive (free rations) are potentially the payment for their work and is associated with her willing to work and contribute, and compensated with other factors as the status that a leader of a community kitchen has (she has a greater negotiation power because of all the decisions that she can make now: prices, new partners, etc).

⁷⁰ It is assumed 200 rations per community kitchen, 25 days a month or 312 days per year.

⁷¹ It was found the cost of the recommended kilocalories per ration = $0.0018 \times 1250 = 2.250$

⁷² It was found the cost of fuel used in one ration = $(7.32 \times 2.65) / 200 = 0.094$

⁷³ It was found the cost of labour used in one ration = $((420/25) \times 4) / 200 = 0.336$. 420 nuevos soles are the minimum legal wage in Peru.

⁷⁴ It was found the cost of capital goods used in one ration = $((2657.2/3) / 312) / 200 = 0.014$. It is supposed that the Federation makes a linear depreciation of 3 years. Capital goods were "rationed", in other words, it was found the portion of a capital good that is used in one ration in a way that community kitchens can replace them without the help of the government.

⁷⁵ It was found the cost of current expenses per ration = $((1.01 \times 75) + 125.99 + 21.14 + 152.24) / 25 / 200 = 0.075$

⁷⁶ It was found the cost of training per ration = $(304/25) / 200 = 0.061$

⁷⁷ Es la suma de todos los costos por ración.

⁷⁸ According to the Law, this is the amount that the government should provide to community kitchens, in other words 65% of the cost of food per ration = $0.65 \times 2.25 = 1.4625$.

⁷⁹ It is what a community kitchen should spend to cover all its costs = $2.831 - 1.4625 = 1.3685$

Table N° 11
Potential subsidized cost per ration in a representative community kitchen
Prices of October 2002

Headings	What should be given Subsidy Law (in soles)	What should be given Subsidy Law (in dollars)	What should be spent Community kitchens (in soles)	What should be spent Community kitchens (in dollars)	Total (in nuevos soles)	Total (in dollars)
Food	1.4625 ⁸⁰	0.418	0.7875	0.225	2.250	0.643
Fuel	0.000	0.000	0.094	0.027	0.094	0.027
Labour	0.000	0.000	0.336	0.096	0.336	0.096
Capital goods	0.000	0.000	0.014	0.004	0.014	0.004
Current expenses	0.000	0.000	0.075	0.021	0.075	0.022
Training and Preparation	0.000	0.000	0.061	0.017	0.061	0.017
TOTAL	1.4625	0.418	1.3685	0.391	2.831	0.809

Source: Alternativa, Law N° 25307, its political and economic viability, Working Paper elaborated by the Departments of Alimentation and Law at the conference: Diagnosis and perspectives of the National Movement of Community Kitchens and Law N° 25307, November 1993.

As it can be watched in Table N°8, PRONAA should expend US\$28 millions annually to cover what is established on the Law, in other words, 65% of the cost per ration in 2850 community kitchens in Metropolitan Lima. Nowadays, only US\$12.8 millions are spent.⁸¹ It would be needed a rise of 15.2 millions of dollars to fulfill the Law; that would mean an increase of 117% of the expenditure on food that is assigned to PRONAA. In order to measure the deficit (what PRONAA should give vs. what is giving now), it was constructed the Gap index, expressed as a proportion of the expenditure that PRONAA should be making. That index reflects that there is a gap of 53%, in other words, only 47% is being spent generating a less than the desirable impact.

Para realizar una análisis más detallado del problema de la brecha en los comedores de Lima Metropolitana, se elaboró un gráfico donde se detalla la causa de dicho déficit (sea el comedor popular o Pronaa) y su magnitud de según el distrito.

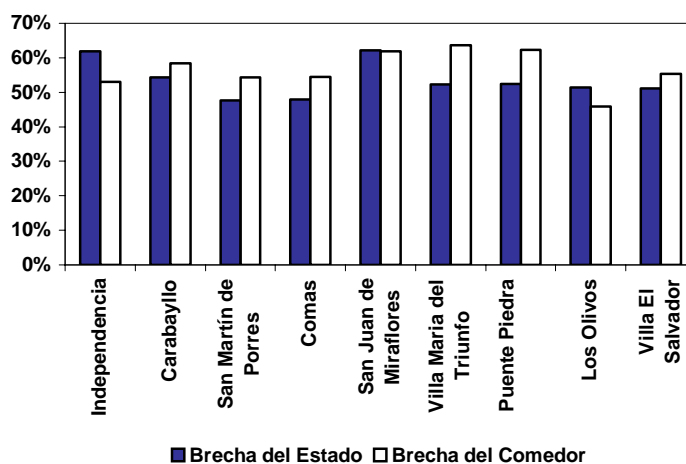
To make a more detailed analysis if the gap problem, it was elaborated a Graph that details the causes of this deficit and its magnitude according to its district.⁸²

⁸⁰ 65% is the cost of food = 0.65*2.250=1.4625.

⁸¹ This result is founded after multiplying the expense that PRONAA should assign to each community kitchen by the 2,850 CK's that exist in Metropolitan Lima. Annual expense of the self managed community kitchens in Metropolitan Lima = (Monthly expense of PRONAA in all the sample/99)*2,850*12

⁸² For that it was compared what PRONAA was really providing to the community kitchens to what should be provided by Law

Graph N° 5
Gap of PRONAA and Community Kitchens
Per district
In percentages



Source: Census of Surveillance of Food donated by PRONAA, September 2002.

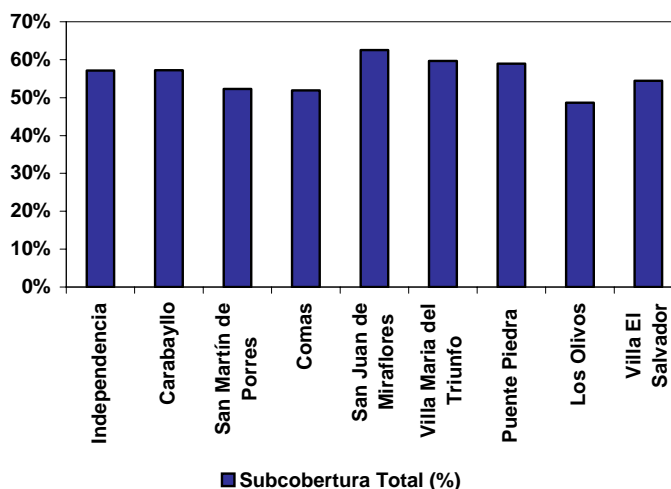
On one side, the estimation of the gap of the government was calculated in the way explained before. The district with a bigger gap was San Juan de Miraflores (62.2%), followed by Independencia (61.8%). On the other side, the gap of the community kitchens assuming that it's their income what is used to cover the costs stipulated in Table N°8. That explains that the deficit is the difference between the real costs and the incomes perceived as a product of the sales of rations, proportionately to the real costs. Regarding this index, it is observed that the districts with a bigger gap are Villa María del Triunfo (63.7%), Puente Piedra (64.2%) and San Juan de Miraflores (61.9%).

These results will lead us to assume that none of the parts of the Program are being effective at work. PRONAA can't cover the quantity of food stipulated by Law and community kitchens do not charge per ration enough money to cover the operative costs and the necessary long run investments.

The solution for this will be to raise the price per ration (unviable because of its social impact). This will generate undercovery because some people won't go to community kitchens because of restrictions of purchasing power; that will make us think that the price that users think is bigger than the equilibrium one.

To find the total impact of the gap, it was elaborated a Graph where it was established the total gap in the community kitchen, then it was differentiated by districts. This total gap refers to how much is needed (to the government and the community kitchens) to cover what should be spent in order to offer a balance alimentary ration, remunerate production factors conveniently and cover operative costs.

Graph N° 6
Total Gap per Districts
In percentages



Source: Census of Surveillance of Food donated by PRONAA, September 2002.

The founded results can be observed in Graph N°6. The district with a biggest total gap is San Juan de Miraflores with 62.2%, followed by Villa María del Triunfo (59%). The districts with lower gaps are Los Olivos (45.9%), Comas (51.9%) and San Martín de Porras (52.3%).

To sum up, it's important to notice that in all cases, there exists a budget gap due to the management of community kitchens. But this organization can be blamed alone because they work in a hostile environment and daily they have to work against the odds. The deficit of the management is not their fault because if they rise the price they charge per ration, the impact on the expenditure of extreme poor and poor people would be significant increasing the levels of undercover. Finally, it can be observed that the work performed by community kitchens is based on the constant use of actives that get more depreciated; the covered exploitation of the partners that work in them (cookers, cleaners, etc) and some disinterest form the partners to go to the educational meetings. That will influences directly in a decreasing quality of food, service and infrastructure of the community kitchens and the social development of the partners.

Dilution inside the family

To evaluate the efficacy in this working paper, it was supposed that one person eats one ration at the community kitchen. However, previous evaluations have founded clues that there exists some level of dilution of the rations inside the family. That phenomenon diminishes the real impact of community kitchens on food security for each person. If an agent can't accede to the equilibrium number of rations (number of consumers equal to number of rations), then the equilibrium price that he or she is willing to pay will be below the effective price. That is why lesser rations are bought, so there is another source of undercovery.

Dilution of rations inside a family can be seen on the basis of case studies of districts. 64 families of 5 community kitchens were interviewed, they were asked how many rations do they buy per day and who eats them. Furthermore, they were requested to say if any of the rations was kept to be eat at night. In each CK, 10 persons were interviewed approximately.

The impact of Community Kitchens Program judged on the basis of efficacy reaches the level of dilution of rations inside the family. Interaction between the supply factors (PRONAA's community kitchens) and demand factors (people that buy rations and share them) will determine the real effect on the objective population.

Results

From the 64 interviewed families, 22.2% eat conveniently (one ration on lunch for one person) and 3.8% eat more than one ration. Nevertheless, 74% eat less than one ration at lunch. In addition, 30% eat less than the half of a ration. Given these results, if the coverage was of 0.74%, that percentage decreases in studied community kitchens because not all the people eats one ration (some eats more than one and other less than one). The coverage of the program, taking in account the dilution inside the family and the attendance frequency, would be of 0.16%.⁸³ Likewise, it could be said that the consumption of more than one ration is a symptom of leakage; however, it can also be said that it's a normal effect of a portion of demand which is willing to buy more than one ration at the low price that it's being offered. Actually, this explanation can be accepted while consumption of more than one ration doesn't decrease the available supply of ration assigned to the objective population.

⁸³ That value refers to only 22.2% of 0.74% of the objective population that is being covered. $0.74 \times 0.22 = 0.163$

Table Nº 12
Dilution inside the family
In percentages

Percentage of consume of a ration during lunch per person	Frequency (people)	Percentage	Accumulated Percentage Frequency
31% - 40%	2	4.7%	4.7%
41% - 50%	16	25.0%	29.7%
51% - 60%	7	10.9%	40.6%
61% - 70%	2	3.1%	43.8%
71% - 80%	14	25.0%	68.8%
81% - 90%	4	6.3%	75.0%
91% - 100%	14	21.9%	96.9%
101% - 110%	0	0.0%	96.9%
111% - 120%	2	3.1%	100.0%
Total	64	100.0	

Source: Interviews performed to families of community kitchens in Metropolitan Lima. February, 2003.

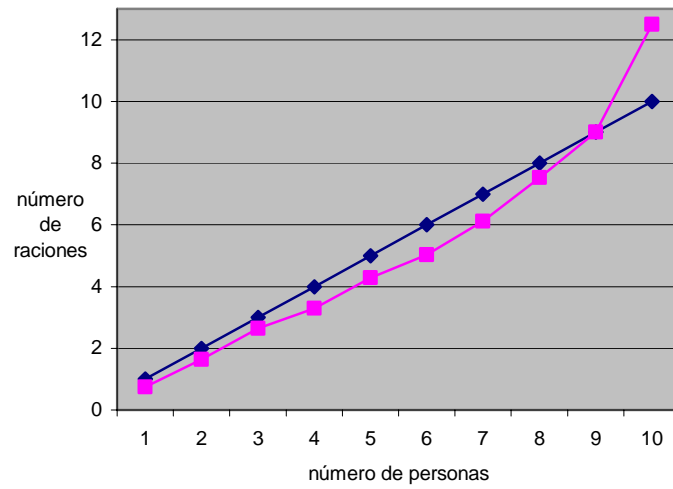
Another important fact to be mentioned is that of the 64 interviewed families, 26 always keep half or a quarter of ration to be eaten at dinner, while 7 keep it sometimes. This situation diminishes the consumption effect of one ration at lunch. Then, the percentage associated to dilution inside the family increases due to two factors: the existence of a home with a number of consumers bigger than the number of rations (in average, on person eats 90% of the ration); and, the keeping of a part of the ration to be eaten at night (37% of the ration, in average).

Also, it can be observed that the more rations are purchased; the more diminishes the dilution inside the family. The explanation to this is the purchase of more rations induces to suppose a bigger purchasing power and, along with that, bigger satisfaction of alimentary needs. The bigger food insecurity is present in families that buy 6 rations, which are composed in average by 7 persons (exactly the number of persons that live in an extreme poor home).

Given all the facts mentioned in this chapter, it can't be forgotten that the previous results does not have relevance if all the community kitchens are generalised. As a matter of fact, the work done is an approximation on the basis of case studies. The studies left an open door to evaluate community kitchens taking in account that dilution inside the family exist.

In conclusion, the dilution inside the family is a demand factor that gives an idea of the availability and purchasing power of community kitchens users relative to one ration. Besides, it helps to obtain a more accurate measure of efficacy because the object of analysis is one person conditioned to live in a home. That condition is established because familiar budget is used to pay the rations consumed by the family. The levels of dilution start to be less accurate and, for that, generate an additional source of undercovery on the program.

Graph N°7
Dilution inside the family per bought ration



Source: Interviews performed to families of community kitchens in Metropolitan Lima. February, 2003.

Conclusions

The situation of the Community Kitchens Program could be analysed, according to economic theory, from two points of view: supply and demand. On the supply side, there are the community kitchens as main input providers to the National Program of Alimentary Assistance (PRONAA because of its initials in Spanish); and, on the demand side, there is the objective population, the extreme poor who are unable to accede to a basic alimentary basket. These aspects were analysed taking in account aspects of efficacy in a social program: leakage, undercovery and budget achievement.

Regarding leakage and undercovery indexes, taking in account that objective population is poor, they reaches levels of 35% and 95% each. Even, the levels are more dramatics if we just consider the extreme poor, 74% and 96% each. This problem is result of a bad use of resources that effectively reaches the poorest population in 4%. Additionally, it was found that children under 18 years old are 40% of all the users of community kitchens. On one side, it is observed a clear preoccupation to help boys and girls, however this help is contrasted to levels of leakage and undercovery equal to 50% and 99% each, inside this group. The lack of assistance to objective population shows great inefficacy of community kitchens in the fight against food insecurity, but it can't be denied that there is the possibility that there are other alimentary programs that cover this problem. Despite the previous results, if the attendance frequency to community kitchens is taken in account, the level of undercovery will reach 99.26% for all extreme poor population and the level of leakage will reach 40.25%. Likewise, if we analyse these levels considering dilution inside families, the results will be that 22.2% of the CK's users eat conveniently (one ration eaten at lunch) and 74% eats less than one ration because it's shared between a bigger amounts of consumers or kept for dinner. The final balance is that only 0.16% of extreme poor eats conveniently.

But, why do high levels of leakage and undercovery exist? There are determinant factors on supply and demand side. The problems on the supply side are the lack of an efficient focalisation plan, the distortion caused by policy makers, the lack of an adequate social management in social programs and the incapacity of governments to give all the help needed by community kitchens. Demand factors as probability of a bigger purchasing power of extreme poor compared to poor and non poor influences in the decision of the last ones, the lack of a evaluation of beneficiaries, the budget restriction and the possibility that extreme poor decide between going to a community kitchen and cooking at home, induce to high levels of leakage and undercovery. The interaction of all the mentioned factors makes worse the problem of access to food rations at community kitchens. Even worse, taking in account the attendance frequency and the existence of rations dilution inside the family, the levels of leakage, undercovery and impact decrease and they are not taken in account to make policies so they can't reach the objectives.

Taking in account the accomplishment of the budget, it was found that the gap of breach of the Law N° 25307 (that specifies that PRONAA should help with 65% of the inputs cost per ration) is 53%. That gap inside community kitchens should be covered to offer rations that offer food security to partners. Nevertheless, this is not possible as a consequence of the low incomes that community kitchens collect. Then, the additional investment that the government should make to cover the gap, it's US\$15.2 millions per year. Nowadays, only 12.8 millions of dollars are invested per year, in other words, only 47% of what is ruled by Law is covered. This is another source of inefficacy of the program.

To sum up, the founded levels of leakage and undercovery and the low budget accomplishment from PRONAA deepen the inefficacy of community kitchens. Given this situation, the fight against food insecurity weakens. However, the social capital, social relationships that are built in these community centres have been important through years, that is why community kitchens have a place in Peruvian policy. Finally, the Program of Community Kitchens should make urgent reforms in the aspects of supply and demand in order to reach the most important objectives of food security.

Policy Recommendations

PRONAA's mission of delivering food to community kitchens has been immersed in a political vicious circle. Scale economies as a result of the scale of a public institution, have not been exploited; instead, the gap has been fulfilled with the use of PRONAA as political machinery in order to win and increase preference for the government. Given this situation, what is proposed is to give PRONAA's mission to the private sector.

The proposal of giving the mission of buying, delivering, monitoring, evaluating and supervising to the private sector, would have its start at the deliver of all the money that is necessary to cover the 65% of the inputs for the food and the voluntary workers of the community kitchens. The funds will come from the government and will be used to cover all the administrative and operative costs of the private institution.

Once the money is delivered, efficiency will be achieved through the purchasing of the cheapest and healthiest food. The bond between the government and national producers will be eliminated and along with that, a great source of inefficacy. However the political cost of this measure should not be forgotten. Despite the lost of preference for the government, it's important to point that the function of an alimentary assistance program is not the promotion of national agriculture. On the contrary, the minimization of this political cost should come from policies specially designed by the authorities in charge of agriculture in the country.

The implementation and continuation of community kitchens will also carry a mechanism of competition.⁸⁴ In other words, the CK's will have to compete between them, being the most efficient the ones that deliver food with the highest levels of nutrients, cover all the extreme poor and could be self managed.⁸⁵ That objectives will be evaluated according to efficiency and efficacy indexes, detailed in the Table below these lines.

⁸⁴ Cortez (2001), op. cit. p.34.

⁸⁵ Beltrán, Planas, Cueva y Millán (2001), op. Cit. p. 164.

**Table N°13
Evaluation Indexes**

Index	Description	Construction
Cost - Efficiency	Measures the cost per nutrient in order to analyse the efficiency of the community kitchen.	$Cpn^n = \frac{GT^{Comedor}}{\sum_1^i Q_{ij}^{Comedor} * M_i^n}$ <p>where: Cpn^n is the average costo by nutrient consumed in a kitchen community. $Q_{ij}^{Comedor}$ is the quantity of food purchased by the kitchen $GT^{Comedor}$ is the total expenditure the kitchen do in their activities.</p>
Leakage	Measure the degree in which community kitchens assist non objective population in order to measure the efficacy of the CK.	Equation (1)
Undercovery	Measure the degree in which community kitchens assist objective population in order to measure the efficacy of the CK.	Equation(3)
Investment per ration	Measure the investment per person of the institution in order to measure the efficacy.	Equation (15) / NRC
Benefit - Cost	Compares the obtained incomes with the costs of the community kitchens to measure its sustainability.	Elaboration of a Cash Flow

Elaboración: Propia

The help provided by the institution in charge will be according to the use of a global index of cost – effectiveness.⁸⁶ The action mechanism will be of assigning the resources to those places where the costs per persons are lower and the global needs are bigger. In that way, resources will be optimized, using them where there is a higher rate of social return.

Once products and prices are assigned, a contract should be signed by each of the community kitchens. In that contract, it will be stipulated the help conditions: support of 65% of the inputs costs, alimentary help, charges and periods of help. Regarding food security, this should be encouraged in a way that diminishes assistance and encourages self –management. Then, the proof period and its tendency will be defined, *ceteris paribus*. There has to be mentioned the changing economic conditions of the country, that's why help increases quickly in recession periods and decreases in periods of economic growth.

In addition, each community kitchen should commit itself to charge only the cost of the rations: no profits will be accepted.⁸⁷ In that way, if any CK starts to search profits in its activities, the help will be eliminated and it will become a restaurant. In that case, the CK will be replaced by another one in order to help people who can't pay a higher price,

Along with that, it's important to notice that the help mechanism for community kitchens will never end because there will always be poor people. That's the reason why a credit mechanism to community kitchens should be implemented to help them with the purchase of capital goods that depreciate with

⁸⁶ Proposed method in *Public management and alimentary policies in Peru*. Portocarrero et al. (2000, op. cit. pp. 258-261 y 333-361).

⁸⁷ Cortez (2001), op. cit. p. 34.

time. However, the cost of ration should incorporate the capital reposition in a way that the money could be invested when the active is depreciated.⁸⁸

Nevertheless the proposal has advantages and disadvantages relative to way of alimentary help: vouchers. The advantage of the suggested proposal is the keeping of the accumulation of social capital in community kitchens through years. The structure of the delivery of vouchers doesn't eliminate property but diminishes the effect (especially in women) of personal development and social organization. The disadvantages could be that a private investment will not find the same incentives to manage food security; and that there also are the costs of supervision: the bigger the system of evaluation, the greater the costs are.

To sum up, it's important to say that the use of community kitchens as a tool in the fight for food security conceived as inefficient, given the results founded in this working paper.

Additionally, to know that there exists rations dilution inside families makes difficult the elaboration of adequate policies. Then community kitchens should be eliminated and another mechanism should replace them. However, other alimentary programs must passed an impact evaluation to observe if the problem arises from the idea of the program or the people who implement it.

Because of that, the use of voucher or cash as an alternative to food programs should be taken very carefully as a consequence of the lack of information and non revealed preferences of consumers.

Finally, the agents involved in community kitchens have the intention and will to help the neediest, so the use of them doesn't seem so crazy. On the contrary, an adequate implementation of a social management will create elements that will help the program to be more efficient and effective in improving food security.

⁸⁸ The results has been verified as an increase in familiar income and expenses, in the same way mothers perceive themselves in a better situation when they're working in a community kitchen. However it has to be taking in account that this mechanism should be improved to have an impact in the welfare of community kitchens and its partners. Beltrán, Cueva and Millán, *Credit for women's microenterprises: an evaluation of impact*, in *Impact of Social Investment in Peru*, Enrique Vásquez, editor, Research Centre of Universidad del Pacífico, International Development of Research Centre, Lima, 2000, pp. 201-242.

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