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## **FOOD SUBSIDIES**

### **A Study of Targeting Alternatives for Tunisia**

Carol S. Kramer

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prepared for

The Academy for Educational Development  
under Contract #PDC-0082-C-00-9080-00  
Agency for International Development  
PPC/PDPR/SP

with cooperation from the APIP Project, Tunis, Tunisia

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## LIST OF ACRONYMS USED

A.I.D.	United States Agency for International Development
APIP	Agricultural Planning and Implementation Project
CAVIS	<i>Caisse d'Assurance de Vieillesse Invalidite Survivants</i>
CGC	<i>Caisse Generale de Compensation</i>
CNSS	<i>Caisse Nationale de Solidarite Sociale</i>
CST	<i>Complexe Sucrier de Tunisie</i>
GDP	Gross Domestic Product
GOJ	Government of Jamaica
GOT	Government of Tunisia
IBRD	International Bank for Reconstruction and Development (World Bank)
IFPRI	International Food Policy Research Institute
INNA	<i>Institut National de Nutrition et de Technologie Alimentaire</i>
INS	<i>Institut National de la Statistique</i>
MAS	<i>Ministere d'Affaires Sociales</i>
MTD	millions/Tunisian dinars
OC	<i>Office des Cereales</i>
ONH	<i>Office Nationale de l'Huile</i>
P.L. 480	Public Law 480
PAM	<i>Programme Alimentaire Mondial</i> (World Food Program)
PNAF	<i>Programme National d'Aide pour Familles Necessiteuses</i>

PPC/PDPR	Bureau for Program and Policy and Coordination, Office of Policy Development and Program Review
STIL	<i>Societe Tunisienne Industrielle de Lait</i>
STS	<i>Societe Tunisienne de Sucre</i>
TD	Tunisian dinars
UHT	milk in "tetra brik" form
USDA/OICD	U.S. Department of Agriculture/Office of International Cooperation and Development
UTSS	<i>Union Tunisienne de Solidarite Sociale</i>

# **FOOD SUBSIDIES**

## **A Study of Targeting Alternatives for Tunisia**

Carol S. Kramer, Ph.D.

### **ABSTRACT**

This report analyses food subsidies and food subsidy targeting alternatives in Tunisia. It focuses on strategies for reducing financial costs to the government without adversely affecting food consumption or nutritional status of the most vulnerable groups. Part I describes major features of the food subsidy program in Tunisia, develops a framework for assessing targeting options in the Tunisian context, and provides descriptive statistics on food consumption patterns. Part II examines international experience with food subsidies and food subsidy targeting efforts. Major lessons are noted. Part III presents a preliminary analysis of the short and medium term relevance of subsidy reform policies for Tunisia. These include: (1) targeted and self-targeted price subsidies incorporating new product development, (2) increased direct food distribution, (3) food stamps, (4) income enhancement efforts.

## EXECUTIVE SUMMARY AND RECOMMENDATIONS

Interviews and analysis lead to some tentative conclusions and recommendations:

- 1) If the Government of Tunisia (GOT) seeks to transfer purchasing power and/or nutrients to low income Tunisians, all other things being equal, policy measures tend to rank in descending order of cost-effectiveness: targeted nutrition interventions, food stamps, food rations, targeted price subsidies, general or universal price subsidies. Because poverty in Tunisia is disproportionately rural and regional, decentralized programs targeted at rural and regional needs are recommended. At the same time, the needs of the approximately 10 percent of urban residents who are poor cannot be ignored.
- 2) Cereals subsidies constitute approximately 60 percent, by far the most significant component, of the expenditures of the *Caisse Generale de Compensation* (CGC). The CGC is the agency with primary responsibility for disbursing food and agricultural subsidies. At the same time, prices of bread and other cereals products are viewed as extremely politically sensitive (with the exception of some less important pasta products). In the short term, policymakers feel limited in how much they can increase prices of cereals products. Nevertheless, if the GOT is serious about reducing overall expenditures of the Caisse or stemming their increase, over time the cereals subsidies and specifically bread pricing will need to be addressed and a plan developed for better targeting food and specifically cereals subsidies.
- 3) A combination of policy measures including cereals price realignments, new product development, sectoral cost savings, private sector enhancement, and expanded public education and information along with targeted service delivery programs (including food stamps, nutrition interventions, and employment and training services) is recommended. Food subsidies that are primarily regressive in distributional effect (that is, higher income groups receive more from government subsidies than lower income groups) include those on milk, sugar, and cooking oil products. By definition, universal subsidies on these products are not cost-effective in protecting the consumption of the poor. Universal subsidies should be phased out and alternative measures targeted at the poor should be introduced.
- 4) The apparent preference of policymakers with respect to bread is to avoid the development of a darker, whole wheat Tunisian bread (*pain unique*) that would be distinctive, of a higher extraction rate flour, and would hopefully self-target benefits to lower income groups. Sentiments of egalitarianism were repeatedly espoused along with the desire to avoid the appearance of degrading the bread from the consumer's standpoint. (A contrast with Morocco was often drawn). Rather, what is desired is to encourage development of distinctive, even "higher quality" flour and bread products under the assumption that they will attract the high income consumer who would be willing to pay more for higher quality. This policy alternative is consistent with policies of greater market orientation, but depends on some heroic assumptions about consumer demand that bear further analysis. Specific needed research should carefully examine both consumer demand,

marketing, and food technological and economic aspects of supplying distinct higher quality products. Also important to understand are the economic incentives of alternative methods of continuing selective subsidies while phasing out others. The need for a careful analysis of consumer behavior, product preferences, and test market research is evident.

5) The same principles are relevant in considering the differentiation of products within the milk and the oils markets. Particularly, the desirability of two proposals to reduce subsidies on tetra brik milk packaging and to encourage imports of powdered milk should be viewed from the triple perspectives of food technology, consumer economics and marketing, and agricultural economics. Finally, because milk subsidies now go predominately to high income consumers but are perceived of high value because milk is nutritionally beneficial, the option of providing subsidized milk exclusively through school lunch and preschool programs should be explored.

6) A number of alternatives for targeting benefits to poor Tunisians are worth considering as accompanying measures to increased food staple prices. By all accounts an extensive social service system exists in Tunisia. Run through the Ministry of Social Affairs, social services are provided to needy families without income-generating capability, to productive families temporarily out of work, to the handicapped, and to certain of the unemployed. School lunch and preschool feeding programs are established, as well as food-for-work programs and development-oriented *chantier* programs. Because these systems are in place, expanding or modifying their service-providing capacity would not be as difficult as starting from scratch. These major social programs currently serve in the neighborhood of 500,000 to 750,000 persons on a regular basis. Further examination would reveal opportunities and constraints to expanding services.

7) Despite the existence and history of the social service system in place, some reservations were expressed with regard to the manner in which benefits are allocated. Preliminary results of a consumer survey suggest that many individuals would be hesitant about the objectivity with which benefits are allocated. In the case of increased bread and food prices, many surveyed consumers felt uncertain that all of the most needy individuals would be targeted by the social service system. The need to enhance the credibility of the system appears to exist if it is to serve as a major conduit of increased services.

8) Many consumers around the country appear to have little or no understanding that the prices of staple commodities are currently heavily subsidized by the government or that the government is facing fiscal difficulties. Lack of understanding might contribute to lack of support for discussion of price increases or alternatives. A need for careful and appropriate public information as policies are chosen and implemented is suggested.

9) In the medium term, a system of food stamps or vouchers (which may be used like cash to purchase food) appears to be interesting in the case of Tunisia. Such a system has the advantage that stamps can be distributed fairly handily through existing offices of social services or primary care health clinics. The rate of literacy and numeracy as well as

government employment is quite high in Tunisia suggesting that personnel to staff a food stamp program could be made available. A major advantage of food stamps is that the government makes available stamps of fixed monetary value. Thus, government budget exposure is relatively limited in the short term as compared to price subsidies. Whereas food stamps can be adjusted to compensate for shrinking real values as other prices rise, they do not adjust automatically, so the government can make the policy decision<sup>1</sup>. Additionally, food stamps have the advantage that they can be used like money as consumers wish (or, alternatively, they can be restricted to the purchase of particular foods that the government might wish to promote). Permitting consumers to make choices enhances the functioning of market forces.

10) The biggest questions in considering the feasibility of a food stamp system in Tunisia are addressing the design of a relatively objective, feasible means-testing or targeting method and the design of a system so that: (1) stamps that are turned in by retailers for redemption can be promptly redeemed; and (2) adequate monitoring occurs at the level where the stamps are redeemed so that stamps will be removed from circulation and not reused. (3) In addition, the adequacy of such a scheme for extremely remote rural areas needs careful consideration along with alternatives if stamps should prove infeasible.

11) Combining common approaches that each have problems on their own may be a potentially fruitful approach: namely, a combination of food stamps, fair-price shops that sell foods consumed primarily by the poor at set prices, and food rations or stamps combined with employment and training programs.

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<sup>1</sup> This advantage can also be a disadvantage for low income consumers if benefit levels do not keep up and purchasing power erodes.

# **I. Food Subsidies and Consumption Patterns in Tunisia**

## **1. Introduction**

This study examines a critical policy dilemma facing Tunisia (figure 1) and a host of other countries: how to modify longstanding and increasingly unaffordable systems of universal food subsidies, do it in a politically acceptable way, and maintain the consumption of those most vulnerable, both economically and nutritionally.

Accordingly, principal requirements of food subsidy policy reform are: (1) that the reform save or curb growth in government expenditures, at least in the medium term; (2) that better targeted reform measures cost-effectively protect the consumption and real income of the poor; (3) that the measures engender sufficient political support from powerful groups that they are accepted; (4) that the measures are feasible administratively; (5) that the measures interfere with markets as little as possible.

The following report is organized in three parts. The first reviews principal features of the current subsidy programs in Tunisia along with information on food consumption, income distribution, and an overview of the incidence of current food subsidies. Part Two reviews highlights of international experience with food subsidy reform useful in the consideration of Tunisian opportunities. Part Three makes a preliminary assessment of various policy options for Tunisia as it moves toward subsidy reform.

This report was commissioned by the Bureau for Program and Policy Coordination, Office of Policy Development and Program Review (PPC/PDPR), United States Agency for International Development (A.I.D.), Washington, D.C. The scope of work for the study included interaction with A.I.D.-Tunis and contractors under the A.I.D.-Tunis Agricultural Planning and Implementation Project (APIP), preparation of a preliminary draft summarizing international experience and assessing options for Tunisia, and preparation of a final report considering broader implications of the Tunisian experience for PPC/PDPR. Consultation and preparation of this report included a trip to Tunis, Tunisia between November 22 and December 7, collaboration with APIP contractors, and interviews with the persons listed in Appendix 1. A preliminary draft summarizing international experience and considerations for Tunisia was left with APIP contractors on December 7. This is the final phase one report for PPC/PDPR. Upon consultation with PPC/PDPR, a final second phase report formulating conclusions for A.I.D. Washington will be completed.

## **2. Tunisian Food Subsidy Policies: Program Structure and Costs**

Food subsidies have a long tradition in Tunisia. The current institutional mechanism for administering food subsidies is the *Caisse Generale de Compensation* (CGC). The CGC pays the difference between the actual costs of producing and distributing basic food staples and selected agricultural inputs and their administered prices. Food and input subsidies are paid

on major cereals (wheat, barley, corn), soy meal, cooking oils, sugar, milk, and fertilizer (table 1).

## 2.1 Program Costs

Food and agricultural subsidies cost the Tunisian government's *Caisse Generale de Compensation* 292.7 million Tunisian dinars (MTD) in 1988 and 390.2 MTD in 1989.<sup>2</sup> This represented 8.5 percent of government expenditures in 1988, 77.6 percent of the net government deficit, and 3.4 percent of gross domestic product. Almost half of the subsidy costs are associated with hard and soft wheat, *ble dur* and *ble tendre* (22.3 percent and 27.0 percent of total CGC subsidies in 1989) (table 2). Next most costly in terms of government expenditures are subsidies on *huile de melange* or mixed cooking oils (12.3 percent of CGC subsidy expenditures) followed by sugar, milk, soy meal, and fertilizer subsidies (8.4 percent, 6.1 percent, 4.9 percent, and 4.4 percent, respectively).

Subsidy costs can be put in context by considering their evolution over time and in comparison to other countries. In general, food subsidy costs increased 180 percent between 1981 and 1989, and the potential exists for accelerating government exposure in the future if current policies are extrapolated along with growth in population, incomes, and price trends (table 3). On the other hand, the current burden of 8.5 percent of government expenditures does not appear excessive when compared with such countries as Egypt (up to 25 percent), Bangladesh (30 percent and greater), Pakistan (approximately 15 percent) at various times in their recent histories. In addition, the average subsidy transfer in constant 1985 dinars **declined** from 31 TD in 1981 to 24 TD in 1987 (Yusuf, 1989).

Nevertheless, Tunisian policy reforms instituted in 1986 recognize the need to trim government expenditures on food and agricultural subsidies as a part of overall macroeconomic structural stabilization and adjustment. Fiscal goals expressed in the VII economic plan (1988-1994) include reducing government deficits from 3-4 percent of GDP in 1989 to 1.9 percent in 1994. Food price subsidy costs have averaged between two-thirds and three-quarters of government deficits in recent years. Additionally, recent analyses of the incidence of food subsidy benefits and costs, which show that much of the subsidy system is regressive, reinforce the need to examine ways to more cost-effectively target benefits to designated groups.

## 2.2 Subsidy Program Structure

Tunisian food and agricultural subsidies are financed and administered by the *Caisse Generale de Compensation* in conjunction with several major parastatals, each dominant in a commodity subsector. The *Office des Cereales* (OC) has a monopoly on several aspects of grain importation, assembly of local production, marketing, and distribution including

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<sup>2</sup> The Tunisian dinar was worth \$1.10 in January 1988.

animal feed and components. *Societe Tunisienne Industrielle de Lait* (STIL) and *Tunisie-Lait* monopolize the manufacture of liquid milk from both domestic dairy and imported powdered milk. The *Office Nationale de l'Huile* (ONH) has the monopoly on import of grain oils (principally sunflower or rapeseed) used in mixed cooking oil, and acid oils used to produce soaps. The sugar sector involves both the *Complexe Sucrier de Tunisie* (CST) and the *Societe Tunisienne de Sucre* (STS) which import sugar (brown and white) and process local sugar beets as well as refine brown sugar into white.

The operation of the major parastatals and injection of the subsidies have been studied recently in substantial detail (see A.I.D. APIP project studies as well as documents of the World Bank) and are merely sketched here for background.

### **The Soft-Wheat (Bread and Bread-flour) Market**

Tunisians consumed approximately 813,100 metric tons of soft wheat as bread and bread products in 1987-88. Cereals imports totaled 1,040,290 metric tons (table 4), of which bread wheat imports totaled 607,840 metric tons. The *Office des Cereales* monopolizes cereals imports and assembly of locally grown wheat after which it handles, stores, and transports the grain to the mills. The mills purchase the grain at a price below the CIF<sup>3</sup> cost plus actual handling costs, and the Caisse reimburses the OC a *marge de retrocession* to cover the difference between price received and costs. Domestically produced soft wheat is also handled by the OC and the two cooperatives with which it works. These assemble wheat in a series of collection centers, store it, and transport it to the millers. Again, a *marge de retrocession* is paid (table 5). Finally, the bakers who are authorized to bake two different types of bread, *baguettes* and *gros pain* also received, until August 1989, a small subsidy based on a portion of their labor costs.

Two types of flour are currently produced from soft wheat, one with an extraction rate of 75 percent (*la farine poids specifique, p.s.*) used for bread, and a more refined pastry flour with an extraction rate of 68 percent (*p.s.-7*)<sup>4</sup> used for higher quality pastries. Many in Tunisia believe that the difference between the two flours is not enough to truly differentiate the products. Thus, each flour can be used for alternative products.

Among the breads, two categories are important currently. Bakers produce both a french bread (*baguette*) which in 1989 weighs 250 grams and sells for 80 millimes and a large loaf (*gros pain*) which weighs 500 grs. and sells for 100 millimes. (Whereas the difference in relative weights is 100 percent, the difference in controlled prices is 25 percent).

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<sup>3</sup> CIF refers to an import price including the costs of insurance and freight charges.

<sup>4</sup> In July 1989 consumption estimates for the p.s. and p.s.-7 flours were 4.8Mqx (480,000 kg) and 0.6Mqx (60,000 kg), respectively (*Republique Tunisienne, Ministere de l'Economie Nationale, "Note sur le secteur de la boulangerie et le circuit de la compensation de la filiere ble tendre"*).

Subsidies received by millers and bakers for flour and bread production are calculated by the *Caisse* on the principle that the two types of bread will be produced in a fixed ratio of 85 percent *gros pain* and 15 percent *baguettes*. (The *Caisse's* assumption developed historically.) The unit subsidy on *gros pain* (per quintal--100 kg.--of flour) is higher than that on *baguettes*. Yet, because both breads use the same flour and there is no effective monitoring, millers have a rational incentive to produce *baguettes* (using only 250 gr. flour) while collecting the subsidy based on the assumption of 85 percent production of *gros pain* using 600 gr. flour per unit. On the other hand, Tunisian consumers have an economic incentive to purchase *gros pain*.<sup>5</sup> It appears widely believed that the government, in determining its subsidy differential and wishing to subsidize *gros pain* on the assumption that it is more consumed by the poor, ends up subsidizing bakers who produce *baguettes*.

In total, the subsidies on bread are substantial but vary markedly between the two types of bread. The net subsidy on *gros pain* is approximately 95 percent (net subsidy per sales price) as opposed to that on *baguettes* of 34 percent (IBRD, 1989). The comparative ratios of net subsidy to cost of producing *gros pain* and *baguettes* are 45 percent versus 20 percent.

### **The Hard or Durum Wheat Products Market**

Hard or durum wheat (*ble dur*) is used for couscous, semoule, and pasta and is the principal cereal produced in Tunisia, comprising well over half of all Tunisian cereals production. Barley constitutes about one-fourth of Tunisian cereal production. Much of the Tunisian hard wheat crop is autoconsumed while barley is primarily used for livestock feed. The OC is responsible for handling hard wheat in the same manner as other cereals, and receives a corresponding *marge de retrocession* (table 6).

Subsequently, the millers who process the grains into flour, couscous, semoule, or pasta (or barley concentrate in the case of barley grain) receive a fixed margin to cover the costs they incur by selling flour to bakers, and other food products to final consumers, at prices below the millers' own cereals costs plus processing costs.

### **The Milk and Dairy Products Market**

Two parastatals produce Tunisia's liquid milk from a combination of local production (which is then pasteurized) and imported powdered milk which is reconstituted. Reconstituted milk, which can be sold as whole or low fat milk, accounts for approximately 70 percent of total Tunisian industrial milk production. Packaging is either in plastic bottles or tetra brik form (UHT). Prices are administered by the CGC and set below costs of production, processing, and distribution. The parastatals calculate their costs and receive a subsidy based on the margin between administered prices and costs.

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<sup>5</sup> Many Tunisians with whom I talked stated that all income levels would purchase the *gros pain* and that it is not an inferior good.

Those who have studied the dairy sector report that the cost of tetra brik packaging is twice that of plastic bottles, although both are subsidized. Tetra brik packaging has advantages for consumers in that it keeps milk fresher longer and does not require refrigeration. In addition, the parastatals have made substantial investments in tetra brik packaging technology and do not favor relinquishing the subsidy. As thought is given to differentiating food products to move toward self-targeting subsidies, differentially treating milk packaging may be used to accomplish this.

### **The Mixed Cooking Oil Market**

Tunisian food policy has included the strategy of exporting relatively expensive olive oil, of which Tunisia is a major world producer, and importing grain-based oil which is one-third to one-half cheaper. The imported oils are then mixed with a small share of olive oil and consumed domestically as cooking or salad oil.

The *Office Nationale de l'Huile* has a monopoly on the collection, storage, processing, and export of domestically produced olive oil. It also is responsible for importing the vegetable oils which are then refined and blended with remaining olive oil. It has been recommended that a way to save subsidy costs on edible oils would be to remove the remaining olive oil from the mixed oil blend. This would reduce the price of the blended grain oil, which could remain subsidized. Consumers desiring olive oil could then be charged full costs.

### **The Sugar Market**

Sugar subsidies amounted to 32.6 MTD in 1989 up almost 50 percent from the year before (22.4 MTD in 1988). This made sugar subsidies fourth most costly behind wheat and oil. Subsidies are paid on imported white and brown sugars, and on refinement activities at the *Complexe Sucrier de Tunisie* and at the *Societe Tunisienne de Sucre*. In addition to imports, local sugar beets are also processed at both plants.

One issue that has been raised with respect to the sugar sector is the desirability of removing subsidies from sugars sold for soft drinks or other nonessential products consumed primarily by high income consumers (IBRD, Tuck, note, 1989).

## **3. Food Consumption Patterns in Tunisia**

Patterns of food consumption have been relatively well studied in Tunisia with consumption expenditure surveys conducted in 1985 (most recently), 1980, and 1975. The following draws on the 1985 consumption expenditure survey and subsequent information from the *Institut National de la Statistique* (INS, reported in Yusuf, 1989). It begins with overall expenditure levels.

### 3.1 Consumption/Expenditure Patterns

#### Expenditure distribution

The 1985 survey revealed that average (mean) annual household expenditures were 2,665 dinars, amounting to 471 dinars per capita. Expenditures ranged from a high of 3,924 TD per household and 748 TD per person in the large cities to a low of 1,653 TD per household and 273 per person in isolated areas. Regionally, the District of Tunis had the highest household expenditures (3,880 TD per household, 725 dinars per individual) followed by the central east governorate (Sousse, Monastir, Mahdia and Sfax) at 3,028 and 544 dinars per household and individual, respectively. Households in the south averaged only 2,232 dinars (individuals 382) and the poorest district, northwest, 1,613 dinars per household and 284 per capita.

When analyzed by occupational status of the principal means of household support (table 7), the data indicate that lowest per capita expenditures were in households of agricultural workers (268 TD); followed by small agricultural landholders; the unemployed; households supported from abroad; workers in industry, commerce, or service; the retired; craftworkers, and independent business or service workers. The highest per capita expenditures were from households supported by professionals, business managers, and other employees (ranging from 760 to 1500 TD).

By household size, per capita expenditures in small households (1 to 4 people) were well over twice those of large households (8 and greater) (751 dinars to 334 dinars per capita). The distribution of expenses over the population in 1985 indicated a median annual per capita expenditure of 331 dinars with the lowest decile spending under 134 TD and the top decile spending over 891 TD (table 8). One-third of the population spent less than 250 TD per year, one-half less than 350, and over two-thirds less than 500 TD. At the high end of the distribution, approximately 12 percent spent more than 800 TD per year. (See table 8 for a description of overall expenditures by income level.)

In general, income is relatively equally distributed in Tunisia, and improvements have been made in terms of numbers living below the poverty level. The GINI coefficient for Tunisia stood at 43.4 percent in 1985, up from 43 percent in 1980, and down from 44 percent in 1975<sup>6</sup> (figure 3). Those living under the poverty line declined from 1.2 million persons in 1975 to half a million (554,000) in 1985, representing 7.7 percent of the population. As summarized in the discussion of target groups (Part III), however, there are groups within the society who are needy, who currently benefit greatly from the various food subsidies, and whose welfare depends upon maintaining comparable transfers.

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<sup>6</sup> The GINI coefficient is a measure of the degree of income equality or inequality in a society. In figure 2, the larger the shaded area, the more unequal the distribution of revenues (used as a proxy for income).

## **Structure of Expenses**

The average Tunisian spent 183.5 TD per year on food in 1985, or 39 percent of total expenditures of 470.4 TD. Spending for shelter ranked second in importance with a budget coefficient of 28 percent. Thus, food and shelter required two-thirds of total expenditures on average. Table 9 reveals per capita expenses on seven major categories of goods and services. For the lowest income groups, the share required for basic food and shelter was much higher. For example, the budget coefficient for food in all rural areas was 45.5 percent, but in the Northwest, the poorest region, it was 47.3 percent (table 10)

### **3.2 Food Expenditures**

Table 11 shows the average structure of food expenditures. Twenty-two percent of food expenditures go for meat and poultry, followed by vegetables (17.3 percent), cereals (15.8 percent), and drinks and food away from home (14 percent). Milk and eggs require about 10 percent of food expenses, followed by cooking oil, fruits and nuts, vegetable garnishes, fish, and finally, sugar. On average, expenditures on subsidized food products (cereals, dairy, sugar, oils) comprise 34.3 percent of all food expenditures.

Table 12 indicates the structure of food expenditures by income group. Those with income less than 100 TD spent 15.8 TD and 32.6 percent of total expenditures on cereals alone suggesting the vulnerability of this low income group to changes in cereals prices. Expenditures on meat and poultry amounted to 6.2 TD per capita among the poorest group (spending under 100 dinars per year) and almost 90 TD among the most affluent (800 TD and over).

Purchases of durum products are extremely significant as a share of the expenditures of low income groups in both rural and urban Tunisia. Both absolutely and relatively, rural consumers spend most on durum wheat products. In addition, poor urban consumers' expenses on durum products almost equals their spending on bread wheat products. Spending on both of these two cereals foodstuffs far exceeds spending on any other food. Analysts have recommended subsidizing the milling component of processed durum products as a means of transferring income to the poor through a foodstuff and service especially important to low income families.

### **3.3 Incidence of Food Subsidy Benefits**

The incidence of food subsidy benefits under the current Tunisian system has been studied recently by Yusuf, Rejeb, and others (1989, 1990). Their analyses have all revealed substantial inequities in the distribution of benefits. Summarizing, in absolute terms the rich benefit more from government food subsidies than the poor even though the overall transfer received by the poor is extremely important to their well-being (in other words, the poor benefit more proportional to their income, but the rich receive more absolutely). Table 13 presents one picture of the incidence of food subsidy benefits.

#### 4. Conclusions: The Tunisian Food Subsidy Challenge

The important points for purposes of this study are that: (1) each of the commodity subsectors receiving major subsidies involves a parastatal enjoying monopoly powers; (2) this suggests that the benefits of government subsidies accrue not only to consumers, but also to producers, and operators within the parastatals; (3) to the extent inefficiencies and opportunities for cost-savings exist and are remedied in each of the *filières* or commodity subsectors, some of the fiscal pressure to raise food prices and cut back consumer food subsidies may be reduced; (4) studies have shown that substantial opportunities exist in each of the subsectors for enhanced roles for the private sector as competition is enhanced and as overall food subsidies are better targeted (Newman and others, 1989). (5) Food subsidies are extremely important to low income Tunisians even though the affluent benefit more from them in absolute terms. (6) Cereals subsidies are the most important subsidies from the standpoint of transferring real income to the poor. Examining the food subsidies: (7) in descending order, the most significant food subsidies in terms of commitments of government expenditures are bread wheat, hard wheat, cooking oils, milk, and sugar; (8) the overall effect of the food subsidy system is regressive in that greater absolute benefits go to high and middle income groups and not the poor; (9) those subsidies least important to the poor and most regressive in incidence are for milk, sugar, and oils; (10) among the cereals, bread wheat, flour, and baked bread (soft wheat or *ble tendre* products) occupy different roles in the diet in urban and rural areas. The same is true of hard wheat (*ble dur*, or durum), durum flour, and processed couscous, semoule and other products.

## **II. Food Subsidies and Food Subsidy Reform: International Experience**

### **1. Taxonomy and Discussion of Food Subsidies and Targeting Mechanisms**

In the international food subsidy literature, at least five objectives are often identified with the institution of food subsidies or their modification:

- to ensure adequate nutritional status, food consumption, food security of all groups
- to transfer income to the poor
- to economize public expenditures
- to achieve political/social acceptability
- to identify administratively feasible measures

Food subsidies are used around the world for a variety of the reasons listed above. Subsidy schemes range from universal food subsidies on unrestricted quantities of basic staples to rationed (limited) quantities of subsidized staples. Also included are food stamps which convey a monetary value that can be used for one or more foods, and feeding assistance programs that directly transfer food.

Many countries that have implemented universal untargeted food subsidy schemes, particularly those guaranteeing unlimited quantities of basic staples at reduced prices, have seen subsidy-related expenses skyrocket in the 1970s and 1980s. Escalating costs are often due to a combination of increases in demand (driven by population growth and improved incomes) and increased demand brought about by reductions of food prices at the margin. In addition, many of the general subsidy schemes have relied increasingly on imported commodities and been negatively affected by price increases or price volatility in international markets. Finally, many countries in the process of economic structural adjustment have devalued exchange rates which has the effect of making imported cereals more expensive.

For purposes of this study, the following food subsidies are briefly examined:

- (1) Price subsidy for one or more basic staples
  - general untargeted
  - rationed, untargeted
  - rationed, targeted
- (2) Food stamps
  - general food use, targeted
  - restricted food use, targeted

- (3) Direct food distribution
  - on site
  - off site
  
- (4) Income enhancement
  - food for work
  - chantiers* (work programs)
  - social security
  - unemployment compensation, fund, etc.
  - increased wages
  
- (5) Mixed system

Food subsidies may be either explicitly financed out of government expenditures (explicit subsidies), financed implicitly by producers if they face market prices below world market levels (implicit subsidies), or by a combination. The method of financing has important implications for the health of the agricultural sector and the overall economy. If subsidies are largely financed implicitly by maintaining effectively lower prices to agricultural producers, they provide a disincentive to productivity growth in the agricultural sector. If they are financed explicitly, they show up on the government budget, have an impact on the government deficit or inflation and/or displace other government and private sector investments that might have been made. The opportunity cost of expenditures on subsidies may be lost jobs and lower rates of growth than would otherwise be the case; however, little empirical analysis exists of this phenomenon.

Food subsidies can also have profound effects on the foreign and the industrial sectors of the economy. Scobie, for example, finds that a 10 percent increase in expenditures on Egyptian food subsidies resulted in an increase in inflation rates of more than 5 percent, a decrease in international assets of 2 percent, and a devaluation of the free market exchange rate of more than 3 percent (Scobie, 1983, p. 9). Inflation can exert extremely damaging effects on the poor as they purchase nonfood items, even if food prices remain low.

On the positive side, food subsidies have been shown to improve the food consumption and nutritional status of the poor in a variety of cases--which has beneficial effects on the health and productivity of people, economies, and societies.

Most countries intervene in markets for basic foodstuffs for numerous policy reasons, but frequently to protect the purchasing power and food consumption of urban consumers. Studies by Ahmed (1979) and Rogers (1981) have found an urban bias in food subsidy programs. However, many parts of the Egyptian food subsidy program benefit rural consumers relatively more than urban ones.

Numerous programs subsidizing the prices of one or more basic foodstuffs have been identified around the world in the 1980s (Pinstrup-Andersen, IFPRI). Many food subsidy

programs internationally were established during or after world wars when rationing of food supplies and food security questions assumed paramount social importance. In many countries, general food subsidies have been regarded as part of the social contract (Hopkins, 1988). As such, attempts to dismantle or restrict access to them have been politically extremely difficult. Food riots in such diverse countries as Egypt, Venezuela, Nigeria, Jordan, Morocco and Tunisia have occurred in recent years. Some political economy aspects of food subsidy reform are discussed below.

Food subsidy expenditures in many economies are significant proportions of government expenditures. Egypt, for example, financed food subsidies that represented up to 25 percent of government expenditures between 1970-1981 and from which over 90 percent of the population derived benefits. By contrast, Tunisian food subsidies represent about 8-9 percent of government expenditures.

### **1.1 Scope for Targeting**

In universal, untargeted systems, considerable scope for targeting exists. Conditions suggesting the potential for targeting include: (1) subsidies apply to all consumers irrespective of income; (2) subsidized commodities are consumed in great quantities by the upper income groups; (3) poorer segments of the population still experience calorie deficiencies despite the existence of food subsidies; (4) the fiscal and macroeconomic implications of the subsidy scheme exact a toll on the agricultural sector or other sectors of the economy; (5) increasing food prices to correct distortions and encourage production could have severe impacts on lower income groups. Each of these conditions exists in Tunisia.

Rationed and targeted food subsidy programs do exist and experience with them around the world provides some principles that are useful for Tunisia to consider as it continues its reform programs.

### **1.2 Targeting Specific Groups**

For a number of reasons it is difficult to target benefits to low income groups who are considered deserving and to exclude those who aren't. Even assuming the political will exists, logistical problems include the lack of standard income and asset records, difficulties of valuing in-kind income, unwillingness to disclose true income, seasonality of income, and so on. In less developed countries, resources may not be available to administer verifiable income reporting. In practice numerous methods of identifying target groups have developed. They include:

- targeting by geographic area
- targeting by season
- targeting by wealth indicator (for example excluding those who own land, cars, other assets)

- targeting on the nutritional status of a family member
- administrative or community targeting on the basis of evaluated need

The following section discusses selected country experiences with the major types of food subsidies mentioned above. Only passing mention is made of general food subsidy programs. (For detailed reports see Pinstруп-Anderson, 1988, and numerous IFPRI reports<sup>7</sup>.) Here the focus is on food subsidy targeting, in many cases reforming general food subsidy systems.

## 2. Experience with Rationed or Targeted Food Price Subsidies

Food price subsidies that are rationed, targeted, or both are discussed in this section. A rationed food price subsidy is one in which specified limited quantities of food are made available on a per capita or household basis. Rationed food price subsidies may or may not be targeted to low income groups. Rationing food price subsidies can partially contain the cost of programs, even if food price subsidies are apportioned to all. Examples of rationed but untargeted food price subsidy systems include Egypt (rice, sugar, tea, frozen meats, and fish), Pakistan (wheat), India (wheat and rice), Sri Lanka (rice up to 1979), and possibly Syria. Examples of rationed and targeted food price subsidies include Bangladesh (wheat and rice) and the Philippines (rice and oil) (Pinstруп-Anderson, p. 6-7, and table 1.1) and possibly Syria.

A fundamental difference between rationed food price subsidies and food stamps (to be discussed next) is the predictability of government costs of the program. Because rationing systems guarantee households a specified quantity of foods, much of which is imported, government costs can increase significantly if world prices rise or if exchange rates fall. Additionally, weather or other conditions influence the cost of assuring rations as does general inflation. Thus, the cost to the government is not predictable. In contrast, food stamps guarantee a nominal value to consumers. The government can plan and predict on the basis of numbers of recipients and nominal value of the stamps what the budget exposure will be in any given budget period.

A related issue is the source of financing for subsidized food programs. For many rationed food programs, foreign assistance or concessional loans are the source of funding. To the extent that donations or concessional loans are provided for rationing schemes but not for food stamp programs, this is a factor in favor of food rationing schemes (at least in the short term, if not in terms of reducing longer run dependency).

### 2.1 Egypt and Targeted Price Subsidies

Egypt has one of the most extensive and expensive food subsidy systems in the world, growing out of modest post World War II beginnings and reflecting post-war Arab socialist commitments. Depending on the commodity and food product considered, the costs,

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<sup>7</sup> IFPRI, the International Food Policy Research Institute

benefits, distributional effects, and subsidy mechanisms vary. For some products, low income consumers are entitled to purchase a basic ration quantity at greatly subsidized prices and additional quantities at less subsidized prices. Both urban and rural consumers receive substantial benefits from different parts of the Egyptian system; however, the costs to the economy in terms of inflation, exchange rates, effects on agricultural producer incentives and the industrial sector have all been shown to be high.

IFPRI and A.I.D.--USDA/OICD have published a variety of analyses of the Egyptian food subsidy system. Perhaps most important for the current purpose, Egypt has made little successful effort to truly target most of its vast subsidy program components. Those attempts that did take place appear to have been ill-prepared and resulted in political disturbances. Foreign influences, including the availability of foreign assistance and P.L. 480 food aid (from 1955-1967) have encouraged the Egyptian food subsidy system over time.

## **2.2 Pakistan and India: Experience with Ration Shops**

### **Pakistan**

The extensive Pakistani system of ration shops has served as a means of assuring subsidized supplies of basic staples and other necessities at various times and in an orderly fashion since World War II. All wheat was controlled by the government and flowed through the ration shops until the 1960s; after that time *atta* (whole wheat flour) continued to be sold from government stocks through the shops although other rationing was eliminated. Sugar and vegetable oil are among the goods rationed at one time or another when shortages occurred (Rogers, 1989).

The structure and logistical arrangements of Pakistan's system are interesting. Ownership of the shops in the nationwide network is private, but government licenses must be obtained and regulations followed. Distribution of licenses is a valuable source of patronage politically and thus has led to a proliferation of shops. Shop owners order inventory for their shops based on demand and storage costs, which tends to ensure flexible, responsive supply. The shop owner earns a commission on sales and, in addition, may keep and sell the government grain sacks in which commodities arrive.

Consumers receive a ration card and must register with a shop in their area. Children receive entitlements for half the rations of adults. One ration shop is supposed to serve from 3,000 to 6,000 people. In practice, the numerous shops serve between 1,000 and 2,000 clients (Rogers, 1989). In urban areas, virtually all consumers are within an hour of a ration shop; access in rural areas is somewhat more variable, but still very high. Pakistan has tried regional targeting of wheat through the ration shops by making wheat available only in rural areas not self-sufficient in wheat. The ration shops are also important in temporal terms in that they offer reliable supplies of staples in the hungry seasons at uniform prices (as opposed to seasonal market prices). Rogers and others have noted the nutritional benefits of the ration system to low income consumers living on or below the

brink of nutritional adequacy, particularly in urban areas, over time. Although the ration system has not been explicitly targeted the poor, *atta* appears to be an economically inferior product and has achieved some self-targeting (the intensity of consumption ratio = 1.1)

Pakistan's rationed food subsidy system has varied over time with respect to the degree of subsidy paid for rationed staples, and the extent to which the transfers were in the form of explicit government subsidies, implicit producer-paid subsidies, or even, in the case of sugar, implicit consumer-paid subsidies (benefiting producers). On the whole, Rogers notes that Pakistan's system has performed flexibly and costs have remained under control due to the government's ability to change prices and respond to changing economic and weather conditions.

## India

Indian food policy includes a variety of measures, among them procurement, importation, distribution and subsidized sales<sup>8</sup>. Objectives are to maintain sufficient and stable supplies of foodgrains, stable prices, and equitable distribution. India had about 280,000 fair-price (price-controlled) shops in 1981 covering some 660 million people. The average coverage per shop is similar to that reported for Pakistan, namely between 2,000 and 3,000 people (George, 1989). Quantities of wheat and rice purchased through India's ration shops ranged from 10 million metric tons per year in the 1970s to 16.2 million metric tons in 1983. Both domestic and imported sources of grain have been used.

In terms of benefit cost ratios associated with government distribution of foodgrains, George estimates they range from a high of 1.63 to a lower 1.16 depending on whether indirect costs associated with concessional interest rates for and higher open market prices from government food purchases are included. Direct benefits are the savings to consumers who do not have to pay open market prices, and direct costs are the government fiscal costs of procurement and distribution. George found nutritional benefits associated with public distribution of foodgrains in India to be significant. He estimated that if rationing were discontinued in two states, Kerala and Gujarat, average calorie intake would drop between 46 to 224 calories per person in Kerala and between 178 to 196 calories in Gujarat.

The effectiveness of fair price shops in providing access to stable supplies of food at regular prices depends on proximity to population, procurement and distribution policies and access to supplies, and the capacity to survive in both good and bad years. George notes:

In many rural areas, fair-price shops are superfluous in a good crop year because of the easy availability of foodgrains at reasonable price, and they are ineffective in supplying required quantities in a bad year. . . The viability of retail outlets could be established through a stable minimum volume or

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<sup>8</sup> This sketch of Indian policy comes mainly from George, 1989.

through the distribution of other commodities. Whereas in a major deficit area (such as Kerala) retail outlets for foodgrains alone are viable, in many other rural areas it is necessary to link foodgrain distribution with distribution of other essential commodities (George, p. 240).

### 2.3 Morocco

Morocco introduced a policy of subsidizing bread made from higher-extraction rate flour in September 1985 at the same time that it eliminated or reduced subsidies on lower extraction rate flour. This move was made believing subsidy benefits would be self-targeting, an assumption which appears only marginally valid. Morocco has not followed other recommendations that it shift subsidies from soft to hard wheat, a measure identified as having a high potential of achieving better self-targeting (Laraki, 1989).

### 2.4 Synthesis

A variety of advantages, disadvantages, and implementation factors related to rationed and targeted price subsidies emerge from the literature:

- A fundamental advantage of rationing food subsidy benefits is that rationing exercises a restraining influence on government budget exposure. Without targeting, however, ration systems can nonetheless be extremely expensive as they supply food staples at below market prices to the entire population.
- The source of funding food subsidies, whether explicit or implicit, has important macroeconomic, sectoral and microeconomic effects as discussed above. Implicit subsidies penalize producers and hurt agricultural productivity growth over time meaning that the government's costs of maintaining the subsidies down the road may increase. Explicit subsidies mean that government costs may be large and volatile as international markets reflect increasing or variable prices for staples. If foreign assistance or concessional loans are relatively more available for rationed food subsidies than for general economic assistance that could be used for a food stamp or alternative program, this is a consideration for policymakers.
- Rationed food subsidies have succeeded in assuring food security to consumers in the form of predictable supplies of basic staples many places around the world including Pakistan and India. Price reductions of rationed goods need not be large and in fact may be varied as needed or eliminated altogether when desirable.
- Ration distribution may occur in both government fair price shops or through the private marketing system. In each case, a system of ration cards identifying the ration recipient and the ration entitlement is necessary along with a way to check-off or turn in a used ration card. Monitoring of retail

outlets to assure that consumers actually receive the subsidized food to which they are entitled (and no more) is necessary to control sales of subsidized commodities at unsubsidized rates.

- If ration distribution occurs through government outlets, the effectiveness of the system in reaching the poor depends on a number of factors including location, hours of operation, need to wait in line, the affordability of quantities available, etc. In addition, in the absence of an existing system or infrastructure for distributing rations, government costs involved in setting up and supplying such a system can be high.
- If ration distribution occurs through retail outlets, the cost-effectiveness of the system depends on the system of supplying distributors with subsidized products and monitoring their distribution to prevent fraud. In addition, in areas only periodically food deficit, retail shops may wish to carry a variety of products to ensure commercial viability.

### **2.5 Self-targeting of Commodities, Product Qualities**

A study by Rogers and Lowdermilk in urban Mali provided evidence that self-targeting what was assumed to be an inferior good, millet, in urban areas would not work well in the Malian context. Similar results have been found in Senegal and other West African countries where there has been interest in reducing reliance on imported rice and wheat products through price policies.

In fact, the cereals consumption patterns of all income groups appeared very similar. Additionally, the convenience associated with the purchase of imported rice meant that substitutability between millet and rice was reduced. Labor and preparation time and costs associated with the preparation of millet (particularly in urban areas) meant that the true economic costs associated with millet were significantly higher than merely the price of grain.

If an economically inferior food can be identified (such as *atta* in Pakistan, or cassava in Brazil, or potatoes in Ireland) then some self-targeting may occur. If no economically inferior food can be identified, then other targeting mechanisms are necessary (discussed above). Combining several mechanisms such as supplying rations of mildly inferior staples to rural consumers at fair price shops in deficit areas may cut down on leakage in some situations.

### **3. Experience with Food Stamp Programs**

Food stamps are coupons with a cash value that may be targeted to consumers to be used for the purchase of food. The stamps may be restricted to the purchase of particular food staples, or as in the United States, they may be used for all foods. Food stamps make use of the existing marketing system including retail outlets. This is a major advantage because

it means that no or little new governmental infrastructure is needed for retail distribution. This is adequate if the existing market outlets cover the territory sufficiently and can obtain supplies reliably to assure access of all targeted consumers.

Food stamps have another major advantage over subsidized prices and that is that they do not distort relative prices of food products. In Tunisia where it is currently considered important to encourage a market orientation for domestic and traded food products, use of food stamps would be compatible with the development of a variety of new and improved food products.

Stamps are distributed to low income people according to income targeting criteria. Means of establishing income levels for determining eligibility for stamps has varied among countries ranging from strict income/means tests to administrative or community targeting to targeting an identified family member.

### **3.1 Sri Lanka**

The food stamp program in Sri Lanka began in 1979 and constituted a reform of general food subsidy programs for basic staples that had an approximately 40-year history (Edirisinghe, 1987). The case of Sri Lanka is interesting and, indeed, provocative for a number of reasons. One major interest is that the Sri Lanka food stamp program is one of the few instances where universal untargeted, and longstanding food subsidy programs were subsequently effectively targeted without major negative political repercussions. Arguably, much of this was due to the planning and political foresight that went into the program conception, phasing, timing, and social communication. On a less positive note, analysis of the distributional effects of the Sri Lanka food stamp scheme, as compared to the previous price subsidy system, showed that the food stamp program failed to maintain the consumption and nutritional status of the extremely vulnerable "ultra-poor" lowest income quintile.

The food subsidy reform program in Sri Lanka took place in three carefully planned steps over two years, 1978 to 1980. First, the general population receiving rice and other commodities at subsidized prices was asked to undergo a self-declared means test in January, 1978. This had the effect of removing one-half of those eligible for rice rations from the rolls and restricting the rations to 7.6 million whose monthly incomes were less than Rs300. For those who remained eligible for free rice rations, the ration remained the same. Some nineteen months later, in September of 1979, the second step in the reform process took place. At this time, households were requested to apply for food stamps with a nominal value in place of the previous rice rations. To establish eligibility, households needed to meet an income test adjusted for household size and composition. Households could use food stamps to purchase rice, wheat flour, bread, sugar, dried fish, milk, and pulses (Edirisinghe, 1987, p. 14). Prices of these eligible commodities were maintained at unsubsidized levels. In terms of distribution, households were assigned to cooperatives or authorized distributors to obtain food stamp commodities. Unspent food stamps were bankable at post offices (Edirisinghe, 1987, p. 14).

The third phase of the Sri Lanka food subsidy reform process involved eliminating remaining food subsidies on rice, flour, sugar, and infant milk foods (Edirisinghe, 1987, p. 14). The reduction and elimination of these subsidies took place over the period from 1979 to 1982.

A number of traditional targeting mechanisms were dismissed as inappropriate to Sri Lanka including subsidization of economically inferior foods such as cassava, yams, and coarse grains. Neither was geographical targeting nor targeting on the existence of malnourished children considered desirable. (Malnourished children were found in families of all income levels). Instead, a community screening mechanism was installed to evaluate individual claims to food stamp benefits. Such an approach assumes: (1) that a community can accurately judge need; (2) that the community members' screening can be reasonably objective; (3) that there are not undesirable political ramifications (Kramer and Rubey, 1989).

### **3.2 Colombia**

Colombia, Trinidad and Tobago, and Chile are other examples of government attempts to subsidize their poor consumers by using food stamps. As an example, Colombia's food stamp program began in the 1970s when Colombia received U.S. P.L. 480 food aid. By most assessments, the Colombian program was well-targeted to low income groups. When the United States decided to cut aid to Latin America, Colombia was unable to find any other external means of support for the program and it was discontinued after seven years. The Colombian example is held up now to illustrate the dangers of targeting too effectively to low income groups who are not politically influential. An incoming government that did not perceive many advantages in maintaining the food stamp program found it relatively easy to discontinue it (Hopkins, 1988, p. 113).

### **3.3 United States**

The food stamp program in the United States began as a demonstration project in 1959 and expanded nationwide in 1975 (there had actually been pilot programs as early as the 1930s). Over 20 million people receive benefits now amounting to approximately \$13 billion per year. The objectives of the program were: (1) to provide food assistance to needy persons, and (2) to help the U.S. Department of Agriculture's price support operations by disposing of surplus commodities. Over the years, support for the food stamp program in the U.S. Congress has depended on a coalition of representatives of consumer and producer interests.

In the United States, local and state governments are responsible for daily operations of the food stamp program while financing and oversight come from the federal government. Persons seeking food stamps apply at a county office (frequently located next to the Department of Social Services or welfare offices) and report their household income and various specified assets. Currently, to receive food stamps households must pass an income and assets test and must register for work if not elderly, disabled, or responsible for a child under 6 years. Neither the value of a vehicle used to generate income nor a house is

included in the assets allowed. Eligibility is established for a period of months subject to renewal. It is necessary for the applicant to reapply to maintain eligibility. Records of income, child care, medical, shelter and utility expenses must be provided in order to verify eligibility to receive benefits.

### **3.4 Jamaica**

In May 1984 the government of Jamaica announced a "bridge" program to compensate needy people and those expected to be hurt by structural adjustment measures including currency devaluation and termination of food subsidies. The program involved the use of food stamps and distribution of food. The program was originally intended to be temporary with a duration of two to three years. Early technical review of the program suggested that this goal was overoptimistic, both in the expectation that the program could be extended nationwide as quickly as originally anticipated and in the plan to phase out the program only two to three years later (Schmidt and Pines, 1984, p. 1).

In Jamaica, the proposed measures included: (1) an expansion of the existing school lunch program from 200,000 beneficiaries to 600,000 in less than two years; (2) more than doubling participation in a maternal-child health food distribution program to 200,000 pregnant or lactating women and children under three years old, and converting it to a program of food stamps; and (3) adding to present cash welfare programs (Poor Relief and Public Assistance) then serving 55,000 very poor or elderly people a food stamp program for them and for an additional 145,000 beneficiaries in similar condition.

The anticipated scale of the food stamp program was 400,000 persons and the GOJ planned to provide \$J 48,000,000 annually to finance it. Stamps are for three specified products, rice, corn meal, and skim milk--all of which require imports to supply Jamaican consumption requirements. The original plan assumed that monetization of donated commodities would cover all program costs, including food stamp redemption. A technical review of the GOJ plans did not believe that commodity shipments would be sufficiently predictable, timely, or of adequate quantity to meet costs and cash flow requirements (Schmidt and Pines, 1984, p. 2).

The technical review team stated that while the approach of the GOJ in furnishing food stamps along with effective maternal child health services can protect low income persons from economic and nutritional hardship, constraints should be recognized that might impede project successes.

Constraints include not only the unpredictability of receiving donated commodities of the kind and quantity desired, but also absorptive capacity of the social service system. Social workers and Poor Relief Officers from the ministries of both Social Security and Local Government would be required to take on a significantly increased work load in managing the distribution and eligibility assessments. Nurses and primary health care workers were also faced with increased work loads.

Another concern was the underuse of the national health system which was to serve as a distribution outlet for stamps. Statistics showed that only 30 percent of eligible families used primary health care services available in clinics. Whether and how food stamp availability would affect this usage rate was an unknown.

### 3.5 Synthesis

While Timmer, Falcon, and Pearson raise cautionary notes about food stamp systems (1983), other experts such as Pinstrip-Andersen are more sanguine (personal communication). Food stamps have some decided advantages in countries that seek to transfer purchasing power to low income consumers but use the private marketing system and maximize flexibility of the agricultural and food sector to respond to consumer choices. With the use of food stamps, it is not necessary to set up or retain a parallel government marketing system, neither is it necessary for the government to be or remain in the business of distributing physical commodities.

Food stamps are not particularly difficult to distribute--they can be distributed at Offices of Social Service or at health clinics in low income areas and so on. The most important part of removing the possibility of fraud with food stamps systems is to monitor the cashing in of the food stamps after the retailers turn them in to the "bank" used. The temptation at this point is to not remove the stamps from circulation but to recycle them for their cash value. It is not necessary to have a particularly sophisticated banking system (Pinstrip-Anderson), but merely that there be honest persons for monitoring the cashing in of the stamps.

Combining approaches that individually have problems when used on their own may be a potentially fruitful approach: namely, using food stamps in fair-price shops that sell foods consumed primarily by the poor (Timmer, Falcon, Pearson, 1983, p. 211). Perhaps the most critical consideration in designing and implementing a food stamp program is the question of administrative and political capacity to identify and target means levels. Assessing whether the records exist to demonstrate income or assets, whether sufficient numbers of literate, numerate staff are available, or whether there is some other adequate method of identifying those of incomes too high to warrant subsidization is critical to the implementation of food stamp programs.

### III. Tunisia and Food Subsidy Reform

#### 1. Identifying Target Groups

Target groups to receive income, consumption, or nutritional support can be identified through various means and according to diverse criteria. Income level, food intake, or nutritional status are each associated with need. Other indicators that the Government of Tunisia has found associated with poverty include employment category, large household size, and geographical region.

Earnings records are extremely incomplete for many Tunisians due to the importance of the informal sector and income in kind as well as a reported widespread tendency to underreport taxable income. On the other hand, earnings records or asset ownership may be used to exclude those at the highest income levels from access to targeted programs. The government sector, for example, is very important in Tunisia and is a sector for which records are available. It is likely that a combination of governmental employment records and self-reporting of income would tend to remove a substantial proportion of Tunisians from the category of "low income" if food subsidies were to be restricted to low income households (recall that self-reporting was used in Sri Lanka).

At least four different methods of identifying poverty are in use in Tunisia. The World Bank suggests one method of identifying absolute poverty based on minimum energy needs for level of activity, the average cost of calories, and the structure of consumption both of food and nonfoods. In 1985, the absolute poverty line rested at expenditures of 100 TD or less per year. Three other methods of calculating poverty are used in Tunisia and include the method of the National Nutrition and Food Technology Institute (*l'Institut National de Nutrition et de Technologie Alimentaire* (INNA)) which calculates the income necessary to purchase a nutritionally balanced diet (not only minimum energy needs). Total food expenditures necessary to purchase this diet in 1980 were estimated at 102 TD out of mean total annual expenses of 208 TD (thus 50 percent of total expenditures would have been required to meet this standard). Two-thirds of the population actually earned under 208 TD in 1980. Thus, the INNA standard is higher than the World Bank standard and may more realistically serve as a nutritional ideal than a minimum standard.

Depending on the method used, the estimated percentage of poor in Tunisia ranges from about 7-8 percent up to 23 percent. The rural poor constitutes about two-thirds of the total poor regardless of the method used. The Government of Tunisia in the analysis of its consumption expenditure surveys and other surveys has identified additional factors associated with poverty (see above): size of family (especially households with 7 or more persons); and occupation or employment status. Especially vulnerable are landless agricultural workers, fishermen; and small landholders -- of whom some 360,000 are categorized as below the poverty level. This represents 21.4 and 14 percent, respectively of these population categories (UTSS). These 360,000 represent fully 44 percent of the

approximately 820,000 recognized poor in the country. Of second importance are the unemployed or underemployed in the construction industry who represent an additional 16 percent of the poor. Other occupational categories containing significant numbers of identified poor households include workers in general and "independents" working in commerce, crafts, or other services.

As stated above, the regional incidence of poverty is pronounced in the western provinces (northwest, central west) and the south where rural households have the lowest expenditures. Added to these are pockets of poverty in Tunis, the capital, such that approximately 10 percent of residents of Tunis are below the poverty line.

The INS (*l'Institut National de la Statistique*) identified some 120,000 households (or 600,000 people with average household size 5) considered to be the **persistent poor** in 1985. In 1986-1987 concerns increased that economic stabilization and structural adjustment measures undertaken by the Government of Tunisia might be expected to add additional families temporarily due to slowdowns in the economy and the growth of government expenditures resulting in growing urban unemployment. (A.I.D. consultant Pines addressed the issue of incremental unemployment in 1987. However, no firm estimates of numbers affected were available).

Some nutritional and public health indicators for Tunisia provide corollary information. The United Nation's Children's Fund categorizes Tunisia among nations with "middle" mortality rates in children under five years: 86 of 1,000 children died under the age of five in 1987 compared with 304 in Afghanistan (the worst rate in the world) and 123 in Morocco. Tunisia has made considerable strides in reducing child mortality from a rate of 255 per thousand in 1960 (UNICEF, 1988). Over 90 percent of Tunisian mothers breastfeed during the first six months, dropping to 71 percent at 12 months. UNICEF estimated on the basis of 1975 data that approximately 60 percent of Tunisian children under 5 suffered from mild to moderate malnutrition (that is, between 60 percent-80 percent of desirable weight-for-age). It is probable that substantial improvements have been realized in the intervening 15 years (UNICEF, 1989).

However, for those earning less than 100 TD, fully 32 percent are malnourished; for those earning between 100 and 350 TD, from 10 percent to 13 percent are malnourished; and for those earning over 500 TD, approximately 3 percent are malnourished. The average for all of Tunisia is approximately 8-9 percent. The nutrition literature suggests that the incidence of malnutrition is likely to bear disproportionately upon children and women of childbearing age.

## **2. Expanding Direct Food Transfer and Income Programs**

A variety of Tunisian social programs serves various needy and nonneedy populations in Tunisia. Table 14 indicates major programs, targeted client groups, recipient benefit levels, and overall program expenditures. While social programs and particular associated activities

are administered from a number of different agencies, disbursements of funds are generally made from the *Caisse National de Securite Social* (CNSS). Budget outlays of the CNSS have increased from 8 million TD in 1988, to 10 MTD in 1989, to 17 MTD projected for 1990.

## 2.1 Food and Income Assistance

The Ministry of Social Affairs (*Ministere d'Affaires Sociales-MAS*) is the lead agency in targeting resources to needy Tunisian families (table 14). A distinction is made in its programming between what is called *l'aide classique* and *l'aide dynamique*. The former refers to transfers of needed resources to families who are judged to be unable to earn their own living under any reasonable conditions. These families do not contain any potential wage-earning member, have no income, and may have children or handicapped members. The latter is oriented toward families who with assistance could become economically productive in their own right. Social workers (*travailleurs sociaux*) make the evaluation of the family's condition. However, a governmental panel then decides if the family will receive benefits or not.

One problem with the social service system that has been mentioned by many is the lack of a clear legal framework that specifies entitlements to assistance. Instead of a needy person being able to determine the objective criteria for assistance, there must be reliance on the determination of a governmental panel (linked in the eyes of some with the ruling political party) (interview with Mme. Ndema, November, 1989). In general, fewer families have received benefits than have been considered eligible by social workers.

A major program of the former category is the *Programme National d'Aide pour Familles Necessiteuses* (PNAF). When Tunisia embarked on economic stabilization and structural adjustment measures in 1987, the Ministry of Social Affairs was charged with the identification of families needing income and food assistance to compensate for increases in the price of cereals, milk, oil, sugar, and other necessities. At that time, some 120,000 families were identified as meeting criteria of need (defined as standards of absolute poverty based on human energy requirements and the cost of food to supply these requirements) and issued identifying *cartes de pauvrete*. At the time, quotas were established for each of the 23 Tunisian regional governorates and the decision was taken that benefits could be provided to only 50,000 of the designated eligible families. Subsequently, the 50,000 was raised to 70,000.

In August 1989, along with the announcement of food price increases, the government declared that the number of needy families receiving benefits would be increased to 104,000. The assumption is made that average families have five members, meaning that benefits theoretically go to families involving some 520,000 persons. Qualifying families receive benefits of 40 TD each three months, or 120 TD per year. As indicated, compensatory measures were targeted at: the identified needy families, the identified handicapped, construction workers, etc. These programs are discussed further below. Special provision is made for needy handicapped persons who are judged unable to work. In each of the 23 governorates, 100 handicapped are allocated 30 dinars par trimester or 120

TD per year (2,300 people total). Other programs were mentioned as available for some of the handicapped who could work with assistance.

In addition to these income assistance programs, programs of direct food assistance exist and are administered through the Ministry of Social Affairs. These include two principal types of programs: school lunch programs (*cantines*) targeted at school age children, only one per family, and programs for preschool children (ages 3-6). The preschool programs are of two types: one makes supplementary food available on-site; the second supplies a monthly ration of basic foods. The preschool programs (for those 3 to 6 years old) are financed jointly by the World Food Program and the Government. The monthly ration is supplied chiefly through rural health centers providing primary health care, family planning services, and growth monitoring assistance to mothers with children. The family comes each month to the center for growth monitoring

In addition to the normal benefits made available under the PNAF, additional families received assistance in providing school supplies to their children (*rentre scolaire*) or during special periods. Some 4,000 families (comprising approximately 20,000 individuals) still are on waiting lists for PNAF and associated programs. In the meantime, Tunisian administrators with the Ministry of Social Affairs mention some problems in keeping lists updated and effectively making benefits available to transient families with changing addresses.

The *Union Tunisienne de Solidarite Sociale* (UTSS) is a private nongovernmental organization that helps the Government of Tunisia administer some of the PNAF funds designated for needy families and the handicapped under a subcontract.

## 2.2 Development Programs

In contrast to the programs in which aid funds are made available for those unable to work, the *assistance dynamique* aims to provide the means to enable capable families to improve their economic situation through work or business enterprise. These projects target investment funds to heads of households for economic activities including: agriculture (livestock production, chiefly goats and sheep), small enterprises (such as workshops, blacksmith shops), artwork or handicrafts, or fishing activities.

In addition to Government funds, both multilateral and bilateral foreign assistance contributes to a variety of Tunisian assistance programs. Table 15 indicates some of the World Food Program (*Programme Alimentaire Mondial*, PAM) efforts in Tunisia. World Food Program contributes food for the feeding programs mentioned above (and those formerly run by the Catholic Relief Services) as well as for projects under the rubric of *l'aide dynamique*. As shown in table 15, the latter includes benefits for projects for the culture of trees and the control of erosion and desertification. In addition, the World Food Program lists as one of its projects, contribution to training programs for rural youth and families.

A.I.D. along with the Government of Tunisia has cosponsored programs of regional work projects in the last three years (figure 3). In this program, A.I.D. funding of more than 21,000,000 TD was made available to support work projects of high priority to the Government of Tunisia (GOT). A recent evaluation of the A.I.D./GOT *chantier* programs found them to be reasonably cost-effective both in generating employment and in accomplishing prior development goals.

The Italians have sponsored an anti-poverty project targeted at Kef, Centre du Kram Ouest, and plan to add to this the region of Kairowan-Gafsa (El Katla). The Italian program (5 MTD) aimed at two pockets of poverty and assisted 517 families: 317 involved in agriculture and 200 in handicrafts or small-scale artisanal production. These families are considered productive but lacking in means of production. Accordingly, in some instances, livestock is supplied, in others needed equipment such as pumps, wells, or means of irrigation to assist in production. One project has involved dairy production with an objective of forming a cooperative and processing cheese. In this project, an Italian cattle breed was crossed with a Tunisian breed.

In addition, the Canadians sponsor a number of projects to enhance the skills and income earning of rural residents. One such is a Canadian program in Air Draham, which gave women wool to use for handicrafts. After production, the Canadians assisted in selling the products through a cooperative. Some 80,000 families have been assisted since 1982. Government officials report an average cost per family of 800 TD for the program. Of the participants, some 45 percent were illiterate. Whereas Government bureaucrats from the Ministry of Social Affairs were generally positive about the progress of many of the agricultural projects, they voiced dissatisfaction with the results of programs targeted to increase the work- and the managerial skills of young women to enable them to run handicraft cooperatives.<sup>9</sup> The bilateral projects mentioned here are indicative rather than comprehensive.

### 2.3 Retirement Programs and Pension Systems

(Anticipated additional information from CAVIS had not been received by press time.)

In addition to the programs funded through the *Caisse Nationale de Solidarite Sociale* (CNSS), additional pension programs are administered by the *Directorat de la Caisse d'Assurance* and funded through the *Caisse d'Assurance de Vieillesse Invalidite Survivants* (CAVIS). In addition, a *Caisse de Retraite* also exists. Recently, pension administration was taken over by CAVIS from CNSS. Different pension schemes exist for government workers (*fonctionnaires*), agricultural workers, nonagricultural private sector workers, transport and electricity workers.

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<sup>9</sup> In general, neither statistics easily available nor interview evidence revealed a good picture of the opportunities and constraints faced by Tunisian rural women. Even their categorization as *actif* or *inactif* in official government statistical counts is highly inconsistent from year to year making it impossible to ascertain their unemployment status.

Tunisian authorities from CAVIS (Interview with M. Souissi Fraj and M. Mohammed Hamdy, 11/23/89) drew a distinction between social aid programs and the pensions administered by CAVIS and CNSS which are at least in principle funded through worker contributions (of 8 percent currently).<sup>10</sup> To be eligible for pension disbursements, workers must have worked for at least 60 months.

## **2.4 Potential for Expanding Existing Social Programs**

The system in place in Tunisia for providing welfare and food assistance to needy Tunisians appears relatively extensive and well established. So do many of the worksite and development employment projects. While there are problems with the identification of needy Tunisians of different categories and "keeping lists current," at least the framework for expanding benefit levels exists.

Some sociologists and lay persons questioned stated that the operation of the system could be improved if it were removed effectively from the patronage of the dominant political party. The suggestion was made by some that definitions of need, and criteria by which one qualifies for benefits of different types be standardized and made explicit in the interests of objectivity.

To the extent that food assistance is made available through schools, health, and feeding centers, it appears well-targeted to some of the potentially vulnerable school children. However, the stated rule that only one child per family may qualify for subsidized food is unfortunate, as is the policy prescription that only a designated number of persons be accepted despite need. In addition, the existence of adequate sanitary facilities in rural and urban schools is important to ensure nutritional benefits and food safety.

Due to the regional incidence and rural character of much of Tunisian poverty, specific decentralized policies to enhance regional development, human capital development, and employment are sorely needed to respond to these facts. In Tunis and other urban areas where the poor represent approximately 10 or more percent of the population, the category includes both the temporarily out of work and the permanent needy along with dependents.

## **3. Assessing the Targeted Food Price Options for Tunisia**

### **3.1 The Self-Targeting Option**

#### **Wheat**

Both hard and soft wheat are produced and consumed in Tunisia (see above). Hard wheat (*ble dur* or durum) is used chiefly for fabrication of semoule, pasta, and couscous (and some

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<sup>10</sup> Different taxes contributing to finance of social and pension funds include the ITS (tax on salaries and *traitements*), the CES (*la contribution exceptionnelle de solidarite*), and the *contribution personnelle d'etat*.

home-produced bread) while soft or bread wheat (*ble tendre*) is used for flour and bread products. Much durum wheat is auto-consumed. Tunisian wheat cereals subsidies and pricing policies have been the subject of extensive study for many years.

Recently, Yusuf (1989) recommended focusing cereals subsidies on processed hard wheat because durum is consumed disproportionately by the poor, especially the rural poor but also the urban poor. Subsidizing the processed form of cereals is advantageous because as stated above, much of Tunisian durum production is autoconsumed. Because barley is extensively used for livestock feed and costs approximately half the price of durum, durum use as livestock feed is not probable.

As for bread wheat, because the Government more heavily subsidizes bakers who produce *baguettes* than those who produce *gros pain*, one suggested reform has been the production of a *pain unique* made from a subsidized high extraction rate flour that could be distinguished in some way from *p.s.* flour from which the subsidy would be removed.<sup>11</sup> Consumption surveys have indicated that bread consumption is extremely important to the poor in urban areas (see section 1).

Unless the flours can be satisfactorily distinguished, this option is not likely to work very well. It is likely that bakers could continue to manipulate their output blend to capture the subsidy. Some have suggested that perhaps the *pain unique* could be made by specified bakeries or sold in special government kiosks or outlets on the assumption that monitoring of subsidy adherence would be made easier. The advantage of these suggestions depends on the Government's willingness to monitor. The *pain unique* policy suggestion has been undesirable to Tunisian policymakers recently because there is an unwillingness to create any bread perceived as inferior.

Tunisian policymakers would prefer to explore alternatives for **improving** the quality of some cereals products to attempt to siphon off the consumption of the affluent who would be willing to pay more for a higher quality set of products. The question of milling sufficiently distinct bread flours so that bakers cannot easily use more subsidized flour for higher margin products should be explored in more depth by a food technologist (American Institute of Baking, Manhattan, Kansas, USA, or Food and Feed Grain Institute, KSU, *Institut National de Nutrition et de Technologie Alimentaire* [INNA], Tunis, or ITA, Paris).

### **Self-Targeting Options: Various High Quality Products**

In fact, success of the rationale for self-targeting through development of superior products depends critically on the assumption that consumers will sort themselves out in their

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<sup>11</sup> Morocco currently subsidizes a *pain unique* made from a high extraction rate flour. However, it is believed by administrators of the CGC that this option for targeting a "whole wheat" product is not currently available for Tunisia because Tunisians do not habitually consume these breads.

preferences for different breads (or cooking oils or milk products) along quality and income lines. That is, technically, that significant numbers of economically better-off consumers will in fact choose to purchase the unsubsidized superior products as replacements for currently produced *baguettes* and *gros pain*, liquid milk, sodas (with sugar), confectioneries, and mixed oil and pay the unsubsidized prices. For consumers to be willing to pay more, there must be perceived benefits of the higher quality products. Here, further consumer marketing research remains to be done to identify favored product attributes for which consumers would be willing to pay more.

Some of the attributes associated with high quality bread or other food products in other countries are: (1) superior taste; (2) fortification; (3) packaging; (4) storability (preservatives added); (5) variety; (6) preslicing; (7) appearance, etc. Each of these attributes may not be appropriate in Tunisia, and preferences as well as the Tunisian consumer's willingness to pay are of paramount importance to the feasibility of this option.

For example, the use of food additives--specifically preservatives that delay spoilage--is prevalent in much of the bread produced in North America. The U.S. Institute of Food Technologists estimates that U.S. bread produced without additives would cost an estimated 17 percent more because of increased distribution and selling costs (Institute of Food Technologists, 1989). Although labor and other distribution costs differ in Tunisia, some of these issues can be explored.

In addition, on the supply side of the market, unless controls can be incorporated into the milling and marketing of flour (or sugar) the economic incentive to resell subsidized flour for use in unrestricted superior products will defeat the intention of the policy. Therefore, it is necessary to devise a means of control, probably at the level of the mills (of which there are approximately 20), to distinguish the flours from each other. Methods of marking one or the other flours so that they cannot substitute should be further explored should the government wish to pursue the option of self-targeting by quality. Obviously, the incentive that must be discouraged is to prevent the use of *p.s.* subsidized flour in nonprice-controlled products.

### **Research Priorities: Self-Targeting of Differentiated Food Products**

Food technology issues pertinent to technical feasibility and economic analyses costing out different technical options and analyzing the economic incentives associated with placing subsidies at different points in the filiere are each necessary in exploring further the options for development of improved products. Equally important is an in-depth understanding of the demand side of the market and the consumption patterns and market behavior of

consumers of different income classes and socioeconomic characteristics. Finally, the market acceptability of potential new products should be assessed in marketing studies.<sup>12</sup>

On the basis of the technical requirements for producing higher quality cereals products and demand projections based on the reactions or behavior of consumers with different demographic characteristics to new products, some approximations of the likely market impact of new products could be made. It is also important to realize that overall acceptance of new products as well as the rate of acceptance depends in part on how effectively products are commercialized, for example whether publicity is prepared, whether packaging, pricing, and sales outlets are appropriately selected, and so on.

## **Milk**

Benefits of milk subsidies in Tunisia accrue chiefly to high income consumers (See Section I). However, there appears to be great appreciation of the fact that milk is beneficial nutritionally for children and a belief that it should be subsidized for that reason. Not explored or understood is the relative cost-effectiveness of alternative ways of encouraging milk consumption by children.

Various options have been proposed to reduce the cost of milk subsidies including eliminating them entirely. Intermediate proposals are to explore options for promoting powdered milk or eliminating the barriers to import of powdered milk and removing the subsidy on tetra brik packaged milk. Tetra brik packaging is relatively costly although some Tunisian milk parastatals have invested in this technology.

Nevertheless, an analysis should be conducted of the governmental cost-savings expected if subsidies on fresh milk are phased out along with an analysis of whether Tunisia might subsidize only powdered milk for school lunches. This would permit nutritional benefit of milk to reach needy and non-needy dependents. It may be important to determine whether water quality in schools is adequate to support the goals of health promotion, and nutritional enhancement in schools, clinics, and elsewhere.

## **Cooking Oil**

Tunisia has found it economically attractive to produce olive oil for export while importing alternative less expensive vegetable oils to create a blended oil for domestic consumption. Part of the blend still comes from olives, relatively higher priced than imported vegetable oils.

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<sup>12</sup> In the food product development field, it is now conventional to use a combination of consumer focus groups--in which specific target consumers are brought together to interact in a group with an interviewer who asks them about desired qualities in products, use patterns, storage practices, willingness to pay, etc. After identifying the most important attributes, product variations and price variations are developed and presented to consumer groups for their reaction. After analysis and selection of the most promising products, test marketing is usually conducted.

To reduce the cost to the government of domestic edible oil subsidies, it has been proposed to remove the remaining olive oil component from the subsidized oil blend. Savings accruing from this option should be explored. It should be noted that cooking oil products rank second in importance to the poor in rural areas and third to the poor in urban areas in terms of expenditure importance.

In parallel with the reasoning behind the improvement and differentiation of bread products, it is also proposed to explore options for preparing and marketing superior quality oil products. Again, attributes important to consumers and their willingness to pay for these features should be assessed in marketing tests. Potentially important attributes include: taste, olive oil content, packaging type and container size, color, price, etc.

### **Sugar**

Sugar subsidies probably have no good justification. They permit tea and coffee drinkers to enjoy unlimited sugar with their beverages. In addition, subsidized sugar is used in commercial production of beverages, confectioneries, etc. It has been proposed to explore reducing the subsidy on industrial uses of sugar. Along with estimation of the cost savings, is the need to understand the political economy of sugar subsidies.

## **4. Assessing the Food Stamp or Voucher Option for Tunisia**

Development of a voucher system, should receive explicit attention. The use of vouchers instead of food distribution at job sites, with the well developed supply network of the Tunisian Government would make the proposed compensation program relatively manageable (Pines, A.I.D. Consulting Report, 1987).

Many of the characteristics of food stamp programs in different locations around the world were discussed above. A food stamp or voucher program essentially permits transfer of a fixed monetary value to a targeted recipient group to use for the purchase of food products. Stamps must be acceptable to merchants. Acceptability is related to the ease and timeliness with which the stamps may be redeemed for actual currency. The cost-effectiveness of a stamp program depends on the development of a system for identification and accessing target recipients, the viability of the existing marketing system (whether public or private) and the existence of a system of control for monitoring that stamps are used properly and not reused.

Many of the elements required for administration of a food stamp program exist in parts of Tunisia. These include an educated work force, substantial numbers of government employees who could be trained to administer a program, an effective marketing system, health and nutrition programs for women, infant, and children and similar programs that could afford an occasion for distribution of stamps. In terms of targeting, present programs rely on rather informal or judgmental criteria for selecting beneficiaries. A food stamp

system could provide an opportunity to make some of the current criteria more objective. Currently "cards of poverty" are issued. Arguably, food stamps could be formulated with less social stigma.

Food stamps have a major advantage over subsidized prices in that they do not necessarily distort relative prices of food products (particularly if they are not restricted to a specific food). In Tunisia where it is currently considered important to encourage a market orientation for domestic and traded food products, use of food stamps would be compatible with the development of a variety of new and improved food products.

In addition, food stamps carry a fixed monetary value which has the advantage of enhancing governmental capacity to plan and ascertain its budget exposure, but the disadvantage that the poor's purchasing power may erode if the stamps are not adjusted for inflation.

In summary, a system of food stamps has enough positive features that the development of a pilot program to assess its merits should be developed particularly for urban areas of Tunisia. A concern is to identify whether the national health system or other identified sites or mechanisms to serve as distribution outlets for stamps have sufficient use by low income Tunisians and whether and how food stamp availability would affect this usage rate.

#### **IV. Synthesis, Conclusions, Recommendations**

Consideration of the issues discussed throughout this report leads to the following summary assessment, conclusions, and recommendations. Tunisia is a country with a well-entrenched system of food and agricultural subsidies. Although the Tunisian subsidy system is neither as costly nor as extensive as some of its counterparts around the world, it is recognized and has been highlighted in recent policy reform deliberations as a high cost and growing area of government expenditures. Food subsidies have also been criticized in a number of recent studies for their regressive distributional effects on income transfer in Tunisia: relatively more affluent Tunisians receive more from the subsidy system than those most in need. Therefore from the standpoint of distributional equity the system is unsatisfactory. Logically, it is also unsatisfactory from the standpoint of cost-effectiveness if a major policy objective is to transfer income to poor Tunisians.

Nevertheless, the subsidy system does provide critically essential benefits to poor Tunisians, many of whom spend the majority of their income on food, even with subsidies. Because of the importance of food subsidies to poor Tunisians, a recognition exists among many policymakers that in the wake of structural adjustment and general macroeconomic and sectoral reform, an attempt should and must be made to maintain the purchasing power and food security of those in need. One logical way to attempt to do this is to target food subsidy benefits to lower income consumers.

This study has examined some of the costs and benefits, the disadvantages and advantages, of alternative means of attempting to target food subsidies or otherwise reinforce or increase the food security or income-generating capacity of low income consumers. General conclusions and recommendations are that the Government of Tunisia should move toward a mixed system of food subsidy targeting policies and mechanisms to enhance income generating opportunities. Such a system would include:

- 1) A gradual movement toward increased and more flexible cereals prices. Different cereals product prices should be raised differentially with those consumed most by the poorest increased the least.
- 2) A phase-out of the subsidy for sugar and for milk, except for milk provided for nutritional reasons through school lunch and other feeding programs.
- 3) Initiation of product research and development programs for selected new cereal, cooking oil, and dairy products. Such a program would integrate the multidisciplinary expertise of food technologists, consumer marketing economists, agricultural economists, and communications/advertising specialists. The purpose of such a project or program would be to attempt to develop new high-quality versions of now-subsidized foods to appeal to higher income consumers. The hypothesis to test would be that these new versions which would be unsubsidized would attract the consumption of the more affluent and reduce the need to subsidize cereals and other products at the scale done today.

- 4) Pilot testing of food stamp programs in representative urban areas with the most feasible approaches to targeting tried. One suggested approach is to work through the existing social service delivery system, but to attempt to make eligibility criteria explicit and as objective as possible. Stamps might be distributed in conjunction with growth monitoring of infants and small children through health centers.
- 5) Development of a targeted system allowing access to subsidized food in rural areas. If the private food distribution system is insufficient for the use of food stamps, government fair price shops should be explored.
- 6) Finally, because known poverty is disproportionately associated with rural residency, particularly in the western and southern reaches of Tunisia, decentralized programs tailored to the specific income generating and food needs of these areas should be developed. Many times, poverty and food insufficiency may be differentially distributed within the family or household as well with women and children most affected. Programs and policies affecting these groups are particularly important.

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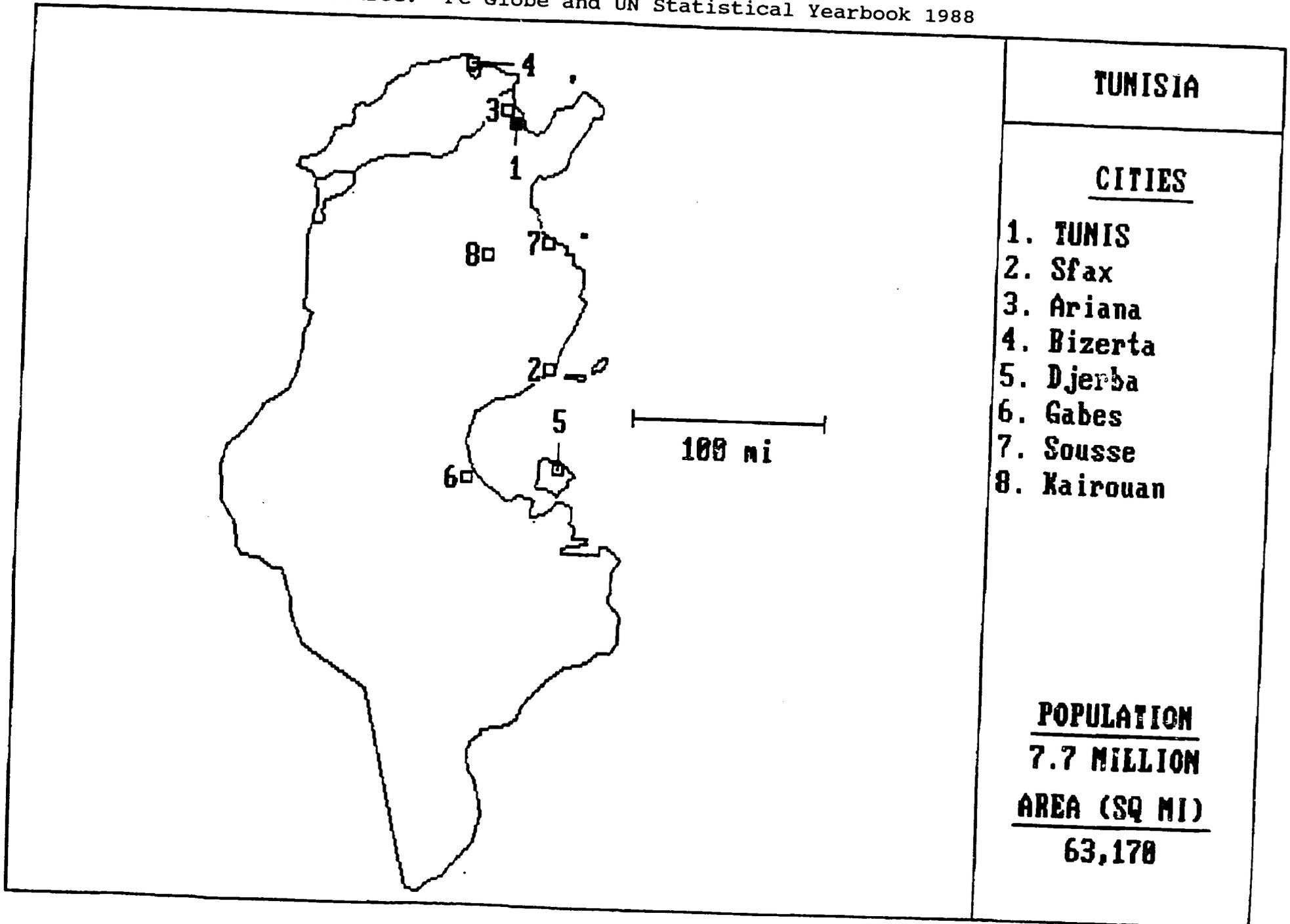
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## **APPENDIX: TABLES AND FIGURES**

FIGURE 1

Source: PC Globe and UN Statistical Yearbook 1988



**TUNISIA**

**CITIES**

- 1. TUNIS
- 2. Sfax
- 3. Ariana
- 4. Bizerta
- 5. Djerba
- 6. Gabes
- 7. Soussse
- 8. Kairouan

**POPULATION**

**7.7 MILLION**

**AREA (SQ MI)**

**63,178**

162

FIGURE 2

Overall expenditure curve for the whole country  
Courbe de concentration de la masse des dépenses (ensemble du pays)

Source: INS: Presentation des resultats de l'enquete budgetaire, 1985

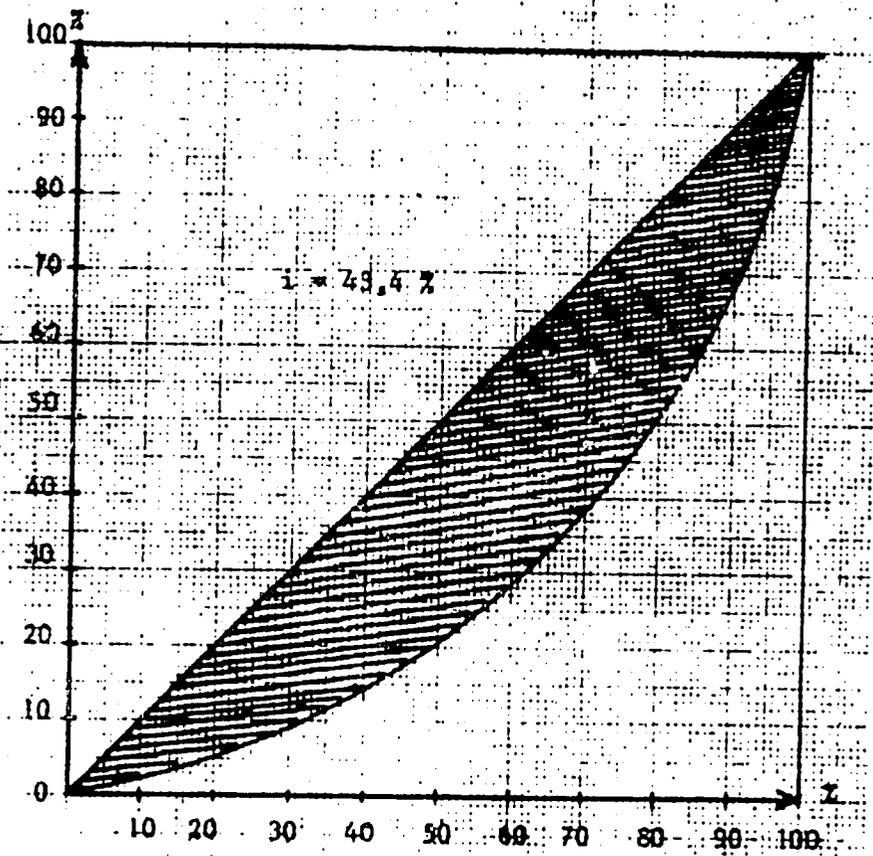
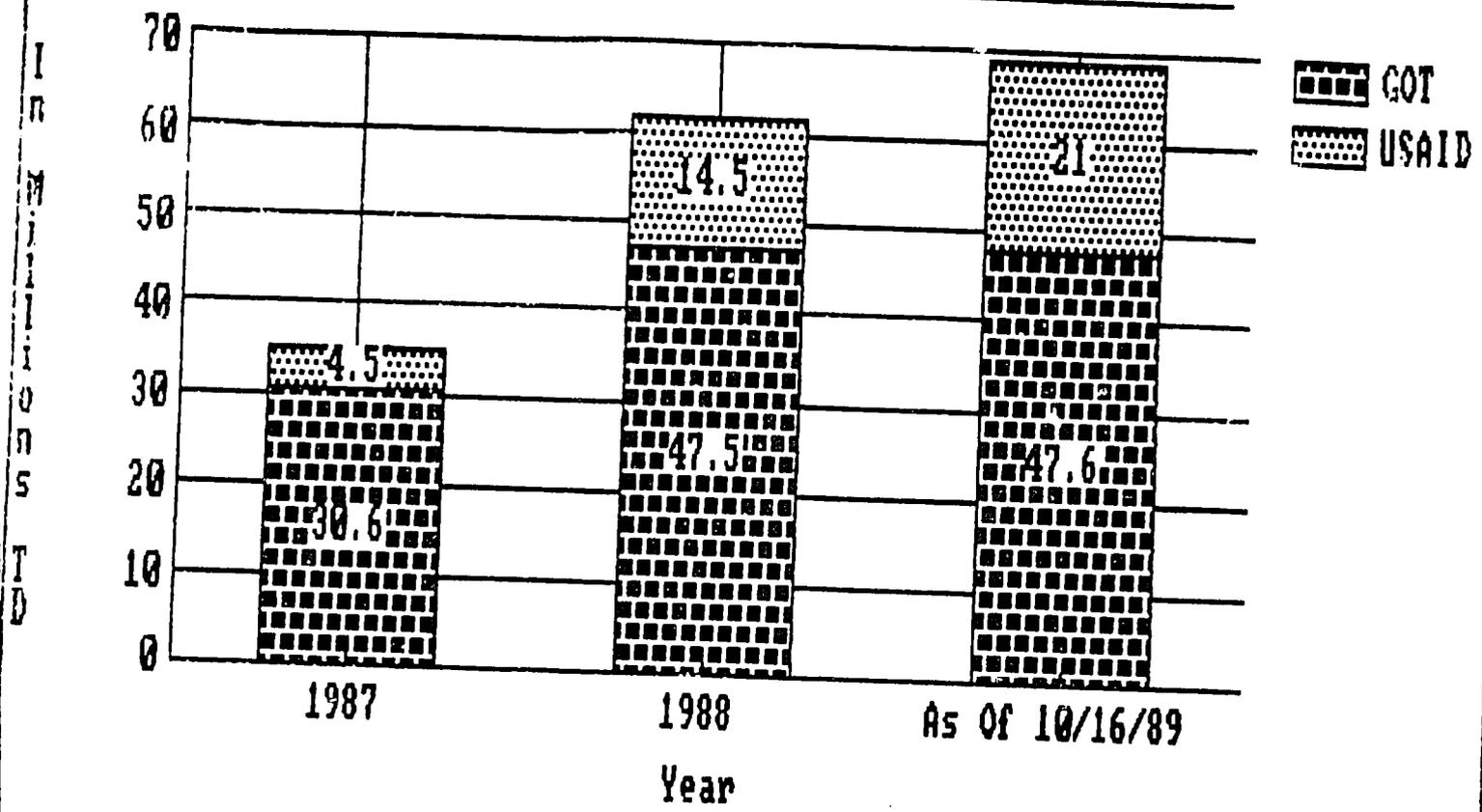


FIGURE 3

Chantiers Regionaux Program: Budget Evolution 1987-1989



Chantiers Regionaux Program: Budget Evolution 1987-1989

Expressed in Percentage

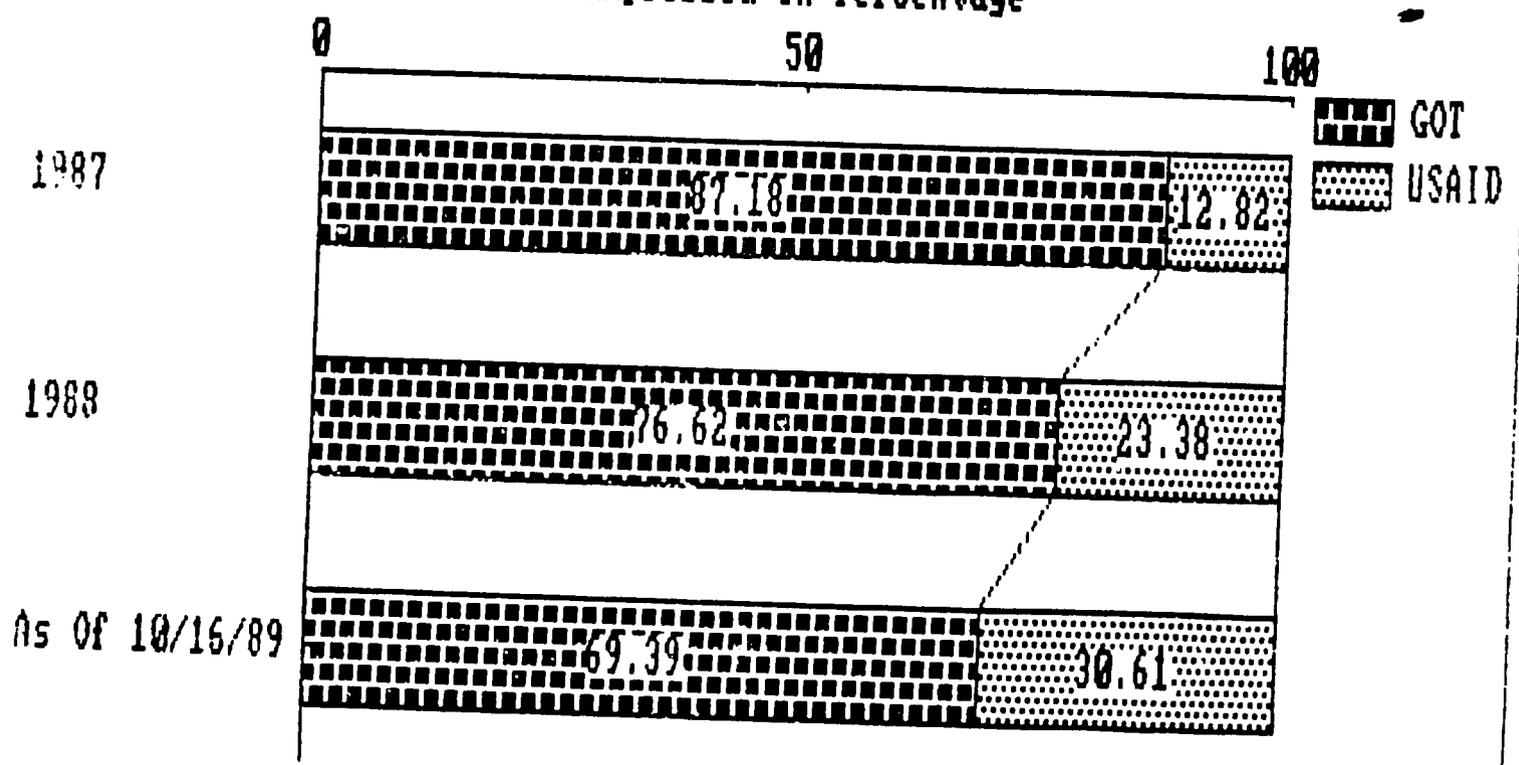


Table 1: CGC SUBSIDIES, 1981-1989  
 Tableau 1: SUBVENTIONS DE LA GCG, 1981-1989

Item	Millions of Dinars Milliards de dinars								
	1981	1982	1983	1984	1985	1986	1987	1988	1989
Millers/Minotiers									
Hard (durum) wheat/ble dur	17.8	23.0	34.5	57.8	52.8	47.9	49.9	58.2	87.0
Soft (bread) wheat/ble tendre	11.3	25.8	30.5	48.0	49.5	42.4	43.3	72.5	105.3
Milling Margin/Marge de panification	14.1	25.5	36.0	33.5	29.9	29.5	18.0	20.0	20.0
Baking Margin/Marge des pastiers	4.1	4.7	3.2	3.2	4.2	4.2	0.0	0.0	0.0
Subtotal	47.3	79.0	104.2	142.5	136.4	123.8	111.2	150.7	212.3
Barley/Orge	5.5	1.7	0.2	3.2	3.2	3.8	2.7	18.8	10.1
Corn/Mais	17.1	19.8	5.8	17.2	13.7	5.6	2.0	5.0	12.3
Soybeans/Tort Soja	10.9	10.1	2.7	5.2	4.3	5.2	3.7	13.6	19.1
Subtotal	33.5	31.6	8.7	25.6	21.2	14.6	8.4	37.4	41.5
Oils/Huiles	5.8	8.7	15.1	31.9	50.0	29.6	17.9	37.5	48.0
Sugars/Sucres	19.1	0.0	0.0	12.3	15.7	15.5	20.2	22.4	32.6
Milk/Lait	4.4	6.8	4.9	8.3	7.9	10.9	12.0	18.6	23.8
Meat/Viande	6.3	7.2	9.9	7.5	0.0	0.0	0.0	0.0	0.0
Fertilizer/Engrais	10.3	13.7	14.8	15.6	16.5	18.8	13.7	11.6	17.0
Others/Divers	12.1	14.4	16.6	14.0	14.5	14.5	14.5	14.5	15.0
<b>TOTAL</b>	<b>138.8</b>	<b>161.4</b>	<b>174.2</b>	<b>257.7</b>	<b>262.2</b>	<b>227.7</b>	<b>197.9</b>	<b>292.7</b>	<b>390.2</b>

a/ 1981-84 IBRD ASALI, 1985-6, 1987 (forecast) CGC

Source: Yusuf, 1989

Table 2: CGC SUBSIDIES, 1981-1988, %  
 Tableau 2: SUBVENTIONS DE LA CGC, 1981-1988, %

	Percentage of Total Pourcentage du total								
	1981 %	1982	1983	1984	1985	1986	1987	1988	1989
Millers/Minotiers									
Durum wheat/Ble dur	12.8	14.3	19.8	22.4	20.1	21.0	25.2	23.5	22.3
Bread wheat/Ble tendre	8.1	16.0	17.5	18.6	18.9	18.6	21.9	16.3	27.0
Milling Margin/Marge de panification	10.2	15.8	20.7	13.0	11.4	12.9	9.1	7.4	5.1
Baking Margin/Marge des pastiers	3.0	2.9	1.8	1.2	1.6	1.8	0.0	0.0	0.0
Barley/Orge	4.0	1.1	0.1	1.2	1.2	1.7	1.4	7.0	2.6
Corn/Mais	12.3	12.3	3.3	6.7	5.2	2.5	1.0	1.9	3.2
Soybeans/Tort Soja	7.9	6.3	1.5	2.0	1.6	2.3	1.9	5.1	4.9
Oils/Huiles	4.2	5.4	8.7	12.4	19.1	13.0	9.0	13.9	12.3
Sugars/Sucres	13.8	0.0	0.0	4.8	6.0	6.8	10.2	8.3	8.4
Milk/Lait	3.2	4.2	2.8	3.2	3.0	4.8	6.1	6.9	6.1
Meat/Viande	4.5	4.5	5.7	2.9	0.0	0.0	0.0	0.0	0.0
Fertilizer/Engrais	7.4	8.5	8.5	6.1	6.3	8.3	6.9	4.3	4.4
Others/Divers	8.7	8.9	9.5	5.4	5.5	6.4	7.3	5.4	3.8
TOTAL	100	100	100	100	100	100	100	100	100

Source: Yusuf, 1989

Table 3: TUNISIA: INDICATORS  
 Tableau 3: TUNISIE: INDICATEURS

	1981	1982	1983	1984	1985	1986	1987	1988
Population (millions)	6.6	6.7	6.8	7	7.3	7.5	7.6	7.8
Pop. Growth Rate (%) Taux de Croissance de la Population (%)	-----						2.4	
GNP per capita (\$) PNB par habitant (\$)							1,210	
GNP Growth Rate (%) (per capita) Taux de Croissance du PNB (%) (par habitant)	-----1.4-----							
Wholesale Price Index 1985 = 100 Indice des Prix de Gros	0.692	0.809	0.862	0.924	100	1.046	1.073	

Table 4: TUNISIA: PRODUCTION, IMPORTS, AND UTILIZATION OF CEREALS, 1980-1988  
 Tableau 4: TUNISIE: PRODUCTION, IMPORTATION, ET UTILISATION DES CEREALES, 1980-1988

Unit: metric ton  
 Unite: tonne metrique

PERIOD (June 1/May 31) (1er juin-31 mai)	SUPPLIES/PROVISIONS			Total	Human Consumption/ Consommation Humaine	UTILIZATION		Ending Inventory/ Inventaire Finale
	Inventory/ Inventaire	Assembly/ Assemblee	Imports			Exports	Seed	
1980-1981	237,990	435,460	669,120	1,342,570	1,144,310	0	34,240	164,020
1981-1982	164,020	485,140	752,590	1,401,750	1,240,440	5,770	33,590	121,950
1982-1983	121,950	513,690	694,770	1,330,410	1,209,660	0	24,860	95,890
1983-1984	95,890	304,950	935,970	1,336,810	1,256,790	0	18,980	61,040
1984-1985	61,040	414,210	878,740	1,363,990	1,232,450	0	24,700	96,840
1985-1986	96,840	793,510	694,390	1,584,740	1,354,190	0	30,380	200,170
1986-1987	200,170	273,840	1,192,100	1,666,110	1,435,370	0	31,860	198,880
1987-1988	198,880	964,590	1,040,290	2,113,670	1,782,080	0	27,660	327,970

Source: Office des Cereales

Table 5: PRODUCTION AND MARKETING MARGINS FOR BREAD WHEAT  
 Tableau 5: MARGES DE PRODUCTION ET DE COMMERCIALISATION POUR LE BLE TENDRE

Producer Prices for Bread Wheat  
 Dinars/ql Grain

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Net Prod. Price	6.494	6.494	7.148	8.026	9.225	10.723	12.926	13.821	15.060	16.730	18.700
Issoot	0.420	0.420	0.462	0.522	0.600	0.702	0.840	0.435	0.480	0.000	0.000
CES	0.042	0.042	0.044	0.052	0.060	0.140	0.084	0.044	0.240	0.000	0.000
Taxe Statistique	0.044	0.044	0.044	0.100	0.113	0.135	0.150	0.200	0.220	0.250	0.300
Producer Price	7.000	7.000	7.700	8.700	10.000	11.700	14.000	14.500	16.000	17.000	19.000

Collection Margins for Bread Wheat (Marge de Retrocession)  
 Dinars/ql grain

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Producer Price	7.000	7.000	7.700	8.700	10.000	11.700	14.000	14.500	16.000	17.000	19.000
Storage	0.300	0.300	0.372	0.372	0.533	0.586	0.714	0.780	0.822	1.040	1.162
Margin	0.270	0.270	0.350	0.455	0.552	0.640	0.672	0.706	0.741	0.778	0.778
Equipment Fund	0.040	0.040	0.040	0.040	0.050	0.050	0.050	0.060	0.070	0.100	0.100
Perequation Transport	0.300	0.300	0.300	0.300	0.450	0.560	0.560	0.560	0.560	0.755	0.755
Total Cost	7.910	7.910	8.762	9.867	11.585	13.536	15.996	16.606	18.193	19.673	21.795
Indefinite Compensatrice (+) (Subsidy)	6.030	3.030	1.512	2.617	4.333	6.286	8.746	9.356	10.943	12.423	10.913
Sales price to Mills	1.880	4.880	7.250	7.250	7.250	7.250	7.250	7.250	7.250	7.250	7.250

Milling Margins for Bread Wheat  
 Dinars/ql grain or flour

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Purchase Price			7.250	7.250	7.250	7.250	7.250	7.250	7.250	7.250	7.250
Quality premium			0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043
Milling Margin			0.833	0.867	1.258	1.638	1.638	1.638	1.638	1.638	1.638
Redevance Compensatrice (+) value of Bran			0.100	0.092	(0.015)	0.001	0.001	0.001	0.001	0.001	0.001
Cost/ql grain			7.526	7.526	7.514	7.305	7.305	7.305	7.305	7.305	7.305
Cost/ql flour			10.035	10.035	10.018	9.740	9.740	9.740	9.740	9.740	9.740
Tax on Milling/ql flour			0.005	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000
Baking equipment fund/ql flour			0.080	0.080	0.080	0.080	0.080	0.080	0.080	0.080	0.080
Distribution costs/ql flour			0.080	0.080	0.080	0.080	0.080	0.080	0.080	0.080	0.080
Perequation Transport/ql flour			0.300	0.300	0.317	0.600	0.600	0.600	0.600	0.600	0.600
Total Costs/ql flour			10.500	10.500	10.500	10.500	10.500	10.500	10.500	10.500	10.500
Subsidy/ql flour (+)			0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.900	3.181
Sales Price/ql flour			10.500	10.500	10.500	10.500	10.500	10.500	10.500	7.600	7.319

+ Subsidy from CEC

Source: Laura Tuck, World Bank

Table 6: PRODUCER AND MARKETING MARGINS FOR DURUM WHEAT  
 Tableau 6: MARGES DE PRODUCTION ET DE COMMERCIALISATION POUR LE BLE DUR

Producer Prices for Durum											
Dinars/ql grain											
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Net Prod. Price	7.054	7.054	7.980	8.866	10.159	11.743	13.026	14.170	15.060	17.530	20.030
Input	0.456	0.456	0.516	0.576	0.660	0.768	0.740	0.450	0.480	0.480	0.480
CES	0.044	0.044	0.052	0.058	0.066	0.153	0.084	0.180	0.240	0.240	0.240
Taxe Statistique	0.044	0.044	0.044	0.100	0.115	0.135	0.150	0.200	0.220	0.250	0.250
Producer Price	7.600	7.600	8.600	9.600	11.000	12.799	14.000	15.000	16.000	18.500	21.000
=====											
Collection Margins for Durum (Marge de Retrocession)											
Dinars/ql grain											
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Producer Price	7.600	7.600	8.600	9.600	11.000	12.799	14.000	15.000	16.000	18.500	21.000
Storage	0.320	0.320	0.445	0.445	0.564	0.620	0.714	0.792	0.822	1.086	1.233
Margin	0.270	0.270	0.350	0.455	0.552	0.640	0.672	0.706	0.741	0.741	0.741
Equipment Fund	0.040	0.040	0.040	0.040	0.050	0.050	0.050	0.060	0.070	0.100	0.100
Perequation Transport	0.300	0.300	0.300	0.300	0.450	0.560	0.560	0.560	0.560	0.560	0.560
Total Cost	8.530	8.530	9.735	10.840	12.616	14.669	15.996	17.118	18.193	20.987	23.634
Indemnité Compensatrice (*) (Subsidy)	2.960	2.960	1.735	2.840	4.616	6.670	7.196	8.318	7.393	7.487	10.134
Sales price to Mills	5.570	5.570	8.000	8.000	8.000	8.000	8.800	8.800	10.800	13.500	13.500
=====											
Milling Margins for Durum											
Dinars/ql grain or flour											
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Purchase Price			8.000	8.000	8.000	8.000	8.800	8.800	10.800	13.500	13.500
Quality premium			0.105	0.105	0.106	0.106	0.110	0.110	0.110	0.110	0.110
Milling Margin			0.833	0.867	1.258	1.638	1.638	1.638	1.638	1.638	1.638
Redevance Compensatrice (*)			0.000	0.000	0.046	0.302	0.160	0.160	0.160	0.160	0.184
Value of Bran			0.400	0.433	0.842	1.300	1.300	1.300	1.300	1.300	1.300
Value Forrage Flour			0.150	0.158	0.253	0.390	0.390	0.390	0.390	0.390	0.390
Value Grains			0.245	0.248	0.295	0.455	0.455	0.455	0.455	0.455	0.455
Cost/ql grain			8.143	8.133	8.021	7.901	8.563	8.563	10.563	13.263	13.287
Cost/ql flour			12.155	12.140	11.973	11.794	12.782	12.782	15.767	19.798	19.833
Tax on Milling/ql flour			0.005	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000
Distribution Costs/ql flour			0.080	0.080	0.080	0.080	0.080	0.080	0.080	0.080	0.080
Perequation Transport/ql flour			0.300	0.315	0.483	0.600	0.800	0.800	0.800	0.800	0.800
Sales Price (flour)			12.540	12.540	12.541	12.474	13.662	13.662	16.647	20.579	20.713
=====											

(\*) subsidy from CGC

Source: Laura Tuck, World Bank

Table 7: HOUSEHOLD AND PER CAPITA EXPENDITURES (per year)  
 Tableau 7: STRUCTURE DES DEPENSES PAR MENAGE ET PAR PERSONNE (par an)

CATEGORY (head of household) (tete de menage)	Household/Menage (dinars)	Per capita/par tete (dinars)
Top Professionals/ Cadres superieurs	7,420	1500
Medium Professionals/ Cadres moyens	4,564	842
Other Employees/ Autres employes	4,223	768
Business Management/ Patrons de l'Industrie	5,040	907
Independent Business and Services/Handicrafts and Independents Entreprises et services independants/ Artisans et independants	2,748	456
Workers, Industry, Business and Service/Ouvriers de l'industrie, du commerce et des services	2,340	405
Agricultural Smallholders/ Exploitants Agricoles	2,170	344
Agricultural Workers/ Ouvriers Agricoles	1,575	268
Unemployed/Actifs sans travail	2,025	383
Retired and Inactive/ Retraites et autres inactifs	2,680	561
Main Support Outside Home/ Soutiens resident hors menage	1,502	412
Main Support Outside Country/ Soutiens residents a l'etranger	2,000	401

Source, INS, 1985, p. 14



Table 9: Structure of Expenses (1985), per capita  
 Tableau 9: Structure des depenses (1985), par personne

Category	Expense per person, and per year (dinars) Depense par personne et par an	Budget Coefficient Coefficient budgétaire (%)
Food/Alimentation	183.5	39.0 %
Housing/Habitation	130.6	27.7 %
Clothing/Habillement	28.3	6.0 %
Health and Hygiene/Sante et hygiene	33.0	7.0 %
Transport & Telecommunication/ Transport et Telecommunication	42.3	9.0 %
Education, Culture and Recreation/Education, culture et recreation	41.7	8.9 %
Other Expenses/D'autres depenses	11.1	2.4 %
<b>TOTAL</b>	<b>470.5</b>	<b>100 %</b>

source: Republique Tunisienne  
 Institut National de la Statistique, Volume A  
 Enquete Nationale sur le Budget et la Consommation des Menages, 1985, p. 83

Table 10: STRUCTURE OF FOOD EXPENDITURES, BY REGION  
(expenditure by person and by year in Dinars, %)  
Tableau 10: STRUCTURE DES DEPENSES D'ALIMENTATION, SELON LA REGION  
(depense par personne et par an en Dinars, %)

Product Groups/ Groupe de Produits	Tunis District/ District de Tunis		Northeast/ Nord Est		Northwest/ Nord Ouest		Central West/ Centre Ouest		Central East/ Centre Est		South/ Sud	
	(TD)	%	(TD)	%	(TD)	%	(TD)	%	(TD)	%	(TD)	%
Cereals/Cereales	29.2	11.7	28.2	15.8	25.6	19.0	32.8	23.6	28.6	14.1	29.4	17.7
Vegetable Garnishes/ Legumineuses et Condiments	8.8	3.5	5.7	3.2	3.7	2.8	4.8	3.4	7.1	3.5	6.5	3.9
Vegetables/Legumes	42.5	17.0	31.7	17.7	24.4	18.2	23.7	17.1	34.4	17.0	29.3	17.6
Fruits and Nuts/ Fruits et noix	14.5	5.8	10.7	6.0	7.4	5.5	8.9	6.4	11.9	5.9	7.7	4.6
Meat and Poultry/ Viande et volailles	58.8	23.5	38.3	21.4	30.0	22.3	29.1	21.0	42.5	21.0	38.5	23.1
Fish/Poissons	7.7	3.1	4.3	2.4	0.6	0.4	1.0	0.7	13.4	6.6	2.9	1.7
Milk Products and Eggs/ Produits laitiers et Oeufs	31.3	12.5	19.1	10.7	13.5	10.0	10.0	7.2	16.6	8.2	14.7	8.8
Sugar and Sugar Products/ Sucre et produits sures	6.3	2.5	5.1	2.8	4.3	3.2	4.0	2.9	5.2	2.6	4.7	2.8
Cooking Oils/ Huiles et corps gras	9.0	3.6	9.8	5.5	6.0	4.5	9.4	6.8	16.3	8.1	13.0	7.8
Drinks and Restaurant Meals/ Boissons et repas a l'exterieur	42.4	16.8	26.0	14.5	18.9	14.1	15.2	10.9	26.2	13.0	19.9	12.0
TOTAL	250.5	100.0	178.9	100.0	134.4	100.0	138.9	100.0	202.2	100.0	166.6	100.0

Source: Republique Tunisienne, Ministere du Plan  
Institut National de la Statistique, Volume A  
Enquete Nationale sur le Budget et la Consommation des Menages, 1985, p. 83

Table 11: STRUCTURE OF FOOD EXPENDITURES  
 Tableau 11: STRUCTURE DES DEPENSES D'ALIMENTATION

PRODUCT GROUPS/ GROUPE DE PRODUITS	Per capita Expenditures (per year in Dinars)/ Depense par personne et par an (en dinars)	% of Food Expenditures/ % de la depense alimentaire	Overall Budget Coefficient (%)/ Coefficient budgetaire general
Cereals/Cereales	28.9	15.8	6.1
Vegetable garnishes/Legumineuses et condiments	6.3	3.4	1.3
Vegetables/Legumes	31.8	17.3	6.8
Fruits and Nuts/ Fruits et noix	10.5	5.7	2.2
Meat and Poultry/ Viande et volailles	40.7	22.2	8.6
Fish/Poissons	5.6	3.1	1.2
Milk, Milk Products, Eggs/ Lait, produits laitiers, oeufs	18.2	9.9	3.9
Sugar and Sugar Products/ Sucre et produits sucres	5.0	2.7	1.1
Cooking oils/Huile et corps gras	10.8	5.9	2.3
Drinks and Restaurant Meals/ Boissons et repas a l'exterieur	25.7	14.0	5.5
<b>TOTAL</b>	<b>183.5</b>	<b>100.0</b>	<b>39.0</b>

Source: INS, 1985, p. 65



Table 13: INCIDENCE OF FOOD SUBSIDY BENEFITS, 1987  
 Tableau 13: INCIDENCE DES AVANTAGES DES SUBVENTIONS ALIMENTAIRES, 1987

Household Expenditures/ Depenses des menages	Rural		Urban/Urbain		Total	
	in '000 TD en '000 TD	%	in '000 TD en '000 TD	%	in '000 TD en '000 TD	%
less/moins 100 TD	3.546	4.44	0.347	0.29	3.893	1.95
100-150 TD	9.274	11.62	2.336	1.96	11.61	5.83
150-250 TD	23.21	29.09	12.034	10.08	35.244	17.69
250-350 TD	16.551	20.74	19.921	16.68	36.472	18.31
350-550 TD	15.939	19.97	32.476	27.2	48.415	24.3
550-800 TD	7.183	9	22.866	19.15	30.049	15.08
800 & + TD	4.097	5.13	29	24.64	33.517	16.83

Source: Institut National des Statistiques, 1987, in Yusuf, 1989

Table 14: TARGETED FOOD AND INCOME PROGRAMS IN TUNISIA  
 Tableau 14: PROGRAMMES D'ALIMENTATION ET DE REVENUS CIBLES EN TUNISIE

PROGRAM/PROGRAMME	MINISTRY/MINISTERE	SPONSORS/ DONATEURS	BENEFICIARIES (numbers) BENEFICIAIRES (nombres)	BENEFIT LEVELS (total cost in dinars) NIVEAUS DE BENEFICES (cout total en dinars)
Preschool/prescolaire	Affaires Sociales	CNSS	106,000 children/enfants 459 centers/centres	4,272,816
School lunches/ Cantines scolaires	Affaires Sociales		255,000 students/elevés 1,924 schools/ecoles	35 g. milk/lait; 25 g. cheese/fromage 11 g. butter/beurre; oil/huile; 150 g. wheat/ble per day/par jour
Food for Work	-----	PAM	-----	-----
Work Programs/Chantiers de developpement	-----	USAID	-----	food/alimentation 20% total wage/salaire total 2.5 kg flour/farine 100 g. sugar/sucre 100 g. oil/huile 100 milk powder/lait en poudre
Emergency Food Relief/ Aide alimentaire en cas de catastrophe	-----	USAID (416 Grant)	40,000 families/familles	-----
Needy Families/ Familles Necessiteuses	Affaires Sociales	GOT	120,000 families/familles	7,233,292
Handicapped/Handicappes	Affaires Social	GOT	2,300	2,146,851

Table 15: World Food Program Projects/Tunisia  
 Tableau 15: Programme Alimentaire Mondial/Tunisie

PROJECT/PROJET	NUMBER/NUMERO	NUMBER OF BENEFICIARIES/NOMBRE DE BENEFICIAIRES	PAM DONATIONS/DONATIONS PAM
Assistance for School Lunches, Pre-school Children, Rural Youth Education and Productive Families/ Assistance Pour les Cantines Scolaires, les Enfants d'age Prescolaire, la Formation de la Jeunesse Rurale et les Familles Productives	PAM/TUN 3408	410,000 (223,000 enfants/children 105,000 enfants, 3 a 5 ans/ children, 3 to 5 years 24,703 jeunes filles/young girls 9,150 familles pauvres/poor families)	Ble/wheat 37887 tonnes/tons (T) Farine de ble/wheat flour, 19082 T Huile/oil 2425 T Sucre/sugar 805 T Lait en poudre/powdered milk, 3564 T
Aborcultural Development/ Developpement de l'Arboriculture	PAM/TUN 2692	41,500	Ble/wheat 55,000 T Lait en poudre/powdered milk 2,200 T Sucre/sugar 1,100 T The/tea 220 T
Efforts Against Erosion and Desertification/ Lutte Contre l'Erosion et la Desertification	PAM/TUN 2493 EXP II		Ble/wheat 43,636 T Lait/milk 1708 T Huile/oil 1695 T Sucre/sugar 1825 T The/tea 94 T
Efforts Against Erosion and Desertification/ Lutte Contre L'Erosion et la Desertification	PAM/TUN 2493 E.3 (new project/nouveau projet)		Ble/wheat 93,750 T Huile Comestible/Cooking oil 7,500 T Sucre/sugar 7500 T