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METHODOLOGY OF PREPARATION AND COST PRICE OF DAILY MEAL IN THE FIRST MISSION OF THE SERBIAN ARMY

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Summary: *Strategic documents of the Republic of Serbia define the use of the Army of Serbia on the implementation of assigned tasks. Application of standards of food operations based on currently available foodstuffs, in cases prescribed by the inability to finished meals.*

Keywords*: food, cost of food, first mission, Serbian Army.*

1. INTRODUCTION

Feeding the Serbian Armed Forces can be analyzed from a qualitative point of view, which consists of applying nutritional program of health-safe food for consumers, acceptable from the economic aspect of society. Implementation of military reform contributed to the creation of efficient and effective, less numerous, materially and financially viable army, trained in the implementation of the assigned missions and tasks.[1]
The basic principles of organization of the Army of Serbia prescribed by the Strategic Defence Review: "The effectiveness and efficiency, three components (of both composition and purpose), standard size, modularity, flexibility, interoperability, adaptability and financial viability. The effectiveness and efficiency are represents of development of organizations in the Army of Serbia, based on the required operational capabilities, which will be able to respond to the assigned missions and tasks. Financial sustainability means its sizing and organization with the defense needs and financial capabilities of the state.

[1] The first mission of the Army is a defense of the state from external armed threat and consists of two tasks: deterrence from armed threats and other military challenges, risks and threats to the security and defense of the territory, airspace and territorial waters. The second mission of the Army of Serbia represents its commitment to building and maintaining peace in the region and the world, and consists of three tasks: Army participation in international military cooperation, peace operations and the system of collective security. The third mission of the Army is its involvement in support of civil authorities in countering non-military threats to security and consists of two tasks: support to civil authorities in countering terrorism and organized crime, as well as support to civil authorities in the event of natural disasters, industrial and other technological disasters. (Strategic Defence Review, MO, Belgrade, 2006, p. 5).

2. NUTRITION STANDARDS REGULATION IN SERBIAN ARMY

The organization of the Army of Serbia diet is defined in a number of documents.[2] Nutrition Serbian Army has no direct impact on the maneuverability of units, however, it is of elementary importance to its operational capacity, because it is aimed at creating favorable conditions for life and work units. Nutrition in the Serbian Armed Forces in peace is realized according to the Plan of nutrition in the Army of Serbia[3]. Daily meals provide all-day food needs of the Army of Serbia.[4] The structure of a lunch meal in peace is determined by the Diet plan in the Army of Serbia; in the war – Nutrition regulation in the war (Regulation) and the Instructions for preparing meals in the war (Instructions); and for dry and combination meals - at the discretion of the issuer of the order.

The economic power of the state has decisive influence on the size and equipment of the Army of Serbia and the possibility of its use in accordance with the assigned missions and tasks. Recognizing the importance of economic factors in making decisions about the justification for performing military operations, it is essential that the management of general logistics examine the cost of food, which can be defined as the value reported consumption of food products that are necessary for the implementation of nutrition of the Army of Serbia during the execution of specific operations. The cost of food during military operations depends on several elements: purpose, type, duration, recourses that are necessary for the execution, etc. Using the criteria of financial and economic aspects, i.e. the cost price of food during military operations are integral elements for making a decision about her performance. The cost of food products for the preparation of the daily food rations using the prescribed Fabricated daily menus for meals at war rules by Norma 1 at current prices amount to 574.82 dinars (4.81 €).[5]

Preparation of a hot meal should be a priority regardless of the type of mission to be performed, and the use of canned or dried meals should be done only as a last resort, which requires that the general logistics units in the initial period of the mission in the first quartermaster rely on military equipment for food preparation, and then the use of fixed capacity. The complexity and durability of operations require maximum use of and reliance on the capacity of the territory.

Many years of practice and application of the Regulations and the Instructions show that it is complex regulations that regulate the problems of nutrition of the Army of Serbia in operations. Individual remarks, which boil down to that using the menus in the long term tend to produce a monotonous diet, are the result of insufficient knowledge of the opportunities provided by these regulations. True, the range of food products has been reduced to what you can realistically make available for potential emergency conditions and which is adapted to kettle way of preparing and sharing meals in field conditions. Consideration of these facts imposes before the general management of logistics requests to use all the features of these regulations and provide a varied diet.

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[2] The doctrine of the Army of Serbia, Regulations on general logistics in MO and AS, etc.

[3] Plan of meals in the Army of Serbia is based on scientific principles of nutrition, eating habits and specific military requirements and complies with the physiological needs of the Army of Serbia and financial possibilities. (Plan of meals in the Serbian Army, UOL, Belgrade, 2010, p. 7).

[4] By its intentions meal can be: military; diet; meal for religious believers.

[5] The exchange rate on 08.10.2014 amounts to RSD 119.4055.

The experiences of schooling and education of quartermaster staff indicate that the most frequent disconnections occur when creating Menus and Calculation - schedules of human food (Calculation), from the available food products, as well as in planning combined meals.

3. MENU AND CALCULATION OF SCHEDULE OF HUMAN FOOD IN WAR

The Menu and the Calculation are both made by quartermaster unit thereof in which the food is being prepared and which contains a chef unit. Making a selection of ready-made daily menus based on the Menu has fully taken off, since the approach is identical to the preparation of the monthly plan of daily menus and budgets by peacetime regulations. The problem arises when you need to create the Menu and Calculation of currently available food products, based on recipes and nutritional norms, or when you dispose of food for the preparation of menus that can not fit in the Review of daily menus for nutrition in the war for 7 days.
Expectations that local government authorities have a number of pre-prepared food products for either hot or dry meals are not realistic. On this general logistics management can count only when the supply is done from the superior sourced command. Adequate local government, especially in the further course of the war, does not store food products to finished menus according to the Regulations; therefore, general management can from their logistics can obtain only information whether they dispose of certain types and quantities of food. In such circumstances, the task of general logistics management is that – by using Instructions make the Menu and, further, based on Regulations – norms, to make a Calculation as the basics for issuance of request to take out certain types and certain quantities of food. This variant is indeed unfortunate, but it is real because it is based on currently available foodstuffs.
he aim of this paper is too present - in a practical example - the procedure of making Menus and Calculations, from the available food products, using the recipes and nutritional norms.

ASSUMPTION: Operative time 14.00 hours "D-2". Based on the excerpt from the order of the brigade commander, general logistics organ of Infantry Battalion (pb) is known as the following:

1. Nutrition pb on "D-1" is performed by a combination meal (breakfast and lunch cooked, dinner dry food).
2. On "D-2" at 21:00 pm, from pb unit we delegate 10 soldiers on a journey. They return to the unit at "D-1" at 21.00 hrs.

Based on the available data (status of food products in the unit, i.e. the superior command and the possibility of providing the same by the local self-government) general logistics authority knows that it has at its disposal certain amounts of food presented in Table 1.

Table 1. Quantities of food products

	Unit of issue	Quantity
Bread	kg	600
Pasta		30
Potato fresh		
Tomato fresh		15
Onion fresh		12
Carrot fresh		20
'Ajvar'		40
Beef		60
Ham		60
Fish can		1,250
Chees – full fat		90
Eggs fresh	Pcs	600
Margarin	kg	21
Pork fat		20
Sugar		150
Marmalade		90
Surrogate coffee		5
Pepper		1
Paprika powder		2
Additives		4
Bay leaf		1
Parsley leaf		1
Table salt		15
Cigarettes	Pcs	10.000
Lighter		1.500

Source: Belopetrović M, Tešanović B "Background" No. 4/1991 (63-72 pp.)

Quantity pb is 600.[6] The solution of the task, according to the above assumption, for the organ of general logistics 1.pb takes place in the following order:

- Determining the type and quantity of the daily ration of human food.
- Create *Menu* for D-1 on the basis of the available types and amounts of food products.
- Create *Calculation*, based on menus, recipes and nutrition standards for the number of people for whom food is prepared, taking into account the types and quantities of food products which are available.

Determining the type and quantity of the daily ration of food

- Combined meal - 600 daily meals.
- Dry meal - 10 daily servings (according to *Regulations* it belongs to the people that are being sent on to a journey).

[6] Quantity pb is determined arbitrarily.

a. Making *Menu* for D-1

Based on the review of the currently available food products it is obvious that there is no possibility to use ready-made menus for 7 days from the Regulation. Using the experience, analysis of the types and amounts of food products, you first need to register those of which one can compose breakfast and dinner (ham, soft fatty cheese, fresh eggs, margarine, sugar, jam, coffee surrogate) and make them a suitable combination. Bread, cigarettes and lighters we have in sufficient quantities.

When planning dishes for lunch we first need to identify food that represent dishes (potato, pasta, meet, ajvar) and then look for adequate dishes in the recepies contained in the Instructions. For example, No 45 is Pasta with potato and meet. When we look into the dishes contained in the dish list (Instructions: 128), we see that the structure of the food we have at our disposal allows us to prepare this dish with minor alternations that can be solved by the substitute Norm. One of the possible varieties for a combined meal menu could be as follows: breakfast (margarine, marmalade, coffee black); lunch (pasta with potato and meat, ajvar salade); and dinner (ham, boiled egg, soft fatty cheese). To make up a dry meal we have the following food products – ham, fish can, dry bacon, soft fatty cheese, marmalada and apple, providing thus for a full and necessary variety.

b. Making Calculation – schedule of human food

Making a Calculation is indeed a very delicate task because we must simultaneously take care of recipe demands, available food products and norms of nutrition. Calculated quantities are then put into the calculation form shown in Table 2. [7]

Table 2: Calculation – schedule of human food for D-1

Name of the food product	Per soldier (Kg, pcs, boxes)	Combined meal			Dry meal 10	Total	Value in din	Value in euro[1]
		Breakf	Lunch	Dinner				
		600	600	600				
Bread	0,600	360,0			6,00	366,00	3074,00	257,48
Surr. coffe	0,004	2,40				2,40	134,00	9,50
Sugar	0,040	24,0				24,00	1736,40	14,54
Marmalade	0,030	18,0			0,30	18,30	2841,08	23,79
Margarine	0,035	21,0				21,00	18669,00	156,35
Pasta	0,050		30,00			30,00	3445,50	28,86
Potato fresh	0,200		120,00			120,00	5400,00	45,22
Tomato fresh	0,024		14,40			14,40	1728,00	14,47
Carrot fresh	0,010		6,00			6,00	270,00	2,26
Onion fresh	0,020		2,00			12,00	588,00	4,92
Beef	0,100		60,00			60,00	31500,00	23,81
Pepper	0,0001		0,060			0,060	116,40	0,97
Fat	0,025		5,00			15,00	4500,00	37,69
Paprika powder	0,0002		0,120			0,120	146,76	1,23
Food additive	0,001		0,600			0,600	53,40	0,45
Bay leaf	0,00001		0,006			0,006	11,64	0,10

[7] This form of Calculation is of school nature. This is not an obligatory form for we can also use the form of Calculation – budget of food (UP – 20) that is to be used in peace.

Parsley leaf	0,001		0,600			0,600	113,40	0,95
Salt	0,020					12,00	411,60	3,45
Ajvar	0,060			36,00		36,00	6732,00	56,38
Ham	0,096/0,12			57,60	1,20	58,80	23520,00	196,98
Eggs fresh	1			600		600	6000,00	50,25
Cheese soft full fat	0,068/ 0,13			40,80	1,32	42,12	15373,80	128,75
Fish can	0,125				1,25	1,25	530,00	4,44
Dry bacon	0,088				0,88	0,88	308,00	2,58
Fruit (apples)	0,200				2,00	2,00	78,00	0,65
Cigarettes	10	6000			100	6100	40687,00	340,75
Lighter	1	600			10	610	3050,00	25,54
Total							199688,22	1672,35

Source: compiled on the basis of the application of the norms of human and animal food

The cost price of currently available food products at current prices as shown in Table 2 per daily food meal amounts to 302.56 dinnars (2.53 €).
Depending on the economic strength of any given territory there are numerous possible combinations of currently available products, which can cause a higher or lower price of food in relation to the pre-prepared menus prescribed in the Regulation.
It is advisable that the general logistics management takes an overview of possible deviations from the Norm as shown in Table 3.

Table 3: Summary of planned and consumed quantities of food for the D-1

Name of FP	Used in kg		Ration per soldier per N-1 in kg	Deviation from N-1	
				+	-
Bread	0,600		до 0,005	-	-
Surr. Coffee	0,004		0,600	-	-
Sugar	0,040		0,040	-	-
Marmalade	0,030		0,030	-	-
Margarine	0,035		0,015	0,020	-
Pasta	0,050		0,080	-	0,030
Potato fresh	0,200		0,350	-	0,150
Tomato fresh	0,024	0,254	0,250	0,004	-
Carrot fresh	0,010				
Onion fresh	0,020				
Ajvar	0,060*				
Meat R-100	0,100	0,250	0,250	-	-
Ham	0,096*				
Fat	0,025		0,040	-	0,015
Spices	Per recipe		-	-	-
Salt	0,020		до 0,020	-	-

Eggs*	1 pcs	0,090	-	-	-
Cheese soft fatty*	0,068				
Beans	-		0,060	-	0,060
Fruits fresh	-		0,050	-	0,050
Cigarettes	10 pcs		10 pcs	-	-
Lighter	1 pcs		1 pcs	-	-

* Food products calculated into fresh vegetables, meat and cheese, both hard and demi-hard

Calculation: calculation by author

By certain corrections in Calculation we can achieve average consumption for 2 to 5 days.

Explanation for the making of Calculation – schedule of human food

Into the Calculation form we first enter bread which is given with the first hot meal. As per Norm 1 of the Regulations the ration of sugar for Hot meal No. 1 per soldier is 40 gr, surrogate coffee up to 5 gr, marmalade 30 gr. Margarine is rationed at 15 gr, but technological-cooking normativ is 30-35 gr so we must take care to reach the prescribed norm within a 2-3 day period.

Pasta with potato and meat and ajvar salade is planned for lunch. We write into the form the quantities given in the recipe, i.e. adequate substitutes as per Norm 4 in cases we do not have all the food products from the recipe. Each soldier is to be given 58-60 of pasta; since we have some 30kg at our disposal and there are 600 soldiers we must therefore make calculation which says 50 gr per soldier. In the recipe there is potato, carrot, onions and spices, and we do indeed have the necessary quantities of all those items. We do not have cooked tomato but fresh tomato. According to Norm 4, the ratio between fresh vegetables and thick cooked tomato should be 4:1. As per recipe there should be 100-120 gr of meat. Norm 1 says that there must be 250 gr of meat per soldier, therefore we have the obligation to provide adequeate quantity of ham through the substitute Norm. Fat is to be 25 gr since we have no oil at our disposal. For salade we shall serve ajvar. Knowing the normative for fresh vegetables for salade (150 – 200 gr) we shall proportionally serve adequate quantities of ajvar, as per substitute Norm.

Table 4: Implementation of substitute Norm

Name of food product as per Norm 2	Ration per N-1 in kg	FP per Menu	Issued per Menu	%
Bread	0,600	Bread	0,600	100
Meat and fish, cans, melted cheese	0,450	Ham	0,120	33,3
		Fish can	0,125	33,3
		Bacon	0,075	33,3
Marmalade or	0,200	Marmalade	0,030	15
		Apples	0,200	16
Cheese – hard, demi-fat, demi-hard	0,160	Cheese soft full fat	0,130	68,5
cigarettes	10 pcs	Cigarettes	10 pcs	100
Lighter	1 pcs	matches	1 pcs	100

Source: calculation by author

We have planned ham, eggs and soft fatty cheese for dinner. We must keep in mind that we had already used up 100 gr of meat. Since the Norm does not contain a direct ration meat-ham, we must perform an indirect substitution: meat-cans-ham; after applying proportion this means 96 gr of ham. Norm 1 says 4,5 dl of milk of 90 gr of cheese. Since we do not have these food products in the menu for D-1, instead of them we can serve one egg and adequate portion of cheese. So, instead of cheese we give one egg (identical to 33 gr of cheese) and 68 gr of soft fatty cheese which is adequate to 57 gr of demi-hard cheese as per substitute Norm. When calculating food products for a dry meal we use Norm 2, always having in mind that we should provide necessary variety by using substitute Norm. Since we cannot see from the Calculation how the substitute Norm had been used, we can see that from the data in Table 4. Based on the Calculation the general logistics management sends a request for removing sertain concrete types and quantities of food products. The above procedure is also used when planning reduced, improvised and other types of combined meals, which could be used in the battle conditions under the Regulations, as well as in the cases of scarctiy or harsh scarcity of food.

4. CONCLUSION

Feeding the Serbian Armed Forces contributes to the creation of favorable conditions for life and work of units in the execution of the first mission of the Army of Serbia. Realization of nutrition for Serbian Army is to be based on the material basis of society relying at the same time on production and service capacity of the territory, which creates optimal conditions for carrying out the first mission.

The cost of meals during the operation affects the decision on its implementation. Creation of Menus and Calculations from the currently available FP is indeed an unfavorable but also realistic variant with which the general management of logistics during an operation in the first mission of the Army of Serbia are faced.

On this practical case we have shown the procedure of making Menus and Calculations from the available food products, using the prescribed recipes and nutritional norms, with the cost per daily ration of food of 302.56 dinars (2.53 €), which on a daily basis for projected numerically balance amounts to 199,688.22 dinars (€ 1,672.35).

Daily food meal from currently available food products is cheaper in comparison to prescrbied Pre-prepared daily menus for food in war from the Regulations by Norm 1, and the cost price of the above given example is lower by 272.26 din (2,28 €) per meal.

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