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LIMITED

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UNITED NATIONS CHILDREN'S FUND

Programme Committee

YUGOSLAVIA

Recommendation of the Executive Director  
for an Additional Apportionment to the  
Milk Conservation Programme

1. In this paper the Administration recommends, subject to the availability of funds, an apportionment to Yugoslavia of \$140,000 from the European Area allocation for the purchase of equipment to reinforce the present milk conservation programme, and for two additional milk pasteurization plants.

2. This recommendation, if approved, would represent an extension of the milk conservation programme already in operation for which UNICEF has previously allocated \$1,363,000, thus making a total of \$1,503,000 for milk conservation in Yugoslavia.

The Present Situation

3. The first allocation for milk conservation in Yugoslavia was made in February 1949 (E/ICEF/144, para. 14). This, together with succeeding allocations, has provided assistance to 3 drying plants, 9 pasteurizing plants, 1 central laboratory, 61 collecting centres, refrigeration units for 3 milk distribution centres, and equipment for 2 veterinary laboratories for control of tuberculosis and brucellosis in cattle.

4. The present status of these projects is as follows:

/Milk Drying Plants.....

<u>Milk Drying Plants</u>	<u>Date of Allocation</u>	
Osijek	Feb. 1949	In operation since October 1951.
	Mar. 1953	New bottle-filling installation for pasteurized milk to be in operation in May 1954.
Zupanja	Feb. 1949	In operation since June 1952.
Murska Sobota	May 1952	Due to start operating in May 1954.
<u>Central Dairies</u>		
Belgrade (old dairy)	Feb. 1949	New equipment operating since October 1951.
	Mar. 1953	
Ljubljana	Feb. 1949	Old dairy with new equipment operating since October 1951. Being replaced by new dairy due to start operating in June 1954.
	Mar. 1953	
Rijeka	May 1952	New equipment due to start operating in July 1954.
Novi Sad	Feb. 1949	New dairy in operation since March 1952.
Zagreb	Feb. 1949	New dairy in operation since August 1952.
Skoplje	Feb. 1949	New dairy in operation since October 1952. New bottle-filler to be installed and operating by May 1954.
	Mar. 1953	
Sarajevo	Feb. 1949	New dairy in operation since August 1953.
Nis	Mar. 1953	Plans completed and building started. Anticipated start of operations: January 1955.
Banja Luka	Mar. 1953	Plans completed and building started. Anticipated start of operations: January 1955.
Belgrade Refrigeration Centres	Mar. 1953	To be established and operating by August 1954.
Zemun Central Laboratory	Mar. 1953	To be completed in September 1954.
Collecting Centres	Feb. 1949	UNICEF has supplied equipment for 61 collecting centres for the above-mentioned dairies with low temperature milk-cooling facilities. By the end of 1953, 47 centres were in operation.
	Mar. 1953	
Veterinary Labs.	Feb. 1949	In operation since 1951 at Zemun and Kalinovica.

Present Beneficiaries

5. By the end of 1953, the Yugoslav Government reported that 150,000 children were receiving free milk either in the form of pasteurized fluid milk or powdered whole milk. Of the 396 tons of milk powder produced in the factories at Osijek and Zupanja, 166 tons, or about 42 per cent of the total output of those two plants, valued at 51,000,000 Dinars (\$170,000) were distributed free to 135,000 children, chiefly in the Republics of Montenegro, Croatia, and Macedonia. The rest of the dry milk was sold through chemist shops on a priority basis. Pasteurized fluid milk distributed to children through September 1953 totaled about 1,000,000 litres from the 7 pasteurizing plants equipped by UNICEF from allocations made in 1949 and unprogrammed balances arising prior to 1952. This equals about 3.85 per cent of the total output of the plants, and it represents an expenditure of about 30,000,000 Dinars (\$100,000). Thus, the number of beneficiaries increased in 1953 to approximately 150,000 from the 112,000 children having received free milk in 1952, as reported in E/ICEF/234, page 52, (Report on Progress of Milk Conservation Programmes). It is estimated that from 70 to 80 per cent of the pasteurized milk sold from the plants which have received equipment from UNICEF is consumed by mothers and children. This is facilitated by the national scheme of child allowances, under which workers receive 3,000 Dinars (\$10.00) monthly additional pay for each child from 0 to 18 years in the family. In addition, families with children where there is no salaried worker, and there is special need, receive similar children's allowances from Government funds.

6. Infant mortality, in spite of the efforts being made by the Government for improvement in the nutrition of children, is still about 105 per 1,000 live births. A part of this high rate is still associated with "bad milk". Even with the completion of the projected UNICEF plants recommended herein, only about two-thirds of the total milk production of the country can be pasteurized or dried. The Government, therefore, is anxious to continue its efforts of improving milk supplies for children and the population generally, throughout the country. Milk consumption in Yugoslavia in many places is still below pre-war, and averages under 0.1 litre daily per person.

7. Efforts being made by the Government to improve the milk situation are considered of highest priority. In E/ICEF/R.436, para. 10, mention was made that the Government had inaugurated a three-year plan to make safe milk available to children throughout the country. The Government has now embarked on a long-range ten-year programme (1952-1962) for the advancement of agriculture. This calls for the expenditure of 642 billion Dinars (US\$ 2 billion), of which 277 billion Dinars (US\$923 million), or 43 per cent, will be devoted to the improvement of livestock intended to increase milk production by 70 per cent.

8. The Government is stimulating its dairy equipment industry, which is already manufacturing items in the following categories: milk transport and storage tanks, receiving and weighing tanks, batch pasteurizers, plate heaters and coolers, cream-ripening vats, cheese vats, cheese presses, butter churns, milk pumps, steam boilers, conveyors, milk cans, can-steaming jets, milk bottles, bottle crates, milk pipe fittings, milk-testing centrifuges, and certain kinds of laboratory equipment, etc.

9. In the health field, the city of Skoplje has directed that only pasteurized milk may be sold. In Zagreb, the City Board has passed an ordinance stating that all pasteurized milk shall be delivered in bottles. Other cities where suitable facilities are available are moving rapidly in this direction.

10. The Central Laboratory, scheduled to be completed in September 1954, will be located near the Zemun plant, and will use it as an operating dairy in which to train technical dairy staff for the dairy industry throughout Yugoslavia.

11. Equipment for the Central Laboratory was authorized by the Executive Board at its session in April 1952 (E/ICEF/R.330), but its implementation has been delayed until the Government developed a proper organization to operate the Institute. In January 1953, a Milk Industry Institute was established by decree of the Central Government. The Institute is responsible to a National Committee for coordinating the milk conservation programmes and advising on the development of the industry as a whole throughout the country.

12. The Institute is governed by a Board of Management whose members are drawn from all Republics. The following are represented:

Agriculture Faculty, Ljubljana, Slovenia  
 Dried Milk Plant, Osijek, Croatia  
 Agriculture Faculty, Zemun, Serbia  
 Dried Milk Plant, Murska Sobota, Slovenia  
 Milk School, Kranj, Slovenia  
 Faculty of Veterinary Medicine, Belgrade, Serbia  
 Serbian Academy of Science, Belgrade, Serbia  
 Cooperative Union of Macedonia, Skoplje  
 Cooperative Union of Bosnia and Hercegovina, Sarajevo.  
 Cooperative of Milk Enterprises, Zagreb, Croatia  
 Cooperative Dairy, Ljubljana, Slovenia  
 Central Dairy, Sarajevo, Bosnia and Hercegovina  
 Cooperative Union of Montenegro, Titograd  
 Central Town Dairy, Novi Sed, Serbia  
 Union of Agriculture Cooperatives, Zagreb, Croatia  
 Town Dairy, Belgrade, Serbia  
 Agriculture Faculty, Zagreb, Croatia  
 Faculty of Veterinary Medicine, Zagreb, Croatia  
 Cooperative Union, Ljubljana, Slovenia  
 Consumers' Dairy, Skoplje, Macedonia  
 Town Dairy, Zagreb, Croatia  
 Cooperative Union of Serbia, Belgrade  
 Central Cooperative Union of Yugoslavia, Belgrade  
 Town Dairy, Skoplje, Macedonia

13. The Institute consults with the Department of Agriculture as well as the Council of Health, but is not directly responsible to them. The Institute is divided into four main divisions: Dairy Technology; Economics; Engineering; Chemical and Bacteriological Control. This last Division will only begin to function when the Central Laboratory is established at the Institute.

14. The functions of the Institute are outlined as follows:

- (a) Finding practical solutions to problems of dairies in the field of milk collection, price structures, including prices paid to farmers, retail sale prices to consumers, and general economic development of the industry.
- (b) Assisting the Republics in the organization of new dairies.
- (c) Assisting dairies in the planning of lay-outs, preparation of working drawings, and selection of equipment.
- (d) Training of staff in practical work, both for plant operation and laboratory control.
- (e) Training of staff as advisory officers for field work on the farms as well as in dairies.

/(f) Training.....

- (f) Training University students in both plant operation and laboratory control.
- (g) Improving milk quality control through the development of milk-handling regulations.
- (h) Cooperating with the producers in the improvement of milk production and quality control.
- (i) Investigating and selecting chemical and bacteriological tests to be established as standard in relation to controlling quality in milk and milk by-products. Tests will be made in the Central Laboratory within the Institute prior to being put into operation in the dairies.
- (j) Cooperating with the suppliers of equipment within Yugoslavia regarding design and materials.
- (k) Increasing the consumption of pasteurized milk, milk control, and general hygienic improvement on the farms, in dairies, and in the home through education and publicity.
- (l) Developing a technical library.
- (m) Cooperating with foreign agencies, particularly in the field of dairy technology.

15. This Institute, in view of the reception that it has already received in various parts of the country, presents an opportunity for providing leadership in developing a sound dairy policy throughout the country, and should prove to be of inestimable value to the long-range, over-all success of Yugoslav milk conservation programmes. The practical significance of the Institute will lie in its ability to develop leadership in the industry and point out practical means of improving quality of milk practices, lowering handling and production costs, and stimulating milk production and consumption.

#### Government Request

16. The Government of Yugoslavia has requested that UNICEF extend assistance in the form of equipment for:

- (a) A combination pasteurizing and sterilization plant at Zemun to handle 31,000 litres of milk per day;
- (b) The establishment of a pasteurizing plant at Kragujevac to handle 5,000 litres of bottled milk per day;
- (c) Gas packing equipment for milk powder at Osijek in connection with the plant already provided by UNICEF;
- (d) Powder packing (without gas) at Zupanja;

/(e) Assistance.....

- (e) Assistance to three small dairies at Split, Tuzla, and Titograd, but there has been no opportunity for "on the spot" surveys by UNICEF representatives, and assistance for these plants is omitted from this Recommendation.

#### Zemun

17. The request for assistance to Zemun is a renewal of the request made by the Government to UNICEF a year ago, but at that time the Administration was not in a position to recommend funds for the equipping of this dairy. Further careful surveys by FAO and UNICEF staff members during the 1953 season have substantiated the great need for this plant at Zemun, which will work in conjunction with the city dairy at Belgrade, which has already received UNICEF assistance. It was found to be impractical to enlarge the existing Belgrade plant sufficiently to meet the entire needs of the city. Further, this unit in Zemun, across the Sava River from the central dairy located in the heart of Belgrade, will add greatly to the economy of milk collection and distribution in the Zemun area. The proposal is to provide, at the Zemun dairy, a pasteurizing unit to handle 30 to 40,000 litres of pasteurized milk daily and to add a small sterilizing unit to handle 1,000 litres per day. The city of Belgrade has a population of about 500,000 inhabitants. The present Belgrade central dairy has a capacity of 60 to 70,000 litres per day, but cold storage facilities will permit only about 35,000 litres per day to be bottled. The extension of the existing building is impractical, so a new building on a new site will eventually be erected to use the present equipment and meet the expanding needs of the city. Even when the new building is erected, the smaller dairy at Zemun will still be essential.

18. Approximately 8,000 children will receive 1/4 litre of pasteurized or sterilized milk free daily from the throughput of this plant.

#### Kragujevac

19. This town was included in the Government's three-year plan (E/ICEF/R.436) as a possibility for a dried-milk plant. The area was surveyed by a FAO/UNICEF team in March 1952, and although it was very favorably considered, it was felt at the time that Murska Sobota was a more suitable locality for a dried-milk plant.

20. Kragujevac, a small industrial city with a rapidly expanding population of about 40,000, and a child population of about 13,000, was found to be in great need of facilities for a pasteurizing and bottling milk plant. The population is expected to reach 60,000 within a few years.

21. The present average daily milk consumption per person is only about .10 to .13 litres, yet it is estimated that about 20,000 litres a day could be made available in the region for pasteurizing and bottling. From this throughput, approximately 3,000 children would receive free 1/4 litre daily throughout the year. The rest of the population would have safe milk available for purchase at normal market prices.

#### Osijek

22. The dry-milk plant at Osijek is now working at full capacity, and powder produced at the plant is being distributed throughout the country. Originally, the powder was packed in 20-kilo containers. A more sanitary and acceptable 1/2-kilo paper package was adopted in 1952. It is now the policy to distribute all milk powder in the smaller containers through chemist shops. Approximately 42 per cent is distributed free, and the remainder on a priority basis to mothers and children, and others on doctors' prescriptions.

23. The quality of the powder produced is excellent, and since it is only partially de-fatted, the fat oxidizes if the powder is held too long in the paper containers. The life of the powder is limited to from four to six months in the present containers. The season of greatest powder production is during the summer months, while the season of greatest use is winter and late spring. Thus, difficulty is being experienced in keeping the powder.

24. To ensure the milk powder keeping fresh and usable for six months or more, it is proposed to gas-pack in tins a sufficient proportion of the output of the Osijek plant to meet the needs of the more remote areas. Because it is cheaper to pack in paper, the remainder will continue to be packaged in paper. UNICEF has been requested to provide the essential gas-packaging equipment.



Zupanja

25. When equipment for this factory was originally purchased by UNICEF, no filling machine for the powder was included, and all powder produced has been packed in paper bags of about 20 kgs. each. Packing in smaller containers eliminates contamination and the trouble of re-packaging for distribution for home consumption by mothers and children; therefore, the Government has requested UNICEF to supply a powder-packing machine for kilo and  $\frac{1}{2}$ -kilo containers. Gas-packing equipment is not requested, as it is the Government's policy that the powder from Zupanja should be for immediate consumption when the factory at Osijek is equipped to meet the demands for powder with longer keeping qualities.

Government Commitments

26. The Government of Yugoslavia undertakes, in connection with the above proposals, to provide, in cooperation with the appropriate local administrative units:

- (a) Capital Costs. Land, buildings, cold store insulation, water, steam, electrical and sewerage services, labor, storage tanks, can washers, cans, crates, bottles, conveyors, coolers, and water pumps. The estimated cost of these items is 290,000,000 Dinars (US\$ 970,000).
- (b) Milk Distribution. Free milk distribution, in addition to those schemes already in being or foreshadowed in previous UNICEF recommendations, to approximately 8,000 children in Zemun and 3,000 children in Kragujevac, who will receive  $\frac{1}{4}$  litre of milk per day for 300 days per year free of charge. The five-year value of this free distribution is 107,000,000 Dinars (US\$358,000).
- (c) Quality of Milk. Through facilities of the Milk Institute, the Government will strive to improve the quality of milk on the farms, and to improve conditions of processing so that the product at the point of distribution will reach a very high standard.
- (d) Training. Also through the facilities of the Milk Institute, the Government will develop practical training courses for dairy managers, laboratory technicians and other specialized personnel, using the proposed Zemun dairy for this purpose.

/UNICEF.....

UNICEF Commitments

27. UNICEF would provide:

- (a) For Zemun: a 5,000 litre per hour pasteurization plant with milk reception, filtering, separating and bottle-filling and washing equipment; refrigeration equipment; sterilization unit of 1,000 litres per day capacity; laboratory equipment; and ancillary imported equipment.
- (b) For Kragujevac: a 3,000 litre per hour pasteurization plant with milk reception, filling, separating and bottle-filling and washing equipment; refrigeration; laboratory equipment; and ancillary imported equipment.
- (c) For Osijek: Gas-packing machine to fill kilo and  $\frac{1}{2}$ -kilo tin containers with milk powder.
- (d) For Zupanja: Powder-packing machine (not gas) for kilo and  $\frac{1}{2}$ -kilo containers.

The total cost of the above items is estimated at \$140,000.

28. If this recommendation is approved, it will complete UNICEF aid to the Yugoslav Government's three-year programme. As pointed out in paragraph 16 (e) of this paper, the Government has requested assistance for three additional fluid milk plants at Split, Tuzla, and Titograd, regarding which no recommendation is made in this paper. These installations, as well as installations in some 20 to 30 other small cities, are a part of a new ten-year plan recently adopted by the Government. The tremendous strides which the country itself is making in the development of milk handling and processing equipment has a most important bearing upon the extent of assistance that eventually may be requested from UNICEF in order to meet the basic needs of the country's children for safe milk. The Yugoslav Government has not yet decided whether it will make any further request to UNICEF.

FAO Participation and Technical Approval

29. A FAO resident adviser to the Government participated in the joint FAO/UNICEF surveys leading up to the formulation of this plan. This recommendation has the technical approval of FAO. The FAO adviser is expected to continue in residence in Yugoslavia throughout 1954.

/Duration of.....

Duration of the Plan of Operations

30. If favorable action on this proposal is taken by the Executive Board, the detailed plan of operations signed on 23 October 1952 will be supplemented as necessary to incorporate the proposals outlined in this paper and extended to seven years from the date of amendment.

Target Dates

31. Agreement on amended plan of operations.....June 1954  
 Placing of contracts..... September 1954  
 Completion of buildings and services  
 ready for reception of the UNICEF equipment..... May 1955  
 Delivery of equipment..... May 1955  
 Installation completed..... August 1955  
 Start-up of plants.....,..... September 1955  
 Distribution to beneficiaries to start.....October 1955

UNICEF Representation and Basic Agreement

32. The UNICEF Regional Office in Paris will continue to cooperate with the Yugoslav Government in the implementation of these projects. The basic agreement with Yugoslavia was signed on 20 November 1947 and continues in effect.

Previous UNICEF Aid

33. UNICEF aid to Yugoslavia to date is as follows:

<u>Long-Range</u>	<u>Shipped</u>	
	<u>1947-1953</u>	<u>1954 and after</u>
MCW (including transport)	\$866,100	\$185,600
Mass Health		
Insect-borne diseases	182,300	-
VD	370,500	-
BCG	280,500	200
TB	193,600	-
Other communicable diseases	161,800	-
Production- Penicillin	85,300	5,300
- Sera and vaccine	65,000	200
- Plasma	118,800	7,300
Child Nutrition	265,000	-
MCP	1,059,500	303,500
<u>Emergency</u>		
Feeding	9,858,800	-
Raw Materials	1,271,600	-
Other	191,200	-
<u>Unprogrammed Balance</u>		6,200
TOTAL	<u>\$14,970,000</u>	<u>\$508,300</u>

/Recommendation...

Recommendation

34. The Administration recommends, subject to the availability of funds:

- (a) an apportionment to Yugoslavia from the European Area allocation of \$140,000 for supplies, equipment, and related services for fluid-milk plants to be erected at Zemun and Kragujevac and for extension of facilities at the drying plants at Osijek and Zupanja;
- (b) that the Administration be authorized to approve amendments to existing plans of operations as outlined above.