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08897

Distr.
LIMITED

UNIDO/IOD.237
18 January 1979

ENGLISH
ORIGINAL: FRENCH

UNITED NATIONS INDUSTRIAL
DEVELOPMENT ORGANIZATION

(R) UPGRADING MARKETING AND PRODUCTION TECHNOLOGIES AT TEKEL (GENERAL DIRECTORATE OF MONOPOLIES),

TURKEY.

DP/TUR/76/007.

Mission report: Practical training in Italy.

Prepared for the Government of Turkey by the
United Nations Industrial Development Organization,
executing agency for the United Nations Development Programme

Based on the work of Mr. M. Ferrarese

id.79-282

Explanatory notes

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SUMMARY

As part of a project to provide assistance to the General Directorate of Monopolies (TEKEL), DP/TUR/76/007, entitled "Upgrading marketing and production technologies at TEKEL", a UNIDO expert accompanied a Turkish delegation to Italy, where visits were made to many companies producing wine and alchoholic beverages. Production techniques were studied during the visits. The mission lasted from 15 October to 3 November 1978.

INTRODUCTION

One of the duties of the General Directorate of Monopolies (TEKEL) is to purchase large quantities of barley, hops, grapes, raisins and aniseed, which are the raw materials used for the production of alchoholic beverages. The raw material, after processing in Turkey, is sold on the domestic market or exported. Demand is considerable, and TEKEL cannot fully meet the requirements. Plans for expansion include the use of modern production methods; to carry out the plans, TEKEL requested assistance from UNDP and UNIDO in 1976.

As part of a programme of assistance - which also covers marketing and training - a Turkish delegation visited various companies in Italy that produce wine and alchoholic beverages and studied the techniques used. This report is an account of the visits.

Project DP/TUR/76/007 is entitled "Upgrading marketing and production technologies at TEKEL". The UNIDO expert's mission lasted from 15 October to 3 November 1978.

ACCOUNT OF ACTIVITIES

The purpose of the mission was not only to visit a certain number of companies, but also to take part in a genuine course of practical on-the-job training. Each sector was analysed and evaluated in its own context.

The expert prepared an account of the day courses in the order of the places where they were held.

In Rome, the expert and the Turkish delegation visited the Maccarese agricultural estate and observed the mechanical harvesting method used. The Turkish participants in the course were seeing the technique for the first time. Discussions followed on the technical and economic advantages of the new harvesting system.

At Poggibonsi, near Siena, a visit was made to Frilli, where the participants studied the problems of installations for processing fermented marcs, with extraction of the alcoholic phlegmas and calcium tartrate, and treating distillery effluents. The new continuous still, which reduces working time considerably and makes it possible to prevent the spoiling of the raw material (vegetable matter) or high solvent losses (marcs) caused by overlong storage periods, was also examined, as were the installation for processing fruit or other material containing sugar, and the distillation, rectification, extraction, concentration, cooling, and other installations.

At Cortona, also not far from Siena, participants were able to observe and discuss at the wine co-operative a new system of hot vinification, developed by the "Agenzia Enologica Italiana" consultancy office in Milan. The method is an experimental one quite unlike those currently in use in Europe.

In Milan, a visit to Campari - where the work is automated scientifically - was particularly interesting. In the chemical laboratory, electronic apparatus from Houston, Texas, (NASA) is used for the extremely accurate analysis of the molecular composition of water-alcohol solutions, essences, and colouring agents so as to be able to monitor and ensure the uniformity and consistent properties of the products (wine, bitters, brandy) made in the 18 Campari plants in various countries.

Also in Milan, at Pressindustria, the delegation was able to see the remarkable economic advantages to be derived from utilization of the by-products of wine-making, which requires special technico-scientific equipment.

Experts from the factories manufacturing such equipment prepared diagrams to explain more clearly their operation in the production cycle for protein extracts used for baby foods and dry yeast, which is in great demand on the international market.

At Como, a visit was made to Dal Cin-Milan, where the problems of filtering wine and other beverages, and the company's equipment, were examined. The equipment included:

A filter press with stainless steel wire elements, a large collecting tank and acid-resistant synthetic rubber fittings to hold the oxidized silicon-aluminium alloy frame, special sectors to spread the jet (40 x 40 cm external dimensions), and, on request, stainless steel frame. The unit is small and cylindrical, and contains everything needed to obtain any degree of filtration - from removal of large particles to superfiltration with microbe removal, without plates or boards - operating semi-automatically and at high pressures (up to 8 atm);

A new universal monopress for fresh lees, rough wines and wines rich in lees, musts, and sweet wines;

A monofil filter, for exceptional and constant throughput, with an instant automatic self-cleaning feature;

An automatic machine for air removal and gasification, a most interesting design that copes in an original fashion, giving results never achieved before, with the multiple requirements of wine gasification, even without previous cooling.

At Dal Cin-Milan participants also studied the value of chemicals for preventing diseases, spoilage and cloudiness in wine. Books on the chemicals and the ways of using them were given to the Turkish delegation.

In Turin, a visit to Martini and Gancia, who produce wine, sparkling wine, vermouth, and aperitifs, showed the perfect organization of work in the various production departments, and the various methods of vinification, stabilization, classification and filtration.

In Milan, at Gianazza, participants studied equipment for wine cooling, pressing, and demethylization of neutral spirit.

In Verona, at Bolla, participants observed grape vinification by the latest methods and the aging process for Bardolino and Valpolicella wines. At the Soave communal cellar installations, the largest in Europe, the participants studied and discussed the problems of vinifying white and red grapes in special autoclaves and were also very interested by the way in which the wine producers were organized in co-operatives - a form of organization that is spreading in the wine sector.

At Conegliano, the delegation visited the oldest wine-makers' school, which has at present 1,500 students from various countries, and were given information regarding the importance of technical training in the wine industry.

In Trieste, at Stock, the delegation observed the bottling of brandy, orange brandy, creme cacao, maraschino, triplesec, Keglevich vodka, rum, courville, etc. and heard about the problems involved.

At San Vittore, a seminar was held during which the problems encountered at the installations visited were summarized, and the application of the systems and methods seen for improving Turkish wine production were discussed.

During the visits, the tasting of wines, liqueurs, brandies, and eaux-de-vie enabled participants to distinguish the differences in taste and other sensory properties between the Italian and Turkish products.

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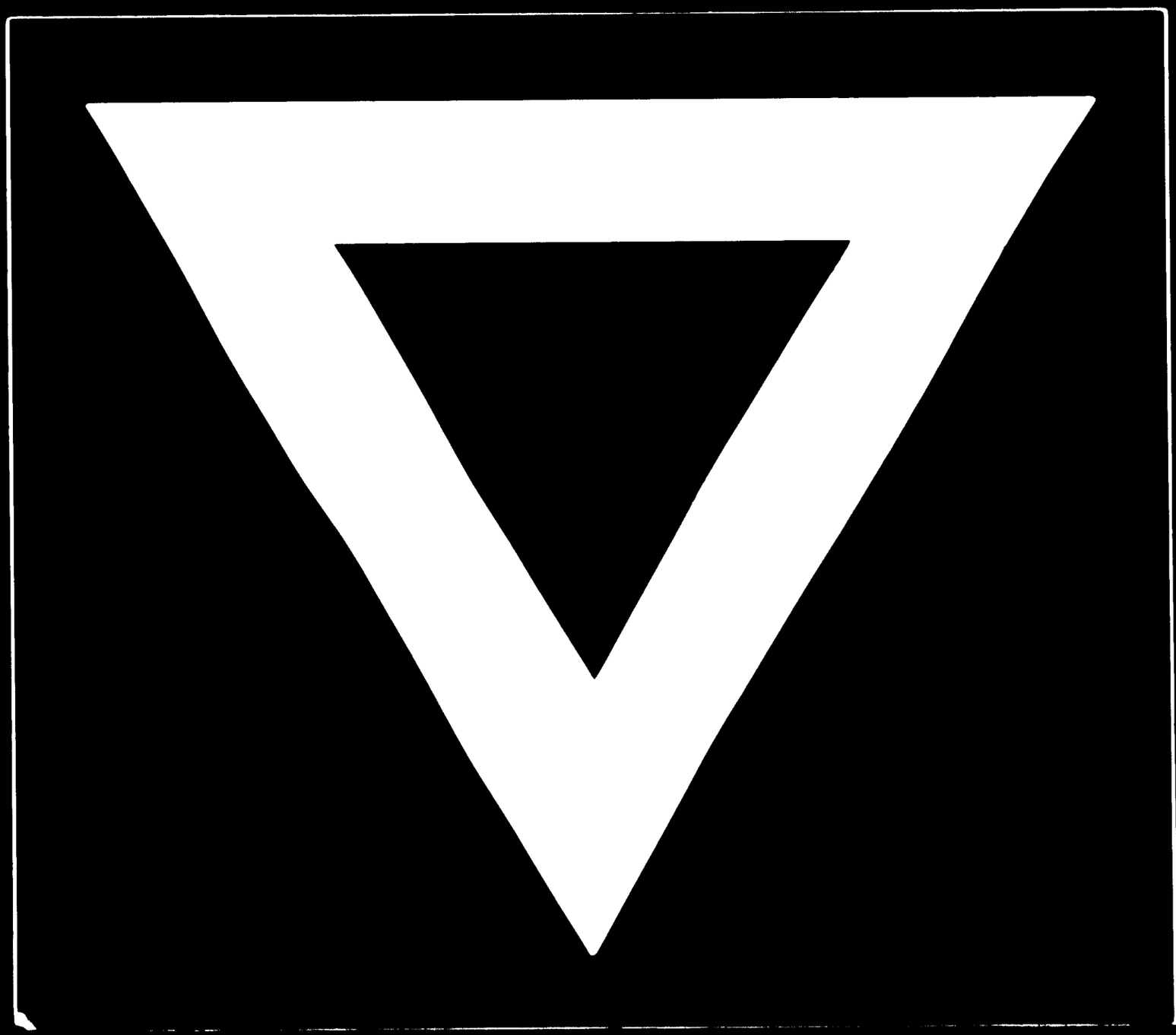

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