



**Economic and Social  
Council**

Distr.  
GENERAL

E/C.7/1994/12  
8 February 1994

ORIGINAL: ENGLISH

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COMMITTEE ON NATURAL RESOURCES  
Second session  
22 February-4 March 1994  
Item 3 of the provisional agenda\*

ACTIVITIES OF THE UNITED NATIONS SYSTEM IN THE  
FIELD OF WATER AND MINERAL RESOURCES, AND  
INTER-AGENCY COORDINATION

Activities of the United Nations Revolving Fund for Natural  
Resources Exploration

Report of the Administrator of the United Nations  
Development Programme

SUMMARY

The present report is submitted in accordance with Economic and Social Council resolution 1762 (LIV) and decision 1993/302. The report provides information on programme activities, finance and management and complements the annual report of the Administrator on UNDP-administered funds.

The discussion of financial and administrative matters indicates the constraints imposed by the decrease in core resources but also points to the continued support of the developing countries. Despite the decrease in core resources the success of the Fund's efforts in assisting developing countries in exploring their mineral resources and attracting investment funds to exploit those resources should be noted. The management of the Revolving Fund was merged with that of the United Nations Fund for Science and Technology for Development in 1991 in order to respond to the declining levels of voluntary contributions.

\* E/C.7/1994/1.

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## I. PROGRAMME OVERVIEW

1. The United Nations Revolving Fund for Natural Resources Exploration continued operations on a much reduced scale compared to the 1980s. The successful projects such as Ecuador (silver) and the Philippines (chromite) were both in production during the reporting period and it was the latter project which provided the Fund's first replenishment. Ecuador on the other hand had not yet made a replenishment due to failure to meet the 60 per cent rated capacity. The Fund closely follows up the progress of the mine production. Several other successful projects such as Honduras (gold and base metals), Guatemala (gold and base metals), Peru (alluvial gold) and Bolivia (alluvial gold) were awaiting private investment to exploit the Fund's discoveries. The Fund concentrated on assisting these countries in attracting the investment required. The assistance was in the form of legal advice and help in preparing international bidding documents aimed at stimulating the interest of private international mining companies.

2. Although the Fund did not receive the level of voluntary contributions required to satisfy the demand of the developing countries for assistance in exploration, cost-efficient strategies were employed which allowed implementation of a much reduced programme. The increased utilization of national professionals, and local consultants and local consulting firms contributed to lower costs. In addition, the merging of the United Nations Revolving Fund for Natural Resources Exploration and the United Nations Fund for Science and Technology for Development resulted in a 50 per cent reduction in staff at Headquarters, which was consistent with a system-wide staff reduction. Despite this, the Fund continued its operations during the 1991-1993 period and was able to claim economically viable reported mineral deposits in its Bolivia, China, Guatemala and Honduras projects. A gold deposit was discovered in 1992 in the United Republic of Tanzania.

## II. PROGRAMME ACTIVITIES

3. During 1991-1992, pre-investment follow-up activities for the Fund's economically viable mineral discoveries were concentrated in Honduras, Guatemala and the Philippines. During the reporting period, the Fund continued its mineral exploration activities under very tight financial constraints. Geothermal exploration activities were limited to project formulation and fund-raising to implement these projects.

4. The final report on the exploration for gold in the Suches area of Bolivia was completed and submitted to the Government of Bolivia in October 1992. A reported mineral deposit was claimed, which will entitle the Fund to replenishment contributions when the deposit goes into production. Field activities in Bolivia consisted of detailed glacio-geological mapping, drilling, pitting and laboratory analyses. The discovery was characterized as containing ore reserves of 13 million cubic metres with a content of 300 mg Au/m<sup>3</sup>.

5. The Peoples Republic of China confirmed the receipt of the final report on the exploration for pyrophyllite deposits. Extensive diamond drilling,

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trenching, pitting, chemical analysis, ore-dressing tests and a prefeasibility study have resulted in identification of total reserves of pyrophyllite ore at about 12 million tonnes in the Donzi area. The readily saleable portion, suitable for refractories, of the total tonnage amounts to 1.4 million tonnes. The total reserves of the Lingli area amount to 4.3 million tonnes of fairly good quality pyrophyllite ore. This successful project will generate future replenishment payments to the Fund.

6. The Government of Guatemala received the final report on the exploration for precious and base metals in Guatemala in September 1992. The discovery of a significant gold deposit, El Pato, with tonnages of 2.0 million tonnes and an average gold content of 7.0 g/t is claimed in the report.

7. The final report on the exploration for precious and base metals in Honduras was prepared in three parts and submitted to the Government in January 1992. Two economically viable mineral discoveries were claimed: the Yuscarán silver-gold deposit and, at Quita Gana, the proved resources of the reported mineral deposit, which have been calculated at 1.7 million tonnes grading 2.3 per cent Cu; 3.8 per cent Zn and 55 g/t Ag. In addition, there is a potential of at least 5 million tonnes of economic grade Pb-Zn-Ag mineralization.

8. In the Philippines the reporting period was mainly devoted to systematic exploration for secondary chromite deposits on Dinagat Island. A series of metallurgical tests on a pilot-plant scale were carried out during 1993. Implementation of gold exploration in Exploration Area III, Mapawa, on the Surigao mainland, was initiated in May 1993, with field work completed by the end of year.

9. In the United Republic of Tanzania, the exploration for gold in the Canuck and Geita areas started in February 1992. Field activities were completed in the Nyamulilima Block of the Geita area, and in October 1992 work was initiated in the Geita Hill Block of the same area. A gold-bearing mineralized zone was discovered measuring approximately 3 kilometres in length and 10 metres in width. Trenches were sampled and revealed grades ranging from 3 to over 10 grams per tonne. Further work was planned to investigate the depth continuity of this zone by drilling.

#### Pre-investment follow-up activities

10. The Fund's discovery of the Yuscarán gold-silver deposit in Honduras has attracted several private investors. During the reporting period, the Fund's assistance to the Government of Honduras in follow-up activities was nearing completion. Documents for international bidding were prepared and the advertising campaign to attract international mining companies to develop the Yuscarán deposit was launched.

11. The Fund's activities in Guatemala were aimed at assisting the Government to prepare the "Convocatoria" for publishing. This call for bids to develop the gold deposit at El Pato was awaiting publication in 1993.

12. The reimbursable loan to the C6ngo for the feasibility study of the off-shore phosphorite deposit discovered by the Fund was due. The Fund initiated steps to collect this loan, payable in accordance with the terms of the loan agreement. At the end of 1993 no payment had been received.

#### Active Pipeline Projects

13. Project development activities continued throughout the reporting period. The Fund responded to several requests from developing countries for assistance in mineral exploration programmes. Among the potential recipients were Cuba, Estonia, Guinea, Mongolia, Myanmar, Namibia, the Democratic People's Republic of Korea, Sri Lanka and Viet Nam. Concrete proposals have been received from these countries; in the case of Guinea, a request was received for assistance in the exploration for base and precious metals and diamonds. In Sri Lanka, a project to explore for heavy mineral beach sands rich in monazite, ilmenite, rutile and zircon was scheduled for start-up in December 1992. Due to lack of funds this project had to be cancelled. In Viet Nam, the project agreement to explore for zinc and lead was sent to the Government for signature. Due to some unexpected difficulties in defining the excluded area, the ratification of the agreement was not completed. Requests for assistance were evaluated for the following countries: the Democratic People's Republic of Korea, for hard rock and alluvial gold; Namibia, for base and precious metals; Myanmar, for base metals, gold and diamonds; and Mongolia, for gold. With a pipeline of defined projects, it is regrettable that sufficient funds were not available to implement them.

14. The Fund has in the pipeline geothermal projects of a particularly high potential for success in Argentina, Nicaragua, Costa Rica, Mexico, China and Russia. However, project execution cannot take place until sufficient funds become available to implement these projects.

15. China (Western Yunnan Geothermal Field). The Fund prepared a project document after several years of cooperation and several long missions undertaken jointly with the top-level manager of the Italian Government Corporation (ENI/AGIP/ENEL Group). The project area requires a strong input from electricity generated by geothermo-electric generators because of the presence of several small and mid-size factories, which have not been able to operate properly. Initial installation of a 5 MW power plant is envisaged.

16. Russia, St. Petersburg. The Fund has signed a mutual agreement with the Leningrad Mining Institute regarding technical and economic cooperation in the field of geothermal energy for space heating. The assistance is also intended to provide support in fund-raising with international financial institutions.

17. Nicaragua (El Hoyo-Monte Galan-San Jacinto, Tizcate Geothermal Field). The Fund participated in the effort of the local government to install in a medium-term period a third generation unit of a 35 MW power plant.

18. Costa Rica (Tenorio Volcano, Guanacaste Geothermal Field). The project is at an advanced stage of development, with indications of support from the Government of Italy. There will be a preliminary installation of a 5 MW power plant unit and a probable follow-up of a 55 MW geothermo-electric unit in the medium term.

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19. Mexico, Nayarit State (Ceboruco Volcano, Nayarit Geothermal Field). After 5 years of continuous cooperation with CFE and the Government of Mexico and an investment of more than US\$ 1 million, the Fund has contributed to the discovery of a very large geothermal reservoir.

20. Argentina, Nuequen Province - Patagonia (Nuequen Geothermal Field). The Fund has been requested by the local government to assess the existing geothermal field in order to prepare a project document for an advance feasibility project. One 20-25 MW power plant is foreseen in the medium term.

### III. FINANCIAL AND ADMINISTRATIVE MATTERS

21. The financial picture of the Fund is presented in the annex to the present report. The Government of Italy contributed 1 billion lire (equivalent to US\$ 896,000) to core resources in 1991 and US\$ 854,700 in 1992. Project expenditures amounted to US\$ 2.2 million for 1991, US\$ 1.54 million for 1992 and US\$ 1.2 million for 1993 from core resources.

22. The Revolving Fund, operating under common management with the United Nations Fund for Science and Technology for Development, in accordance with decision 90/39 of the Governing Council of the United Nations Development Programme, has reduced its administrative expenditure from US\$ 1.44 million in 1990 to US\$ 1.09 million in 1991, US\$ 96,000 in 1992 and US\$ 80,000 in 1993.

### IV. CONCLUSION

23. During its 20 years of operation, the Fund has expended a total of approximately US\$ 78 million and discovered mineral resources having an estimated potential value of US\$ 1.5 billion. The concept of a revolving fund for natural resources has been demonstrated to be workable. Replenishment contributions have just begun from the successful chromite project in the Philippines, and the successful work of the Fund has been recognized by Governments in both developing and developed countries. However for complete success to have been achieved as envisioned by the Economic and Social Council in 1973, a higher level of voluntary contributions would have been required.

AnnexUNITED NATIONS REVOLVING FUND FOR NATURAL RESOURCES  
EXPLORATION: RESOURCE AVAILABILITY AND UTILIZATION

(Millions of United States dollars)

	Actual			Estimated		
	1990	1991	1992	1993	1994	1995
I. Availability of resources						
Balance as at 1 January	<u>4.12</u>	<u>2.70</u>	<u>2.31</u>	<u>2.09</u>	<u>2.19</u>	<u>1.84</u>
Additional resources received						
Voluntary contributions	1.83	3.20	2.17	2.10	2.00	1.50
Cost-sharing contributions	0.20	0.20	0.00	0.00	0.00	0.00
Sub-trust fund contributions	0.00	0.20	0.00	0.00	0.00	0.00
Extrabudgetary contributions	0.00	0.00	0.00	0.00	0.00	0.00
Interest and other income	<u>0.96</u>	<u>(0.60)</u>	<u>0.11</u>	<u>0.02</u>	<u>0.10</u>	<u>0.08</u>
	<u>2.99</u>	<u>3.00</u>	<u>2.28</u>	<u>2.12</u>	<u>2.10</u>	<u>1.58</u>
TOTAL	<u>7.11</u>	<u>5.70</u>	<u>4.59</u>	<u>4.21</u>	<u>4.29</u>	<u>3.42</u>
II. Utilization of resources						
Project costs:						
General resources and cost-sharing <u>a/</u>	2.95	2.17	1.08	0.65	1.00	0.90
Sub-trust funds	0.00	0.13	0.00	0.02	0.05	0.00
Technical Support Services <u>b/</u>	0.00	0.00	0.46	0.55	0.40	0.30
Biennial budget expenditure	1.44	1.09	0.96	0.80	1.00	0.80
Extrabudgetary activities	<u>0.02</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
	<u>4.41</u>	<u>3.39</u>	<u>2.50</u>	<u>2.02</u>	<u>2.45</u>	<u>2.00</u>
III. Balance of resources as at 31 December						
General resources	<u>2.70</u>	<u>2.31</u>	<u>2.09</u>	<u>2.19</u>	<u>1.84</u>	<u>1.42</u>
IV. Resources available for further programming						
General resources as at 31 December (as in III above)	2.70	2.31	2.09	2.19	1.84	1.42
Less: unspent project allocations	<u>3.00</u>	<u>1.02</u>	1.06	<u>1.00</u>	<u>1.00</u>	<u>0.70</u>
Balance available as at 31 December	<u>(0.30)</u>	<u>1.29</u>	<u>1.03</u>	<u>1.19</u>	<u>0.84</u>	<u>0.72</u>

a/ Including pre-project expenditure.b/ Part of the project costs.

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