



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

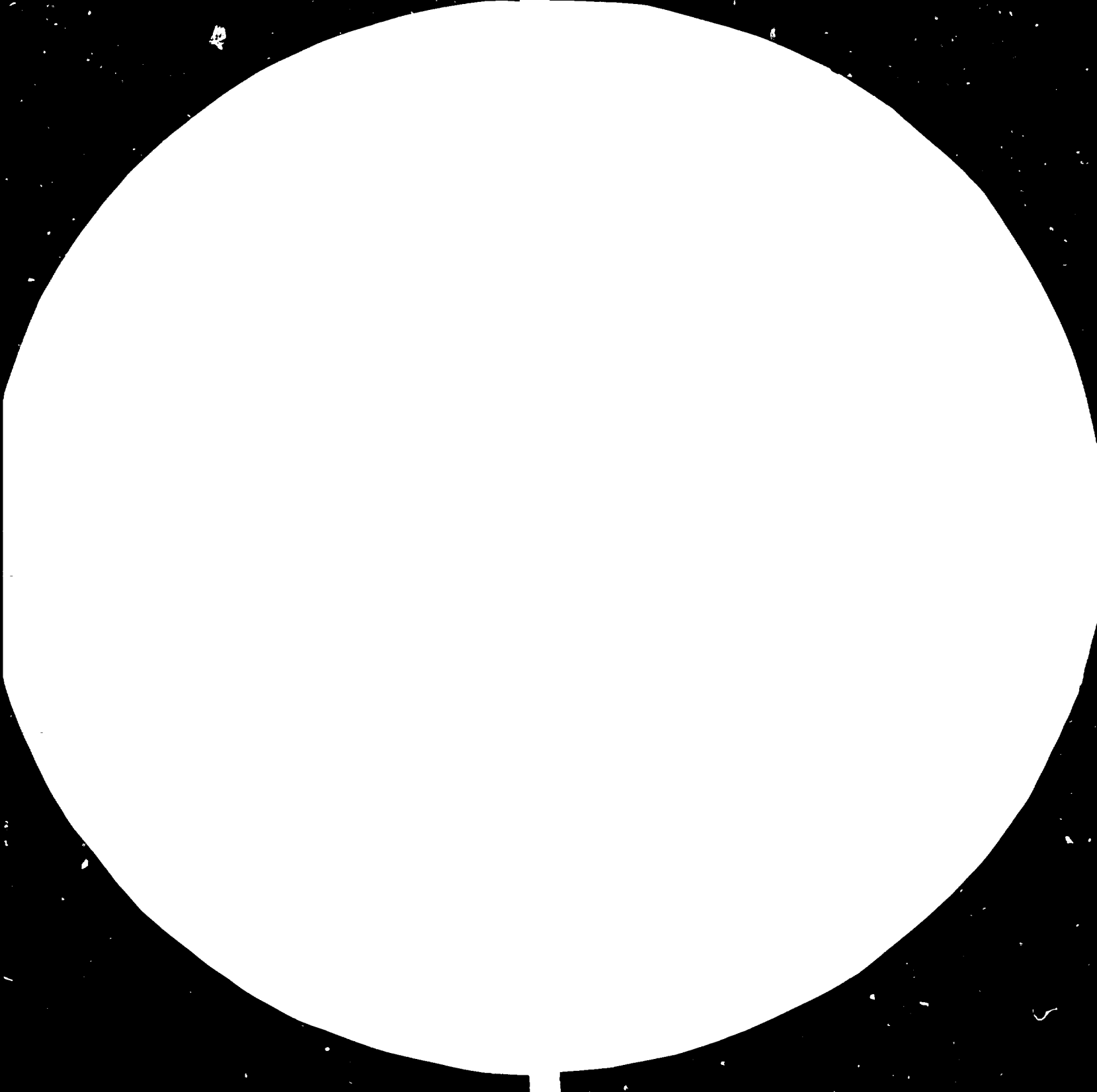
FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

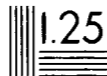
Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org





24 25



Resolution Test Chart, 1951, 1000 Lines
Resolution Test Chart, 1951, 1000 Lines
Resolution Test Chart, 1951, 1000 Lines
Resolution Test Chart, 1951, 1000 Lines
Resolution Test Chart, 1951, 1000 Lines

14540

SALT PROJECT, GAMBIA

RESTRICTED
4 February, 1982
1985

TERMINAL REPORT

SI/GAM/84/801

Prepared for

The Government of the Republic of Gambia

By

C. L. MALHOTRA

Expert

United Nations Industrial Development Organisation Vienna

Acting

as Executing Agency for

The United Nations Development Programme

NCIE : This report has not been cleared by the United Nations Industrial Development Organisations, Vienna and the views expressed herein are not therefore necessarily shared by them

C O N T E N T S

Chapter No.	Title	Page No.
	Summary	
	Recommendations	
1.	Selection of team of Indian Workers	1
2	Preparation in Gambia for workers team before their arrival in Gambia and coordination work for commencement of the project in the field	3
3	Evaluation of report of investigations by different agencies	9
4	Planning for production of salt in the Gambia on long term basis	12
	ANNEXURE-I	14

(i)

P R E F A C E

Post : SI/GAM/84/801 - Salt Project in Gambia

The first phase of the mission was carried out in 2 split missions viz.

- (i) 18 November thro' 27 November 1984 in India in connection with item (1) of the Duties in the Job Description.

- (ii) 8 January thro' 4 February 1985
 - (a) At the duty station (Banjul)- 13 January thro' 25 January 1985 for field work in connection with items (2), (3) & (4) under Duties of the Job Description.
 - (b) In Vienna - 26 thro' 29 January 1985 for debriefing.
 - (c) In Delhi - 30 January thro' 4 February 1985
 - (i) for follow up action on UNIDO Contract MK/1/85.
 - (ii) for briefing the supervisor of the Indian workers team
 - (iii) for writing the terminal report (item 5 of the JD)

The duties carried out by the expert and mentioned above as per J.D. are :

1. To select two male and two female salt workers cum interpreter in India;

(ii)

2. Prepare with the Government and UNDF Banjul, the mission of the workers and coordinate the commencement of the project in the field;
3. Evaluate and give advice on the report of the Water Resources Department, the salt market studies entrusted to the Community Development Department and the socio-economic survey of the women of Dalsilami;
4. Prepare with the back stopping officer in Vienna, a long term development plan how to further strengthen Gambia's possibilities of producing more salt in the country;
5. Write a report summarising his observations and give recommendations for future work.

The observations, findings and recommendations of the expert are contained in the following pages of this report.

SUMMARY

1. M/s Salt Consultancy Services have been awarded contract No. 85/1/MK by UNIDO Vienna for preparing the selected team of Indian workers to proceed to the Gambia alongwith necessary tools and instruments. Necessary preparations in this regard are at an advanced stage of completion. The team and the tools are likely to leave India in the second week of February 1985.
2. All arrangements for housing, labour, tools, materials, transport etc. are likely to be ready at the project site before the arrival of the team in Banjul.
3. The Director Community Development Department has agreed to ensure that the progress of the project would not suffer on account of delays etc. and the UNDP Banjul will monitor and provide required support for the successful implementation and completion of the project according to a pre-planned time schedule.
4. The training of the two Gambian candidates in supervisory duties in India may be postponed in view of the shortage of time left for arranging training at the appropriate time of the year. Instead, they may be attached with the supervisor of the Indian team during the teams stay in the Gambia, to learn and acquaint themselves with the nature and manner of performing different supervisory duties.

5. According to the opinion of the Water Resources Department of Gambia, the work of locating the sites of the new units should be carried out after advance trial pitting etc. The Supervisor of the Indian team has been advised accordingly to bear this point in mind while demarcating the site of units.

6. Regarding market for the Gambian salt, the Director, Community Development Department has assured that the marketing of Gambian salt of white colour would provide no problems as different agencies have agreed to help marketing the product.

7. Even though according to Mr Nath's report the women-labour at Dalsilami have shown willingness to work in the new units, it is advisable that the number of new units should be constructed in a phased manner as per actual requirements.

8. As the Government of Gambia has finalised separate scheme for installation of a salt plant of 14000 tonnes per annum capacity. UNIDO assistance to develop Gambia's salt industry may be restricted to the implementation of the present project and its further extension if desired by the Government.

RECOMMENDATIONS

1. The work of construction of new units at Dalsilami should be taken up in hand in a phased manner ensuring good workmanship and leaving sufficient time for the Indian team to train the local women workers and supervise their work in actual manufacturing operations.
2. During the course of construction of units, if it is considered expedient to strengthen the present team, UNIDO may consider sending the second team even for a shorter period so as to realise full objectives of the mission.
3. A detailed evaluation of the project (units constructed in Dalsilami with the help of Indian team and training imparted to the local workers) should be carried out by the expert towards the end of May, 1985, with a view to consider further UNIDO assistance for extension of the project in 1986.

CHAPTER - 1

SELECTION OF TEAM OF INDIAN WORKERS

[Indian portion of the first phase split
mission - 18 Nov thro`27 Nov 1984]

- 1.1 The team for the year 1983 mission was selected out of the candidates sponsored by M/s Salt Consultancy Services, 2 Cathedral Road, Madras. That team fully proved its worth. Therefore this very agency was requested to sponsor the same or new workers. The previous Supervisor and one of the old couple were not available and therefore, others were sponsored. They were interviewed on 21 to 24 November at Madras (10 were summoned out of which one was the old couple). A panel of workers (4 couples) was selected in the following order :-
1. Govindasamy and Saroja (old couple)
 2. Kaliappan and Sharada
 3. Chinathambi and Anjamma
 4. Kalyanam and Jai Laxmi
- 1.2 The first two couples were selected. For the post of supervisor cum interpreter, Mr. Balakrishnan a retired officer of the Salt Department, Government of India, offered his services, and he was selected on the basis of his qualifications and experience especially his experience in the small scale sector of the salt industry. The two selected couples own their own village type units in their native village and produce salt from them by the traditional manual methods. Their experience was found to be suitable for the type of work they would be required to carry out in the Gambia.

Besides their experience and availability, other points like physique, temperament and other antecedents were found to be in order.

- 1.3 Regarding the terms and conditions of their service, all the five requested for a 25% hike in their monthly pay over the pay paid to the previous team on account of higher cost of living compared to 1983. However on pursuation, they agreed to work on the same terms as were accepted by the previous team. This facilitated the finalisation of their terms by the UNIDO.
- 1.4 The fees of the Salt Consultancy Services were after negotiation fixed at US \$ 1700.00 as against US \$ 1300.00 paid to them in 1983. This increase was considered reasonable in as much as they have been required to carry out more duties than they performed in 1983. They were made responsible to search, procure (buy or get them made) those tools which are not available in the Gambia and which are required in connection with salt manufacture according to the technology already demonstrated. This agency would procure, pack and despatch the consignments of tools and instruments to Banjul by air freight so that the tools and instruments reach in Banjul alongwith the workers as far as possible. The Salt Consultancy Services would be paid US \$350.00 for buying the tools and instruments and the freight charges would be paid by the UNDP, Banjul on arrival of the consignment and the expenditure would be charged to the project.
- 1.5 Training Programme for two Gambian women in India:
4 factories in the Tamilnadu State of India were identified. Training would be arranged for specified number of days at each place and the subjects in which training in supervisory duties were identified.

CHAPTER - 2PREPARATIONS IN GAMBIA FOR WORKERS TEAM BEFORE
THEIR ARRIVAL IN GAMBIA AND COORDINATION WORK
FOR COMMENCEMENT OF THE PROJECT IN THE FIELD

[Period 8 thro`25 Jan '85 at the duty station]

2.1 Preparation:

2.1.1 Site

The ground was found to be dry and the work of construction of units can be commenced without delay.

2.1.2 Housing

Accommodation for the Indian workers has been arranged. A few additions and alterations were suggested and have been agreed to be completed soon.

2.1.3 Transport

The project vehicle needed major repairs including replacement of parts which were expected to arrive in Banjul on Friday 25 January 1985 and it would take an other two weeks atleast for the vehicle to be road worthy. UNDP Banjul was pursuing the matter to bring the vehicle on the road by 7 February, 1985.

2.1.4 Tools and Implements

A list of tools and implements required immediately was supplied to the Director Community Development Department (CDD) who has assured that the required tools would be ready and available for use at site before the Indian team arrives in the field.

CONTD..4

2.1.5 Tools to be imported from India

Efforts will be made that the consignment of tools orders for which have been placed would be air freighted at the same time as the Indian team departs from India. The Director CDD and UNDP Banjul have been requested to release the consignment immediately upon its arrival by paying the freight charges etc. The date of despatch of the consignment will be telexed to the UNDP Banjul as soon as possible.

2.1.6 Consumable Stores

The Director CDD (Community Development Department) has assured that all materials - petrol, other oils and fuels, sand, bags, basins, rope, etc. will be stocked in sufficient quantity at the site and replenished from time to time as per requirements.

2.1.7 Local skilled and unskilled labour

The Director informed that such labour is available in the Dalsilami village and the required number will be placed at the disposal of the Indian supervisor according to his requirement.

2.1.8 Number of units to be constructed

In view of the fact that (i) the project will commence at least two months later than the prescribed date (December 1984), (ii) only one team of Indian workers has been approved and (iii) sufficient time should be left for (a) stabilisation of the constructed units, (b) for training the local women labour and (c) supervision of the work of women labour by the Indian workers and (iii) that the dry season and also the contract of the Indian team

would expire by end of May 1985, it was recommended and agreed to utilise the services of the Indian team in accordance with the following time schedule (broadly):-

- | | | |
|-------|--|--|
| (i) | Construction of units | February thro' 31 March/
7 April 1985 |
| (ii) | Stabilisation and Training | 1/8 April thro'
30 April 1985 |
| (iii) | Training and supervision of local women labour | 1 May thro' 31 May,
1985 |

2.1.9 It was explained that within the broad framework of the above time schedule efforts will be made to construct as many units as possible bearing in mind that the main emphasis will be to construct production worthy units and the number alone will not be the consideration. In fact the determining factor for the number of units would be how many of the women labour agree to work the units according to the new technology. And to facilitate this, it was also agreed that efforts will be made to construct units by preference adjacent to the existing private pits (provided there is plain surface space available) so that workers may be able to improve their own pits and work them according to new technology.

2.1.10 It was also clarified that more than construction of the number of units, the time of the Indian team should be utilised (i) impart training to the local women labour who will be required to operate and maintain the new units in subsequent years and (ii) to instil confidence in the local women to manufacture salt in these units independently. For this purpose, the maximum possible support was needed from the Community Development Department.

The Director CDD has assured that he would personally remain in touch with the project during the stay of the Indian workers team so that maximum benefit is derived by the local women labour during the team's stay at Dalsilami.

2.11 For this purpose, it is ^{also} recommended that if need arises to reinforce the Indian team, another team may be commissioned and sent to the Gambia even for a shorter time.

..12 Counterpart Assistance

Mr. Mousa, the Community Development Assistant posted at Dalsbilami will be attached with Mr. Balakrishnan the Supervisor of the Indian team, to render necessary assistance. Mr. Maalan Qamar, the Senior Community Development Assistant based at Kerawan will provide additional local support as required by the team.

2.1.13 The UNDP Banjul has kindly agreed to monitor the progress of the field operations at all stages of implementation by making visits to the site at suitable intervals and also to study and observe the response of the local women labour for participation in the training and manufacturing operations in the new units.

2.1.14 Training programme for training two Gambian women in supervisory duties in India

Initially two local women were proposed to be sent for training. It was however seen that the local women are illiterate and would not be able to take the training by themselves in view of their being strangers and not knowing the Indian language at the places of their training. Therefore after

discussions, it was agreed that one of the trainees might be a man. But before selection of any one it should be ensured that he and she should commit himself/herself to participate wholeheartedly in the present project activities and also to work regularly in the future working of the units.

2.1.15 As for the proper time for training in India, it was seen that the proper time (February/March 1985) could not be adhered to in view of shortage of time. Therefore the proposed training may be arranged for next year during the period 15 February/15 April 1986. In the meantime, it is recommended that the selected candidates should be attached with the Indian supervisor for learning the supervisory duties in respect of salt production. The details - names of factories at which the training should be arranged, duration of training at each place, the duties in which the training should be given, may be seen in Annexure I. These details were also furnished to the UNDP Banjul and the Director CDD.

2.2.1 Coordination of commencement of the project in the Field :

Having tied up the points described above in the Gambia during a number of meetings with UNDP, the Director CDD, and other departments and agencies and after detailed discussions at Dalsilami on two days (in the presence of the Director CDD, Senior CDA (Malaan Qamar) and CDA (Mousa), the Deputy Resident Representative and Junior Professional Officer, UNDP, Banjul, it is hoped that the required support for the proper implementation of the project will be coming forth and the time of the team of Indian workers will be gainfully utilised.

2.3.0 Debriefing in UNIDO Vienna and in UNDP New Delhi
(28 January thro' 4 February 1985)

- 2.3.1 The expert left Banjul on 25 January midnight and arrived in Vienna on 26 January and attended UNIDO on Monday 28 January 1985, for debriefing. During his stay in Vienna on 28 and 29 January, he was debriefed on the upto date progress of the project so far as UNIDO Vienna was concerned viz. authorisation of travel and salary advances to the 5 members of the team, authorisations in favour of M/s Salt Consultancy Services, Madras (who have been given the award of contract No. 85/13 MK). The summary report and recommendations of the experts as per JD of the mission were also discussed in detail. with the substantive officer.
- 2.3.2 It was not possible to know in Vienna at what stage of preparation the Indian team is in India to be able to leave and whether the tools and instruments have been procured.
- 2.3.3 The expert on return to Delhi briefed on 1 and 2 February 1985 the team supervisor Mr. S. Balakrishnan regarding the manner he should commence the operations and what preparations have been made for commencing the work and how to keep to the time schedule as in para 2.1.8 page 4.
- 2.3.4 On 2-4 Feb 1985, he wrote and completed his terminal report, in Delhi.

CHAPTER - 3EVALUATION OF REPORTS OF INVESTIGATIONS
BY DIFFERENT AGENCIES

- 3.1 In his terminal report dated 20 June, 1983 on the development of salt industry at Dalsilami, the expert had recommended that -
1. The Water Resources Department of the Government might be requested to carry out a hydrogeological survey of the salt flats at Dalsilami with a view to locate occurrence of high density sub-soil brine for establishment of village type units.
 2. The Community Development Department should conduct a study in depth on the actual requirement of salt in the Gambia and also examine whether the salt produced in Dalsilami according to the new technology in future would compete with the imported Senegalese salt which is at present selling in Gambia to meet the present demand.
 3. To establish that the women labour of Dalsilami would be willing to devote their time to work the new units proposed to be constructed in Dalsilami.
- 3.1.2 The reports of investigations on all the three points have since been received and during the expert's present visit to the Gambia these were discussed with the concerned Departments and the following points emerged :-

1. Report of the Water Resources Departments:

3.1.3 In the absence of Mr. Tourey the hydrologist who conducted the investigations, the report was discussed with his colleague Mr. Jowara. It was understood that occurrence of subsoil brine of high density and in copious supplies cannot be taken for granted. Therefore, before locating the proposed units, advance trial pits should be dug to ascertain the availability of sub surface brine. The supervisor of the Indian team has been advised to bear this point in mind while demarcating the site of new units.

2. Report of the Community Development Department on Marketing of Gambian Salt:

3.1.4 This subject was discussed with the Director Community Development Department. He informed that so far as marketing of salt to be produced in Gambia in future is concerned, satisfactory arrangements have been agreed. The Cooperative Department and the Cooperative Union (the apex body) would be actively involved to receive the workers produce of salt and through the good offices of another Agency (IBAS), arrangements would be made to sell the salt at proper prices and suitable buyers of salt would also be found. In this way he was happy to add that the marketing of Dalsilami salt would be satisfactorily taken care of.

3. Report on socio-economic survey of the women of Dalsilami:

3.1.5 While Mrs. Nath had reported that majority (more than 90%) of the women engaged on salt manufacture at Dalsilami were found willing to adopt and accept the new technology as demonstrated by the Indian team in 1983, yet it was not borne out by the fact that the

units already constructed at that time remained unattended and neglected during the last 2 dry seasons. Therefore, it became necessary to ascertain the actual position i.e. whether it would be wise to construct new units if women labour was not interested in working on them. Two meetings were held with the women labour one of which was attended by the Director CDD and the Deputy Resident Representative and Junior Professional Officer UNDP. The impression gained was that inspite of a good deal of motivation, it would be advisable to construct few units in a phased manner in such number as would match the response received from the women labour.

CHAPTER - 4PLANNING FOR PRODUCTION OF SALT IN THE
GAMBIA ON A LONG TERM BASIS

- 4.1 This subject was discussed with Mr. Cole the Industrial Economist and Mr. Hans the Industrial Adviser in the Ministry of Economic Planning and Industrial Development, Government of Gambia.
- 4.1.1 During the experts last mission, Mr. Cole had broached this subject. At that time a delegation from Commonwealth countries secretariat was planning a visit to Banjul to examine the issue of production of salt in the Gambia on a large scale. I had also taken Mr. Cole and Mr. Hans to a site in Banjul city - about 6 kilometers from the office of the Ministry. That site had its advantages except that the soil was weak.
- 4.2 Subsequently, however, Government had a study made of another site at Pirang at a distance of 50 kilometers from Banjul due south east, by a team of experts from the secretariat of Commonwealth countries. The experts of that team have recommended that a salt production plant of a capacity of 14,000 tons per annum (3000 tons in the first stage) should be established at Pirang where conditions are reported to be favourable. The scheme has been shown to be economically viable and besides meeting Gambia's internal requirements the production of salt from the proposed plant will be exported to the neighbouring countries which import salt for their requirements. It was reported that ^{the} Government was keen on implementing the project with the help of private enterprise.

- 4.3 For the present therefore UNIDO's interest in the Gambia in regard to salt production should remain concerned with the implementation of the project already approved for construction of village type units in Dalsilami.

TRAINING PROGRAMME FOR CAMBIAN CANDIDATES
IN THE SALT FACTORIES IN INDIA

Places and Duration:

- | | | |
|----|--|---------|
| 1. | Salt Factory, Covelong
(M/s S.K. Subbiah Pillai & Son,
2 Cathedral Road, Madras-86). | 10 days |
| 2. | Salt Factory,
(231, Garden Road, Kilpauk
Madras - 600010) | 10 days |
| 3. | Salt Factory, Vedararanyam
(S.K. Subbiah Pillai,
P.O. Vedaranyam, Tanjore Dist.
Tamilnadu State | 2 weeks |
| 4. | Salt Factory, Arumugneri
(Arumugneri Salt Workers Cooperative
Production & Sales Society,
No. O. 1291 Arumugneri,
Tirunveli District,
Tamilnadu State). | 2 weeks |
| 5. | One days visit to Tuticorin near (4)
and one day's visit to Markanam Salt
Factory, near (2) above. | |
| | TOTAL: | 50 days |
| 6. | The remaining 10 days for travel time Banjul/
Delhi/Madras/Delhi/Banjul. Stop over at
Delhi (UNDP) for the inward and outward
journeys will be necessary. | |

All the above factories are situated in the Tamilnadu State of India and manufacture of salt in village type units both in individually owned salt production units and under the cooperatives is practised. These factories will have to be reached from Madras by road and rail and suitable arrangements for taking them to different factories will have to be made.

The trainees will be given training at the above factories in supervisory duties. They will have an opportunity to see the manufacturing processes and skills and also in the functioning of the producer cooperatives, sale cooperatives and producer cum sale cooperative societies. On the production side they will study the duties of production supervisors mainly in (i) preliminary operations, (ii) Depth and density control with hydrometers, (iii) charging pans, harvesting and pan washing of salt, (iv) heaping and covering of salt heaps (v) maintaining accounts of labour, production of salt etc.

On the marketing side they will study duties of supervisors in (i) book keeping of salt received from the producers, (ii) credits given to the producers in advance and against salt offered, (iii) packaging and weighing and storage of packaged salt, (iv) sale transactions, (v) payments to the labour and adjustments of advance payments, (vi) to see that the salt received from the workers is clean, good in quality and dry, before it is accepted by the marketing society.

