

**THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA  
CENTRAL STATISTICAL AUTHORITY**

**REPORT ON QUARRYING ACTIVITIES  
PILOT SURVEY**

**MARCH 1999**

**ADDIS ABABA  
JAN. 1999**

*/FOR INTERNAL USE/*

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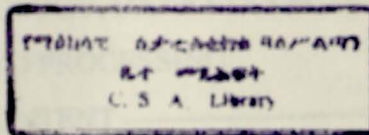
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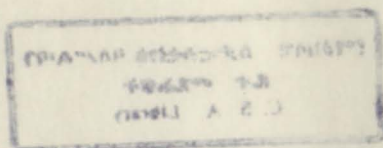
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BULLETIN

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## ABBREVIATIONS

CSA - Central Statistical Authority

E.F.Y. - Ethiopian Fiscal Year

G.C. - Gregorian Calendar Year

S.N.N.P - Southern Nations, Nationalities and Peoples' Region

S.N.A - System of National Accounts

IMPS - Integrated Micro-Computer Processing System

## PART I

### **INTRODUCTION AND OBJECTIVES OF THE SURVEY**

#### **1. INTRODUCTION**

The presence of adequate and current statistical data in various economic sectors that are considered essential for development planning, socio-economic policy formulation and economic analysis is vital in promoting the economic development of a country. Based on this general objective, the Central Statistical Authority (CSA) has been conducting surveys of various economic activities. However, concerning Mining and Quarrying, CSA didn't conduct a comprehensive survey that fulfill the demands of the data users with regular time intervals. To fill - in this data gap and to generate detailed information on structure and performance of the sector, for the first time , CSA carried out a sample survey on quarrying activities for the reference period 1997/98 (1990 E.F.Y.)

Mining and quarrying is defined here according to International Standard Industrial Classification (ISIC Revision-3) as "encompassing extraction of minerals occurring naturally as solids and liquids. Underground or surface mining, well operation and all supplementary activities aimed at preparing the crude materials for marketing, done generally near or at the mine site, such as milling , dressing and beneficiating, are classified here." However, in this sample survey only quarrying enterprises engaged in the operation of quarries producing monumental and building stone in the rough, roughly trimmed, or cut by sawing or by other means typically done at the quarry such as slate and marble and operation of sand, clay and gravel pits are included. That in other words means the current sample survey excludes enterprises engaged in mining activities such as tantalum and gold.

This sample survey was mainly designed as a test for conducting similar subsequent inquiries at regular intervals. Because of that, the sample design was formulated in such a way that the result could be published with a limited circulation. Moreover, the result of this

survey will form a base line data upon which similar but more detailed inquiries including mining activities can be designed with regular intervals.

The report provides information on objectives, coverage and content, concepts and definitions, survey methodology, training of field staff, field organization and data collection and performance of the sector. Furthermore, the questionnaire for the survey is attached as an appendix.

## **2. Objectives of the Survey**

The main objectives of the survey of quarrying activities are to:

- a. test the field procedures, survey documents, sample design and the data processing activities,
- b. obtain a base line data that are essential for policy makers, planners and researchers,
- c. collect basic quantitative information on employment, volume of production, structure and performance of the sector,
- d. compile statistical data which will be an input to the System of National Accounts (SNA), and
- e. obtain number of proprietors engaged in this sector and find out the major problems that creates stumbling block for their activities.

## PART II

### **SURVEY METHODOLOGY , DATA COLLECTION AND PROCESSING**

#### **1. Coverage and Content.**

The list of the enterprises for the frame was obtained from the concerned bureaux of the Regional States that are responsible to issue licenses, through our Statistical Branch Offices. The sample survey covers all forms of ownership individual, share, private limited company, partnership, co-operative and public quarrying activities in all Regional States, where enterprises under the scope of the survey are found.

In this publication detailed information on number of enterprises, number of persons engaged and number of employees, wages and salaries paid, sex, nationality and occupation, initial capital, gross value of production, industrial and non-industrial costs, value added, quantity of production, fixed assets and investment are presented.

#### **2. Basic concepts and Definitions**

- (I) **An Enterprise** :- is an institutional unit or smallest combination of institutional units that encloses and directly or indirectly controls all necessary functions to carry out its productive activities.
- (ii) **Initial Capital** :- is that part of the issued capital of an enterprise that has been paid by the shareholders to start the operation.
- (iii) **Working Proprietors, Active Partners and Family Workers** :- include all unpaid working proprietors, active partners and members of their household who actively participate in the operation of the establishment.

- (iv) **Administrative and Technical Employees** :- include salaried directors and managers, technicians, superintendents, research workers, draftsmen and designers, engineers, chemists, architects, accountants, book-keepers, office machine operators, receptionists, sales men, delivery personnel, guards and other office staff.
- (v) **Production Workers** :- include workers directly engaged in production i.e., persons engaged in operation and supplementary activities, maintenance, repair, janitorial, record keeping and other associated activities.
- (vi) **Seasonal and Temporary Workers** :- include workers who are employed for a whole or a part of the year. These workers are not regularly on the payroll of the enterprise.
- (vii) **Number Employed** :- includes all persons on the payroll whether seasonal or temporary workers. The number of seasonal and temporary workers has been adjusted to give equivalent of full-time workers.
- (viii) **Number Engaged** :- includes paid employees and working proprietors, active partners, and unpaid family workers.
- (ix) **Wages and Salaries** :- includes all payments in cash or in kind made to employees during the reference year in connection with work done for the enterprise.
- (x) **Gross Value of Production** :- includes the sales value of all products of the enterprise the value of industrial services rendered to others, the value of goods bought and resold without any transformation or processing, and other receipts. The valuation of Gross Value of Production is in terms of producers' values where indirect taxes are included in the value of sales of the enterprise and the value of subsidies received is excluded.
- (xi) **Industrial Cost** :- Includes the cost of raw materials, fuels, and other supplies consumed, cost of industrial services rendered by others, cost of goods bought and resold without any transformation or processing and cost of electricity consumed.

- (xii) **Non-industrial Cost** :- includes payments like professional fees, postage, telephone, insurance, advertising, hired transport, rental payments, etc. (depreciation is excluded).
- (xiii) **Value Added in the National Account Concept (at Market Price)** :- is defined as the difference between the gross value of production and industrial and non-industrial costs. To get the same indicator at factor cost indirect taxes net (i.e., indirect taxes less subsidies) are subtracted.
- (xiv) **Fixed Capital Assets** :- are those with a productive life of one year or more which are intended for the use of the enterprise including fixed assets made by the enterprise's own labour force for its own use. They are valued in this report at book-value end of the reference year, that is the net book value at the beginning plus new capital expenditure minus those sold and disposed and depreciation during the reference year.
- (xv) **New Capital Expenditure** :- is the cost of new or used capital equipment bought during the reference period.
- (xvi) **An Individual Proprietor** :- is a person who owns and controls an enterprise.
- (xvii) **Partnership** :- is an enterprise owned and operated by more than one person with unlimited liability.
- (xviii) **Share Company** :- is a business organization formed by an agreement made between at least 5 or more persons with limited liability. The shares are transferable.
- (xix) **Private Limited Company** :- is a business organization formed, by an agreement between two or more persons but not exceeding fifty, with limited liability. The shares are not transferable except with consent of  $3/4^{\text{th}}$  of the members.
- (xx) **Co-operative** :- an enterprise owned and run jointly by its members with profits shared between them.

(xxi) **Other Form of Ownership:-** includes legal form of organizations different from those mention above (xvi-xx) such as establishments owned by joint-venture, Government, Municipalities, etc.

### **3. Sample Design**

The 1997/98 pilot survey of Quarrying Industries covered all the regions in the country except Afar region. As part of the pilot exercise the survey was intended to estimate selected parameters at national level by major types of quarrying industries. For the purposes of identifying eligible survey units and for selecting a probability sample, sampling frame, which is a list of quarrying enterprises by type and region was first compiled. The sampling frame was developed based on the information obtained from the regional and zonal offices of Trade, Industry and Tourism. According to the sampling frame, there are eight types of quarrying enterprises. Population distribution of quarrying enterprises by region and type is given in Table 1.

The total enterprises in the country were stratified by eight types of enterprises and by region. For the purpose of efficiency in sampling, the enterprises were grouped into two categories. The first category consisted of four enterprises types each of which had less than 10 enterprises and the remaining four enterprises types with more than nine enterprises were grouped in the second category. It was then decided to cover all the enterprises in the first category. In the second category in which four types were grouped, a stratified sample of enterprises was selected for the data collection.

A total of 309 enterprises were planned to be covered by the survey. From the first category, all 221 enterprises in the frame were selected. But from the second category, 88 sample enterprises were selected using stratified systematic sampling design. Given that the survey results are to be reported at country level, the 88 sample enterprises were allocated to the regions in proportion to their size; size being number of enterprises. Then the sample selection in each stratum/region was made independently.

The overall sample size was determined on the basis of technical and resource considerations. More specifically, the sample size was made large enough to enable provision of reliable estimates at country level for major parameters given the available resource in terms of manpower and/or time.

During the survey fieldwork data could not be collected from all the enterprises according to the planned distribution. In totality it was found that data was collected from 250 enterprises (81 percent) out of 309 in the sample. The reasons for the incomplete response were i) some of the enterprises in the frame were out of business during the survey year and ii) others changed their field of investment.

Distribution of the planned and actually covered sample numbers of quarrying enterprises are given in Table 2.

**Table 1 POPULATION DISTRIBUTION OF QUARRYING INDUSTRIES  
BY REGION AND TYPE**

Region	Types of Quarrying Activities								Total
	1	2	3	4	5	6	7	8	
Tigray	1	47	35					1	84
Afar									
Amhara		172	240	1	1			16	430
Oromiya		428	259	38	2			5	732
Somalie		3					3	4	10
Ben-Gumz		34	20	4					58
SNNP		277	106	5	3	1		13	405
Gambela		19	50			1		1	70
Harari	1	33	1						35
Addis Ababa		134	5	7	2		3	1	152
DireDawa		13	6		1		2	7	29
Total	2	1160	722	155	9	4	5	48	2005

**Table 2 DISTRIBUTION OF SAMPLE QUARRYING INDUSTRIES BY REGION AND TYPE**

Region	Types of Quarrying Activities								Total
	1	2	3	4	5	6	7	8	
Tigray	1	3	3					1	8
Afar									
Amhara		8	18	1	1			20	46
Oromiya		21	25	24	2	3		5	80
Somali								4	4
Ben-Gumz		2		1					3
SNNP		13	9	4	3	1		10	40
Gambela		1	4					1	6
Harari	1	1	1						3
Addis Ababa		33		7	2		3		45
DireDawa		1	2		1		2	7	13
<b>Total Planned</b>	<b>2</b>	<b>81</b>	<b>62</b>	<b>27</b>	<b>9</b>	<b>4</b>	<b>5</b>	<b>48</b>	<b>250</b>

**Codes of Production Items for Quarrying Enterprises**

<u>Code</u>	<u>Label</u>
1 =	Marble
2 =	Stone
3 =	Sand
4 =	Clay Soil
5 =	Selected Material
6 =	White Soil (for making Hollow Blocks)
7 =	Gravel
8 =	Others

**4. Training of Field Staff**

The training of all field staff were carried out for three days at the head office. In this training the Statistical Authority's branch statistical office assistant heads, statisticians from the head office, field supervisors and enumerators were involved.

The training which was expected to ensure the quality of the data consisted of class room discussions filling in questionnaires by trainees for practice using financial statements of selected enterprises. The filled - in questionnaires by the trainees were checked and corrections were made and the errors were pointed out to the trainees, so that these wouldn't be repeated during the actual data collection.

## 5. Data Processing

### a. Editing, Coding and Verification

A number of quality control steps were taken to ensure the quality of the data of the sample survey. The first step taken in this direction was to design a questionnaire that is easier for internal consistency checking or editing both at field and office level. Furthermore, based on this questionnaire, instruction manual with field editing procedures were prepared in Amharic for both enumerators and supervisors (field editors). Using this manual some editing and coding were carried out by field editors during the data collection stage.

After the majority of the completed questionnaires were brought back to head office, final editing, coding and verification were performed. The coding and the manual editing and verification activity was performed by six statisticians and statistical technicians and 11 editors. Finally, the edited and coded questionnaires were checked and verified by other two professionals.

### b. Data Entry, Cleaning and Tabulation

The data were entered and verified on personal computers using IMPS (Integrated Micro Computer Processing System) Software. Twenty -two CSA data entry staff were participated for this purpose for seven days with close supervision of the activities by two professionals. Then, the data entered were cleaned using two personal computers in combination with manual editing for some serious errors. Finally, the tabulation of the results were processed using the same software by two programmers with technical assistance from Industrial Statistics Department Staff.



# PART III

## STATISTICAL TABLES

In this part of the report 26 Statistical Tables are presented. The first six Tables provide background information on quarrying activities i.e. about number of enterprises, initial capital, form of ownership, books of accounts and operational problems. Tables 7-10 gives data on number of persons engaged and wages and salaries by quarrying activities. Tables 11-17 present data on gross value of production, industrial and non-industrial costs and value added of the sector. Furthermore, Tables 18-23 refer to fixed assets and investment structure of the sector by quarrying activities. Finally, some analytical ratios and percentages and quantity of mineral products are shown from tables 24-26.

SIZE OF INITIAL CAPITAL FOR REPORTING ENTERPRISES BY QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)

(IN '000 BIRR)

TABLE 01

QUARRYING ACTIVITIES	INITIAL CAPITAL IN BIRR						
	UP TO 10,000	10,001- 20,000	20,001- 30,000	30,001- 40,000	40,001- 50,000	OVER 50,000	TOTAL
QUARRYING OF STONE	2,220	967	-	644	-	3,786	7,617
QUARRYING OF SAND	996	600	-	396	-	2,388	4,379
QUARRYING OF CLAY	81	39	-	-	-	290	410
QUARRYING OF MARBLE	-	-	-	-	-	17,950	17,950
QUARRYING OF GRAVEL	31	16	30	-	-	71,473	71,550
OTHERS*	47	-	-	66	-	46,746	46,859
<b>TOTAL</b>	<b>3,375</b>	<b>1,622</b>	<b>30</b>	<b>1,106</b>	<b>-</b>	<b>142,632</b>	<b>148,765</b>

\* OTHERS INCLUDES THOSE QUARRYING ENTERPRISES ENGAGED IN MORE THAN ONE TYPES OF QUARRYING ACTIVITIES.

NUMBER OF ENTERPRISES BY FORM OF OWNERSHIP AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)

TABLE 02

QUARRYING ACTIVITIES	FORM OF OWNERSHIP						TOTAL
	INDIVIDUAL OWNERSHIP	PARTNERSHIP	SHARE COMPANY	PRIVATE LTD. COMPANY.	COOPERATIVES	OTHERS**	
QUARRYING OF STONE	757	161	-	16	209	-	1,144
QUARRYING OF SAND	431	93	-	-	198	-	722
QUARRYING OF CLAY	42	16	-	-	5	3	66
QUARRYING OF MARBLE	1	-	1	-	-	-	2
QUARRYING OF GRAVEL	5	3	-	-	4	2	14
OTHERS	30	-	2	-	12	5	48
<b>TOTAL</b>	<b>1,266</b>	<b>273</b>	<b>3</b>	<b>16</b>	<b>428</b>	<b>10</b>	<b>1,996</b>

\*\* INCLUDES PUBLIC ENTERPRISES

**NUMBER OF ENTERPRISES WITH AND WITHOUT BOOKS OF ACCOUNTS BY THE CALANDER YEAR THEIR BOOK OF ACCOUNTS  
ARE KEPT AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)**

**TABLE 03**

QUARRYING ACTIVITIES	NUMBER OF ENTERPRISES WITH BOOKS OF ACCOUNTS					ENTERPRISES WITH NO BOOKS OF ACCOUNTS	GRAND TOTAL
	ETHIOPIAN BUDGET YEAR	ETHIOPIAN CALENDAR YEAR	GREGORIAN CALENDAR YEAR	OTHERS	TOTAL		
QUARRYING OF STONE	-	-	-	-	-	1,144	1,144
QUARRYING OF SAND	-	-	-	-	-	722	722
QUARRYING OF CLAY	-	-	-	-	-	66	66
QUARRYING OF MARBLE	-	-	-	-	-	2	2
QUARRYING OF GRAVEL	2	-	-	-	2	12	14
OTHERS	2	-	-	-	2	46	48
<b>TOTAL</b>	<b>4</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>1,992</b>	<b>1,996</b>

**PERCENTAGE DISTRIBUTION OF ENTERPRISES BY FIRST MAJOR REASON FOR NOT BEING FULLY OPERATIONAL DURING THE YEAR AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)**

**TABLE 04**

QUARRYING ACTIVITIES	TYPE OF REASONS								TOTAL
	ABSENCE OF MARKET DEMAND	SHORTAGE OF SUPPLY OF SPARE PARTS	LACK OF WORKING CAPITAL	FREQUENT MACHINERY BREAKAGE	SEASONAL NATURE OF WORK	GOVERNMENT RULES AND REGULATIONS	OTHER PROBLEMS	NOT STATED	
QUARRYING OF STONE	387	-	-	-	258	16	354	129	1,144
QUARRYING OF SAND	198	-	23	-	245	23	210	23	722
QUARRYING OF CLAY	16	-	-	-	39	-	10	-	66
QUARRYING OF MARBLE	-	-	-	-	1	-	1	-	2
QUARRYING OF GRAVEL	1	-	-	-	4	-	6	3	14
OTHERS	22	-	-	-	8	-	18	-	48
<b>TOTAL</b>	<b>623</b>	<b>-</b>	<b>23</b>	<b>-</b>	<b>555</b>	<b>39</b>	<b>600</b>	<b>155</b>	<b>1,996</b>
<b>%</b>	<b>31.21</b>	<b>-</b>	<b>1.15</b>	<b>-</b>	<b>27.81</b>	<b>1.95</b>	<b>30.06</b>	<b>7.77</b>	<b>100.00</b>

PERCENTAGE DISTRIBUTION OF ENTERPRISES BY FIRST MAJOR REASON FOR NOT WORKING AT FULL CAPACITY AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)

TABLE 05

QUARRYING ACTIVITIES	TYPE OF REASONS							TOTAL
	SHORTAGE OF SUPPLY OF SPARE PARTS	ABSENCE OF MARKET DEMAND	ABSENCE OF CREDIT FACILITY	LACK OF WORKING CAPITAL	SEASONAL NATURE OF THE WORK	LACK OF ADEQUATE SKILL	OTHER PROBLEMS	
QUARRYING OF STONE	-	532	16	129	193	-	226	1,095
QUARRYING OF SAND	23	361	-	47	140	12	128	711
QUARRYING OF CLAY	5	31	-	5	16	-	8	66
QUARRYING OF MARBLE	-	-	-	-	1	-	1	2
QUARRYING OF GRAVEL	-	6	-	3	1	-	4	14
OTHERS	7	18	-	2	12	-	7	45
<b>TOTAL</b>	<b>35</b>	<b>948</b>	<b>16</b>	<b>185</b>	<b>362</b>	<b>12</b>	<b>373</b>	<b>1,932</b>
<b>%</b>	<b>1.81</b>	<b>49.07</b>	<b>.83</b>	<b>9.58</b>	<b>18.74</b>	<b>.62</b>	<b>19.31</b>	<b>100.00</b>

PERCENTAGE DISTRIBUTION OF ENTERPRISES BY FIRST MAJOR OPERATIONAL PROBLEMS FACED AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)

TABLE 06

QUARRYING ACTIVITIES	TYPE OF PROBLEMS								TOTAL	
	SHORTAGE OF SUPPLY OF SPARE PARTS	UNABLE TO COMPETE MARKET	ABSENCE OF MARKET DEMAND	LACK OF WORKING CAPITAL	FREQUENT MACHINERY FAILURE	LACK OF WORKING PREMISES	GOVERNMENT RULES AND REGULATION	NO PROBLEMS FACED		OTHER PROBLEMS
QUARRYING OF STONE	16	32	499	64	-	193	32	81	48	967
QUARRYING OF SAND	12	70	315	70	-	35	12	35	23	571
QUARRYING OF CLAY	-	-	45	3	-	3	3	3	3	58
QUARRYING OF MARBLE	-	-	-	-	1	1	-	-	-	2
QUARRYING OF GRAVEL	-	-	4	3	1	-	-	1	2	11
OTHERS	7	-	28	2	-	5	-	-	2	43
<b>TOTAL</b>	<b>34</b>	<b>102</b>	<b>891</b>	<b>142</b>	<b>2</b>	<b>237</b>	<b>46</b>	<b>119</b>	<b>78</b>	<b>1,651</b>
<b>%</b>	<b>2.06</b>	<b>6.18</b>	<b>53.97</b>	<b>8.60</b>	<b>.12</b>	<b>14.35</b>	<b>2.79</b>	<b>7.21</b>	<b>4.72</b>	<b>100.00</b>

**NUMBER OF PERSONS ENGAGED AND WAGES AND SALARIES BY SEX AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)**

TABLE 07

QUARRYING ACTIVITIES	NUMBER OF ENTERPRISES	NUMBER OF PERSONS ENGAGED					NUMBER OF EMPLOYEES	WAGE & SALARIES (IN'000 BIRR)		
		MALE	FEMALE	BOTH SEXES	SEASONAL & TEMPORARY WORKERS	TOTAL		MALE	FEMALE	TOTAL
QUARRYING OF STONE	1,144	5,026	97	5,123	10,794	15,917	11,213	1,332	6	8,604
QUARRYING OF SAND	722	9,460	1,025	10,485	6,804	17,289	7,048	241	25	7,683
QUARRYING OF CLAY	66	55	3	58	178	236	189	14	-	167
QUARRYING OF MARBLE	2	31	-	31	20	51	57	74	-	79
QUARRYING OF GRAVEL	14	191	22	213	469	682	627	492	107	951
OTHERS	48	805	15	820	579	1,399	1,223	1,736	40	2,789
<b>TOTAL</b>	<b>1,996</b>	<b>15,568</b>	<b>1,161</b>	<b>16,730</b>	<b>18,844</b>	<b>35,573</b>	<b>20,357</b>	<b>3,889</b>	<b>178</b>	<b>20,272</b>
<b>%</b>		<b>43.76</b>	<b>3.26</b>	<b>47.03</b>	<b>52.97</b>	<b>100.00</b>		<b>19.18</b>	<b>.88</b>	<b>100.00</b>

1. Details may not add to row total, because the total include wages paid to temporary workers not classified by sex.

**NUMBER OF PERSONS ENGAGED BY OCCUPATIONAL GROUP AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)**

TABLE 08

QUARRYING ACTIVITIES	NUMBER OF ENTERPRISES	NO.OF WORKING PROPRIETORS ACTIVE PARTENERS & FAMILY WORKERS	PRODUCTION WORKERS	ADMINISTRATIVE, TECHNICAL, CLERICAL & OFFICE WORKERS	SEASONAL AND TEMPORARY WORKERS	TOTAL
QUARRYING OF STONE	1,144	4,704	354	64	10,794	15,917
QUARRYING OF SAND	722	10,240	210	35	6,804	17,289
QUARRYING OF CLAY	66	47	8	3	178	236
QUARRYING OF MARBLE	2	-	25	6	20	51
QUARRYING OF GRAVEL	14	87	90	37	469	683
OTHERS	48	310	375	134	579	1,399
<b>TOTAL</b>	<b>1,996</b>	<b>15,389</b>	<b>1,062</b>	<b>279</b>	<b>18,844</b>	<b>35,574</b>

TABLE 09

**GROSS WAGES AND SALARIES BY OCCUPATIONAL GROUP SEX AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)**

QUARRYING ACTIVITIES	NUMBER OF ENTERPRISES	WAGES AND SALARIES PAID (IN'000 BIRR)							TOTAL
		PRODUCTION WORKERS			ADMINISTRATIVE, TECHNICAL AND OFFICE WORKERS			SEASONAL AND TEMPORARY WORKERS	
		MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL		
QUARRYING OF STONE	1,144	1,291	-	1,291	42	6	48	7,266	8,604
QUARRYING OF SAND	722	202	-	202	39	25	64	7,417	7,683
QUARRYING OF CLAY	66	13	-	13	1	-	1	153	167
QUARRYING OF MARBLE	2	59	-	59	15	-	15	4	79
QUARRYING OF GRAVEL	14	226	11	237	266	96	361	352	951
OTHERS	48	1,235	-	1,235	501	40	541	1,013	2,789
<b>TOTAL</b>	<b>1,996</b>	<b>3,025</b>	<b>11</b>	<b>3,036</b>	<b>864</b>	<b>167</b>	<b>1,031</b>	<b>16,205</b>	<b>20,272</b>

TABLE 10

**NUMBER OF ENTERPRISES AND NUMBER OF PERSONS ENGAGED BY SIZE OF PERSONS ENGAGED AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)**

QUARRYING ACTIVITIES	NUMBER OF ENTERPRISES	NUMBER OF ENTERPRISES BY SIZE GROUP				TOTAL	NUMBER OF PERSONS ENGAGED BY SIZE GROUP				TOTAL
		UP TO 9	10-19	20-49	50 & OVER		UP TO 9	10-19	20-49	50 & OVER	
		QUARRYING OF STONE	1,144	725	274		129	16	1,144	3,270	
QUARRYING OF SAND	722	466	70	117	70	722	1,864	932	3,670	10,823	17,289
QUARRYING OF CLAY	66	63	3	-	-	66	210	26	-	-	236
QUARRYING OF MARBLE	2	-	1	1	-	2	-	15	36	-	51
QUARRYING OF GRAVEL	14	3	4	3	4	14	10	58	100	514	682
OTHERS	48	17	17	8	7	48	83	227	307	782	1,399
<b>TOTAL</b>	<b>1,996</b>	<b>1,273</b>	<b>368</b>	<b>258</b>	<b>97</b>	<b>1,996</b>	<b>5,437</b>	<b>4,674</b>	<b>7,883</b>	<b>17,580</b>	<b>35,573</b>

**NUMBER OF REPORTING ENTERPRISES AND NUMBER OF PERSONS ENGAGED BY SIZE OF INITIAL CAPITAL AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)**

**TABLE 11**

QUARRYING ACTIVITIES	NUMBER OF ENTERPRISES BY SIZE OF INITIAL CAPITAL					NUMBER OF PERSONS ENGAGED BY SIZE OF INITIAL CAPITAL				
	UP TO 5000	5001-10000	10001-15000	15001-20000	OVER 20000	UP TO 5000	5001-10000	10001-15000	15001-20000	OVER 20000
QUARRYING OF STONE	934	113	-	48	48	8,603	661	-	773	5,880
QUARRYING OF SAND	594	58	12	23	35	6,279	7,677	82	2,097	1,153
QUARRYING OF CLAY	58	3	3	-	3	199	5	16	-	16
QUARRYING OF MARBLE	-	-	-	-	2	-	-	-	-	51
QUARRYING OF GRAVEL	4	3	-	1	6	90	312	-	16	264
OTHERS	42	-	-	-	7	739	-	-	-	661
<b>TOTAL</b>	<b>1,632</b>	<b>177</b>	<b>14</b>	<b>73</b>	<b>101</b>	<b>15,910</b>	<b>8,655</b>	<b>97</b>	<b>2,886</b>	<b>8,025</b>

**NUMBER OF ENTERPRISES, GROSS VALUE OF PRODUCTION, INDUSTRIAL AND NON INDUSTRIAL COSTS, INDIRECT TAXES NET AND  
VALUE ADDED IN THE NATIONAL ACCOUNT CONCEPT BY QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)**

**TABLE 12**

**(IN'000 BIRR)**

QUARRYING ACTIVITIES	NUMBER OF ENTERPRISES	GROSS VALUE OF PRODUCTION	INDUSTRIAL AND NON-INDUSTRIAL COSTS	INDIRECT TAXES	VALUE ADDED IN THE NATIONAL ACCOUNT CONCEPT	
					AT MARKET PRICE	AT FACTOR COST
QUARRYING OF STONE	1,144	35,425	2,803	1,056	32,622	31,567
QUARRYING OF SAND	722	29,919	3,321	1,612	26,598	24,986
QUARRYING OF CLAY	66	497	46	34	451	417
QUARRYING OF MARBLE	2	343	119	28	223	195
QUARRYING OF GRAVEL	14	10,425	2,566	880	7,858	6,979
OTHERS	48	14,398	8,959	375	5,439	5,065
<b>TOTAL</b>	<b>1,996</b>	<b>91,007</b>	<b>17,815</b>	<b>3,983</b>	<b>73,192</b>	<b>69,209</b>

**COMPONENTS OF GROSS VALUE OF PRODUCTION BY QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)**

**TABLE 13**

**(IN'000 BIRR)**

QUARRYING ACTIVITIES	NUMBER OF ENTERPRISES	REVENUE FROM SALES	SERVICE INCOME	RECIPTS FROM RENT OF FIXED ASSET	OTHER RECIPTS	DIFFERENCE OF STOCKS	GROSS VALUE OF PRODUCTION
QUARRYING OF STONE	1,144	33,131	464	325	152	-1,354	35,425
QUARRYING OF SAND	722	29,546	30	119	-	224	29,919
QUARRYING OF CLAY	66	494	-	-	3	-	497
QUARRYING OF MARBLE	2	182	-	-	-	161	343
QUARRYING OF GRAVEL	14	10,025	2	-	40	357	10,425
OTHERS	48	14,574	-	-	2	-178	14,398
<b>TOTAL</b>	<b>1,996</b>	<b>87,953</b>	<b>496</b>	<b>443</b>	<b>197</b>	<b>1,918</b>	<b>91,007</b>

**GROSS VALUE OF PRODUCTION BY SIZE OF PERSONS ENGAGED AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)**

**TABLE 14**

**(IN'000 BIRR)**

QUARRYING ACTIVITIES	NUMBER OF ENTERPRISES	SIZE GROUP					TOTAL
		UP TO 9	10-19	20-49	50 & OVER		
QUARRYING OF STONE	1,144	6,970	6,530	20,243	1,682	35,425	
QUARRYING OF SAND	722	5,862	1,622	5,174	17,260	29,919	
QUARRYING OF CLAY	66	431	65	-	-	497	
QUARRYING OF MARBLE	2	-	85	258	-	343	
QUARRYING OF GRAVEL	14	26	194	65	10,139	10,425	
OTHERS	48	228	788	3,181	10,201	14,398	
<b>TOTAL</b>	<b>1,996</b>	<b>13,518</b>	<b>9,284</b>	<b>28,922</b>	<b>39,283</b>	<b>91,007</b>	

GROSS VALUE OF PRODUCTION BY SIZE OF INTIAL CAPITAL AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)

TABLE 15

(IN'000 BIRR)

QUARRYING ACTIVITIES	NUMBER ENTERPRISES	SIZE OF INTIAL CAPITAL					TOTAL
		UP TO 5000	5001-10000	10001-15000	15001-20000	OVER 20000	
QUARRYING OF STONE	1,144	28,711	1,963	-	1,213	3,538	35,425
QUARRYING OF SAND	722	7,372	4,420	20	14,155	3,952	29,919
QUARRYING OF CLAY	66	381	15	5	-	97	497
QUARRYING OF MARBLE	2	-	-	-	-	343	343
QUARRYING OF GRAVEL	14	79	186	-	23	10,138	10,425
OTHERS	48	6,618	-	-	-	7,781	14,398
<b>TOTAL</b>	<b>1,996</b>	<b>43,160</b>	<b>6,583</b>	<b>25</b>	<b>15,391</b>	<b>25,848</b>	<b>91,007</b>

VALUE ADDED\* BY SIZE OF INTIAL CAPITAL AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)

TABLE 16

(IN'000 BIRR)

QUARRYING ACTIVITIES	NUMBER OF ENTERPRISES	SIZE OF INTIAL CAPITAL					TOTAL
		UP TO 5000	5001-10000	10001-15000	15001-20000	OVER 20000	
QUARRYING OF STONE	1,144	26,337	1,259	-	838	3,133	31,567
QUARRYING OF SAND	722	6,398	2,608	-70	12,710	3,340	24,986
QUARRYING OF CLAY	66	335	14	3	-	65	417
QUARRYING OF MARBLE	2	-	-	-	-	195	195
QUARRYING OF GRAVEL	14	70	162	-	21	6,725	6,979
OTHERS	48	5,871	-	-	-	-806	5,065
<b>TOTAL</b>	<b>1,996</b>	<b>39,012</b>	<b>4,042</b>	<b>-67</b>	<b>13,570</b>	<b>12,652</b>	<b>69,209</b>

\* IN THE NATIONAL ACCOUNT CONCEPT AT FACTOR COST

NUMBER OF ENTERPRISES, COMPONENTS OF INDUSTRIAL AND NON-INDUSTRIAL COSTS BY QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)

TABLE 17

(IN '000 BIRR)

QUARRYING ACTIVITIES	NUMBER OF ENTERPRISES	COST OF EXPLOSIVES AND SPARE PARTS	PAYMENTS FOR INDUSTRIAL SERVICES	TRANSPORT COST	OTHER COSTS	TOTAL INDUSTRIAL & NON-INDUSTRIAL COSTS
QUARRYING OF STONE	1,144	10	327	649	1,817	2,803
QUARRYING OF SAND	722	1	217	2,149	954	3,321
QUARRYING OF CLAY	66	4	4	9	33	46
QUARRYING OF MARBLE	2	44	20	32	24	119
QUARRYING OF GRAVEL	14	779	117	868	803	2,566
OTHERS	48	799	661	1,787	5,711	8,959
<b>TOTAL</b>	<b>1,996</b>	<b>1,634</b>	<b>1,345</b>	<b>5,494</b>	<b>9,342</b>	<b>17,815</b>

FIXED ASSETS AND NEW CAPITAL EXPENDITURE BY QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)

TABLE 18

(IN '000 BIRR)

QUARRYING ACTIVITIES	FIXED ASSETS	NEW CAPITAL EXPENDITURE
QUARRYING OF STONE	4,879	1,337
QUARRYING OF SAND	2,633	666
QUARRYING OF CLAY	187	7
QUARRYING OF MARBLE	1,709	138
QUARRYING OF GRAVEL	7,278	124
OTHERS	17,133	1,413
<b>TOTAL</b>	<b>33,820</b>	<b>3,686</b>

TABLE 19

**INVESTMENT IN FIXED ASSETS BY SOURCE AND QUARRYING ACTIVITY**  
1997/98(1990 E.F.Y.)

(IN'000 BIRR)

QUARRYING ACTIVITIES	DOMESTIC SOURCES				FOREIGN SOURCE	GRAND TOTAL
	OWN FUND	BANK LOAN	OTHERS	TOTAL		
QUARRYING OF STONE	596	-	741	1,337	-	1,337
QUARRYING OF SAND	657	-	9	666	-	666
QUARRYING OF CLAY	4	-	3	7	-	7
QUARRYING OF MARBLE	138	-	-	138	-	138
QUARRYING OF GRAVEL	124	-	-	124	-	124
OTHERS	1,413	-	-	1,413	-	1,413
<b>TOTAL</b>	<b>2,933</b>	<b>-</b>	<b>753</b>	<b>3,686</b>	<b>-</b>	<b>3,686</b>

TABLE 20

**FIXED ASSETS OF REPORTING ENTERPRISES BY TYPE AND QUARRYING ACTIVITY**  
1997/98(1990 E.F.Y.)

(IN'000 BIRR)

QUARRYING ACTIVITIES	NUMBER OF ENTERPRISES	BUILDING AND OTHER CONSTRUCTION WORKS	MACHINERY AND EQUIPMENTS	VECHILES	OTHERS	TOTAL
QUARRYING OF STONE	1,144	70	1,042	3,617	150	4,879
QUARRYING OF SAND	722	1,236	466	900	30	2,633
QUARRYING OF CLAY	66	102	80	3	2	187
QUARRYING OF MARBLE	2	99	954	646	10	1,709
QUARRYING OF GRAVEL	14	-	6,058	1,219	-	7,278
OTHERS	48	11	2,995	13,979	148	17,133
<b>TOTAL</b>	<b>1,996</b>	<b>1,518</b>	<b>11,596</b>	<b>20,365</b>	<b>340</b>	<b>33,820</b>

**FIXED ASSETS AND NEW CAPITAL EXPENDITURE BY SIZE OF PERSONS ENGAGED AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)**

TABLE 21

(IN'000 BIRR)

QUARRYING ACTIVITIES	FIXED ASSETS BY SIZE-GROUP					NEW CAPITAL EXPENDITURE BY SIZE-GROUP				
	UP TO 9	10-19	20-49	50 & OVER	TOTAL	UP TO 9	10-19	20-49	50 & OVER	TOTAL
QUARRYING OF STONE	2,486	905	1,402	89	4,882	790	426	33	89	1,337
QUARRYING OF SAND	308	32	1,357	936	2,634	243	8	415	-	666
QUARRYING OF CLAY	186	2	-	-	187	6	1	-	-	7
QUARRYING OF MARBLE	-	707	1,002	-	1,709	-	138	-	-	138
QUARRYING OF GRAVEL	-	127	35	7,116	7,278	-	123	1	1	124
OTHERS	4	30	1,545	15,554	17,133	1	-	1,397	14	1,413
<b>TOTAL</b>	<b>2,984</b>	<b>1,803</b>	<b>5,342</b>	<b>23,695</b>	<b>33,823</b>	<b>1,040</b>	<b>696</b>	<b>1,846</b>	<b>104</b>	<b>3,686</b>

**FIXED ASSET BY SIZE OF INTIAL CAPITAL AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)**

TABLE 22

(IN'000 BIRR)

QUARRYING ACTIVITIES	SIZE OF INTIAL CAPITAL					TOTAL
	UP TO 5000	5001-10000	10001-15000	15001-20000	OVER 20000	
QUARRYING OF STONE	3,101	146	-	231	1,400	4,879
QUARRYING OF SAND	343	104	1	841	1,344	2,633
QUARRYING OF CLAY	15	1	2	-	168	187
QUARRYING OF MARBLE	-	-	-	-	1,709	1,709
QUARRYING OF GRAVEL	1	8	-	4	7,265	7,278
OTHERS	34	-	-	-	17,100	17,133
<b>TOTAL</b>	<b>3,495</b>	<b>260</b>	<b>3</b>	<b>1,076</b>	<b>28,986</b>	<b>33,820</b>

NEW CAPITAL EXPENDITURE BY SIZE OF INTIAL CAPITAL AND QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)

TABLE 23

(IN'000 BIRR)

QUARRYING ACTIVITIES	SIZE OF INTIAL CAPITAL					
	UP TO 5000	5001-10000	10001-15000	15001-20000	OVER 20000	TOTAL
QUARRYING OF STONE	952	75	-	190	120	1,337
QUARRYING OF SAND	251	1	1	5	408	666
QUARRYING OF CLAY	6	1	-	-	-	7
QUARRYING OF MARBLE	-	-	-	-	138	138
QUARRYING OF GRAVEL	1	2	-	1	120	124
OTHERS	14	-	-	-	1,399	1,413
<b>TOTAL</b>	<b>1,224</b>	<b>79</b>	<b>1</b>	<b>196</b>	<b>2,186</b>	<b>3,686</b>

PERCENTAGE DISTRIBUTION OF PERSONS ENGAGED AND VALUE ADDED BY QUARRYING ACTIVITY  
1997/98(1990 E.F.Y.)

TABLE 24

QUARRYING ACTIVITIES	NUMBER PERSONS ENGAGED	PERCENT %	VALUE ADDED* (IN'000 BIRR)	PERCENT %
QUARRYING OF STONE	15,917	44.74	31,567	45.61
QUARRYING OF SAND	17,289	48.60	24,986	36.10
QUARRYING OF CLAY	236	.66	417	.60
QUARRYING OF MARBLE	51	.14	195	.28
QUARRYING OF GRAVEL	682	1.92	6,979	10.08
OTHERS	1,399	3.93	5,065	7.32
<b>TOTAL</b>	<b>35,573</b>	<b>100.00</b>	<b>69,209</b>	<b>100.00</b>

\*IN THE NATIONAL ACCOUNT CONCEPT AT FACTOR COST

**ANALYTICAL RATIOS BY QUARRYING ACTIVITIES  
1997/98(1990 E.F.Y.)**

**TABLE 25**

QUARRYING ACTIVITIES	GROSS VALUE OF PRODUCTION PER PROD. WORKERS	VALUE ADDED* PER PRODUCTION WORKERS	RATIO OF VALUE ADDED* TO GROSS VALUE OF PRODUCTION
QUARRYING OF STONE	3,178	2,832	0.89
QUARRYING OF SAND	4,266	3,563	0.84
QUARRYING OF CLAY	2,672	2,242	0.84
QUARRYING OF MARBLE	7,611	4,344	0.57
QUARRYING OF GRAVEL	18,649	12,484	0.67
OTHERS	15,077	5,303	0.35
<b>TOTAL</b>	<b>4,572</b>	<b>3,477</b>	<b>0.76</b>

\*IN THE NATIONAL ACCOUNT CONCEPT AT FACTOR COST

**PRODUCTION OF MAJOR QUARRYING ARTICLES  
1997/98(1990 E.F.Y.)**

**TABLE 26**

NAME OF PRODUCT	UNIT	QUANTITY PRODUCED	AVERAGE PRODUCERS PRICE PER UNIT (IN BIRR)
STONE	CUB.M	2,465,340	30.40
SAND	CUB.M	1,964,827	17.28
CLAY	CUB.M	86,573	12.28
MARBLE	CUB.M	1,874	1,963.33
GRAVEL	CUB.M	216,250	32.83
PUMICE	CUB.M	89,615	18.50
GYPSUM	TON	208	

## Annex 1: Estimation procedures of Total, Ratio and Sampling Errors

### 1) Total Estimator

National estimate of total,  $\bar{Y}_h$ , for establishment type h is given by:

$$\begin{aligned} \hat{t}_h &= \sum_{i=1}^{n_h} \frac{N_i}{n_i} \sum_{j=1}^{k_i} y_{ij} \\ &= \sum_{i=1}^{n_h} W_i Y_i \end{aligned} \quad (1)$$

$$W_i = \frac{N_i}{n_i} \quad \text{is the sampling weight}$$

Where:

## ANNEX 1: ESTIMATION PROCEDURES OF TOTAL, RATIO AND SAMPLING ERRORS

obtained from the sampling frame

$n_h$  = National sample number of establishments actually covered in stratum/establishment type h

$y_{ij}$  = The observed value of characteristic y for establishment i in stratum/establishment type h

### 1) Sampling error of total estimator

Estimate of variance of national total estimate of establishment type h is:

$$v(\hat{t}_h) = N_h^2 \left( \sum_{i=1}^{n_h} \frac{(Y_i - \bar{Y}_h)^2}{n_i(n_i - 1)} \right) \quad (2)$$

$$\text{Where, } \bar{Y}_h = \sum_{i=1}^{n_h} Y_i$$

Estimate of standard error (SE) of national total estimate of establishment type h is:



## Annex 1: Estimation procedures of Total, Ratio and Sampling Errors

### I) Total Estimator

National estimate of total,  $\bar{Y}_h$ , for establishment type h is given by:

$$\hat{Y}_h = \sum_{i=1}^{n_h} \frac{N_h}{n_h} y_{hi} \quad (1)$$
$$= \sum_{i=1}^{n_h} W_h Y_{hi}$$

$$W_h = \frac{N_h}{n_h} \quad \text{is the sampling weight}$$

Where:

$N_h$  = Total national number of establishments in stratum/establishment type h obtained from the sampling frame

$n_h$  = National sample number of establishments actually covered in stratum/establishment type h

$y_{hi}$  = The observed value of characteristic y for establishment i in stratum/establishment type h

### II) Sampling error of total estimates:

Estimate of variance of national total estimate of stratum/establishment type h is:

$$v(\hat{Y}_h) = N_h^2 \left( \sum_{i=1}^{n_h} \frac{(y_{hi} - \bar{y}_h)^2}{n_h(n_h - 1)} \right)$$

$$\text{Where: } \bar{y}_h = \sum_{i=1}^{n_h} y_{hi}$$

Estimate of standard error (SE) of national total estimate of establishment type h is:

$$SE(\hat{Y}_h) = \sqrt{v(\hat{Y}_h)} \quad (3)$$

Percentage Coefficient of variation (CV) of national total estimate of establishment type h is:

$$CV(\hat{Y}_h) = \frac{\sqrt{v(\hat{Y}_h)}}{\hat{Y}_h} \times 100 \quad (4)$$

95 percent confidence interval of national total estimate of establishment type h is:

$$\hat{Y}_h \pm 1.96 \times SE(\hat{Y}_h) \quad (5)$$

### III) Estimator of ratio:

Estimate of ratio of stratum/establishment type h is:

$$\bar{R}_h = \frac{\bar{Y}_h}{\bar{X}_h} \quad (6)$$

Where the numerator and the denominator are estimates of national totals of characteristic y and x, respectively of establishment type h.

### IV) Sampling error of ratio estimates:

Estimate of variance of national ratio estimate of stratum/establishment type h is:

$$V(\hat{R}_h) = \frac{1}{\hat{X}_h^2} \left[ Var(\hat{Y}_h) + \hat{R}_h^2 Var(\hat{X}_h) - 2\hat{R}_h Cov(\hat{Y}_h, \hat{X}_h) \right] \quad (7)$$

in which 
$$Cov(\hat{Y}_h, \hat{X}_h) = \frac{n_h}{n_h - 1} \left[ \sum_{i=1}^{n_h} \hat{Y}_{hi} \hat{X}_{hi} - \frac{\hat{Y}_h \hat{X}_h}{n_h} \right]$$

$$SE(\hat{R}_h) = \sqrt{v(\hat{R}_h)} \quad (8)$$

Estimates of standard error, coefficient of variation and confidence interval for the ratio estimate can be calculated by adopting formulas 3, 4 and 5.

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QUEST(QD) \_\_\_\_\_

NAME OF ESTABLISHMENT \_\_\_\_\_

ISIC \_\_\_\_\_

SE. NO. \_\_\_\_\_

## ANNEX 2: SURVEY QUESTIONNAIRE

THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA  
CENTRAL STATISTICAL AUTHORITY

PILOT SURVEY OF MINING AND QUARRYING INDUSTRY  
(19.....)

ADDIS ABABA  
DECEMBER 1994



ITEM 1 - IDENTIFICATION PARTICULAR

ADDRESS OF THE ESTABLISHMENT

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QUEST.(QI) \_\_\_\_\_

NAME OF ESTABLISHMENT \_\_\_\_\_

ISIC \_\_\_\_\_

SR.NO. \_\_\_\_\_

NAME OF QUARRYING PRODUCTS UNDER THE SURVEY PERIOD ADDRESS AND EMPLOY QUANTITY

NAME OF QUARRYING PRODUCTS UNDER THE SURVEY PERIOD	ADDRESS	EMPLOY	QUANTITY

**THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA  
CENTRAL STATISTICAL AUTHORITY**

**PILOT SURVEY OF MINING AND QUARRYING INDUSTRY  
(19.....)**

**ADDIS ABABA  
DECEMBER 1998**

FOR OFFICE USE ONLY

CONFIDENTIAL  
FOR STATISTICAL USE ONLY

QUEST (Q) \_\_\_\_\_

IRIC \_\_\_\_\_

SR NO. \_\_\_\_\_

NAME OF ESTABLISHMENT \_\_\_\_\_

\_\_\_\_\_

THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA  
CENTRAL STATISTICAL AUTHORITY

REPORT SURVEY OF MINING AND QUARRYING INDUSTRY  
(1977)

ADDIS ABABA  
DECEMBER 1988

# SURVEY OF MINING & QUARRYING INDUSTRIES

## ITEM 1 - IDENTIFICATION PARTICULAR

### 1.1 ADDRESS OF THE ESTABLISHMENT

1	2	3	4	5	6	7
KILLIL	ZONE	WERDA	TOWN	HIGHER	F/A	QUES. Q. NO.

8	9	10	11	12
ISIC NO. (FOR OFFICE USE)	REGISTERD NAME OF THE ESTABLISHMENT/OWNER	SR.NO. OF ESTAB. (For office)	TELEPHONE NO.	P.O. BOX NO.

### 1.2 NAME OF QUARRYING PROJECTS UNDER THE ESTABLISHMENT ,ADDRESS AND TYPE OF QUARRYING\*.

	NAME	ADDRESS				NAME OF QUA. PLACE	TYPE OF QUA.
		KILLIL	ZONE	WEREDA	KEBELE/F.A		
1.2.1	_____	_____	_____	_____	_____	_____	_____
1.2.2	_____	_____	_____	_____	_____	_____	_____
1.2.3	_____	_____	_____	_____	_____	_____	_____
1.2.4	_____	_____	_____	_____	_____	_____	_____
1.2.5	_____	_____	_____	_____	_____	_____	_____

## ITEM 2 - BASIC INFORMATION ABOUT THE ESTABLISHMENT

<p>2.1 MAJOR PRODUCTS (MINERAL TYPE) OF THE ESTABLISHMENT (ENUMERATE IN ORDER OF THEIR VALUE OF SALES)</p> <p>_____</p>	
<p>2.2 DATE OF COMMENCEMENT OF OPERATION (IN ETHIOPIAN CALENDER YEAR) _____</p>	2.2 <input style="width: 40px; height: 15px; border: 1px solid black;" type="text"/>
<p>2.3 DO YOU KEEP BOOKS OF ACCOUNT: YES =1 NO =2 (IF YES ATTACH DETAILED STATEMENT OF ACCOUNTS)</p>	2.3 <input type="checkbox"/>
<p>2.4 IF THE ANSWER IS YES TO 2.3 STATE ACCORDING TO WHICH CALENDER YEAR YOUR ACCOUNTS AND BOOKS ARE BEING KEPT</p> <p>ETHIOPIAN FISICAL YEAR (YEAR ENDING JULY 7) ----- =1                  ETHIOPIAN CALENDR YEAR (YEAR ENDING SEPT. 10) ----- =2                  GREGORIAN CALENDER YEAR (YEAR ENDING DEC. 31)----- =3                  OTHERRS (SPECIFY) _____ =4</p>	2.4 <input type="checkbox"/>

\* IF QUARRYING PROJECTS GREATER THAN FIVE IN THE SURVEY PERIOD LIST AND ATTACH TO THE QUESTIONERY.

2.5 TYPE OF OWNERSHIP

- INDIVIDUAL PROPRIETORSHIP ----- =1
- PARTNERSHIP ----- =2
- SHARE COMPANY ----- =3
- PRIVATE LIMITED COMPANY ----- =4
- CO-OPERATIVE ----- =5
- GOVERNMENT ----- =6
- OTHERS (SPECIFY) ----- =7

2.5  4

2.6 NUMBER OF OWNERS OF THE ESTABLISHMENT BY SEX

2.6

5		
MALE	FEMALE	TOTAL
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.7 INITIAL CAPITAL BY OWNERS AND SEX

2.7

- 1. PRIVATE ETHIOPIAN MALE BIRR \_\_\_\_\_
- 2. PRIVATE ETHIOPIAN FEMALE BIRR \_\_\_\_\_
- 3. PRIVATE NON-ETHIOPIAN BIRR \_\_\_\_\_
- 4. PUBLIC BIRR \_\_\_\_\_
- 5. OTHERS (SPECIFY) BIRR \_\_\_\_\_
- 6. TOTAL BIRR \_\_\_\_\_

1.  6

2.  7

3.  8

4.  9

5.  10

6.  11

2.8 NUMBER OF MONTHS THE ESTABLISHMENT OPERATED

DURING 1990 E.F.Y. (1997/98 G.C.)  
(STATE IN FULL MONTH) \_\_\_\_\_

2.8  12

2.9 WHAT WERE THE THREE MAJOR PROBLEMS THAT PREVENTED YOU FROM OPERATING FULL YEAR (ENUMERATE IN ORDER OF IMPORTANCE)

- GETTING MARKET/CUSTOMER ----- =1
- SHORTAGE OF SPARE PARTS ----- =2
- LACK OF WORKING CAPITAL ----- =3
- FREQUENT BREAKAGE MACHINES ----- =4
- SEASONALITY NATURE OF THE WORK ----- =5
- GOVERNMENT RULES AND REGULATIONS ----- =6
- NOT START OPERATION ----- =7
- OTHERS (SPECIFY) ----- =8

2.9  13

14

15

### ITEM-3 NUMBER OF OF PERSONS ENGAGED AND WAGES SALARIES

#### 3.1 NUMBER OF PERSONS ENGAGED IN 1997/98

SR. NO.	GENERAL OCCUPATION	NUMBER OF PERMANENT WORKERS IN DECEMBER		NUMBER OF PERMANENT WORKERS IN JUNE		GROSS ANNUAL WAGE AND SALARES PAID		PERSONS/ MONTHS	WAGE /IN BIRR/
		MALE	FEMALE	MALE	FEMALE	MALE	FEMALE		
		3	4	5	6	7	8		
1	WORKING PROPRIETORS								
1	ACTIVE PARTNER AND FAMILY WORKERS								
2	ADMINISTRATIVE, TECHNICAL EMPLOYEES CLERICAL & OFFICE WORKERS								
3	PRODUCTION WORKERS								
4	TEMPORARY WORKERS								
5	TOTAL								

#### 3.2 NUMBER OF PERMANENT WORKERS BY BASIC SALARY GROUP\*

SR. NO.	SEX	UNDER 105	105 AND UNDER 150	150 AND UNDER 200	200 AND UNDER 250	250 AND UNDER 300	300 AND UNDER 400	400 AND UNDER 500	500 AND UNDER 700	700 AND UNDER 1000	1000 AND UNDER 1500	1500 AND OVER	TOTAL
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	MALE												
2	FEMALE												
3	TOTAL												

\* NUMBER OF PERMANENT EMPLOYEES BY SEX & BASIC SALARY GROUP COULD BE COMPLETED FROM THE PAYROLL OF THE LAST PERIOD OF WORKING DAY IN SENE.

ITEM 4 - PRODUCTS AND BY PRODUCTS OF THE ENTERPRISE (IN BIRR) IN 1997/98.

4.1 PRODUCTS AND BY PRODUCTS (IN BIRR)

SR. NO.	DESCRIPTION OF TYPES OF MINERAL PRODUCTS	UNIT OF MES.	PRODUCT CODE	U/M CODE	AVERAGE SALES PRICE PER UNIT (EX-FACTORY)		QUANTITY PRODUCED	VALUE OF PRODUCTION (EX-FACTORY)	TOTAL SALES	
					BIRR	CTS			QUANTITY	VALUE
1	2	3	4	5	6		7	8 = 6 x 7	9	10
0 1										
0 2										
0 3										
0 4										
0 5										
0 6										
0 7										
0 8										
0 9	<b>OTHERS</b>									
1 0	<b>TOTAL</b>									

\* TOTAL SALES SHOULD INCLUDE ALL SALES TAXES.

4.2 PRODUCTS AND BY PRODUCTS OF THE ENTERPRISE DURING THE LAST THREE MONTHS (IN BIRR)

SR. NO.	DESCRIPTION OF TYPES OF MINERAL PRODUCTS	UNIT OF MES.	PRODUCT CODE	U/M CODE	AVERAGE SALES PRICE PER UNIT (EX-FACTORY)		QUANTITY PRODUCED	VALUE OF PRODUCTION (EX-FACTORY)	TOTAL SALES	
					6				7	8 = 6 x 7
1	2	3	4	5	BIRR				9	10
0 1						CTS				
0 2										
0 3										
0 4										
0 5										
0 6										
0 7										
0 8										
0 9	OTHERS									
1 0	TOTAL									

\* TOTAL SALES SHOULD INCLUDE ALL SALES TAXES.

**4.3 SERVICES AND OTHER RECEIPTS (IN BIRR) IN 1997/98.**

SR. NO.	SERVICE INCOME	RENTAL INCOME	INTEREST	OTHERS	TOTAL
1	2	3	4	5	6
1					

**4.4 SERVICES AND OTHER RECEIPTS DURING THE LAST THREE MONTHS (IN BIRR)**

SR. NO.	SERVICE INCOME	RENTAL INCOME	INTEREST	OTHERS	TOTAL
1	2	3	4	5	6
1					

**4.5 VALUE OF STOCKS (IN BIRR) IN 1997/98**

SR. NO.	BEGINNING OF THE YEAR	ENDING OF THE YEAR	DIFFERENCE (END YEAR - BEG. YEAR)
1	2	3	4
1			

**5.1 OTHER INDUSTRIAL AND NON - INDUSTRIAL COSTS (IN BIRR) IN 1997/98.**

SR. NO.	COST OF SPARE PARTS AND EXPLOSIVES.	TRANSPORT COST	REPAIR AND MAINTENANCE	RENTAL EXPENSE	LICENSE FEE	INTEREST EXPENSE	OTHER EXPENSE	TOTAL
1	2	3	4	5	6	7	8	9
1								

**5.2 OTHER INDUSTRIAL AND NON - INDUSTRIAL COSTS DURING THE LAST THREE MONTHS (IN BIRR).**

SR. NO.	COST OF SPARE PARTS AND EXPLOSIVES.	TRANSPORT COST	REPAIR AND MAINTENANCE	RENTAL EXPENSE	LICENSE FEE	INTEREST EXPENSE	OTHER EXPENSES	TOTAL
1	2	3	4	5	6	7	8	9
1								

**5.3 TAXES PAID (IN BIRR) IN 1997/98.**

SR. NO.	LAND TAXES PAID	ROYALTY FEE	INCOME TAX PAID ON PROFIT	TOTAL
1	2	3	4	5
1				

**ITEM 6 - FIXED ASSETS AND INVESTMENT (IN BIRR) IN 1997/98.**

**6.1 TYPE AND VALUE OF FIXED ASSETS /FOR THOSE ENTERPRISES WITH BOOKS OF ACCOUNTS /**

SR. NO.	TYPE OF FIXED ASSETS	FIXED ASSETS				
		BOOK VALUE BEG. OF THE YEAR	INVESTMENT DURING THE YEAR	SOLD AND DISPOSED DURING THE YEAR	DEPRECIATION DURING THE YEAR	BOOK VALUE END OF THE YEAR
1	2	3	4	5	6	7=(3+4) - (5+6)
1	NON-RESIDENTIAL BUILDINGS					
2	OTHER CONSTRUCTION & WORKS					
3	MACHINERY & EQUIPMENT'S					
4	VEHICLES					
5	OTHERS (OFFICE FURNITURE)					
6	<b>TOTAL</b>					

\* MAKE SURE THAT IN COLUMN 6 ONLY ANNUAL DEPRECIATION IS INCLUDED.

6.2 TYPE AND VALUE OF FIXED ASSETS /FOR THOSE WITH NO BOOKS OF ACCOUNTS /

SR. NO.	TYPE OF FIXED ASSETS	FIXED ASSETS			
		PURCHASE/ PRODUCTION COST (IN BIRR)	AGE OF FIXED ASSETS	INVESTMENT DURING THE YEAR (IN BIRR)	SOLD AND DISPOSED DURING THE YEAR
1	2	3	4	5	6
1	NON-RESIDENTIAL BUILDINGS				
2	OTHER CONSTRUCTION & WORKS				
3	MACHINERY & EQUIPMENTS				
4	VEHICLES				
5	OTHERS (OFFICE FURNITURE)				
6	<b>TOTAL</b>				

6.3 ANNUAL INVESTMENT BY TYPE AND SOURCE

SR. NO.	SOURCE OF FINANCING	TYPE OF INVESTMENT	
		FIXED ASSETS	WORKING CAPITAL
1	2	3	4
1	<b>TOTAL DOMESTIC SOURCE</b>		
2	OWN FUND		
3	BANK LOAN		
4	OTHERS		
5	<b>FOREIGN SOURCE</b>		
6	<b>TOTAL</b>		

**ITEM 7 - YEARLY PRODUCTION AT FULL CAPACITY AND PROBLEMS OF THE ENTERPRISE.**

**7.1 ANNUAL PRODUCTION AT FULL CAPACITY.**

SR. NO.	DESCRIPTION OF TYPES OF MINERAL PRODUCTS	U/M	PRODUCT CODE	U/M CODE	QUANTITY OF PRODUCT THAT CAN BE PRODUCED ANNUALLY	VALUE OF PRODUCT (AT CURRENT PRICE)
1	2	3	4	5	6	7
0 1						
0 2						
0 3						
0 4						
0 5						
0 6						
0 7						
0 8						
0 9	OTHERS					
1 0	<b>TOTAL</b>					

**7.2 WHAT WERE THE THREE MAJOR PROBLEMS THAT PREVENTED THE ENTERPRISE FROM OPERATING WITH FULL CAPACITY.**

SHORTAGE OF SUPPLY OF SPARE PARTS	=1	CODE
GETTING MARKET/CUSTOMERS	=2	
LACK OF CREDIT FROM BANKS	=3	
LACK OF WORKING CAPITAL	=4	1 <input type="checkbox"/>
SEASONAL NATURE OF THE WORK	=5	2 <input type="checkbox"/>
LACK OF TECHNICAL KNOW HOW	=6	3 <input type="checkbox"/>
OTHERS /SPECIFY/	=7	

**7.3 WHAT ARE THE THREE MAJOR PROBLEMS THAT ARE FACING THE ENTERPRISE AT PRESENT**

SHORTAGE OF SUPPLY OF SPARE PARTS	=1	CODE
UNABLE TO COMPETE THE MARKET	=2	
GETTING MARKET/CUSTOMERS	=3	
LACK OF WORKING CAPITAL	=4	1 <input type="checkbox"/>
FREQUENT BREAKAGE OF MACHINERY	=5	2 <input type="checkbox"/>
INCONVENIENT WORKING PLACE	=6	3 <input type="checkbox"/>
PROBLEMS WITH EMPLOYEES	=7	
GOVERNMENT RULES AND REGULATIONS	=8	
NO PROBLEM FACED	=9	
OTHERS/ SPECIFY/	=10	

ITEM 8 - REMARKS


ITEM 9 - NAME OF PERSON TO CONTACT REGARDING THIS REPORT

I CERTIFY THAT THE PRECEDING INFORMATION IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

NAME _____	TITLE _____
SIGNATURE _____	TEL NO. _____
DATE _____	OFFICIAL SEAL _____

ITEM 10 - NAME OF ENUMERATOR AND SUPERVISOR

NAME OF ENUMERATOR _____	SIGNATURE _____	DATE _____
NAME OF SUPERVISOR _____	SIGNATURE _____	DATE _____
TITLE OF STATISTICS BRANCH OFF. _____	SIGNATURE _____	DATE _____