

CHAPTER 6

PROGRESS OF THE THIRD FIVE-YEAR

DEVELOPMENT PLAN

CHAPTER 6 PROGRESS OF THE THIRD FIVE-YEAR DEVELOPMENT PLAN

The long-term development strategies in Oman which were established in February, 1975 were reflected in the First Five-year Development Plan (1976-1980), carried over to the Second Five-year Development Plan (1981-1985), and then to the Third Five-year Development Plan (1986-1990). The main contents of the strategies are as follows:

- (1) To diversify the resources of national income by developing new resources to augment and to eventually replace oil resources;
- (2) To increase the ratio of investment directed to income-generating projects particularly in activities of manufacturing, mining, agriculture and fisheries; and
- (3) Fair distribution of national investment among geographic regions with a view to spreading progress and prosperity to all districts of the Sultanate. Special priority is assigned to the less-developed areas in order to reduce differences in the standard of living among regions.

In addition to the above, the strategies include commitments to the support of regions in order to slow urbanization and to conserve the environment, the development of water resources, the development of human resources by enhancing education programs, the improvement of infra-structures, the promotion of commercial activities and private enterprises, raising the efficiency of the government's administration system, intensifying regional economic cooperation among GCC countries, etc.

In order to accomplish these long-term strategies, short-term targets and policies were sanctioned for the Third Five-year Development Plan in December 1985 in accordance with Royal Decree No. 103/85. The short-term targets concerning agriculture are set out below:

- (1) To achieve an average growth rate of 4% in national income, estimated in current prices;
- (2) To give priority to the development of natural resources and to income-generating projects in such sectors as agriculture, fisheries,

manufacturing, mining, and natural gas;

- (3) To expand regional development in the field of social services such as education, health, vocational training and subsidized housing; and
- (4) To give due attention to the completion of public infrastructure, as permitted by the available resources, and to attach high priority to sanitary drainage projects, drinking water services, electricity, means of communication and establishment of local markets.

Soon after the sanction of the Royal Decree for the Third Five-year Development Plan, oil prices started to decline. They reached US\$ 8 per barrel in July 1986, the lowest level since 1983. Although the price recovered somewhat, the revenues of the Sultanate were reduced by almost half. The Sultanate tried to minimize the effects of reduced national income and decided to reduce government spending in the Third Five-year Development Plan by 10%, as well as to devalue the Omani Rial against the US\$ by 10.2%. As a result, the targets of the short-term policies of the Third Five-year Development Plan have been reformulated. The main factors to be considered are:

- (1) To stabilize the economy and assist private and governmental sectors to cope with the new environment;
- (2) To tackle the deficit in the national budget;
- (3) To concentrate on increasing the value of products in non-oil producing sectors so as to compensate for the reduction in revenues; and
- (4) To maintain the development of the social and health services, vocational training and subsidized housing.

In accordance with these policies, the total amount of R.O. 1,483 million which was originally allocated for development expenditures was finally reduced by 8.7% to R.O. 1,354 million. The plan was then amended by the Council of Financial Affairs in its session held on October 19th, 1986.

Examining the trend of actual government revenues and expenditures for three years (1986-88) of the Third Five-year Development Plan, shows the deficit has reached over R.O. 1.0 billion, despite cutbacks in

expenditures. Most of this deficit was financed by the country's reserves, which were built up by the government in previous years, withdrawals from SGRF (State General Reserve Fund) and external borrowing.

In contrast to the original Third Five-year Development Plan, the amended plan was almost completely accomplished due to the relatively stabilized oil prices after the fall in 1986; the actual achievements during those three years are illustrated in Table 6.1 and Figure 6.1. The 3-year total achievement rate shows revenue of 78.1% and expenditure of 91.8%. If the contents of expenditures are examined, the achievement of development expenditure and support for the private sector is obviously hindered, as indicated by the 3-year achievement rates of 78.3% and 53.0%, respectively, because of the budget reductions made in the amended Third Five-year development Plan.

With respect to the development budget for MAF, the detailed amount is shown in Table 6.2. From the table, the total development budget allocated in the Third Five-year Development Plan is R.O. 132 million and the difference between planned and actual budget, R.O.119 million, is R.O. 13 million. If the indicated budget for 1990 is halved because of the amount requested by the Development Council, the total actual development budget for MAF will be approximately R.O. 107 million. The sector-wise distribution of MAF's development budget is shown in Table 6.3. The largest share (43%) of the budget is distributed to the irrigation and dam sectors, followed by the agriculture and livestock sectors (29%) and the fisheries sector (19%).

MAF's share in national civil development expenditure is 3.7% on average, in spite of fluctuations ranging from 2.5-4.8% as shown in Table 6.4. From the viewpoint of its importance in both the workforce and the rural economy, the share should be raised to an appropriate level.

Table 6.1 Actual and Planned Public Finance

Actual and Planned Public Finance (Million R.O., %)

Items	Actual		Planned (3rd 5 Year Development Plan)		Achievement Rate (Actual/Planned)	
	1986	1987	1986	1987	1986	1987
Revenues						
Oil Revenue	828.9	1,194.9	1,489.0	1,398.0	65.9	85.5
Gas Revenue	37.9	39.0	31.0	34.0	122.3	114.7
Custom Duties	37.0	44.2				
Corporate Income Tax	25.6	21.2				
Interest from Investments	25.1	30.5				
Other Revenue	133.5	168.8	213.0	222.0	62.7	75.1
Repayment of Loans to the Government	32.0	32.7	13.0	10.0	252.3	181.7
Total Revenue	1,220.8	1,512.0	1,866.0	1,672.0	73.3	90.4
Expenditures						
Defence & Security	665.4	593.6	681.0	604.0	110.7	98.6
Civil Recurrent	648.2	681.9	858.0	789.0	98.7	91.5
All Ministries	508.0	509.1	512.0	547.0	97.7	93.1
Interest on Government Loan	75.9	72.9	65.0	82.0	116.8	88.9
Gov. Share in Operating expenditure of PDO	72.3	66.5	73.0	80.8	99.0	83.1
Development Expenditure	532.4	280.2	547.0	490.0	97.3	67.1
All Ministries	363.1	238.0	400.0	350.0	90.8	65.7
Gov. Share in Operating expenditure of PDO	163.3	90.5	141.0	134.0	115.8	87.5
Exploration for Gas	6.0	6.3	6.0	6.0	100.0	100.0
Support to Private Sector	10.7	11.0	23.0	24.0	46.5	45.8
Industrial Sector	0.8	0.8	10.0	10.0	0.0	0.0
International, Regional & Local Organization	1.3	0.7				
Oman Housing Bank	7.1	7.0	7.0	7.0	100.0	100.0
Oman Development Bank	2.0	2.1	2.0	3.0	100.0	70.0
Oman Bank for A.F. in	0.3	1.2	4.0	4.0	7.5	30.0
Gov. Loans & Participation in Local & Foreign Enterprises	30.1	37.2	20.0	20.0	150.5	166.0
Total Expenditures	1,886.8	1,609.1	1,841.0	1,847.0	102.5	87.1
Balance	-666.0	-97.1	-175.0	-175.0	-71.0	-421.0

Source: Statistical Yearbook 1989
The Third Five-Year Development Plan

Achievement Rate of 3rd F.Y.P

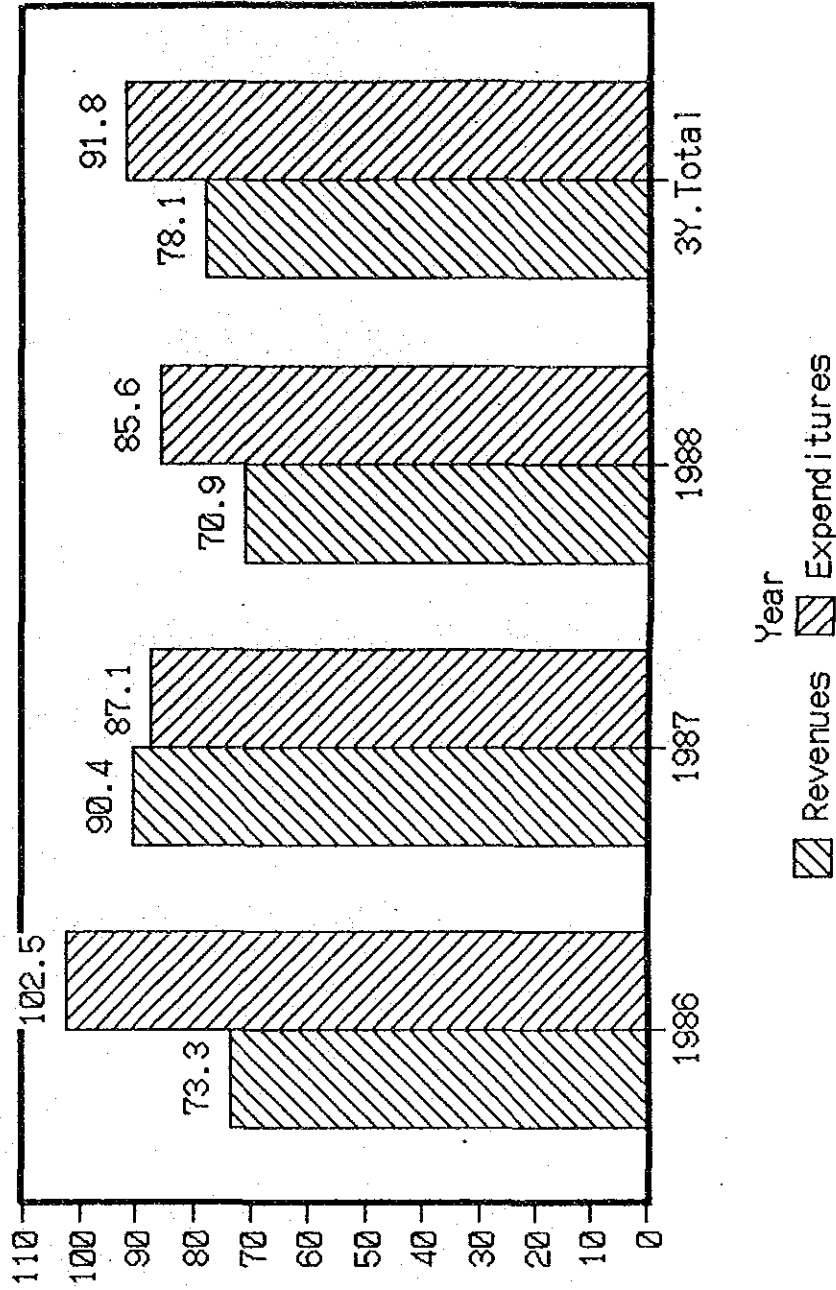


Figure 6.1 Achievement Rate of Third Five-year Development Plan from 1986-1988

Table 6.2 Development Expenditure of MAF

Source: Finance Department in MAF

No. Project Number	Project title	Total Cost (4)	Adjusted Total Cost till 1988 (5)	Total till 1988 1989 (7)	Balance		Remarks
					Total till 1989 (8)	Estimated 1990 (10)	
1	22048101 Consultants for enhancement of technical authority of the Ministry	2,229,777	2,229,777	4,131	2,229,777	0	0 finish 89'
2	22048105 Agricultural research facilities at Ruwai	1,022,212	1,022,212	177,697	795,232	226,980	0 finish 90'
3	22048106 Agricultural research facilities at Salalah	406,162	406,162	5,000	309,880	96,282	0 finish 90'
4	22048107 Agricultural research facilities at Jibah	345,492	345,492	60,038	151,899	193,593	81,000
5	22048111 Animal research facilities at Buraimi	600,780	600,780	377,471	3,309	2,488	3,309
6	22048113 Animal research facilities at Quraysh	182,057	182,057	370	159,881	22,256	7,704
7	22048114 Animal research facilities in Southern Region	1,098,479	1,098,479	481,140	711,975	386,504	386,504
8	22048130 Training of agricultural services centers staff	1,650,000	1,650,000	68,156	1,581,980	131,020	131,020
9	22048131 Information facilities and farmers training	153,396	153,396	6,750	153,396	0	0 finish 89'
10	22048132 Soil survey and analysis, 10,000 hectares	423,968	423,968	4,999	419,331	4,637	2,590
11	22048134 Forestry development program (1981)	240,000	240,000	9,325	231,996	8,004	8,004
12	22048142 Other subsidies (fertilizers, insecticides, equipment, seeds)	11,953,404	11,953,404	11,929,283	22,957	0	22,957
13	22048145 Repairs and maintenance of Falaj and wells program	23,544,926	23,544,926	68,904	23,544,286	640	640
14	22048155 Water survey & provision in new lands	837,353	837,353	4,401	758,120	99,245	99,245
15	22048157 Underground water recharge scheme in the Sultanate (1981)	2,040,000	2,040,000	8,972,448	4,137	8,976,385	63,415
16	22048159 Marine science & fisheries center	7,093,924	7,093,924	4,234,546	288,676	4,463,222	2,630,702
17	22048161 Marine workshops	111,738	111,738	95,587	7,861	103,368	8,370
18	22048162 Marine workshops	3,209,565	3,209,565	2,887,161	0	322,404	322,404
19	22048163 Dairies, storage & ice plants facilities	1,637,849	1,637,849	0	1,637,849	0	0 finish 88'
20	22048164 Fishermen encouragement fund (1981)	3,708,262	3,708,262	91,770	3,700,226	8,036	8,036
21	22048165 Ministry building & furniture	3,282,334	3,282,334	72,312	3,013,655	268,679	268,679
22	22048166 Fisheries sector survey	2,669,300	2,669,300	6,733	2,656,600	12,700	12,700
23	22048167 Fishing boats subsidy program	135,262	135,262	0	131,500	3,762	3,762
24	22048203 Recommendation for agricultural extension centers staff	2,227,877	2,227,877	14,883	2,199,076	28,801	28,801
25	22048302 Complementary works for southern region projects	336,769	336,769	328,498	8,471	336,969	0
26	22048304 Complementary works for plan projects	1,054,874	1,054,874	912,003	67,851	979,884	75,020
27	22048306 Water survey program for agriculture in Buraimi	155,944	155,944	155,637	0	307	307
28	22048308 Small scale animal processing projects	232,031	232,031	225,318	0	6,713	6,713
29	22048309 Development & construction of 40 agricultural service centers	109,173	109,173	27,332	72,851	72,851	0 finish 90'
30	22048310 Establishment of cattle & camel markets in Buraimi & Suwaiq	1,886,566	1,886,566	93,828	1,861,778	24,788	24,788
31	22048301 Development of agricultural research stations (1987)	200,000	200,000	183,655	16,345	0	16,345
32	22048302 Development of animal research stations (1987)	125,000	125,000	118,566	6,434	0	6,434
33	22048303 Performance improvement in agricultural extension centers (1987)	160,000	160,000	102,169	57,831	0	57,831
34	22048304 Citizens compensation against natural crisis (1987)	175,000	175,000	153,745	21,255	0	21,255
35	22048305 Master plan for development of date palm cultivation (1987)	40,000	40,000	0	40,000	0	40,000
36	22048306 Falaj & wells maintenance (1987)	1,000,000	1,000,000	79,274	6,702	85,976	14,024
37	22048307 Animal health development (1987)	1,350,000	1,350,000	958,285	9,050	967,335	32,665
38	22048308 Rangelands management units in Jabob & Titam	200,000	200,000	162,332	16,665	178,997	21,003
39	22048309 Construction of underground water recharge schemes (1987)	540,000	540,000	224,339	87,186	311,515	228,485
40	22048310 Studies for enhancement of technical authorities of the Ministry	200,000	200,000	1,470,217	2,182,866	3,853,003	1,046,917
41	22048311 Rural survey & statistics	1,000,000	1,000,000	309,841	239,285	549,126	450,874
42	22048312 Fishermen encouragement fund (1987)	150,000	150,000	130,216	22,017	22,995	7,065
43	22048313 Falaj & wells maintenance in Buraimi (1987)	105,429	105,429	7,245	14,500	21,743	83,684
44	22048314 Khazab cold store	10,000	10,000	0	122	12,762	12,762
45	22048315 Development of agricultural research stations (1988)	255,000	255,000	130,736	110,232	241,028	13,772
46	22048316 Performance improvement in agricultural extension centers (1988)	175,000	175,000	63,196	70,740	138,733	33,257
47	22048317 Performance improvement in agricultural extension centers (1988)	200,000	200,000	100,500	3,938	14,438	41,064
48	22048318 Animal health improvement	2,950,000	2,950,000	693,664	556,088	1,249,752	1,236,248
49	22048319 Citizens compensation against natural crisis (1988)	150,000	150,000	130,589	3,061	133,570	26,430
50	22048320 Master plan for development of date palm cultivation (1988)	1,400,000	1,400,000	189,234	202,855	392,034	407,966
51	22048321 Forestry development program (1988)	100,000	100,000	8,669	18,982	27,051	72,949
52	22048322 Development of veterinary quarantine services	150,000	150,000	6,522	0	143,478	13,522
53	22048323 Falaj & wells maintenance (1988)	2,100,000	2,100,000	1,302,159	619,856	1,922,015	181,485
54	22048324 Construction of underground water recharge schemes (1988)	5,000,000	5,000,000	602,898	959,012	4,040,988	800,000
55	22048325 Old marine workshops improvement	100,000	100,000	346,781	1,425	98,575	59,555
56	22048326 Animal health development (1988)	2,500,000	2,500,000	2,461,766	1,782,095	679,731	679,731
57	22048327 Animal health development (1988)	1,220,000	1,220,000	309,406	481,307	429,287	429,287
58	22048328 Fishermen encouragement fund (1988)	500,000	500,000	105,892	265,646	108,462	108,462
59	22048329 Fishermen encouragement fund (1988)	500,000	500,000	105,892	265,646	108,462	108,462
60	22048330 Fishermen encouragement fund (1988)	500,000	500,000	105,892	265,646	108,462	108,462
61	22048331 Fishermen encouragement fund (1988)	500,000	500,000	105,892	265,646	108,462	108,462
62	22048332 Fishermen encouragement fund (1988)	500,000	500,000	105,892	265,646	108,462	108,462
63	22048333 Fishermen encouragement fund (1988)	500,000	500,000	105,892	265,646	108,462	108,462
64	22048334 Fishermen encouragement fund (1988)	500,000	500,000	105,892	265,646	108,462	108,462
65	22048335 Fishermen encouragement fund (1988)	500,000	500,000	105,892	265,646	108,462	108,462

Table 6.2 (Continued)

Source: Finance Department in MRE

No. Project Number	Project title	Total Cost (4)	Adjusted Total Cost till 1988 (5)	Total 1989 (6)	Total 1989 (7)	Total till 1989 (8)	Balance			Remarks
							1990	Estimated 1990	(9) (10) (11)	
66	22048817 Falaj & wells maintenance in Buraimi (1988)	120,000	120,000	0	20,000	20,000	100,000	0	100,000	0 finish 90
67	22048818 Importation of agricultural & veterinary materials to Buraimi (1988)	30,000	30,000	0	0	0	30,000	0	30,000	0 finish 90
68	22048819 Pilot agricultural station at Sinana	120,000	120,000	0	600	600	119,400	0	119,400	0 finish 90
69	22048820 Drilling of 30 wells for agricultural purposes (1988)	35,000	35,000	0	0	0	35,000	0	35,000	0 finish 90
70	22048821 Water resources studies	35,000	35,000	0	0	0	35,000	0	35,000	0 finish 90
71	22048822 Marine aquatic resources pilot project	12,000	12,000	0	10,000	10,000	2,000	0	2,000	0 finish 90
72	22048823 Planting trees around Salalah airport	150,000	150,000	0	103,966	103,966	46,034	0	46,034	0 finish 90
73	22048824 Construction of marine jetty in Duqum	2,000,000	2,000,000	7,631	0	7,631	1,992,369	250,000	2,242,369	1,742,369
74	22048825 Construction of marine jetty in Al Hakhara	2,000,000	2,000,000	7,631	0	7,631	1,992,369	250,000	2,242,369	1,742,369
75	22048826 Organization of international agriculture exhibition	250,000	250,000	110,294	0	110,294	139,706	34,679	174,383	0 finish 90
76	22048901 Development of agricultural research stations (1989)	416,000	416,000	253,621	0	253,621	162,379	162,379	0	0 finish 90
77	22048902 Performance improvement in agricultural extension centers (1989)	175,000	175,000	0	14,722	14,722	155,278	0	155,278	0 finish 90
78	22048903 Development of animal research stations (1989)	175,000	175,000	0	20,580	20,580	154,420	0	154,420	0 finish 90
79	22048905 Performance improvement and development project (1989)	160,000	160,000	0	66,292	66,292	93,708	0	93,708	0 finish 90
80	22048906 Citizens compensation against natural crisis (1989)	40,000	40,000	0	0	0	40,000	0	40,000	0 finish 90
81	22048907 Master plan for development of date palm cultivation (1989)	1,000,000	1,000,000	0	0	0	1,000,000	0	1,000,000	0 finish 90
82	22048908 Falaj & wells maintenance (1989)	1,000,000	1,000,000	0	393,967	393,967	606,033	606,033	0	0 finish 90
83	22048909 Construction of underground water recharge schemes (1989)	5,400,000	5,400,000	0	136,071	136,071	5,263,929	0	5,263,929	200,000
84	22048910 Small underground recharge schemes in southern region	1,650,000	1,650,000	0	0	0	1,650,000	0	1,650,000	0 finish 90
85	22048911 Enhancement of telecommunication network in valleys, W. Al-Bayal	50,000	50,000	0	0	0	50,000	0	50,000	0 finish 90
86	22048912 Farmer's subsidy (1989)	1,600,000	1,600,000	0	274,613	274,613	1,325,387	1,325,387	0	0 finish 90
87	22048914 Fishermen encouragement fund (1989)	538,151	538,151	0	0	0	538,151	538,151	0	0 finish 90
88	22048915 Pilot agricultural project in Nahdha	120,000	120,000	0	0	0	120,000	117,000	3,000	0 finish 90
89	22048916 Drilling of 30 wells for agricultural purposes (1989)	35,000	35,000	0	0	0	35,000	35,000	0	0 finish 90
90	22049001 Development of agricultural research stations (1990)	380,000	350,000	0	0	0	350,000	350,000	0	0 finish 90
91	22049002 Development of animal research stations (1990)	170,000	170,000	0	0	0	170,000	170,000	0	0 finish 90
92	22049003 Performance improvement in agricultural extension centers (1990)	175,000	175,000	0	0	0	175,000	175,000	0	0 finish 90
93	22049005 Al Khabura improvement and development project (1990)	160,000	160,000	0	0	0	160,000	160,000	0	0 finish 90
94	22049006 Citizens compensation against natural crisis (1990)	30,000	30,000	0	0	0	30,000	30,000	0	0 finish 90
95	22049007 Master plan for development of date palm cultivation (1990)	200,000	200,000	0	0	0	200,000	200,000	0	0 finish 90
96	22049008 Falaj & wells maintenance (1990)	1,000,000	1,000,000	0	0	0	1,000,000	1,000,000	0	0 finish 90
97	22049010 Farmer's subsidy (1990)	1,550,000	1,550,000	0	0	0	1,550,000	1,550,000	0	0 finish 90
98	22049012 Fishermen encouragement fund (1990)	675,000	675,000	0	0	0	675,000	675,000	0	0 finish 90
99	22049101 Master plan for development of date palm cultivation (1991)	600,000	600,000	0	0	0	600,000	600,000	0	0 finish 90
Subtotal	22048101 - 22048167	75,856,745	75,856,745	70,189,068	1,084,182	71,273,250	4,583,495	4,116,784	466,711	
Subtotal	22048203 - 22048719	16,292,447	16,292,447	11,039,731	2,800,053	13,839,784	2,452,663	2,361,753	96,910	
Subtotal	22048801 - 22049000	36,963,151	36,978,417	4,199,815	5,529,072	9,728,887	27,149,530	15,691,386	11,458,144	
Subtotal	22049010 - 22049101	2,625,000	2,625,000	0	0	0	2,825,000	1,550,000	1,275,000	
Total		131,937,343	131,652,609	85,429,614	9,413,307	94,041,921	37,010,688	23,719,523	13,299,765	

Table 6.3 Sector-wise Development Budget in MAF

Sector	Adjusted Total	Total till 1989	1990	Balance
Agriculture & Livestock	38,620	26,456	9,455	2,709
General	18,285	10,183	5,450	2,652
Support to Farmers	20,335	16,273	4,005	57
Irrigation & Dam	56,282	41,175	9,100	6,007
Fisheries	25,475	16,695	4,221	4,558
General	20,329	13,141	3,306	3,883
Support to Fishermen	5,145	3,555	916	675
Housing	2,227	2,199	28	
Administration (building, furnitures)	2,869	2,665	204	
General Consultancy Studies	6,380	5,652	711	17
Total	131,853	94,842	23,720	13,291

Table 6.4 Development Expenditure by Ministries and Government Organizations

Ministries	(R.O. Million)			
	1985	1986	1987	1988
Diwan of Royal Court	94.1	38.9	41.2	63.8
Health	25.9	31.2	10.6	3.8
Education and Youth	16.2	18.1	16.5	11.9
Communication	68.4	54.4	27.4	18.2
Electricity and Water	41.6	41.4	28.5	24.0
Agriculture and Fisheries	25.4	17.5	8.3	10.9
Petroleum and Minerals	13.8	13.5	3.0	14.9
Social Affairs and Labor	10.1	1.2	1.3	1.5
Sultan Qaboos University	38.7	42.7	29.9	19.5
Others	199.5	273.6	162.1	111.7
Total	533.7	532.5	328.8	280.2
Share of MAF (%)	4.8	3.3	2.5	3.9

Source: Statistic Yearbook 1989, Development Council

Note: This Table does not include capital expenditures of civil nature carried out by Defence and National Security

ANNEX 1

*PROGRESS OF WATER RESOURCES AND
IRRIGATION UNDER THE
THIRD FIVE-YEAR DEVELOPMENT PLAN*

ANNEX 1

Progress of Water Resources and Irrigation under the Third Five-year Development Plan

During the past four years (1986 - 1989) many projects have been completed by MAF in the areas of irrigation and water resources. This section summarizes the accomplishments of that period .

(1) Repair and Maintenance of Aflaj

(a) Outline of the Project

The purpose of the project is to maintain the functions of existing aflaj. The project is subsidized 100% by MAF. The components of the project are, in principle, rehabilitation of collecting tunnels and transporting channels and sharia.

Falaj owners who are facing problems must make a formal application to H.E. the Wali. The Wali in turn informs MAF that a particular falaj needs repair and the application is then examined by the Department of Maintenance of Aflaj and Wells which sends one of its engineers to the site. Discussions are held with the villagers to determine the extent of the problem and whether the assistance should be purely financial or whether technical advice is also required.

Assistance for the repair and maintenance of aflaj is assessed by the technical staff of the Department of Maintenance of Aflaj and Wells who consider a number of related aspects:

- size of community dependent upon the aflaj
- number of active (flowing) aflaj

- importance of the area
- size of irrigated area
- type of crops grown
- previous problems
- efforts of local falaj organization to maintain falaj
- previous assistance received

If the application is approved, the Department of Maintenance of Aflaj and Wells will produce designs, specifications and costs for the work required. In a situation where the falaj organization agrees to carry out the work, funds are forwarded directly to them. If outside contractors are required, the designs and specifications are forwarded to the appropriate Wali who selects a suitable contractor from the local market by sealed tender.

For both situations, the engineers from the Department of Maintenance of Aflaj and Wells supervise the repairs and the expenditure. This, however, is time consuming and difficult to execute due to the insufficient number of staff available in the department.

(b) Progress of the Project

Annex Table 5.2.1 represents the number of falaj systems repaired during each of the past five years, as well as the related annual cost.

The total budget between 1986 and 1989 for falaj repairs was approximately R.O. 4.939 million. The average cost of falaj repair per system was R.O. 11,500, including repairs and adjacent wells.

Annex Table 5.2.1 Falaj Repairs 1986 - 1989

Year	1986	1987	1988	1989	Total
Number of systems	78	100	100	152	430
Total costs of Maintenance (R.O.)	From 1986 to 1989				4,939,000

Annex Table 5.2.2 Well Repairs and Construction 1986 - 1989

Year	1986	1987	1988	1989	Total
Number of wells Repaired	90	170	800	20	1,080
Total Cost(R.O.)	N.A.	N.A.	560,000	14,000	

(2) Repair and Construction of Wells

(a) Outline of the Project

The objectives of the project are to stabilize the provision of agricultural water by means of repairing private wells and drilling new wells to augment falaj systems. According to estimates by MAF, there are about 30,000 hand-dug wells, of which about 20,000 need repairs. Approximately 6,000 hand-dug wells have been repaired from 1976 to 1989.

The project was subsidized 100% by MAF until 1982, and then only 40% of total repair costs was subsidized from 1983 to 1987. A flat rate of R.O. 700 per well has been allotted since 1988. Under this scheme, the well, the pump and the basin adjacent to the well are repaired under this scheme. Repairs of distribution channels are not included in the project. As for falaj augmentation, that project is also completely subsidized by MAF.

The following claim procedures must be followed in order to get a subsidy from MAF. Well owners who are having problems with their wells submit an application form to H.E. the Wali or MAF. A list of the applications is prepared by MAF. In accordance with the list, an engineer from the Department of Maintenance of Aflaj and Wells visits the site, determines whether repairs are necessary, and fills in an investigation form. Once necessity is confirmed, he decides the nature of the work to be done and produces designs, specifications, and costs. Then he reports his findings to the Director of the Department of Maintenance of Aflaj and Wells. The well owner selects a suitable contractor after he accepts the designs and specifications prepared by the engineer from MAF. When the work is completed, the engineer of MAF again checks whether the work was done according to the specifications of the contract or not. A certificate is issued after approval by the General Director of the Department of Maintenance of Aflaj and Well. And, finally, MAF pays out R.O. 700 to the well owner.

The procedures for falaj augmentation work are the same as those for well repairs up to the site investigation by an engineer of MAF. When it is necessary to drill a new well or deepen an existing well permission must be sought from MWR.

There are two ways to get this permission. One is for the falaj owners to request it from MWR and the other for MAF to consult with MWR. After MWR approves, MAF produces designs, specifications and cost estimates for the construction work. Then it calls for a tender for drilling a well and selects a suitable contractor from the local market. Other work, such as pump and switching board installation, and the setting of a pipeline from the well to the sharia, and in some cases, work from the well to the transporting section of the falaj, are contracted locally, after confirming the quality and quantity of water from the newly drilled well. First priority for falaj augmentation work is given to dry aflaj.

(b) Progress of the Project

In the Third Five-year Development Plan, funds were available for:

- Provision of repair materials.
- Contract repair by commercial firms.

Annex Table 5.2.2 indicates the number of wells repaired during each of the past five years as well as the related annual cost. The total budget in the years 1986 - 1989 for well repairs has been approximately R.O. 0.57 million.

(3) Recharge Dam

The total budget in the years 1986 - 1989 for recharge dams has been approximately R.O. 4.564 million. Projects undertaken during the Third Five-year Development Plan are listed below and information on the projects is presented in Annex Table 5.2.3.

Annex Table 5.2.3 Recharge Scheme Projects Undertaken During the Third Five-year Development Plan

No.	Stage	Project/Study No.	Name	Near City	Region	Name of Scheme (Wadi)	Remarks
1	Complete Implementation	1	Wadi Ghul	Al Hamra	Interior	Wadi Ghul	Construct. Cost R.O. 1.25 mil. Aug. 1988 - Jun. 1989
2		2	Wadi Al Jizzi	Sohar	North Batinah	Wadi Al Jizzi	R.O. 2-6 mil. Feb. 1988 - Aug. 1988
3		3	Wadi Tanuf	Nizwa	Interior	Wadi Tanuf	R.O. 1.25 mil. Nov. 1988 - Oct. 1989
4	Under Construction	1	Wadi Ma'awil	Barka/Rumais	South Batinah	Wadi Ma'awil	D/D by Macdonald(UK), - Mar. 1989
5		2	Ibri/Araqi	Ibri	Dhahira	1 scheme Wadi Al Khabir	Construct. Cost R.O. 2.68 mil. Oct. 1989- D/D by Atkins(UK), - Mar. 1989 Construct. Cost Period R.O. 1.03 mil. Feb. 1990-
6		3	Wadi Sahalnawt	Salalah	Southern	Wadi Sahalnawt	D/D by Macdonald(UK), - Aug. 1989 Construct. Cost Period R.O. mil. Apr. 1990-
7		4	Wadi Fuleyj	Sur / Al Kamil	Sharqiya	Sur (Wadi Fuleyj)	D/D by Weidieplan & Hydroplan(WGER) Construct. Cost Period R.O. mil. Apr. 1990-
8	Detail Design(finished)	1	Barka/Rumais	Barka/Rumais	South Batinah	3 scheme Wadi Bani Kharus Wadi Rubkah Wadi Tarw	D/D by Macdonald(UK), - Mar. 1989 R.O. 2.84 mil. R.O. 2.74 mil. Included in above (Wadi Rubkah)
9		2	Jabal Al Akhdar		Interior	64 small water collecting bunds	
10	Detail Design(on-going)	1	Rustaq (Far)	Rustaq	South Batinah	Wadi Far	
11	Feasibility Study (finished)	1	Sur & Al Kamil	Sur	Sharqiya	Al Kamil(Wadi Bani Khalid)	by Weidieplan & Hydroplan(WGER)
12		2	Salalah	Salalah	Southern	2 schemes Wadi Jarsis Wadi Nahiz	by Macdonald(UK) Aug. 1989
13		3	Wadi Semail		South Batinah	3 schemes Wadi Rawaha Rajimi Gera	by Wapcos(India) Dec. 1987 -
14		4	Nizwa - Bahla	Nizwa, Bahla	Interior	2 schemes Wadi Al Abyadh Wadi Bahla	by Atkins(UK) Dec. 1987 - May 1989

Annex Table 5.2.3 Recharge Scheme Projects Undertaken During the Third Five-year Development Plan (continued)

No.	Stage	Project/Study No.	Near City	Region	Name of Scheme(Wadi)	Remarks
15	Feasibility Study (on-going)	1 Saham - Sohar	Saham, Sohar	North Batinah	4 schemes Wadi Ahin Wadi Sakhin Wadi Sarami Wadi Shafan	by MacDonald(UK) Nov. 1989 -
16		2 Shinas	Shinas	North Batinah	2 schemes Wadi Hatta Wadi Fayd	by Wapcos(India) May 1989 -
17		3 Khaburah - Beni Khalid - Al Bu Grain		North Batinah	4 schemes Wadi Bani Omar Wadi Al Hawasinah Wadi Halhal Wadi Mabrah	by MacDonald(UK) Nov. 1989 -
18		4 Jabal Al Akhdar 6 dams				
19	Preliminary Study (finished)	1 Coastal Area & Batinah Coast	Salalah & Batinah Coast	Southern North Batinah	1 scheme Mamurah(Razat) 4 schemes Nabr(Fizh) Rustaq(Far) Wadi Bu Baqarah(Qawr) Hajir(Mayh)	by Atkins(UK) Jul. 1988 -
20		2 Dhahira		Dhahira	8 schemes Dank(Dank) Dariz(Kabir) Yanqui(Rakah(W. Bank)) Arid(Arid) Miskin(Ibat, Qurta) Maqabil(Hijir) Sulayf(Sulayf) Hayyal(Kabir)	by MacDonald(UK) Jul. 1988 - Oct. 1989
21		3 Interior		Interior	9 schemes Imti/Qarut(Halfayn) Sur Qadim(Halfayn) Shafa(Halfayn) Karsah/Mamah(Muaydin) Firq(Mizwa) Adam(Lathil?) Jabrin(Bahla) Bisyah(Bahla) Ghafat(Sayfam)	by MacDonald(UK) Jul. 1988 - Aug. 1989

Annex Table 5.2.3 Recharge Scheme Projects Undertaken During the Third Five-year Development Plan (continued)

No.	Stage	Project/Study No.	Near City	Region	Name of Scheme(Wadi)	Remarks
22	Preliminary Study (finished)	4	Sharqiya	Sharqiya	8 schemes Rawdah(Samad) Lizq(Samad) Sudayrah(Samad) Fath(Fath) Bu Said(Ithil) Ibra(Ibra) Al Ghulaji(Ashda) Az Zahir(Az Zahir)	by Wakuti(WGER) Jul. 1988 - Aug. 1989
23	Preliminary Study (on-going)	1	Buraiimi Region			
24		2	Musandam Region			
25	Reconnaissance Study (finished)	1	Jabal Al Akhdar			by MacDonald(UK)
26	Reconnaissance Study (on-going)	1	Masirah Island			
27		2	Wadi Dirbat & Wadi Adunb			

(a) Projects constructed and under construction in the Third Five-year Development Plan:

- Wadi Al Jizzi (Sohar, North Batinah)
- Wadi Ghul (Al Hamra, Dakhliya)
- Wadi Tanuf (Nizwa, Dakhliya)
- Wadi Ma'awil (Barka-Rumais, South Batinah)
- Wadi Al Khabir (Ibri/Araqi, Dhahira)
- Wadi Sahalnawt (Salalah, Southern Region)
- Wadi Fulayj (Sur, East of Oman)

(b) Projects in the stage of final design and preparation of tender documents:

- Wadi Bani Kharus (Barka-Rumais, South Batinah)
- Wadi Rubkah (Barka-Rumais, South Batinah)
- Wadi Taww (Barka-Rumais, South Batinah)
- Jabal Al Akhdar (64 small water collecting bunds)

(c) Project in the stage of detail design:

- Wadi Far (Rustaq, South Batinah)

(d) Projects with finished feasibility studies:

- Wadi Samail (South Batinah)
- Sharqiya (Wadi Bani Khalid/Al Kamil, Sharqiya)
- Nizwa-Bahla (Nizwa, Bahla, Dakhliya)
- Wadi Jarsis (Salalah, Southern Region)
- Wadi Nahiz (Salalah, Southern Region)

(e) Projects in the stage of feasibility studies:

- Saham - Sohar (Saham, Sohar, North Batinah)
- Shinas (Shinas, North Batinah)
- Khaburah (North Batinah)
- Bani Khalid

- Al Bu Qrain
- Jabal Al Akhdar 6 dams

(f) Projects with finished preliminary studies:

- Coastal area (Salalah and Batinah coast)
- Dhahira (Dhahira)
- Interior (Dakhliya)
- Sharqiya (Sharqiya)
- Jabal Al Akhdar

(g) Projects under preliminary studies:

- Buraimi region
- Musandam Region

(h) Projects under reconnaissance studies:

- Masirah Island
- Wadi Dirbat & Wadi Adunb

(4) Survey

In the Third Five-year Development Plan, the "Aerial Photography And Orthophoto Mapping Project" is proposed to plan water resources for optimal development via aflaj and wells and the surveying and taking inventory of aflaj, hand-dug wells, and boreholes. Such a survey should establish a knowledge of their geographic distribution, capacity condition, present stage of utilization, and scope for further development. Surveying can be effectively accomplished via aerial photography.

At semi-detailed and detailed stages, aerial photography is a tool for data collection and resource appraisal. Ground controlled coordinated maps provide a basis for compiling collected data. These maps will be used to plan water management schemes and specific

irrigation layouts, but the main objective of the project is to assist the process by which water resources for agriculture shall be systematically managed, evaluated, and mapped to provide an informational "Data Base" for water resources and agricultural management.

The main components of the project are:

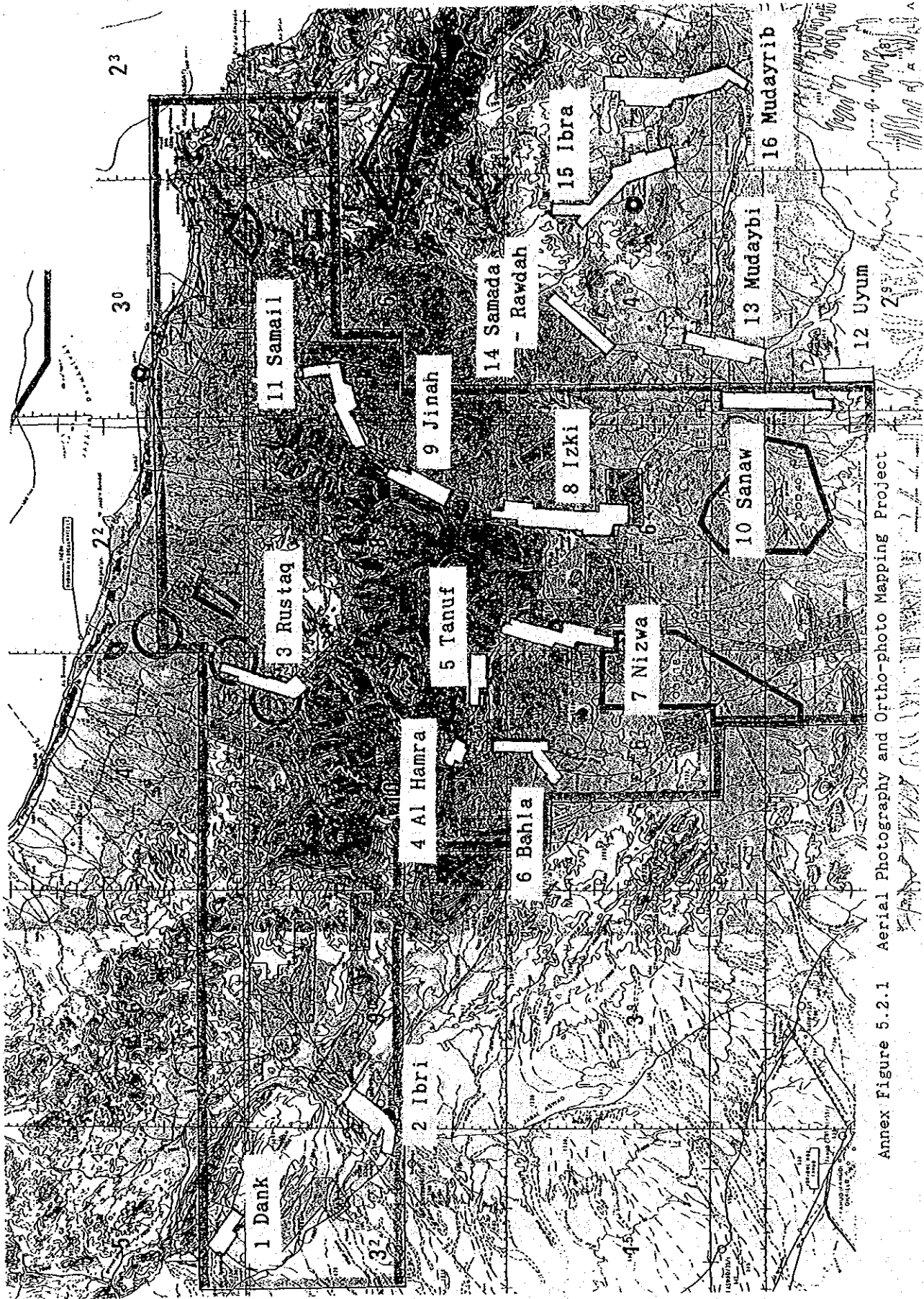
- Provision of standard color photography (scale 1:10,000) for photo interpretation purposes, and for a total area of approximately 4,000 sq. km distributed over 22 willayats(villages and scattered agricultural areas).
- Orthophoto maps (scale 1:10,0000 contoured to 5 m intervals).
- Pre-assigned ground markers to identify aflaj (10 m diameter) before photography.
- Black and white panchromatic photos of smaller scale

From 1985-1987, the first step of the project was implemented in 16 areas as shown in Annex Figure 5.2.1. The total budget for aerial photography and orthophoto mapping of aflaj and related wells during the Third Five-year Development Plan has been R.O. 23 thousand.

(5) Pilot Project

Some of the new components of the pilot project in contrast to traditional falaj systems are as follows:

- i) Consolidation of the existing fragmented land holdings
- ii) Introduction of new irrigation systems such as bubbler, sprinkler and drip irrigation
- iii) Graduate farmers starting new small unit farms, and so on.



Annex Figure 5.2.1 Aerial Photography and Ortho-photo Mapping Project

The extension service would advise the farmers on the proper operation and management of their irrigation systems and assist with irrigation scheduling.

(6) Protection Walls

Detailed feasibility studies and tender documents on protection walls were conducted at the four areas listed below in 1987:

- i) Al Kharma (Izki)
- ii) Al Hamitha (Izki)
- iii) Al Khadra Bin Daffa (west side Wadi Andam)
- iv) Al Hagir (Wadi Dima & Attayin)

Gabion wall was planned to protect agricultural land adjacent to wadi. The detailed design documents need to be checked again and updated according to the new available hydrological data, then the construction can begin in the Fourth Five-year Development Plan.

ANNEX 2

ANNEX TABLES AND FIGURES

Annex Table 5.4.1

Economic farming conditions on a new farm (No.1) in the North Batinah Region, 1988/89

[Address: Al Wekeba, Sohar, North Batinah. Owner: Saleem Bin Harndan Ahmed El Esai]

Crop	Planted area ha	Production cost		Value of product			Balance RO	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg	Value of product RO		
Date palm	1.00	2,033	2,033.000	4.1	0.150	615.000	-1,418.000	Total acreage : 4.2ha
Orange	0.10	1,610	161.000	11.0	0.175	192.500	31.500	Infrastructure : 0.1ha
Mango	0.05	1,642	82.100	2.0	0.250	25.000	-57.100	Householder : male, 35 years old
Banana	0.05	1,790	89.500	13.6	0.140	95.200	5.700	Wife : 30 years old
Alfalfa	0.42	1,804	757.680	38.4	0.060	967.680	210.000	5 sons, 5 daughters
Wheat	0.21	536	112.560	1.5	0.256	80.640	-31.920	3 expatriate laborers
Barley	0.21	560	117.600	1.9	0.250	99.750	-17.850	1 well, 22.7 m deep
Sorghum	0.21	1,250	262.500	53.3 (2.0)	0.050 (0.200)	559.650 (84.000)	297.150	1 tractor, 65HP
Watermelon	0.50	1,583	791.500	19.0	0.125	1,187.500	396.000	1 high pressure sprayer
Tomato	0.50	1,537	768.500	22.2	0.146	1,620.600	852.100	1 agricultural vehicle
Cabbage	0.43	1,280	550.400	23.2	0.065	648.440	98.040	2 Goats
Onion	0.42	1,404	589.680	13.7	0.090	517.860	-71.820	Concrete canal for irrigation : 150 m
Total	4.10		6,316.020			6,609.820	293.800	Storehouse : 28.5 m ² Pump shed : 11 m ² Livestock shed : 4 m ² () : seed production

Annex Table 5.4.2

Economic farming conditions on a new farm (No. 2) in the North Batinah Region, 1988/89

[Address: Al Agr. Shinas, North Batinah. Owner: Abdalla Khamis Hassan and his brother]

Crop	Planted area ha	Production cost		Value of product			Balance RO	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg	Value of product RO		
Date palm	0.22	2,033	447.260	4.1	0.150	135.300	-311.960	Total acreage : 4.2ha
Mango	0.21	1,642	344.820	2.0	0.250	105.000	-239.820	Infrastructure : 0.09ha
Lemon	0.53	1,609	852.770	15.0	0.150	1,192.500	339.730	Householder : male, 32 years old, 35 years old
Tomato	1.05	1,537	1,613.850	22.2	0.146	3,403.260	1,789.410	Wife : 25 years, 30 years old
Onion	0.05	1,404	70.200	13.7	0.090	61.650	-8.550	In total: 6 sons, 4 daughters
Watermelon	1.05	1,583	1,662.150	19.0	0.125	2,493.750	831.600	2 expatriate laborers
Sweet-melon	1.00	1,528	1,528.000	13.1	0.290	3,799.000	2,271.000	1 well, 45.5 m deep
								No tractor
								1 high pressure sprayer
								1 agricultural vehicle
								40 goats and sheep
								Concrete canal for irrigation: 1080 m
								Store house: 28.5 m ²
								Pump shed: 15m ²
								Livestock shed: 32m ²
Total	4.11		6,519.050			11,190.460	4,671.410	

Annex Table 5.4.3

Economic farming conditions on a new farm (No 3) in the North Batinah Region, 1988/89

[Address: Al Had, Liwa, North Batinah. Owner: Omar Mohammed Saleh Al Mamri]

Crop	Planted area ha	Production cost		Value of product			Balance RO	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg	Value of product RO		
Date palm	0.53	2,033	1,077.490	4.1	0.150	325.950	-751.540	Total acreage : 4.2ha
Mango	0.02	1,642	32.840	2.0	0.250	10.000	-22.840	Infrastructure : 0.1ha
Cucumber	0.84	1,147	963.480	14.9	0.202	2,528.232	1,564.752	Householder : male, 32 years old
Tomato	0.84	1,537	1,291.080	22.2	0.146	2,722.608	1,431.528	Wife : 30 years old
Chilli pepper	0.42	1,559	654.780	9.0	0.325	1,228.500	573.720	3 sons
Eggplant	0.11	1,600	176.000	19.0	0.061	127.490	-48.510	1 expatriate laborer
Cow-pea	0.08	1,305	104.400	15.0	0.150	180.000	75.600	1 well, 13.5 m deep
Radish	0.02	1,050	21.000	23.0	0.100	46.000	25.000	No tractor
Onion	0.40	1,404	561.600	13.7	0.090	493.200	-68.400	1 high pressure sprayer
Alfalfa	0.84	1,804	1,515.360	38.4	0.060	1,995.360	420.000	1 agricultural vehicle
								2 Goats
								Concrete canal for irrigation: 130m
								Pump shed: 8 m ²
								Livestock shed: 12m ²
Total	4.10		6,398.030			9,597.340	3,199.310	

Annex Table 5.4.4

Economic farming conditions on a traditional farm (No.1) in the South Batinah Region, 1988/89

[Address: Al Lagal Village, Wadi Al Mawil (willat). Owner: Khamis Bin Drwih Bin Ahmed Al Bahary and two relatives]

Crop	Planted area ha	Production cost		Value of product			Balance RO	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg	Value of product RO		
Date palm	0.42	2,033	853.860	4.1	0.150	258.300	-595.560	Total acreage : 0.63ha
Alfalfa	0.10	1,804	180.400	38.4	0.060	230.400	50.000	Infrastructure : 0.01ha
Onion	0.01	1,404	70.200	13.7	0.090	61.650	-8.550	Householder : male, 45 years old,
Leek	0.01	1,270	12.700	17.0	0.175	29.750	17.050	42 years and 67 years old
Sweet-melon	0.06	1,528	91.680	13.1	0.290	227.940	136.260	Wife: 35 years, 30 years and 60 years old
Watermelon	0.02	1,583	31.660	19.0	0.125	47.500	15.840	In total: 4 sons, 4 daughters 1 expatriate laborer
								Falaj: basin irrigation No tractor. Plowing by a tractor from the extension center 1 hand sprayer No agricultural vehicle 4 goats, livestock shed: 6 m ² Concrete canal for irrigation: 180m Water tank: Concrete, 64m ² × 4 m Water source: Falaj 2 diesel engine pumps for irrigation
Total	0.62		1,240.500			855.540	-384.960	

Annex Table 5.4.5

Economic farming conditions on a traditional farm (No 2) in the South Batinah Region, 1988/89

[Address: Al Marag village, Barka.

Owner: Suliman Nasser]

Crop	Planted area ha	Production cost		Value of product			Balance RO	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg	Value of product RO		
Date palm	0.17	2,033	345.610	4.1	0.150	104.550	-241.060	Total acreage : 0.53ha
Alfalfa	0.18	1,804	324.720	38.4	0.060	414.720	90.000	Infrastructure : 0.01ha
Barley	0.17	560	95.200	1.9	0.250	80.750	-14.450	Householder : male, 60 years old Wife : 50 years old 8 sons, 3 daughters 1 expatriate laborer 1 well, 10m deep 5 m to water surface
								No tractor. Plowing by a tractor from the extension center 1 hand sprayer
								No agricultural vehicle Livestock: 1 cow Concrete canal for irrigation: 100m Pump shed: 6 m ² Livestock shed: 5 m ² Householder is a fisher man
Total	0.52		765.530			600.020	-165.510	

Annex Table 5.4.6

Economic farming conditions on a traditional farm (No.3) in the South Batinah Region, 1988/89

[Address: Al Gahila village, Barka. Owner: Mohamed Galel Abdul Rahman Al Blushi]

Crop	Planted area ha	Production cost		Value of product		Balance RO	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg		
Date palm	2.73	2,033	5,550.090	4.1	0.150	-3,871.140	Total acreage: 14.7ha
Mango	1.05	1,642	1,724.100	2.0	0.250	-1,199.100	Fallow land: 3.99ha Infrastructure: 0.05ha
Lime	1.05	1,609	1,689.450	10.8	0.120	-328.650	Householder: male, 66 years old
Alfalfa	1.26	1,804	2,273.040	38.4	0.060	630.000	Wife: 60 years old
Rhodes grass	0.84	1,800	1,512.000	57.6	0.050	907.200	1 son, 2 daughters
Sorghum	0.42	1,250	525.000	53.3	0.050	594.300	3 expatriate laborers
Watermelon	1.26	1,583	1,994.580	19.0	0.125	997.920	3 wells, 8m, 10m, 10m deep
Sweet-melon	1.26	1,528	1,925.280	13.1	0.290	2,861.460	No tractor. Plowing by a tractor from the extension center
Cucumber	0.12	1,147	137.640	14.9	0.202	223.536	Sprayer: 2 high pressure sprayers 1 hand sprayer
Tomato	0.12	1,537	184.440	22.2	0.146	204.504	1 agricultural vehicle
Eggplant	0.12	1,600	192.000	19.0	0.061	-52.920	Livestock: 2 cows, 105 goats
Cabbage	0.12	1,280	153.600	23.2	0.065	27.360	Concrete canal for irrigation: 80m, iron pipe(90mm)200m
Onion	0.12	1,404	168.480	13.7	0.090	-20.520	Storehouse: 20 m ²
Okra	0.12	1,499	179.880	13.2	0.255	224.040	Pump shed: 6 m ²
Carrot	0.12	1,400	168.000	23.8	0.200	403.200	Livestock shed:40m ²
Total	10.71		18,377.580			1,601.190	

Annex Table 5.4.7

Economic farming conditions on a new farm (No 4) in the Oman Interior Region, 1988/89

[Address: Al Khatwa, Bahla, Oman Interior.

Owner: Abdulla Mohamed Habeeb Alynyee]

Crop	Planted area ha	Production cost		Value of products		Balance RO	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg		
Date palm	0.42	2,033	853.860	4.1	0.150	258.300	Total acreage : 27.72ha
Lime	0.21	1,609	337.890	10.8	0.120	272.160	Uncultivated area : 16.40ha
Chilli pepper	0.84	1,559	1,309.560	9.0	0.325	2,457.000	Infrastructure : 0.02ha
Tomato	0.42	1,537	645.540	22.2	0.146	1,361.304	Householder: male, 50 years old
Potato	0.42	1,272	534.240	25.0	0.117	1,228.500	
Cucumber	0.42	1,147	481.740	14.9	0.202	1,264.116	Wife : 35 years old
Watermelon	1.26	1,583	1,994.580	19.0	0.125	2,992.500	5 sons, 6 daughters
Sweet-melon	1.26	1,528	1,925.280	13.1	0.230	4,786.740	6 expatriate laborers
Onion	1.26	1,404	1,769.040	13.7	0.090	1,553.580	
Garlic	0.84	1,302	1,093.680	8.0	0.550	3,696.000	2 wells, 33 and 42m deep
Cabbage	0.42	1,280	537.600	23.2	0.065	633.360	1 tractor, 65HP
Carrot	0.82	1,400	1,148.000	23.8	0.200	3,903.200	3 high pressure sprayers
Maize	0.21	1,500	315.000	42.8	0.050	449.400	2 agricultural vehicles
Alfalfa	1.26	1,804	2,273.040	38.4	0.060	2,903.040	12 cattles, 30 goats
Rhodes grass	0.42	1,800	756.000	57.6	0.050	1,209.600	Concrete canal: 670m
Sugarcane	0.84	1,600	1,344.000	40.0	0.175	5,880.000	2 storehouses, 36m, 12m
Total	11.32		17,319.050			34,848.800	1 pump shed, 25m 1 livestock shed, 90m
						17,529.750	

Annex Table 5.4.8

Economic farming conditions on a new farm (No 5) in the Oman Interior Region, 1988/89

[Address: Sulaise, Ibri, Oman Interior. Owner: Hamad Fazili Sail Ali - Menthery]

Crop	Planted area ha	Production cost		Value of product		Balance RO	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg		
Date palm	0.42	2,033	853.860	4.1	0.150	-595.560	Total acreage : 6.3ha
Lime	0.05	1,609	80.450	10.8	0.120	-15.650	
Lemon	0.05	1,609	80.450	15.0	0.150	32.050	Uncultivated area : 2.1ha
Mango	0.05	1,642	82.100	2.0	0.250	-57.100	Infrastructure : 0.2ha
Guava	0.05	1,600	80.000	8.3	0.140	-21.900	Householder: male, 65 years old
Wheat	0.42	536	225.120	1.5	0.256	-63.840	
Barley	0.21	560	117.600	1.9	0.250	-17.850	3 wives,
Sorghum	0.21	1,250	262.500	53.3 (2.0)	0.050 (0.200)	297.150	4 sons, 9 daughters
Alfalfa	0.42	1,804	757.680	38.4	0.060	210.000	3 expatriate laborers
Tomato	0.42	1,230	516.600	22.2	0.146	844.704	1 well
Potato	0.21	1,272	267.120	25.0	0.117	347.130	1 garden tractor (Honda)
Carrot	0.21	1,400	294.000	23.8	0.200	705.600	1 high pressure spayer
Onion	0.21	1,404	294.840	13.7	0.090	-35.910	1 agricultural vehicle
Garlic	0.21	1,302	273.420	8.0	0.550	650.580	
Watermelon	0.42	1,583	664.860	19.0	0.125	332.640	
Sweet-melon	0.42	1,528	641.760	13.1	0.290	953.820	
Beet	0.02	1,050	21.000	1.5	0.256	-13.320	
Total	4.0		5,513.360			3,552.544	() : seed production

Annex Table 5.4.9

Economic farming conditions on a new farm (No.6) in the Sharquia Region, 1988/89

[Address: El Marrayn, Ibra, Sharquia.

Owner: Suliman bin Sief bin Ali El Maskary]

Crop	Planted area ha	Production cost.			Value of product.			Balance RO	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg	Value of product RO			
Date palm	2.70	2,033	5,489.100	4.1	0.150	1,660.500	-3,828.600	Total acreage : 29.4ha	
Alfalfa	4.20	1,804	7,576.800	38.4	0.060	9,676.800	2,100.000	Uncultivated area : 14.7ha	
Rhodes grass	0.42	1,800	756.000	57.6	0.050	1,209.600	453.600	Infrastructure : 0.5ha	
Sorghum	0.42	1,250	525.000	53.3 (2.0)	0.050 (0.200)	1,119.300 (168.000)	594.300 (-357.000)	Householder: male, 60 years old	
Cow-pea	0.26	1,305	339.300	15.0	0.150	585.000	245.700	Wife: 35 years old	
Tomato	2.10	1,537	3,227.700	22.2	0.146	6,806.520	3,578.820	8 sons, 4 daughters	
Watermelon	2.52	1,583	3,989.160	19.0	0.125	5,985.000	1,995.840	12 expatriate laborers	
Cucumber	0.42	1,147	481.740	14.9	0.202	1,264.116	782.376	7 wells, 1 is usable	
Cabbage	0.42	1,280	537.600	23.2	0.065	633.360	95.760	1 tractor, 65 HP	
Cauliflower	0.21	1,280	268.800	9.1	0.080	152.880	-115.920	1 high pressure sprayer	
Onion	0.42	1,404	589.680	13.7	0.090	517.860	-71.820	1 agricultural vehicle	
Lettuce	0.11	1,500	165.000	17.0	0.200	374.000	209.000	8 cows, 1 bull, 12 camels, 50 goats,	
								20 sheep, 30 poultry	
								Storehouse: 28.5mf	
								Livestock shed: 4mf	
Total	14.20		23,945.880			29,984.936	6,039.056	() : seed production	

Annex Table 5.4.10

Economic farming conditions on a new farm (No.7) in the Sharquia Region, 1988/89

[Address: El Hayma, Ibra, Sharquia. Owner: Rasid Bin Salim Bin Mansour El Mongi]

Crop	Planted area ha	Production cost		Value of product			Balance RO	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg	Value of product RO		
Date palm	0.05	2,033	101.650	4.1	0.150	30.750	-70.900	Total acreage : 8.4ha
Lime	0.25	1,609	402.250	10.8	0.120	324.000	-78.250	Uncultivated area : 3.16ha
Sweet Lime	0.50	1,610	805.000	11.0	0.150	825.000	20.000	Infrastructure : 0.30ha
Mango	0.10	1,642	164.200	2.0	0.250	50.000	-114.200	Householder : Male, 36 years old
Banana	0.05	1,790	89.500	13.6	0.140	95.200	5.700	Wife: 30 years old
Alfalfa	1.68	1,804	3,030.720	38.4	0.060	3,870.720	840.000	3 sons, 6 daughters
Rhodes grass	0.84	1,800	1,512.000	57.6	0.050	2,419.200	907.200	1 brother, 1 father
Barley	0.42	560	235.200	1.9	0.250	199.500	-35.700	4 expatriate laborers
Tomato	0.84	1,537	1,271.080	22.2	0.146	2,722.608	1,431.528	1 well, 24 m deep
Garlic	0.21	1,302	273.420	8.0	0.550	924.000	650.580	1 tractor, 30 HP
								1 high pressure sprayer
								1 agricultural vehicle
								12 cows, 4 bulls, 4 camels,
								80 goats and sheep,
								50 poultry, 30 rabbits
Total	4.94		7,905.020			11,460.978	3,555.958	Side work:Brick manufacture

Annex Table 5.4.11

Economic farming conditions on a new farm (No 8) in the Southern Region, 1988/89
 [Address: Al Dharis Area, Salah. Owner: Ahmed Awad Al Najer]

Crop	Planted area ha	Production cost		Value of product			Balance RO	Planted density	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg	Value of product RO			
Banana	1.05	1,790	1,879,500	13.6	0.160	2,284,800	405,300	Total acreage : 1.89ha	
Coconut	0.18	1,476	265,680	16.8	0.150	453,600	187,920	Infrastructure:0.05ha	
Lime	0.02	1,609	32,180	10.8	0.120	25,920	-6,260	Householder : male, 50 years old Wife: 45 years old	
Papaya	0.06	1,500	90,000	12.0	0.175	126,000	36,000	5 sons, 8 daughters	
Chilli pepper	0.59	1,559	919,810	9.0	0.325	1,725,750	805,940	2 expatriate laborers	
Eggplant	0.21	1,600	336,000	19.0	0.061	243,390	-92,610	2 wells 135m, 100m deep No tractor	
Cauliflower	0.21	1,280	268,800	9.1	0.080	152,880	-115,920	2 sprayers : 1 high pressure, 1 hand sprayer No agricultural vehicle No livestock	
								Concrete canal for irrigation : 90m Drip irrigation pipe : 1600m Labor room : 18mf No pump shed and storehouse	
Total	2.32		3,791,970			5,012,340	1,220,370		

Annex Table 5.4.12

Economic farming conditions on a Traditional farm (No. 4) in the Southern, Region, 1988/89

[Address: Al Hafakarat, Salalah. Owner: Neroze Azboot Bin Balal]

Crop	Planted area ha	Production cost			Value of product			Balance RO	Planted density	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg	Value of product RO				
Banana	1.05	1,790	1,879.500	13.6	0.160	2,284.800	405.300	Total acreage : 1.89ha		
Coconut	0.18	1,476	265.680	16.8	0.150	453.600	187.920	30.25m ² /plant	Infrastructure: 0.05ha	
Lime	0.02	1,609	32.180	10.8	0.120	25.920	-6.260	14.0m ² /plant	Householder : male, 55 years old	
Papaya	0.08	1,500	120.000	12.0	0.175	168.000	48.000	3.0m ² /plant	Wife : 50 years old	
Sweet potato	0.11	1,400	154.000	23.8	0.150	392.700	238.700		7 sons, 5 daughters	
Chilli pepper	0.59	1,559	919.810	9.0	0.325	1,725.750	805.940		1 expatriate laborer	
									2 wells, 10.5m deep each No tractor	
									2 sprayers : 1 high pressure, 1 hand sprayer No agricultural vehicle	
									6 cows, No livestock shed	
									Concrete canal for irrigation : 200m	
									Storehouse : 9 m ²	
									Pump shed : 12m ²	
									Labor room : 16m ²	
Total	2.03		3,371.170			5,050.770	1,679.600			

Annex Table 5.4.13

Economic farming conditions on the Oman Modern Farm in 1988/89

Crop, Facilities	Planted area ha	Production cost		Value of product			Balance RO	Note
		Unit cost RO/ha	Production cost RO	Unit yield ton/ha	Unit price RO/kg	Value of product RO		
Date palm	1.0	2,033	2,033.000	4.1	0.150	615.000	-1,418.000	Address: Barka, South Batinah Region
Lime	3.0	1,609	4,827.000	10.8	0.120	3,888.000	-939.000	Owner : H. E. Salim Bin Nassir Al Busaidi
Lemon	5.0	1,609	8,045.000	15.0	0.150	11,250.000	3,205.000	Establishment year : 1982
Orange	5.0	1,610	8,050.000	11.0	0.175	9,625.000	1,575.000	Establishment capital : 350,000RO
Mango	1.0	1,642	1,642.000	2.0	0.250	500.000	-1,142.000	Total area : 55ha
Total	15.0		24,597.000			25,878.000	1,281.000	Fruit fields : 15ha
Tomato	2.4			24.0	0.089	5,126.400		Vegetable fields : 25ha
Cabbage	10.0			24.0	0.165	39,600.000		Greenhouse : Pad and fan system, 0.5ha x 3 = 1.5ha
Cauliflower	1.5			14.0	0.115	2,415.000		Construction cost : 302,000RO
Sweet-melon	11.0			16.0	0.350	61,600.000		Hydroponic facilities : 1.0ha
Watermelon	2.0			22.0	0.060	2,640.000		Construction cost : 136,000RO
Squash	6.3			22.0	0.085	11,781.000		Field irrigation :
Sweet potato	2.7			24.0	0.125	8,100.000		Fruit : Bubbler system
Sweet corn	1.5			10.5	0.147	2,315.250		Initial cost : 43,000RO
Total	37.4		52,700.000			133,577.650	80,877.650	Vegetable : Drip system
Greenhouse	1.5		26,700.000*1 138,076.000*2			64,332.000	-100,444.000	Initial cost : 102,000RO
Hydroponic facilities	1.0		18,700.000*1 53,576.000*2			30,246.000	-42,030.000	3 tractors (70HP, 45HP, 40HP) 2 high pressure sprayers
Total	54.9		314,349.000			254,033.650	-60,315.350	3 agricultural vehicles

Note. 1) Balance in fruit production was calculated from unit values obtained by Department of Agriculture and statistics (Table 6.4.1). Production cost does not include depreciation cost.
2) Balances in vegetable and facilities (greenhouse, hydroponic facilities) were calculated by the actual figures on the Oman Modern farm itself. Production cost includes depreciation cost.
3) *1, Crop production cost included labor expense. *2, Facilities operation cost + depreciation cost.
4) Rate of land utilization by double cropping : $\frac{37.4 \text{ ha}}{25.0 \text{ ha}} \times 100 = 149.6\%$

Annex Table 5.8.1 Value and Quantity of Imports by Points of Entry

IMPORT EXPORT QUANTITY	POINT OF ENTRY	1988		1987		1986		1985		1984		REMARKS		
		WHOLE	VEGETABLE & FRUIT	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE			
IMPORTS	VALUE TOTAL	846.3	100%	30.0	100%	4%	720.7	100%	916.7	100%	1088.9	100%	949.2	100%
	(1000RO) BY SEA PORTS	556.1	66%				445.3	64%	609.1	66%	704.4	65%	653.5	69%
	MINA QABOOS	538.5	64%	1.5	5%	0%	416.5	59%	554.2	60%	639.6	59%	598.1	63%
	OTHERS	17.6	2%				28.7	4%	54.9	6%	64.8	6%	55.4	6%
	BY LAND	169.0	20%				146.6	21%	175.4	19%	237.3	22%	176.2	19%
	WAJAJA	132.3	16%	22.0	73%	17%	112.5	16%	135.5	15%	186.5	17%	132.0	14%
	OTHERS	36.6	4%				34.1	5%	39.8	4%	50.9	5%	44.1	5%
	BY AIR	121.5	14%				108.9	16%	132.2	14%	147.2	14%	119.6	13%
	SEEB AIR CARGO	99.4	12%	1.1	4%	1%	100.1	14%	122.8	13%	135.4	12%	108.1	11%
	OTHERS	22.1	3%				8.8	1%	9.5	1%	11.8	1%	11.5	1%
EXPORTS	QUANTITY TOTAL	1524.1	100%	79.8	100%	5%	1562.5	100%	2121.8	100%	3121.6	100%	2852.9	100%
	(1000TON) BY SEA PORTS	1062.0	70%				1059.9	68%	1188.8	56%	1565.2	50%	1537.2	54%
	MINA QABOOS	888.2	58%	5.6	7%	1%	899.3	58%	997.4	47%	1248.8	40%	1205.1	42%
	OTHERS	173.9	11%				160.7	10%	191.4	9%	316.5	10%	332.1	12%
	BY LAND	451.3	30%				491.4	31%	916.2	43%	1535.0	49%	1299.5	46%
	WAJAJA	337.2	22%	55.9	70%	17%	298.4	19%	461.1	22%	857.5	27%	743.9	26%
	OTHERS	1.3	0%				193.0	12%	455.1	21%	677.5	22%	555.6	19%
	BY AIR	10.7	1%				11.2	1%	16.8	1%	21.3	1%	16.2	1%
	SEEB AIR CARGO	7.1	0%	2.3	3%	32%	6.2	0%	10.4	0%	15.5	0%	10.8	0%
	OTHERS	3.6	0%				5.0	0%	6.4	0%	5.8	0%	5.4	0%

SOURCE : FOREIGN TRADE STATISTICS ON MARCH 1989 BY DEVELOPMENT COUNCIL
FOREIGN TRADE STATISTICS 1988 BY ROYAL OMAN POLICE

Annex Table 5.8.2 Organizational Structure of PAMAP

1. DISTRIBUTION AND COLLECTION CENTRES

Location	Function	Total	Facilities Office	Area(m ²) Packing & Grading	Cold Store	Receiving & Delivery Dock	Storage Crates so, on	(Type)	Retail Outlets inside Centres' s Area
Capital Area	Head Office	1,455	1,455	-	-	-	-	(-)	-
(Ghala)	Distribution	5,400	3,401	720	631	324	324	(D3)	O
2. Barka	Collection	678	130	93	66	132	257	(CC)	X
3. Quriyat	"	"	"	"	"	"	"	(")	O
4. Sumail	"	"	"	"	"	"	"	(")	O
North Batinah	Collection & Distribution	2,340	1,008	720	288	180	144	(D2)	O
6. Shinas	Collection	678	130	93	66	132	257	(CC)	O
South Batinah	Collection & Distribution	1,028	246	175	238	120	249	(D1)	O
8. Khabura	Collection	678	130	93	66	132	257	(CC)	O
9. Rostaq	"	"	"	"	"	"	"	(")	O
Dakhliya	Collection & Distribution	2,340	1,008	720	288	180	144	(D2)	X
11. Ibri	Collection	1,028	246	175	238	120	249	(D1)	O
12. Bahla	"	678	130	93	66	132	257	(CC)	O
13. Izki	"	"	"	"	"	"	"	(")	O
14. Sayq	"	662	106	86	106	148	216	(CC')	O
Sharqiya	Collection & Distribution	461	160	100	117	83	-	(-)	O
16. Kamil	Collection	662	106	86	106	148	216	(CC')	O
17. Madaibi	"	678	130	93	66	132	257	(CC)	O
Southern	Collection & Distribution	2,340	1,008	720	288	180	144	(D2)	O

Annex Table 5.8.2 Organizational Structure of PAMAP
(continued)

2. RETAIL SALES OUTLETS (Outside Center's Area)

Location	Nos.	Note
All Collection and Distribution Centres	24	Capital Area 5nos., Sohar Salalah 2nos. X 2places, Others 15places
Ruwi Sales Center	5	Ruwi, Muttran, Inadi Hasas, Inadi Kabir, Inadi Adei
Total	29	

3. Agricultural Produce-Processing Centres

Location	Function	Note
Capital Area (Ghala)	banana-ripening facilities pickle plant	
Mawaleh	grading and packing for dried lime, powdered dried lime, Busr dry dates, Busr powder and frankincense	
Satalah	banana packing and ripening factory	

Annex Table 5.8.3 Import Permits on Produce

Category I	Category II	Category III
<p>Produce which are restricted for import, these are produce which are available throughout the year in sufficient quantities.</p> <p>Dates Frankincense Lime Papaya Coconut Dry Lime</p> <p>Note : On very special conditions, permits for the above items are considered and issued with written approval from H.E. the Executive President.</p>	<p>Produce with fluctuating supplies during the season. Permits for these produce are issued depending on the demand and supply in the market.</p> <p>Tomato Eggplant Cucumber Sweet Potato Okhra Squash Sweet Pepper Chilli Pepper Lettuce Cabbage Cauliflower Beet root Karela (Bitter Guard) Pumpkins Green Peas Radish Banana</p>	<p>Produce which are available during specific seasons and during the season they are obtainable in sufficient quantities. Permits for those produce are issued during offseason only.</p> <p>Onion Potato Carrots Garlic Mango Pomegranate Grapefruit Sweet-Melon Sweet Lime Watermelon</p>

Annex Table 5.8.4 PAMAP Center-wise Purchase and Sales Quantities from 1986-89

	Purchase				Sales					
	1986	1987	1988	1989.9	Total	1986	1987	1988	1989.9	Total
Capital Area										
1.Capital Area	505	949	1,724	1,958	5,136	3,256	3,963	5,575	4,685	17,479
2.Barka	396	734	377	483	1,990	36	158	134	122	450
3.Quriyat	22	38	84	105	249	128	122	126	114	490
4.Sumail	8	21	39	46	114	102	152	216	174	644
5.Sohar	1,169	1,926	2,558	1,949	7,602	299	849	853	913	2,914
6.Shinas	201	797	1,942	1,050	3,990	5	19	184	56	264
South Batinah										
7.Suwaiaq	900	1,339	2,195	1,124	5,558	98	222	353	262	935
8.Khabura	375	582	938	727	2,622	1	15	59	113	188
9.Rostaq	75	88	171	373	707	81	138	225	274	718
Dakhliya										
10.Nizwa	84	64	117	92	357	499	473	679	566	2,217
11.Ibri	121	116	115	176	528	131	297	566	405	1,399
12.Bahla	157	238	416	287	1,098	171	163	269	204	807
13.Izki	9	43	78	62	192	95	116	172	138	521
14.Sayq	25	38	46	29	138	111	68	78	71	328
Sharqiya										
15.Ibra	38	39	49	53	179	147	328	366	337	1,178
16.Kamil	17	76	219	241	553	119	288	644	555	1,606
17.Mudaibi	21	34	86	74	215	49	181	243	219	692
Southern										
18.Salalah	846	1,048	1,263	1,240	4,397	311	707	1,437	1,545	4,000
Total	4,969	8,170	12,417	10,069	35,625	5,639	8,259	12,179	10,753	36,830
Others										
Ruwi Shop	-	2,515	3,677	3,852	10,044	-	1,716	2,532	2,301	6,549
Pickle Plant	-	-	-	292	292	-	-	-	10	10
Banana Factory	1,838	3,084	3,498	2,304	10,724	98	120	126	85	429
Total	1,838	5,599	7,175	6,448	21,060	98	1,836	2,658	2,396	6,988
Grand Total	6,807	13,769	19,592	16,517	56,685	5,737	10,095	14,837	13,149	43,818

Note : This volume doesn't include dealings between each center.

Annex Table 5.8.5 PAMAP Center-wise Purchase and Sales Values from 1986-89

	Purchase					Sales				
	1986	1987	1988	1989.9	Total	1986	1987	1988	1989.9	Total
Capital Area	92.4	190.7	290.8	304.0	877.9	645.3	909.1	1,359.4	1,117.6	4,031.4
1. Capital Area	45.9	111.9	67.8	75.9	301.5	7.8	32.1	29.7	23.9	93.5
2. Barka	4.3	6.6	15.8	18.8	45.5	5.1	25.0	25.4	23.2	78.7
3. Quriyat	1.4	4.4	6.9	6.4	19.1	17.6	30.8	39.8	32.3	120.5
4. Sumail	148.8	261.3	408.7	289.1	1,107.9	64.4	187.6	172.3	173.3	597.6
North Batinah	27.3	115.8	244.1	146.0	533.2	1.2	4.0	25.6	111.0	141.8
5. Sohar	94.6	171.0	335.0	163.3	763.9	18.3	38.9	68.3	53.7	179.2
6. Shinas	44.9	71.9	115.9	96.5	329.2	0.2	3.3	12.0	24.3	39.8
South Batinah	20.6	19.5	33.3	78.2	151.6		28.8	47.7	56.3	132.8
7. Suwaiq	15.0	9.8	23.8	13.1	61.7	90.7	112.2	161.7	124.2	488.8
8. Khabura	13.9	12.7	17.3	20.0	63.9	25.4	63.7	109.6	70.1	268.8
9. Rostaq	27.5	49.1	77.9	42.3	196.8	32.8	36.6	56.5	38.9	164.8
Dakhliya	1.1	5.6	10.8	8.1	25.6	18.1	23.8	34.3	24.5	100.7
10. Nizwa	12.8	16.0	17.9	11.2	57.9	21.9	14.8	17.7	15.7	70.1
11. Ibri	4.8	4.6	8.4	10.2	28.0	27.1	70.3	76.1	60.4	233.9
12. Bahla	1.9	12.1	42.0	36.2	92.2	24.6	60.9	119.6	107.8	312.9
13. Izki	2.6	4.7	12.2	12.4	31.9	11.6	37.8	49.9	38.5	137.8
14. Sayq	117.2	287.4	233.7	270.1	908.4	58.3	163.0	343.9	394.2	959.4
Sharqiya	677.0	1,355.1	1,962.3	1,601.8	5,596.2	1,070.4	1,842.7	2,749.5	2,489.9	8,152.5
15. Ibra										
16. Kamil										
17. Mudaibi										
Southern										
18. Salalah										
Total										
Others										
Ruwi Shop		559.7	811.9	841.1	2,212.7	--	821.0	805.2	657.2	2,283.4
Pickle Plant				0.9	0.9				17.0	17.0
Banana Factory	253.4	431.8	489.7	337.7	1,512.6	19.5	26.2	31.5	21.2	98.4
Total	253.4	991.5	1,301.6	1,179.7	3,726.2	19.5	847.2	836.7	695.4	2,388.8
Grand Total	930.4	2,346.6	3,263.9	2,781.5	9,322.4	1,089.9	2,689.9	3,586.2	3,185.3	10,551.3

Note : This volume doesn't include dealings between each center.

Annex Table 5.8.6 PAMAP Produce-wise Purchase and Sales Quantities from 1986-89

	Purchase					Sales				
	1986	1987	1988	1989.9	Total	1986	1987	1988	1989.9	Total
Banana	2,037	3,352	3,943	2,887	12,219	1,527	2,816	3,504	2,506	10,353
Cabbage	522	905	835	733	2,995	417	613	640	617	2,287
Carrot			65	119	184			67	93	160
Cauliflower	65	115	152	140	472	52	63	82	105	302
Chili Pepper	103	180	270	168	721	90	138	198	141	567
Coconut	41	55	41	45	182	33	44	42	42	161
Cucumber	156	321	469	292	1,238	139	248	369	247	1,003
Eggplant	364	524	625	340	1,853	271	344	389	257	1,261
Frankincens	0	28	12	36	76	0	1	5	10	16
Garlic	7	37	68	51	163	7	18	30	45	100
Lettuce	18	86	142	117	363	15	57	103	87	262
Lime	163	388	843	1,033	2,427	140	249	487	544	1,420
Mango	14	44	35	91	184	12	20	16	58	106
Onion	169	110	174	274	727	165	77	138	256	636
Papaya	141	247	299	325	1,012	97	180	194	198	669
Potato	337	446	1,434	1,499	3,716	324	379	1,303	1,398	3,404
Pumpkin	278	259	469	164	1,170	221	199	261	134	815
Squash	93	272	379	207	951	78	155	219	164	616
Sweat-Melon	142	421	720	411	1,694	45	265	560	297	1,167
Sweat Pepper	54	142	180	125	501	47	90	118	114	369
Sweat Potato	55	135	147	227	564	43	87	110	177	417
Tomato	914	1,463	2,561	2,015	6,953	795	1,129	1,720	1,689	5,333
Watermelon	531	945	1,500	1,019	3,995	477	692	1,200	779	3,148
Main Local To.			15,363	12,318	44,360			11,755	9,958	34,572
Other Local	603	3,297	2,306	1,812	8,018	644	2,235	1,553	1,365	5,797
Imported			1,923	2,132	4,055			1,528	1,857	3,385
Total	6,807	13,772	19,592	16,262	56,433	5,639	10,099	14,836	13,180	43,754

Note : This volume doesn't include dealings between each center.

Annex Table 5.8.7 PAMAP Produce-wise Purchase and Sales Values form 1986-89

	Purchase					Sales				
	1986	1987	1988	1989.9	Total	1986	1987	1988	1989.9	Total
Banana	279.6	465.4	539.6	408.1	1,692.7	354.9	719.5	930.6	643.6	2,648.6
Cabbage	35.2	61.0	82.6	37.0	215.8	45.5	73.2	92.6	55.9	267.2
Carrot			11.0	19.6	30.6			18.6	24.9	43.5
Cauliflower	10.9	21.1	18.4	22.2	72.6	12.2	16.8	17.2	23.5	69.7
Chili Pepper	29.2	41.0	61.3	45.6	177.1	32.8	44.5	60.6	49.3	187.2
Coconut	7.1	8.9	6.8	7.8	30.6	8.0	10.5	9.8	10.0	38.3
Cucumber	37.2	67.6	109.5	91.3	305.6	42.5	83.9	122.7	101.3	350.4
Eggplant	24.8	33.9	36.1	24.3	119.1	26.2	38.0	41.3	28.4	133.9
Frankincens	0.0	55.5	25.6	73.6	154.7		9.7	22.3	30.0	62.0
Garlic	2.9	17.0	31.1	24.5	75.5	4.4	13.1	19.4	28.8	65.7
Lettuce	3.8	21.5	37.9	21.9	85.1	5.0	20.5	37.8	26.3	89.6
Lime	45.5	79.0	182.4	206.2	513.1	50.8	75.2	169.0	179.5	474.5
Mango	3.0	6.2	5.5	14.2	28.9	3.0	4.4	4.5	11.7	23.6
Onion	16.0	7.8	14.1	21.9	59.8	17.0	7.7	15.9	28.8	69.4
Papaya	19.4	33.2	41.1	41.7	135.4	21.3	36.5	39.2	37.4	134.4
Potato	39.7	64.6	191.0	191.8	487.1	48.4	75.7	234.5	235.2	593.8
Pumpkin	24.3	20.7	30.8	17.0	92.8	27.4	26.5	31.1	21.0	106.0
Squash	13.9	32.1	41.1	31.1	118.2	15.0	29.3	39.0	32.8	116.1
Sweat-Melon	30.1	68.0	170.9	80.3	349.3	13.2	55.4	157.9	69.2	295.7
Sweat Pepper	8.9	21.4	26.8	20.0	77.1	11.0	22.6	29.6	28.8	92.0
Sweat Potato	9.7	22.8	25.3	36.0	93.8	9.4	20.8	25.4	37.0	92.6
Tomato	95.8	236.0	348.4	251.1	931.3	120.6	235.2	318.3	254.4	928.5
Watermelon	62.5	108.9	181.9	133.9	487.2	63.5	104.4	176.4	122.7	467.0
Main Local To.			2,219.2	1,821.1	6,333.4			2,613.7	2,080.5	7,349.7
Other Local	130.8	853.2	531.6	387.5	1,903.1	172.2	976.0	464.9	401.4	2,014.5
Imported			513.0	578.1	1,091.1			510.2	612.5	1,122.7
Total	930.3	2,346.8	3,263.8	2,786.7	9,327.6	1,104.3	2,699.4	3,588.8	3,094.4	10,486.9

Note : This volume doesn't include dealings between each center.

Annex Table 5.8.8 PAMAP Produce-wise Purchase Unit Price(R.O./ton)
in 1989

No.	Produce	JA	FE	MA	AR	MA	JU	JU	AU	SE	OC	NO	DE	TOTAL
1	Banana	140	139	139	151	146	142	141	140	141	144	146	146	143
2	Cabbage	59	38	35	31	46	109	143	172	172	178	185	106	74
3	Carrot	214	171	152	145	139	168	317	430	313	204	220	189	173
4	Cauliflower	176	83	186	302	295		687	396	316	314	296	273	171
5	Chilli Pepper	159	292	335	231	206	432	483	428	358	298	261	247	268
6	Coconut	161	154	169	175	168	178	167	179	176	176	165	154	170
7	Cucumber	314	393	373	276	259	326	345	396	331	224	215	229	279
8	Eggplant	24	51	75	56	64	127	169	189	160	126	82	61	76
9	Frannkincens	2000		2000	2000	2038	2083	1994	2011	556	2000	1933		2028
10	Garlic	321	653	570	472	426	391	504	595	705	572	544	579	483
11	Lettuce	277	149	141	204	204	200		297	303	278	284	233	198
12	Lime	390	403	444	399	300	214	96	77	80	108	175	285	194
13	Mango			300	331	111	132	97	229	309	482	571	676	162
14	Onion	163	150	95	87	69	74	101	98	88	106	89	81	83
15	Papaya	122	123	122	142	151	148	124	99	129	147	136	99	124
16	Potato	166	130	126	128	144	213	192	210		149	145	151	129
17	Pumpkin	25	51	86	88	68	145	122	183	169	103	86	59	94
18	Squash	111	161	196	123	74	256	250	214	280	203	110	119	145
19	Sweet-Melon	150	100	282	372	172	196	195	205	181	148	143	174	179
20	Sweet Pepper	177	149	149	149	162	256	326	247	318	255	239	198	169
21	Sweet Potato	177	139	130	192	144	195	222	243	250	258	286	292	165
22	Tomato	107	72	125	190	143	174	187	137	213	157	275	345	136
23	Watermelon	108		183	192	104	127	131	119	72	58	93	77	125

Annex Table 5.8.9 PAMAP Produce-wise Sales Unit Price (R.O./ton)
in 1989

No.	PRODUCE	JA	FE	MA	AR	MA	JU	JU	AU	SE	OC	NO	DE	TOTAL
1	Banana	266	265	269	276	261	255	249	246	244	247	242	252	252
2	Cabbage	101	67	64	65	92	120	209	206	238	259	240	151	109
3	Carrot	276	263	252	250	264	377	426	445	259	329	347	297	273
4	Cauliflower	256	137	243	297	427	458	669	463	421	469	414	390	242
5	Chilli Pepper	225	382	415	338	298	554	631	532	466	417	357	328	350
6	Coconut	224	214	228	239	225	242	246	246	246	243	235	238	237
7	Cucumber	396	505	464	378	355	394	431	474	421	330	302	310	376
8	Eggplant	53	93	124	83	118	176	228	245	212	191	146	104	119
9	Frannkincens	5984	3055	3269	3477	3109	2794	3739	2390	1703	1350	1468	1129	1980
10	Garlic	663	624	670	660	616	642	656	698	780	768	738	694	649
11	Lettuce	401	267	255	312	305	424	630	559	338	535	474	354	312
12	Lime	459	457	494	492	388	324	190	141	157	191	257	310	311
13	Mango	682	778	574	426	227	178	136	255	319	578	611	484	208
14	Onion	136	135	120	121	102	102	130	133	115	126	122	112	113
15	Papaya	185	197	198	195	212	204	178	152	185	209	215	189	193
16	Potato	205	167	158	175	180	185	201	209	204	209	207	205	169
17	Pumpkin	50	93	138	142	133	197	192	240	246	186	154	101	151
18	Squash	149	205	256	206	141	257	350	308	269	289	183	170	198
19	Sweet-Melon	172	355	302	412	221	203	250	179	124	180	186	182	216
20	Sweet Pepper	262	242	226	237	259	435	494	393	381	384	338	294	263
21	Sweet Potato	216	211	194	216	202	158	261	286	293	320	345	363	216
22	Tomato	120	102	158	220	208	199	122	197	259	211	310	430	167
23	Watermelon	112	152	226	223	133	145	132	111	97	63	119	116	143

Annex Table 5.8.10 PAMAP Produce-wise Margin Rate (%) in 1989

No. PRODUCE	J	F	M	A	M	A	M	J	J	A	S	O	N	D	TOTAL
1 Banana	90%	92%	94%	83%	78%	79%	79%	76%	76%	73%	72%	72%	66%	72%	76%
2 Cabbage	70%	78%	82%	112%	98%	10%	10%	45%	20%	39%	46%	30%	30%	43%	48%
3 Carrot	29%	53%	66%	72%	90%	124%	34%	34%	4%	-17%	61%	58%	58%	57%	58%
4 Cauliflower	45%	65%	31%	-2%	44%	28%	-3%	17%	33%	49%	40%	40%	40%	43%	41%
5 Chili Pepper	41%	31%	24%	46%	44%	28%	31%	24%	30%	40%	40%	37%	33%	33%	31%
6 Coconut	39%	39%	35%	36%	34%	36%	36%	47%	37%	40%	39%	43%	43%	55%	39%
7 Cucumber	26%	29%	24%	37%	37%	21%	25%	25%	20%	27%	48%	40%	40%	35%	35%
8 Eggplant	117%	81%	67%	47%	85%	39%	35%	35%	30%	32%	52%	77%	72%	72%	57%
9 Frankinices	198%		74%	55%	37%	80%	80%	80%	20%	-15%	143%	-27%	-42%	-42%	-2%
10 Garlic	106%	-4%	18%	40%	45%	64%	30%	17%	11%	34%	36%	36%	36%	20%	34%
11 Lettuce	45%	79%	81%	53%	50%	112%		88%	12%	92%	67%	51%	51%	51%	58%
12 Lime	18%	13%	11%	23%	30%	51%	98%	84%	96%	78%	78%	47%	9%	9%	60%
13 Mango			51%	29%	105%	35%	40%	11%	3%	20%	7%	7%	-28%	-28%	28%
14 Onion	-17%	-10%	26%	39%	49%	37%	28%	28%	36%	31%	18%	37%	37%	38%	37%
15 Papaya	52%	60%	61%	37%	40%	38%	43%	43%	54%	44%	42%	58%	58%	56%	56%
16 Potato	23%	29%	25%	37%	25%	-13%	4%	4%	0%	0%	40%	42%	36%	36%	31%
17 Pumpkin	133%	81%	61%	62%	96%	36%	57%	57%	31%	46%	80%	79%	69%	69%	61%
18 Squash	34%	27%	30%	68%	89%	0%	0%	40%	44%	-4%	43%	66%	42%	42%	37%
19 Sweet-Melon	15%	255%	7%	11%	28%	4%	28%	28%	-13%	-32%	22%	30%	4%	4%	20%
20 Sweet Pepper	48%	63%	52%	59%	60%	70%	52%	52%	59%	20%	51%	42%	49%	49%	55%
21 Sweet Potato	22%	51%	49%	12%	40%	-19%	18%	18%	18%	17%	24%	20%	24%	24%	31%
22 Tomato	12%	41%	27%	15%	45%	14%	-35%	44%	21%	35%	13%	25%	25%	25%	23%
23 Watermelon	3%	23%	17%	28%	14%	0%	0%	0%	-7%	35%	8%	27%	50%	50%	14%
24 Total															
25 Other local															
26 Imported															
27 GRAND TOTAL															

SOURCE : PAMAP PRODUCEWISE PURCHASE QUANTITY (K9) IN 1989
 PAMAP PRODUCEWISE PURCHASE VALUE (R0) IN 1989
 PAMAP PRODUCEWISE SELL QUANTITY (K9) IN 1989
 PAMAP PRODUCEWISE SELL VALUE (R0) IN 1989

NOTE : MARGIN = $(\text{④} \div \text{③}) \div (\text{②} \div \text{①})$

Annex Table 5.8.11 PAMAP Monthly Banana Distribution of Consumer
Rial Between the Producer, Retailer and PAMAP

Month	When selling to the Merchant					When selling to PAMAP				
	1	2	3	4	5	1	2	3	4	5
	baisa	baisa	baisa	%	%	baisa	baisa	baisa	%	%
January	150	250	100	60.0	40.0	140	270	130	51.9	48.1
February	150	255	105	58.8	41.2	140	271	131	51.7	48.3
March	160	220	60	72.7	27.2	140	270	130	51.9	48.1
April	200	320	120	62.5	37.5	140	267	127	52.4	47.6
May	160	230	70	69.2	30.4	140	269	129	52.1	47.9
June	140	225	85	62.2	37.8	140	265	125	52.8	47.2
July	140	225	85	62.2	37.7	140	248	118	54.3	45.7
August	130	220	90	59.1	40.9	140	255	115	54.9	45.1
September	125	210	85	59.5	40.5	140	264	124	53.1	46.9
October	125	215	90	58.1	41.9	140	268	128	52.2	47.8
November	130	240	110	54.2	45.8	140	267	127	52.4	47.6
December	130	240	110	54.2	45.8	140	267	127	52.4	47.6

- (1) Producer price
(2) Retail price
(3) Price spread
(4) Producer share/Retail price
(5) Price spread/Retail price

* Price = kg/baisa

Annex Table 5.8.12 PAMAP Monthly Cabbage Distribution of Consumer
Rial Between the Producer, Retailer and PAMAP

Month	When selling to the Merchant					When selling to PAMAP				
	1	2	3	4	5	1	2	3	4	5
	baisa	baisa	baisa	%	%	baisa	baisa	baisa	%	%
January	65	100	35	65.0	35.0	31	60	29	51.7	48.3
February	44	155	111	28.4	71.6	71	107	36	66.4	33.6
March	30	120	90	25.0	75.0	39	77	38	50.7	49.3
April	36	100	64	36.0	64.0	34	72	38	47.2	52.8
May	70	180	110	38.9	61.1	67	116	49	57.8	42.3
June	100	200	100	50.0	50.0	111	169	58	65.7	34.3
July						136	187	51	72.8	27.2
August						171	258	87	66.3	33.7
September						194	269	75	72.1	27.9
October						123	200	77	61.5	38.5
November						55	103	48	53.4	46.6
December	250	325	75	76.9	23.1	38	77	39	49.4	50.6
Weighted average	85	199	114	57.2	42.8	52	91	39	57.1	42.9

- (1) Producer price
(2) Retail price
(3) Price spread
(4) Producer share/Retail price
(5) Price spread/Retail price

* Prices kg/baisa

Annex Table 5.8.13 PAMAP Monthly Cauliflower Distribution of Consumer Rial Between the Producer, Retailer and PAMAP

Month	When selling to the Merchant					When selling to PAMAP				
	1	2	3	4	5	1	2	3	4	5
	baisa	baisa	baisa	%	%	baisa	baisa	baisa	%	%
January						278	363	85	76.6	23.4
February						334	420	86	79.5	20.5
March						349	437	88	79.9	20.1
April						304	393	89	77.4	22.6
May						232	328	96	70.7	29.3
June						321	368	47	87.2	12.8
July						249	418	169	59.6	40.2
August	350	550	200	63.7	36.3	335	515	180	65.1	34.9
September	290	430	140	67.4	32.6	385	560	175	68.7	31.3
October	230	330	100	69.7	30.3	355	450	95	78.9	21.1
November	180	350	170	51.4	48.6	305	405	100	75.3	24.7
December	190	310	120	61.3	38.7	301	393	92	76.6	23.4
Weighted average	191	387	196	49.4	50.6	294	381	87	77.7	22.8

- (1) Producer price
(2) Retail price
(3) Price spread
(4) Producer share/Retail price
(5) Price spread/Retail price

* Price = kg/baisa

Annex Table 5.8.14 PAMAP Monthly Potato Distribution of Consumer Rial Between the Producer, Retailer and PAMAP

Month	When selling to the Merchant					When selling to PAMAP				
	1	2	3	4	5	1	2	3	4	5
	baisa	baisa	baisa	%	%	baisa	baisa	baisa	%	%
January						141	178	37	79.3	20.8
February	150	250	100	60	40	120	174	44	74.7	25.3
March	155	225	70	68.9	31.1	127	193	66	65.8	34.2
April							193			
May							189			
June										
July										
August										
September										
October										
November										
December										
Weighted average	153	238	85.0	64.3	35.7	128	186	58	68.8	31.2

- (1) Producer price
(2) Retail price
(3) Price spread
(4) Producer share/Retail price
(5) Price spread/Retail price

* Price kg/baisa

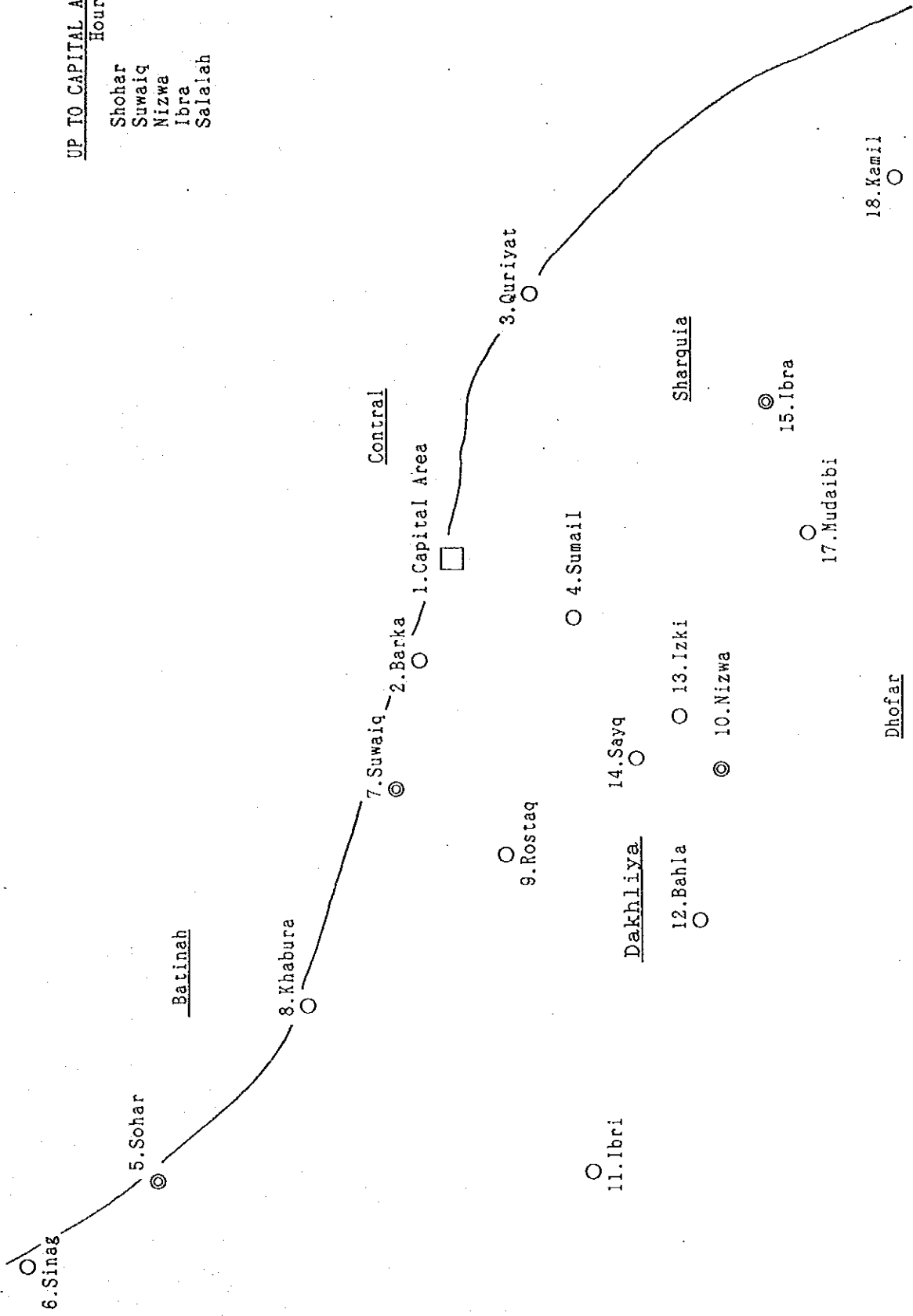
Annex Table 5.8.15 PAMAP Monthly Tomato Distribution of Consumer
 Rial Between the Producer, Retailer and PAMAP

Month	Distribution between Producer and Merchant					Distribution between Producer and PAMAP				
	1	2	3	4	5	1	2	3	4	5
	Baisa	Baisa	Baisa	%	%	Baisa	Baisa	Baisa	%	%
January	265	300	35	88.4	11.6	92	129	37	71.3	28.7
February	100	170	70	58.9	41.1	68	95	27	71.6	28.4
March	250	300	50	83.4	16.6	158	207	49	76.3	23.7
April	260	350	90	74.3	25.7	254	308	54	82.5	17.5
May	160	330	170	48.5	51.5	254	261	105	70.9	29.1
June						205	270	65	72.9	24.1
July										
August										
September	275	350	75	78.6	21.4					
October	270	330	60	81.8	18.2	186	236	50	78.8	21.2
November	230	325	95	70.8	29.2	214	263	49	81.4	18.6
December	210	350	40	88.6	11.4	219	219	51	76.8	23.2
Weighted Average	236	308	72	76.6	23.4	135	179	44	75.4	24.6

- (1) Producer's price
- (2) Retail price
- (3) Price spread
- (4) Producer share/Retail price
- (5) Price spread/Retail price

*Price = kg/baisas

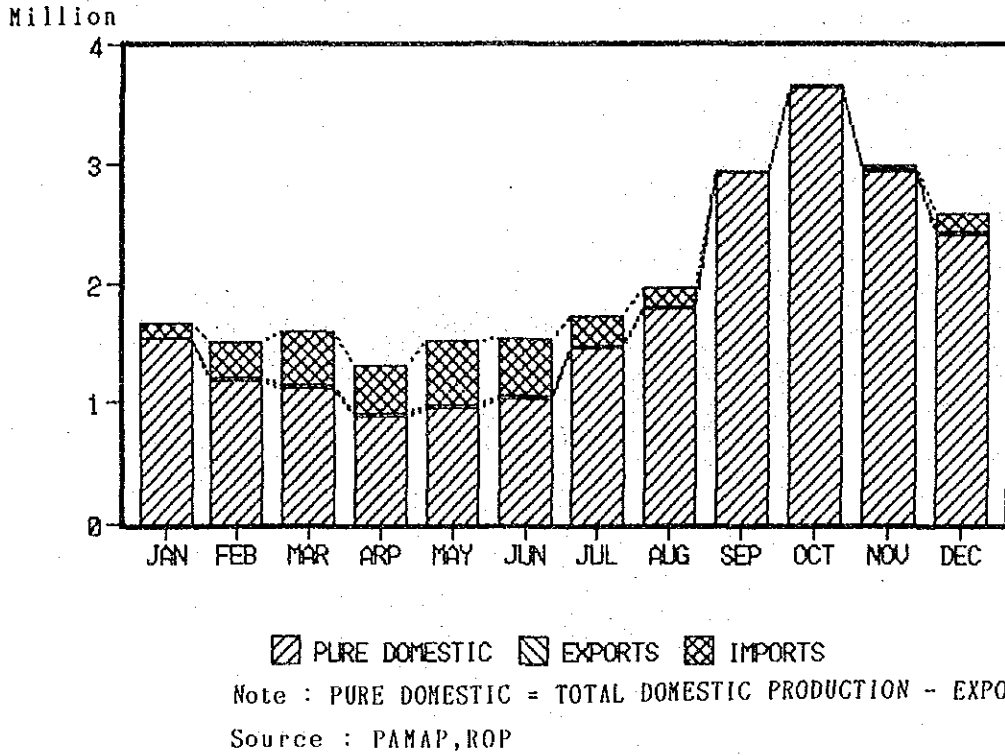
UP TO CAPITAL AREA	
	Hours/Mins
Shohar	3.45
Suwaiaq	2.00
Nizwa	3.00
Ibra	3.00
Salalah	18.00



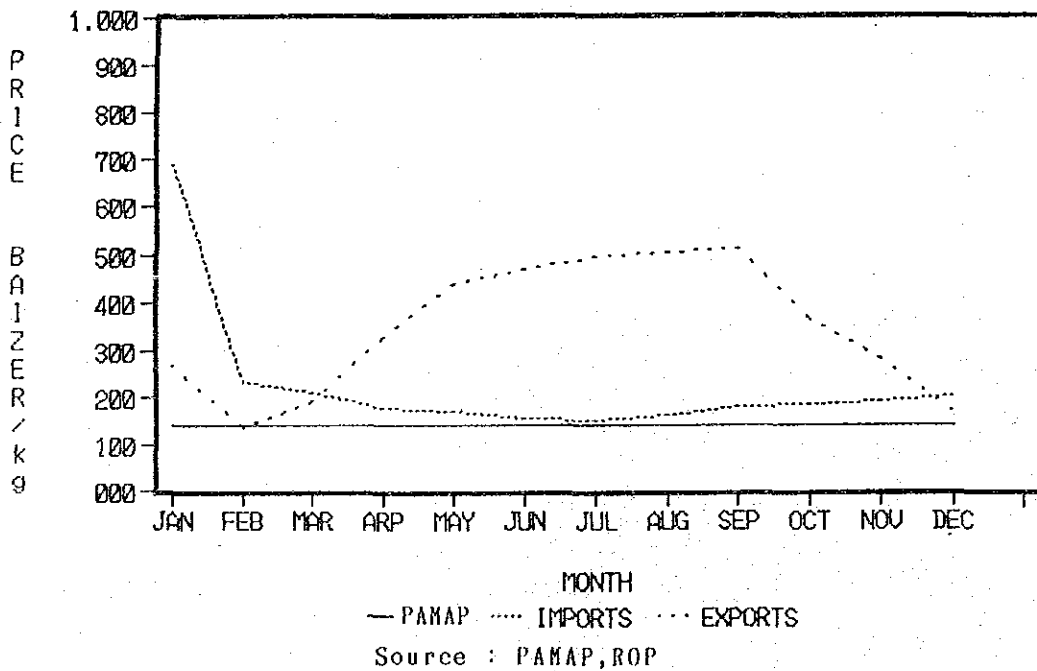
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Annex Figure 5.8.1 Transport Routes and Time Schedule

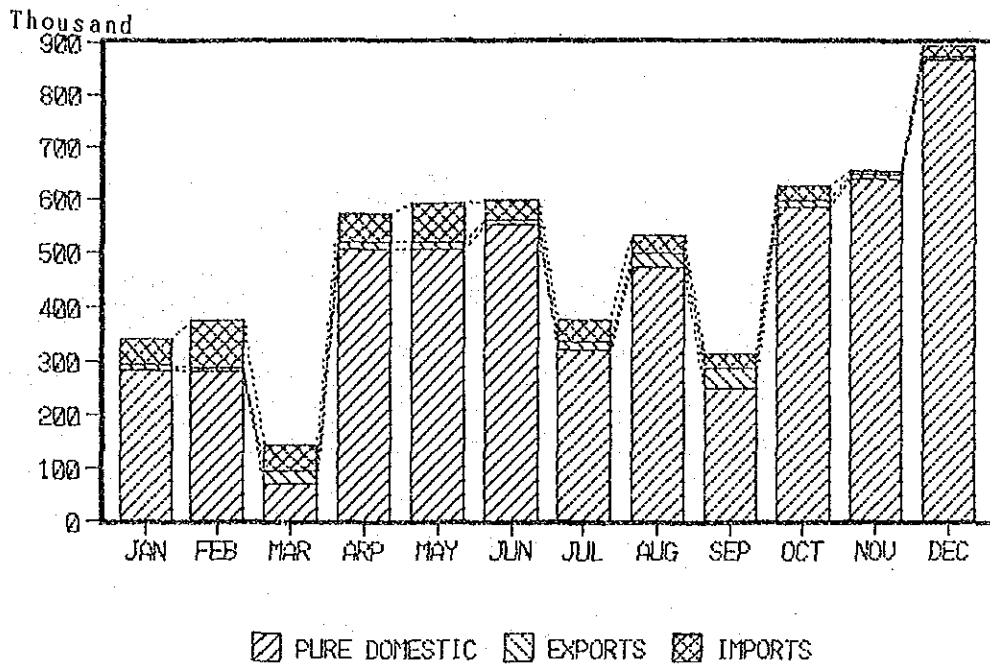
Annex Figure 5.8.2 Produce-wise Quantity -Bananas- in 1988



Annex Figure 5.8.3 Produce-wise Unit Price -Bananas- in 1988

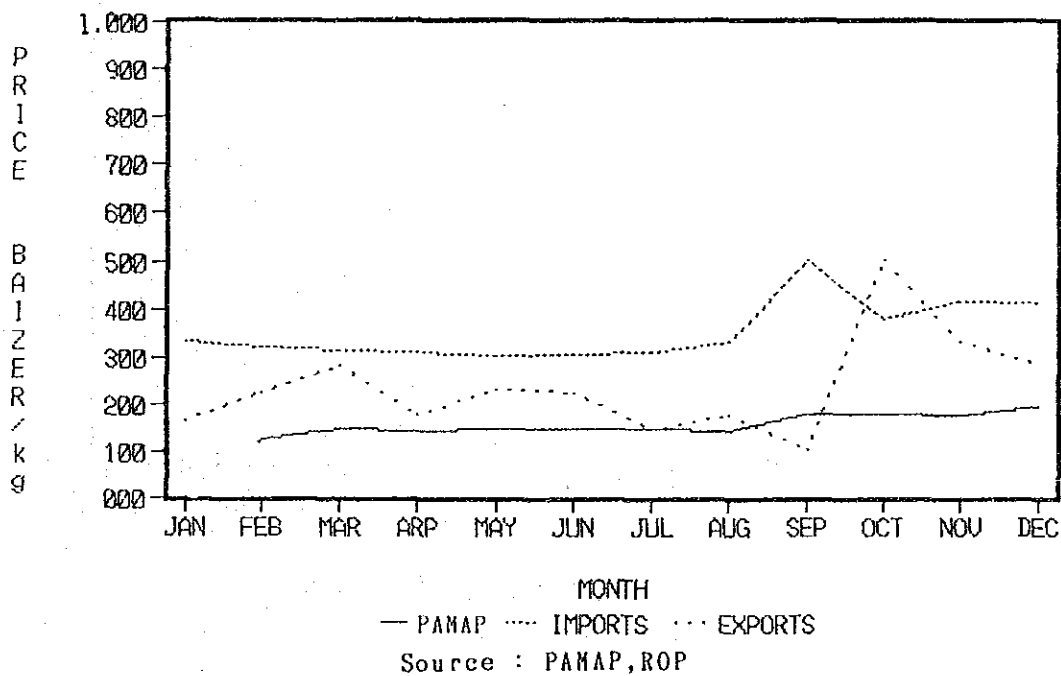


Annex Figure 5.8.4 Produce-wise Quantity -Coconuts- in 1988



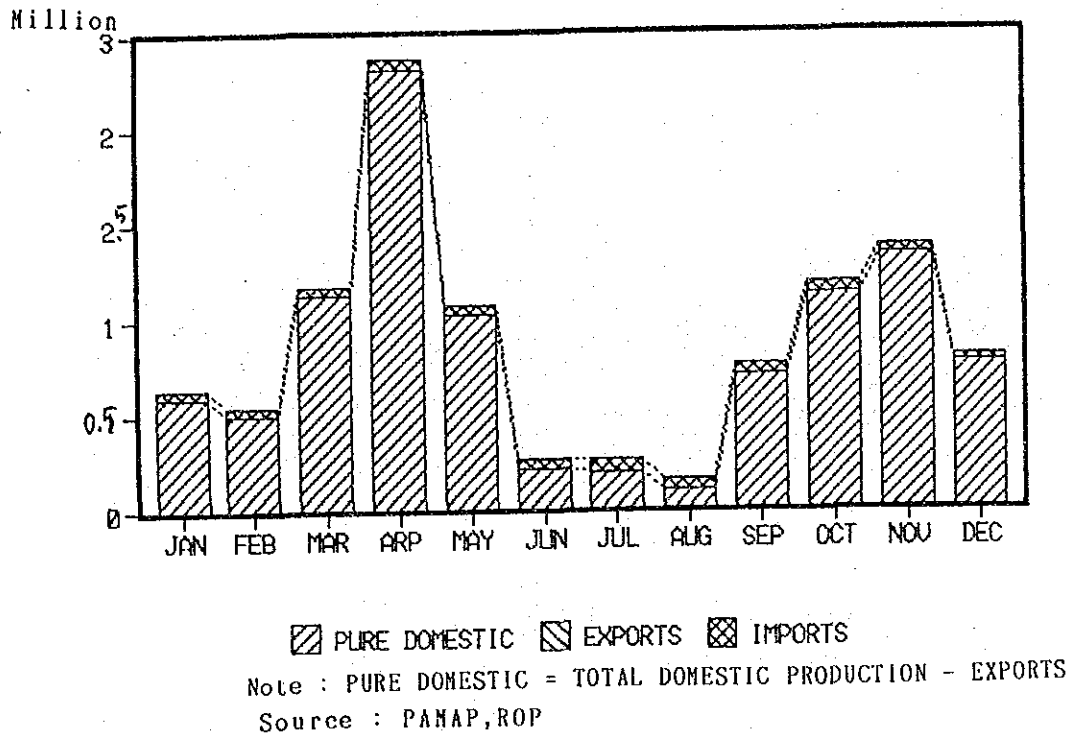
Note : PURE DOMESTIC = TOTAL DOMESTIC PRODUCTION - EXPORTS
 Source : PANAP, ROP

Annex Figure 5.8.5 Produce-wise Unit Price -Coconuts- in 1988

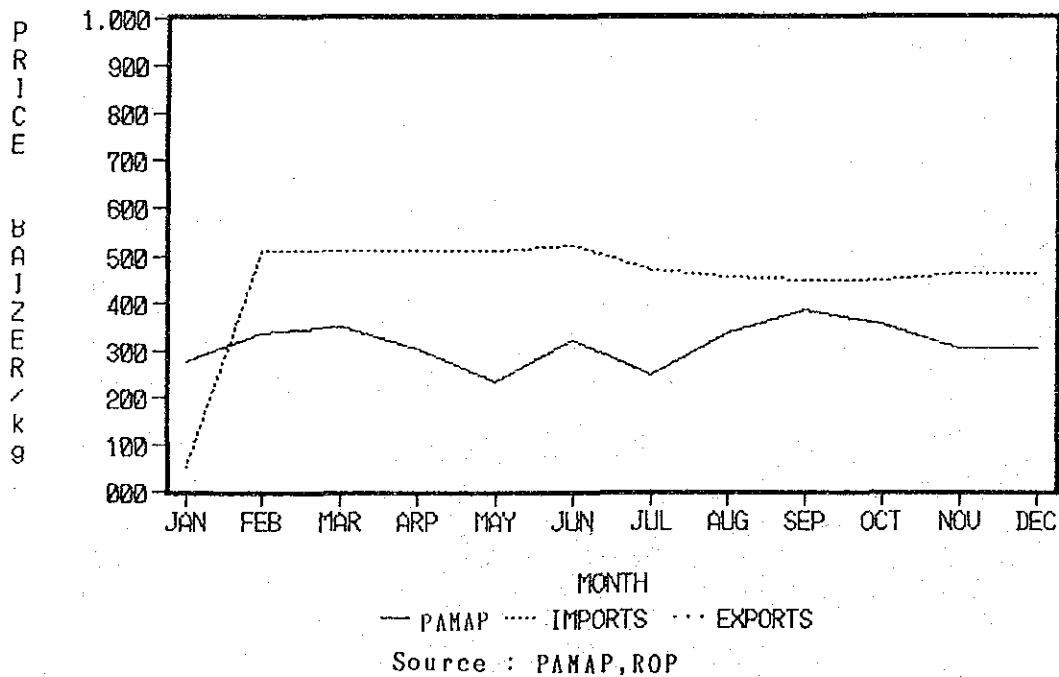


Source : PANAP, ROP

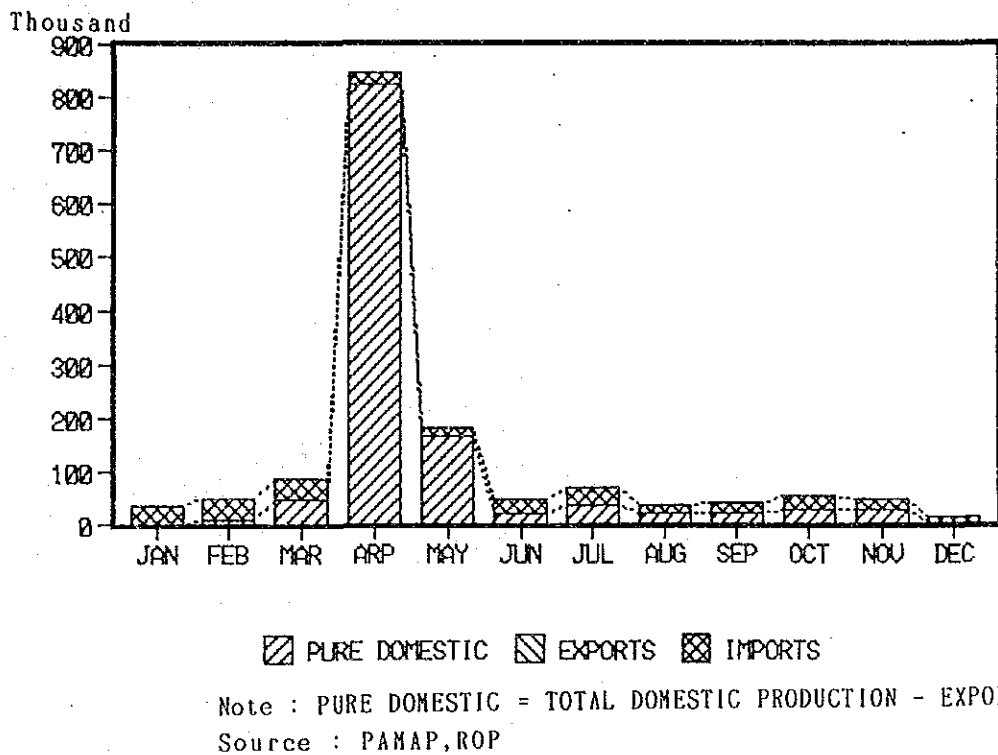
Annex Figure 5.8.6 Produce-wise Quantity -Cucumbers- in 1988



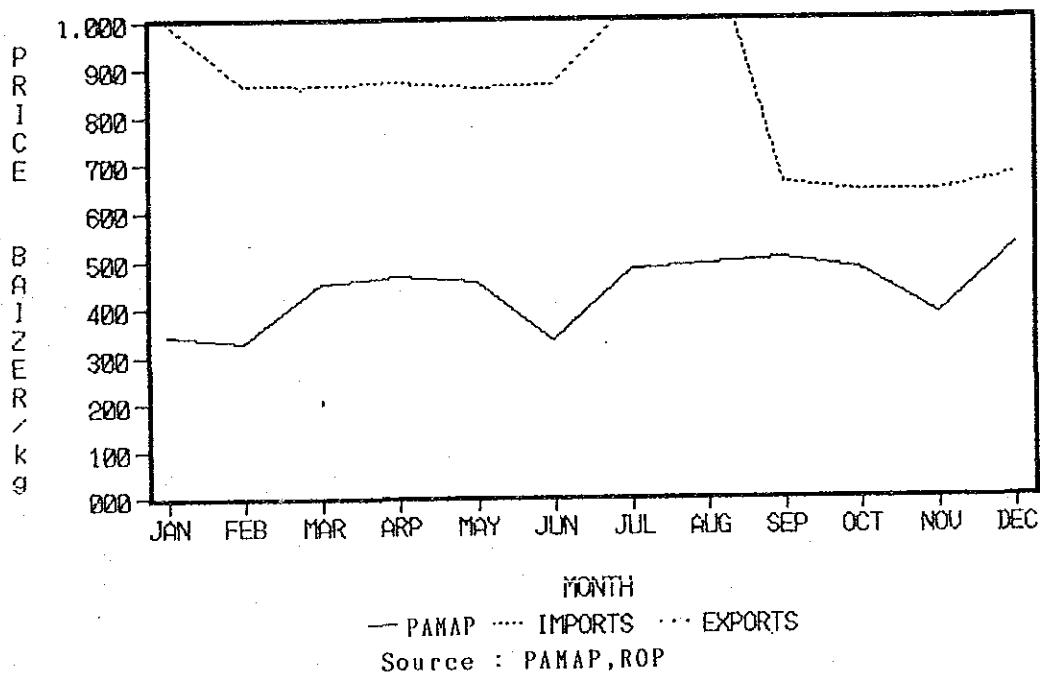
Annex Figure 5.8.7 Produce-wise Unit Price -Cucumbers- in 1988



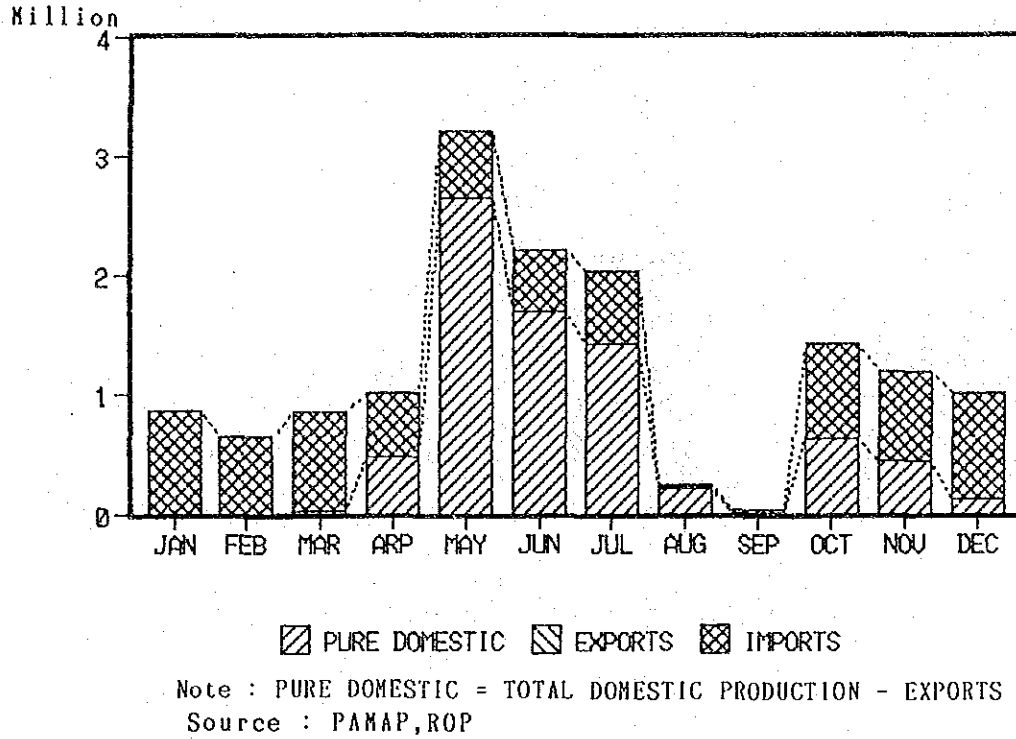
Annex Figure 5.8.8 Produce-wise Quantity -Garlic- in 1988



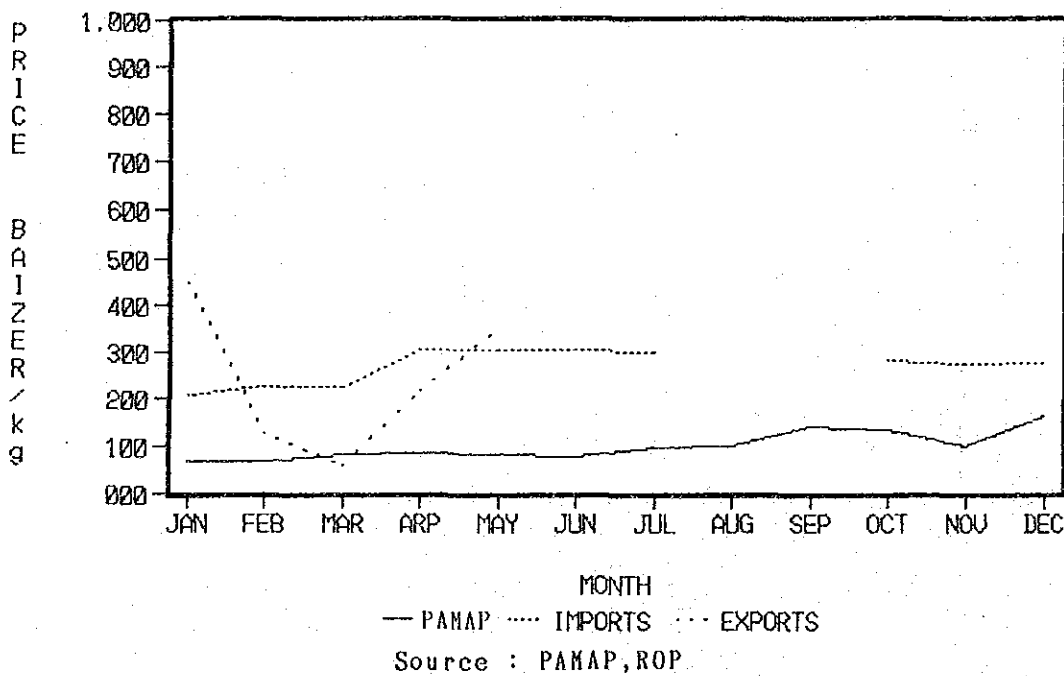
Annex Figure 5.8.9 Produce-wise Unit Price -Garlic- in 1988



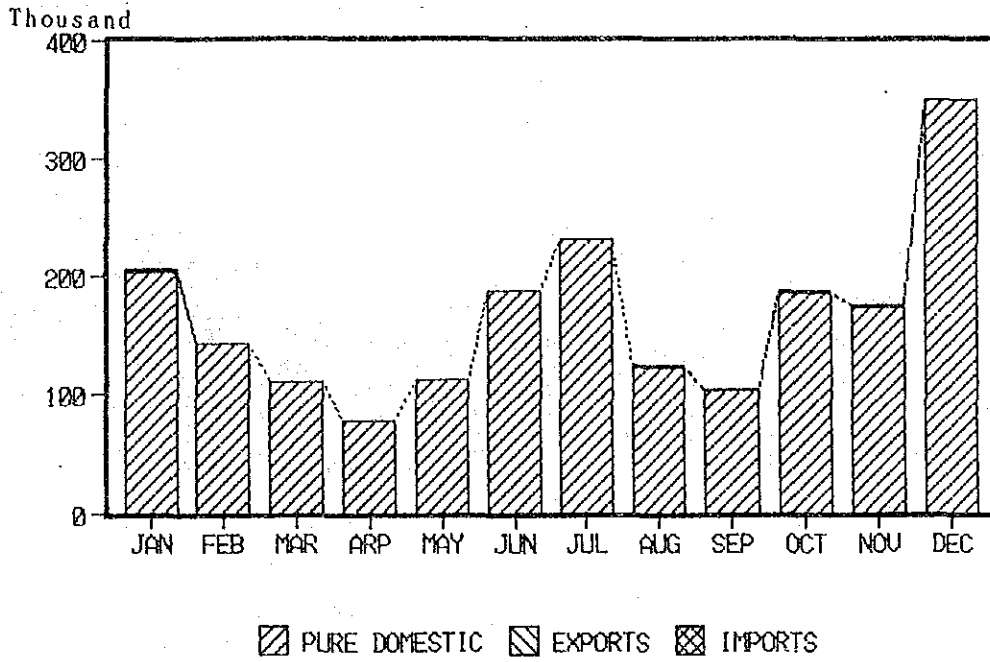
Annex Figure 5.8.10 Produce-wise Quantity -Onions- in 1988



Annex Figure 5.8.11 Produce-wise Unit Price -Onions- in 1988

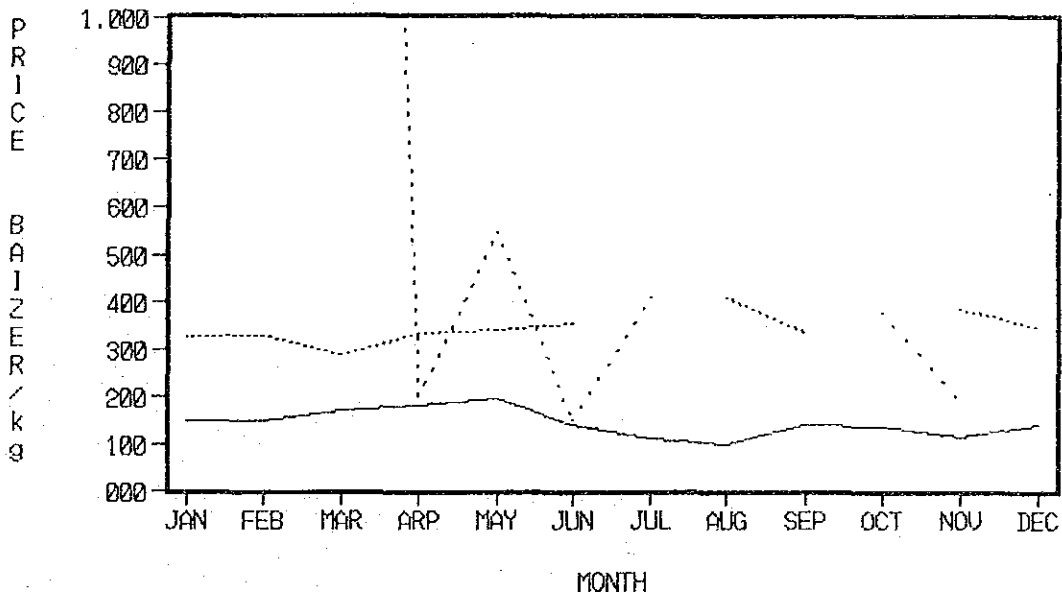


Annex Figure 5.8.12 Produce-wise Quantity -Papayas- in 1988



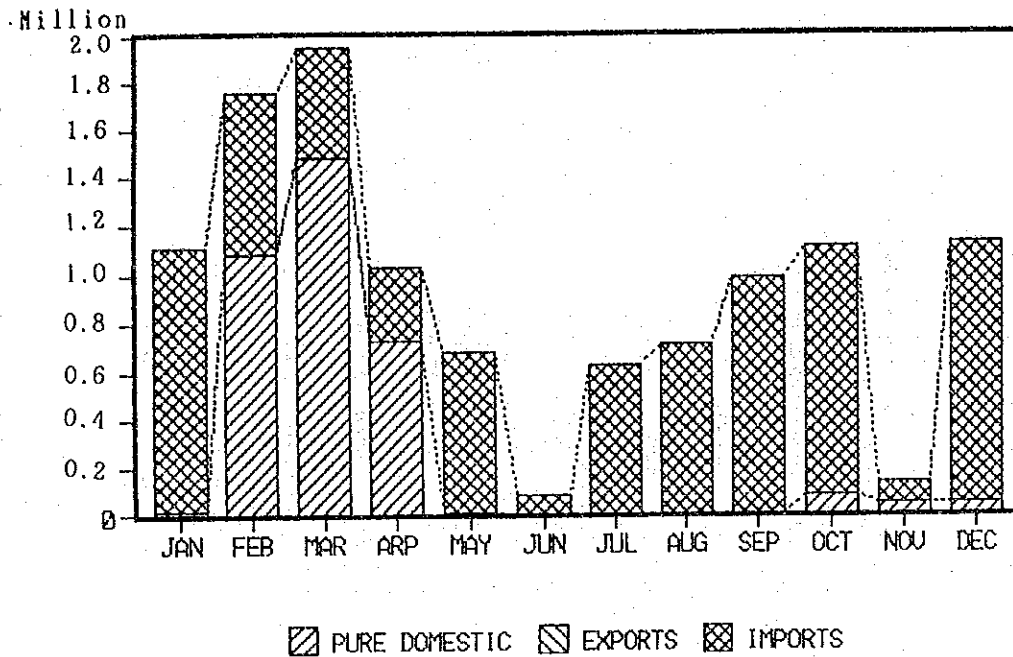
Note : PURE DOMESTIC = TOTAL DOMESTIC PRODUCTION - EXPORT
 Source : PAMAP, ROP

Annex Figure 5.8.13 Produce-wise Unit Price -Papayas- in 1988



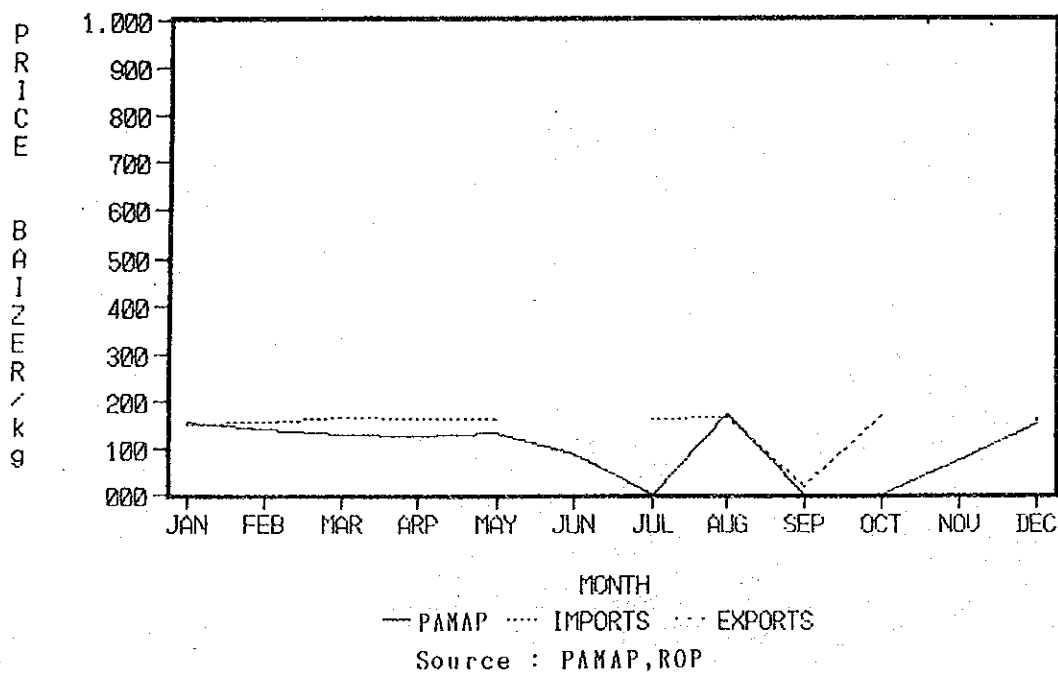
Source : PAMAP, ROP

Annex Figure 5.8.14 Produce-wise Quantity -Potatoes- in 1988

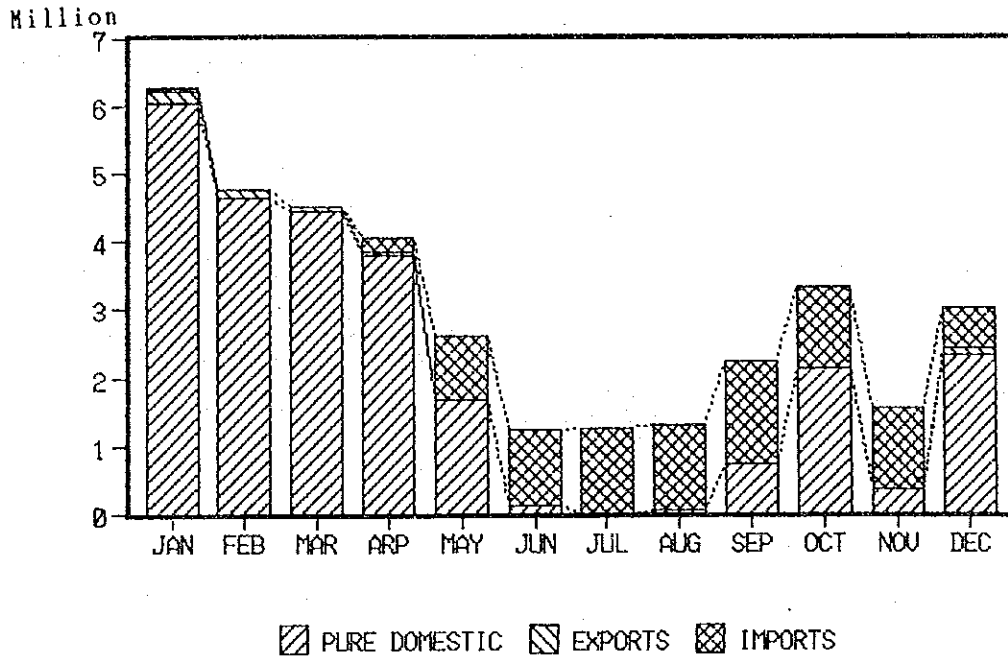


Note : PURE DOMESTIC = TOTAL DOMESTIC PRODUCTION - EXPORTS
 Source : PANAP, ROP

Annex Figure 5.8.15 Produce-wise Unit Price -Potatoes- in 1988

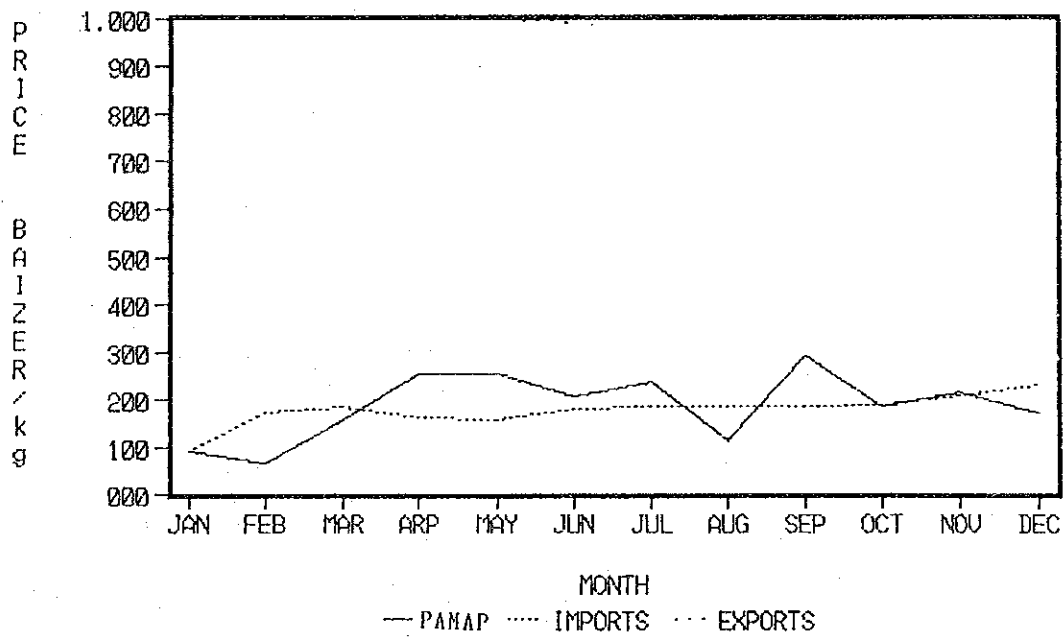


Annex Figure 5.8.16 Produce-wise Quantity -Tomatoes- in 1988



Note : PURE DOMESTIC = TOTAL DOMESTIC PRODUCTION - EXPORTS
 Source : PAMAP, ROP

Annex Figure 5.8.17 Produce-wise Unit Price -Tomatoes- in 1988



Source : PAMAP, ROP

