

Annex 8

Consolidated I-O Table
(180 Sectors)

Annex 8-1: Consolidated I-O table (180 Sectors)

I/O Code	I/O sector description	I/O Code	Sector in this study
001	Paddy	1	Crop
002	Maize		
003	Other Cereals		
004	Cassava		
005	Other Root Crops		
006	Beans and Nuts		
007	Vegetables		
008	Fruits		
009	Sugar Cane		
010	Coconut		
011	Palm Nut And Oil Palm And Oil Palm		
012	Kenaf And Jute		
013	Crops for Textile and Matting		
014	Tobacco		
015	Coffee and Tea		
016	Rubber		
017	Other Agricultural Products		
018	Cattle And Buffalo	2	Livestock
019	Swine		
020	Other Livestock		
021	Poultry		
022	Poultry Products		
023	Silk Farming		
024	Agricultural Services	3	Other agriculture
025	Logging		
026	Charcoal and Firewood		
027	Other Forestry Products		
028	Ocean And Coastal Fishing		
029	Inland Water Fishing		
030	Coal And Lignite	4	Minerals
031	Crude Oil & Natural Gas		
032	Iron Ore		
033	Tin Ore		
034	Tungsten Ore		
035	Other Non-Ferrous Metal Ore		
036	Fluorite Ore		
037	Natural Chemical & Fertilizer		
038	Salt		
039	Limestone		
040	Stone Quarrying		
041	Other Mining & Quarrying		

I/O Code	I/O sector description	I/O Code	Sector in this study	
042	Slaughtering	5	Meat processing and dairy products	
043	Canning & Preserving Of Meat			
044	Dairy Products			
045	Canning & Preserving Of Fruits & Vegetables	6		Fruits and vegetable processing
046	Canning & Preserving Of Fish & Seafood	7	Other food processing	
047	Coconut and Palm Oil			
048	Other Vegetable & Animal Oils			
049	Rice Milling	8		Rice milling
050	Flour & Sagu Mild Products & Tapioca Milling	9		Flour and grain processing
051	Grinding Corn			
052	Flour & Other Grain Milling			
053	Bakery And Other			
054	Noodle & Similar Products			
055	Sugar Refineries			
056	Confectionery & Snack			
057	Ice	10	Other food product	
058	Monosodium Glutamate			
059	Coffee & Cocoa & Tea Processing			
060	Other Food Products			
061	Fish Meal & Animal Feed			
062	Distilling & Blending Of Spirit	11	Bottled drinks and water	
063	Breweries			
064	Soft Drinks & Carbonated Water			
065	Tobacco Processing	12	Tobacco processing and products	
066	Tobacco Products			
067	Spinning	13	Spinning and weaving	
068	Weaving			
069	Textile Bleaching, Printing & Finishing	14	Textile products	
070	Made-Up Textile Goods			
071	Knitting			
072	Wearing Apparels			
073	Carpets And Rugs	15	Other fiber products	
074	Jute Mill Products			
075	Tannery And Leather Finishing	16	Tannery and leather finishing	
076	Leather Products	17	Leather products	
077	Foot Wear, Except Of Rubber	18	Foot wear, except for rubber	
078	Saw Mill & Wooden Construction Materials	19	Saw mill and wooden materials and products	
079	Wood And Cork Products			
080	Wooden Furniture & Fixture	20	Wooden furniture and fixture	
081	Paper And Paper Board	21	Paper and printing	

I/O Code	I/O sector description	I/O Code	Sector in this study
082	Paper & Paperboard Products		
083	Printing & Publishing		
084	Basic Chemicals	22	Chemical products
085	Fertilizer, Pesticide And Insecticide		
086	Petrochemical Products		
087	Paint		
088	Drug And Medicine		
089	Soap & Cleaning Preparations		
090	Cosmetic		
091	Matches		
092	Other Chemical Products		
093	Petroleum Refinery & Gas Separated Plant	23	
094	Other Coal & Petroleum Products		
095	Rubber Sheet & Block Rubber	24	Rubber and plastic
096	Types And Tubes		
097	Other Rubber Products		
098	Plastic Wares		
099	Ceramic And Earthen Wares	25	Ceramic and earthen wares
100	Glass & Glass Products	26	Other industrial products
101	Structural Clay Products		
102	Cement		
103	Concrete And Cement Products		
104	Other Non-Metallic Products		
105	Iron And Steel		
106	Secondary Steel Products		
107	Non-Ferrous Metal		
108	Cutlery And Hand Tools		
109	Metal Furniture & Fixture		
110	Structural Metal Products		
111	Other Fabricated Metal Products		
112	Engine And Turbine		
113	Agricultural Machinery & Equipment		
114	Wood & Metal Working Machine		
115	Special Industrial Machinery		
116	Office Equipment & Machinery		
117	Electrical Industrial Machinery & Appliances		
118	Radio, Television Set & Communication Equipment		
119	Others Electric Appliances		
120	Insulated Wire And Cable		
121	Electric Accumulator & Battery		
122	Other Electrical Aparatuses & Supplies		
123	Ship Building		
124	Railway Equipment		

I/O Code	I/O sector description	I/O Code	Sector in this study
125	Motor Vehicle		
126	Motorcycle & Bicycle & Other Carriages		
127	Repairing Of Vehicle		
128	Aircraft		
129	Scientific Equipments		
130	Photographic & Optical Goods		
131	Watches And Clocks		
132	Jewelry & Related Articles		
133	Recreational & Athletic Equipment		
134	Other Manufacturing Goods		
135	Electricity	27	Electricity and water supply
136	Pipe Line		
137	Water Supply System		
138	Residential Building Construction	28	Construction
139	Non-Residential Build Construction		
140	Public Works For Agriculture & Forestry		
141	Non-Agricultural Public Works		
142	Construction Of Electric Plant		
143	Construction Of Communication Facilities		
144	Other Constructions		
145	Wholesale Trade	29	Trade
146	Retail Trade		
149	Railways	30	Transportation
150	Route & Non route of Road Passenger Transport		
151	Road Freight Transport		
152	Land Transport Supporting Services		
153	Ocean Transport		
154	Coastal & Inland Water Transport		
155	Water Transport Services		
156	Air Transport		
147	Restaurant & Drinking Place	31	Other services
148	Hotel And Lodging Place		
157	Other Services		
158	Silo And Warehouse		
159	Post And Telecommunication		
160	Banking Service		
161	Life Insurance Service		
162	Other Insurance Service		
163	Real-estate		
164	Business Service		
165	Public Administration		
166	Sanitary & Similar Services		
167	Education		
168	Research		

I/O Code	I/O sector description	I/O Code	Sector in this study
169	Hospital		
170	Business & Labor Associations		
171	Other Community Services		
172	Motion Picture Production		
173	Movie Theater		
174	Radio, Television & Related Services		
175	Library And Museum		
176	Amusement & Recreation		
177	Repairing, Not Elsewhere Classified		
178	Personal Services		
180	Unclassified	32	Unclassified
190	Total Intermedite Transaction		
201	Wages and Salaries	33	Wages and salaries
202	Operating Surplus		
203	Depreciation		
204	Indirect Taxes less Subsidies		
209	Total Value Added	34	Total value added
210	Control Total		
301	Private Consumption Expenditure		
302	Government Consumption Expenditure		
303	Gross Fixed Capital Formation		
304	Increase in Stock		
305	Exports (F.O.B.)		
306	Special Exports		
309	Total Final Demand		
310	Total Demand		
401	Imports (C.I.F.)		
402	Import Tax		
403	Import Duty		
404	Special Imports		
409	Total Imports	35	Total Imports
501	Wholesale Trade Margin		
502	Retail Trade Margin		
503	Transportation Cost		
509	Total Margin and Transportation Cost		
600	Control Total		
700	Total Supply		

Annex 8-2: I-O table output

I-O Coefficients		1	2	3	4	5	6	7	8	9
Crop	1	0.051834	0.040812	0.000110	0.000000	0.000000	0.196420	0.000000	0.763805	0.308322
Livestock	2	0.000000	0.016744	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.001711
Other Agriculture	3	0.049307	0.029251	0.014813	0.000461	0.000000	0.001186	0.000000	0.000000	0.001387
Minerals	4	0.000016	0.000007	0.000064	0.018735	0.000094	0.000360	0.000000	0.000000	0.000207
Meat processing and dairy products	5	0.000000	0.000569	0.000000	0.000000	0.080569	0.000013	0.000158	0.000000	0.006411
Fruit and vegetable processing	6	0.000000	0.000000	0.000000	0.000000	0.005143	0.000829	0.000000	0.000000	0.000212
Other food processing	7	0.000000	0.004640	0.000000	0.000000	0.006037	0.000018	0.068566	0.000000	0.005505
Rice Milling	8	0.000022	0.082071	0.000912	0.000000	0.000306	0.000000	0.001029	0.001329	0.030150
Other grain processing	9	0.000000	0.001988	0.000000	0.000000	0.011825	0.022375	0.000499	0.000000	0.104558
Other food products	10	0.000011	0.286685	0.067769	0.000000	0.006821	0.004283	0.001512	0.000000	0.003443
Bottled drinks	11	0.000000	0.000000	0.000002	0.000000	0.000027	0.000000	0.000010	0.000008	0.000470
Tobacco processing and products	12	0.000000	0.000000	0.000000	0.000000	0.000004	0.000000	0.000009	0.000006	0.000015
Spinning and Weaving	13	0.000000	0.000084	0.000001	0.000000	0.000005	0.000000	0.001008	0.000000	0.000046
Textile products	14	0.000472	0.000019	0.000001	0.000000	0.000294	0.000393	0.000038	0.000013	0.000237
Other Fibers	15	0.000874	0.000181	0.000396	0.000114	0.000026	0.000003	0.000001	0.000864	0.000843
Tannery And Leather Finishing	16	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Leather Products	17	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Foot Wear, Except Of Rubber	18	0.000000	0.000000	0.000003	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Saw mill and wood	19	0.001299	0.000693	0.000484	0.000139	0.000402	0.000000	0.000066	0.000018	0.000282
Wooden Furniture & Fixture	20	0.000071	0.000000	0.000002	0.000005	0.000361	0.000038	0.000004	0.000000	0.000014
Paper and printing	21	0.000093	0.001071	0.000483	0.000439	0.002340	0.011531	0.010785	0.000033	0.006789
Chemical products	22	0.012545	0.007501	0.001151	0.001214	0.002071	0.001498	0.000555	0.000005	0.002000
Petroleum Refineries and Products	23	0.006695	0.006501	0.132701	0.067421	0.005722	0.011476	0.004510	0.001086	0.008841
Rubber and plastic products	24	0.001209	0.002505	0.008019	0.000962	0.004760	0.016801	0.002093	0.000317	0.010982
Ceramic And Earthen Wares	25	0.000185	0.000006	0.000104	0.000000	0.000000	0.000019	0.000000	0.000000	0.000000
Manufacturing	26	0.013979	0.010675	0.022036	0.066069	0.013301	0.033360	0.008791	0.003208	0.020635
Electricity and water supply	27	0.000135	0.006915	0.001648	0.011604	0.009216	0.011531	0.004319	0.006720	0.012254
Construction	28	0.000266	0.003205	0.000133	0.002742	0.000170	0.000188	0.000688	0.000111	0.000356
Trade	29	0.028276	0.082906	0.026880	0.007410	0.057213	0.138334	0.089008	0.018082	0.040774
Transport	30	0.008309	0.010112	0.005331	0.024560	0.007057	0.018411	0.010772	0.007964	0.024066
Other services	31	0.023519	0.014820	0.023792	0.081244	0.016062	0.037331	0.013008	0.012154	0.029210
Unclassified	32	0.002030	0.000198	0.000301	0.000533	0.002322	0.000174	0.001084	0.000025	0.000383
Total Intermediate Transaction	190	0.201147	0.610157	0.307134	0.283655	0.640663	0.506570	0.559278	0.815749	0.620105
Wages and Salaries	201	0.144543	0.067642	0.152962	0.148586	0.080057	0.080907	0.045417	0.076193	0.073279
Operating Surplus	202	0.523737	0.276382	0.411702	0.311583	0.147312	0.183146	0.062470	0.097961	0.142234
Total Value Added	209	0.693145	0.368160	0.646539	0.676564	0.252481	0.309961	0.137795	0.183626	0.267016
Import of intermediate goods		0.052854	0.010841	0.023164	0.019890	0.053428	0.091734	0.151463	0.000313	0.056440

I-O Coefficients		10	11	12	13	14	15	16	17	18
Crop	1	0.154506	0.008942	0.036107	0.003459	0.000142	0.065503	0.001979	0.000000	0.000000
Livestock	2	0.003808	0.000000	0.000000	0.000001	0.000260	0.004898	0.029450	0.000000	0.000000
Other Agriculture	3	0.045125	0.000017	0.000638	0.003809	0.000000	0.000000	0.000000	0.000281	0.000000
Minerals	4	0.001952	0.000006	0.001009	0.000400	0.000000	0.000000	0.002384	0.000000	0.000000
Meat processing and dairy products	5	0.007913	0.005975	0.000000	0.000000	0.000000	0.000000	0.032696	0.000000	0.000000
Fruit and vegetable processing	6	0.000021	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other food processing	7	0.025836	0.001470	0.000000	0.000000	0.000000	0.000000	0.000024	0.000000	0.000000
Rice Milling	8	0.027416	0.003345	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other grain processing	9	0.030063	0.051668	0.001086	0.000311	0.001723	0.000000	0.000000	0.000000	0.002423
Other food products	10	0.008688	0.007820	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Bottled drinks	11	0.000197	0.066464	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Tobacco processing and products	12	0.000030	0.000011	0.021821	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Spinning and Weaving	13	0.000004	0.000000	0.000003	0.146609	0.339874	0.179413	0.000000	0.017519	0.051692
Textile products	14	0.000109	0.001174	0.000020	0.016902	0.021747	0.037711	0.000000	0.025562	0.017663
Other Fibers	15	0.000220	0.000030	0.000030	0.000117	0.000006	0.003288	0.000000	0.000000	0.000000
Tannery And Leather Finishing	16	0.000000	0.000000	0.000000	0.000000	0.000167	0.018483	0.005162	0.063232	0.013955
Leather Products	17	0.000000	0.000000	0.000000	0.000000	0.000022	0.000000	0.000000	0.000103	0.004950
Foot Wear, Except Of Rubber	18	0.000000	0.000317	0.000000	0.000120	0.000007	0.000356	0.000000	0.003939	0.003933
Saw mill and wood	19	0.000633	0.000510	0.000026	0.000466	0.000017	0.000000	0.000000	0.000005	0.000403
Wooden Furniture & Fixture	20	0.000069	0.000003	0.000000	0.000059	0.000020	0.000010	0.000000	0.000005	0.000000
Paper and printing	21	0.005899	0.012290	0.027498	0.003127	0.010821	0.007656	0.002266	0.000679	0.018194
Chemical products	22	0.003149	0.004861	0.000496	0.052504	0.004911	0.019496	0.008336	0.011657	0.002356
Petroleum Refineries and Products	23	0.006107	0.009069	0.001594	0.007222	0.005046	0.012361	0.001504	0.004380	0.001086
Rubber and plastic products	24	0.012248	0.006266	0.000199	0.001019	0.002872	0.003599	0.000481	0.007059	0.046028
Ceramic And Earthen Wares	25	0.000020	0.000002	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Manufacturing	26	0.012512	0.043082	0.011415	0.013084	0.017201	0.012916	0.008845	0.044451	0.016256
Electricity and water supply	27	0.032786	0.005162	0.002377	0.052488	0.014021	0.010908	0.004662	0.002260	0.005358
Construction	28	0.000178	0.000194	0.000150	0.000066	0.000172	0.000358	0.000170	0.000410	0.000892
Trade	29	0.043360	0.020643	0.021193	0.030741	0.062255	0.035759	0.026182	0.076887	0.060888
Transport	30	0.008874	0.016094	0.003618	0.003981	0.007064	0.007356	0.005235	0.007374	0.010524
Other services	31	0.020500	0.039053	0.005055	0.028469	0.029876	0.035385	0.025514	0.032893	0.030009
Unclassified	32	0.000466	0.009366	0.001008	0.002543	0.001724	0.005285	0.000548	0.000226	0.000345
Total Intermediate Transaction	190	0.452687	0.313836	0.135342	0.367497	0.519950	0.460742	0.155437	0.298922	0.286956
Wages and Salaries	201	0.055788	0.059576	0.055321	0.092658	0.119638	0.152590	0.022974	0.085664	0.099831
Operating Surplus	202	0.136366	0.165317	0.033057	0.109941	0.105473	0.191696	0.041696	0.243304	0.159098
Total Value Added	209	0.227288	0.563132	0.706082	0.284068	0.275859	0.390273	0.080622	0.372143	0.310086
Import of intermediate goods		0.160012	0.061516	0.079288	0.174218	0.102096	0.074492	0.381970	0.164467	0.201479

I-O Coefficients		19	20	21	22	23	24	25	26	27
Crop	1	0.000004	0.000016	0.002526	0.001635	0.000000	0.151744	0.000004	0.008049	0.000001
Livestock	2	0.000000	0.000000	0.000000	0.001417	0.000000	0.000000	0.000000	0.000494	0.000000
Other Agriculture	3	0.110722	0.002394	0.003157	0.000950	0.000000	0.000441	0.008117	0.000961	0.000000
Minerals	4	0.000000	0.000000	0.004824	0.004798	0.028397	0.000204	0.097492	0.000514	0.203076
Meat processing and dairy products	5	0.000000	0.000000	0.000000	0.000002	0.000000	0.000000	0.000000	0.049699	0.000000
Fruit and vegetable processing	6	0.000000	0.000000	0.000000	0.000005	0.000000	0.000000	0.000000	0.000000	0.000000
Other food processing	7	0.000000	0.000000	0.000000	0.009803	0.000046	0.000319	0.000000	0.000000	0.000000
Rice Milling	8	0.000000	0.000000	0.000000	0.000000	0.000000	0.000045	0.000000	0.000000	0.000000
Other grain processing	9	0.000293	0.000000	0.012070	0.003543	0.000000	0.000019	0.000000	0.000000	0.000000
Other food products	10	0.000000	0.000000	0.000169	0.001457	0.000000	0.000000	0.000000	0.000000	0.000000
Bottled drinks	11	0.000000	0.000000	0.000000	0.000157	0.000000	0.000000	0.000000	0.000000	0.000000
Tobacco processing and products	12	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Spinning and Weaving	13	0.000000	0.000662	0.001086	0.019247	0.000000	0.008761	0.001368	0.056125	0.000001
Textile products	14	0.000015	0.002501	0.001740	0.009152	0.000032	0.000421	0.008612	0.009986	0.000833
Other Fibers	15	0.000002	0.000000	0.000003	0.000000	0.000000	0.000028	0.000771	0.000213	0.000000
Tannery And Leather Finishing	16	0.000000	0.002099	0.000000	0.000016	0.000000	0.000630	0.000000	0.001076	0.000000
Leather Products	17	0.000016	0.000063	0.000383	0.000007	0.000000	0.000011	0.000874	0.000480	0.000000
Foot Wear, Except Of Rubber	18	0.000000	0.000000	0.000000	0.000000	0.000000	0.000002	0.000000	0.000022	0.000023
Saw mill and wood	19	0.114693	0.086896	0.000286	0.001387	0.000000	0.000853	0.003601	0.026075	0.000010
Wooden Furniture & Fixture	20	0.000030	0.000061	0.000137	0.000075	0.000009	0.000004	0.000000	0.000034	0.000009
Paper and printing	21	0.013380	0.006725	0.142202	0.014550	0.000094	0.003144	0.010743	0.034296	0.001695
Chemical products	22	0.012362	0.004664	0.003533	0.115828	0.000548	0.068308	0.016276	0.032227	0.000188
Petroleum Refineries and Products	23	0.005993	0.001460	0.005843	0.021720	0.019384	0.009427	0.026395	0.010756	0.083650
Rubber and plastic products	24	0.002060	0.015192	0.003154	0.005158	0.000025	0.080187	0.001441	0.037864	0.001754
Ceramic And Earthen Wares	25	0.000000	0.000000	0.000000	0.000229	0.000000	0.000000	0.001301	0.000000	0.000004
Manufacturing	26	0.037571	0.022639	0.012827	0.015076	0.002421	0.009362	0.030482	0.041864	0.017257
Electricity and water supply	27	0.023892	0.015128	0.013807	0.043904	0.006949	0.024561	0.069965	0.010624	0.177398
Construction	28	0.000995	0.000301	0.001123	0.000357	0.000044	0.000345	0.001459	0.000130	0.001242
Trade	29	0.060072	0.052235	0.076733	0.067520	0.001517	0.066233	0.034446	0.084149	0.006905
Transport	30	0.023542	0.010720	0.014349	0.013727	0.000924	0.010327	0.039709	0.012656	0.007356
Other services	31	0.045995	0.032339	0.025034	0.041416	0.005558	0.026822	0.091368	0.030489	0.060612
Unclassified	32	0.001420	0.000388	0.000922	0.001397	0.000495	0.000247	0.010504	0.001944	0.001346
Total Intermediate Transaction	190	0.453055	0.256483	0.325908	0.394535	0.066444	0.462445	0.454927	0.450725	0.563359
Wages and Salaries	201	0.100292	0.139489	0.057872	0.071639	0.020735	0.077807	0.103027	0.087765	0.118043
Operating Surplus	202	0.145899	0.232915	0.207366	0.130625	0.114476	0.113256	0.179510	0.172958	0.190424
Total Value Added	209	0.297055	0.427056	0.327653	0.253411	0.320273	0.234968	0.341973	0.303352	0.422722
Import of intermediate goods		0.124945	0.158231	0.173219	0.176027	0.306641	0.151294	0.101550	0.122961	0.006959

I-O Coefficients		28	29	30	31	32
Crop	1	0.000274	0.000004	0.000135	0.011398	0.026068
Livestock	2	0.000000	0.000000	0.000000	0.001173	0.000000
Other Agriculture	3	0.002260	0.000000	0.000000	0.007627	0.002803
Minerals	4	0.049404	0.000000	0.000001	0.000005	0.000000
Meat processing and dairy products	5	0.000000	0.000000	0.000211	0.020277	0.000000
Fruit and vegetable processing	6	0.000000	0.000000	0.000000	0.001461	0.001150
Other food processing	7	0.000000	0.000000	0.000000	0.003201	0.000000
Rice Milling	8	0.000000	0.000000	0.000000	0.005601	0.000566
Other grain processing	9	0.000000	0.000000	0.000800	0.004393	0.000000
Other food products	10	0.000000	0.001432	0.000240	0.003328	0.000000
Bottled drinks	11	0.000000	0.000450	0.001765	0.018534	0.000000
Tobacco processing and products	12	0.000000	0.000004	0.000000	0.001269	0.000000
Spinning and Weaving	13	0.000034	0.000094	0.000000	0.000349	0.005458
Textile products	14	0.000463	0.005400	0.005886	0.004342	0.026970
Other Fibers	15	0.000084	0.000340	0.000352	0.000207	0.000031
Tannery And Leather Finishing	16	0.000000	0.000000	0.000000	0.000026	0.000048
Leather Products	17	0.000032	0.003859	0.000062	0.000187	0.009632
Foot Wear, Except Of Rubber	18	0.000000	0.000473	0.000005	0.000197	0.000000
Saw mill and wood	19	0.002752	0.001749	0.000192	0.000322	0.000944
Wooden Furniture & Fixture	20	0.000394	0.000109	0.000032	0.000468	0.000038
Paper and printing	21	0.000461	0.005754	0.005911	0.014852	0.015983
Chemical products	22	0.003865	0.000955	0.001725	0.007809	0.011339
Petroleum Refineries and Products	23	0.015487	0.005451	0.172790	0.006609	0.004980
Rubber and plastic products	24	0.002482	0.004215	0.021192	0.001019	0.074964
Ceramic And Earthen Wares	25	0.002118	0.000181	0.000000	0.000150	0.000388
Manufacturing	26	0.190778	0.005185	0.158732	0.011112	0.125234
Electricity and water supply	27	0.001176	0.011706	0.005688	0.019473	0.007701
Construction	28	0.000828	0.000943	0.000390	0.002097	0.001161
Trade	29	0.059584	0.006244	0.026328	0.032550	0.091122
Transport	30	0.080249	0.022927	0.072447	0.007670	0.039278
Other services	31	0.027075	0.123592	0.061314	0.082927	0.096298
Unclassified	32	0.000785	0.011719	0.009877	0.003494	0.000000
Total Intermediate Transaction	190	0.440584	0.212788	0.546077	0.274204	0.620295
Wages and Salaries	201	0.100251	0.121651	0.138498	0.323281	0.000000
Operating Surplus	202	0.134086	0.491564	0.122755	0.221160	0.000000
Total Value Added	209	0.315562	0.741589	0.352225	0.680575	0.262203
Import of intermediate goods		0.121927	0.022811	0.050849	0.024774	0.000000

Annex 8-3: I-O table output

		1	2	3	4	5	6	7	8
Crop	1	1.05725	0.17408	0.01769	0.00390	0.01039	0.22324	0.00319	0.80929
Livestock	2	0.00010	1.01831	0.00035	0.00018	0.00012	0.00021	0.00006	0.00011
Other Agriculture	3	0.05372	0.05344	1.01969	0.00194	0.00140	0.01370	0.00069	0.04131
Minerals	4	0.00149	0.00729	0.00629	1.02590	0.00387	0.00591	0.00235	0.00320
Meat processing and dairy products	5	0.00199	0.00598	0.00302	0.00658	1.08967	0.00459	0.00175	0.00224
Fruit and vegetable processing	6	0.00007	0.00012	0.00008	0.00019	0.00567	1.00098	0.00006	0.00008
Other food processing	7	0.00043	0.01382	0.00217	0.00049	0.00755	0.00075	1.07383	0.00041
Rice Milling	8	0.00042	0.09265	0.00319	0.00064	0.00122	0.00143	0.00139	1.00176
Other grain processing	9	0.00050	0.01289	0.00271	0.00088	0.01512	0.02608	0.00113	0.00053
Other food products	10	0.00394	0.29864	0.07004	0.00064	0.00795	0.00598	0.00199	0.00314
Bottled drinks	11	0.00079	0.00124	0.00082	0.00210	0.00078	0.00169	0.00074	0.00099
Tobacco processing and products	12	0.00005	0.00008	0.00005	0.00013	0.00005	0.00010	0.00005	0.00007
Spinning and Weaving	13	0.00263	0.00330	0.00260	0.00626	0.00218	0.00492	0.00292	0.00278
Textile products	14	0.00151	0.00179	0.00092	0.00184	0.00139	0.00278	0.00120	0.00155
Other Fibers	15	0.00098	0.00058	0.00047	0.00018	0.00010	0.00032	0.00006	0.00163
Tannery And Leather Finishing	16	0.00006	0.00008	0.00006	0.00011	0.00005	0.00012	0.00005	0.00007
Leather Products	17	0.00019	0.00050	0.00018	0.00016	0.00033	0.00070	0.00044	0.00024
Foot Wear, Except Of Rubber	18	0.00003	0.00007	0.00003	0.00004	0.00004	0.00010	0.00006	0.00004
Saw mill and wood	19	0.00233	0.00243	0.00160	0.00264	0.00134	0.00219	0.00077	0.00203
Wooden Furniture & Fixture	20	0.00010	0.00008	0.00003	0.00007	0.00042	0.00012	0.00004	0.00009
Paper and printing	21	0.00245	0.00715	0.00349	0.00620	0.00556	0.01879	0.01567	0.00273
Chemical products	22	0.01682	0.01513	0.00452	0.00635	0.00480	0.00995	0.00236	0.01346
Petroleum Refineries and Products	23	0.01828	0.02602	0.14252	0.08010	0.01181	0.02548	0.01012	0.01811
Rubber and plastic products	24	0.00365	0.01037	0.01169	0.00563	0.00797	0.02308	0.00433	0.00380
Ceramic And Earthen Wares	25	0.00022	0.00009	0.00013	0.00003	0.00002	0.00011	0.00003	0.00018
Manufacturing	26	0.02064	0.02761	0.02854	0.07937	0.02036	0.04817	0.01497	0.02159
Electricity and water supply	27	0.00380	0.02705	0.00904	0.02040	0.01604	0.02205	0.00920	0.01218
Construction	28	0.00044	0.00371	0.00033	0.00312	0.00040	0.00068	0.00096	0.00053
Trade	29	0.03754	0.11637	0.03775	0.02167	0.07082	0.15999	0.10167	0.04878
Transport	30	0.01207	0.02230	0.00928	0.03076	0.01214	0.02939	0.01630	0.01880
Other services	31	0.03732	0.05358	0.03842	0.10207	0.03417	0.07766	0.03283	0.04646
Unclassified	32	0.00297	0.00269	0.00123	0.00177	0.00374	0.00331	0.00273	0.00273
Total effects		1.28478	1.99945	1.41890	1.41234	1.33747	1.71455	1.30396	2.06090
Wages and Salaries	201	0.28598	1.00681	0.42097	0.41534	0.78548	0.71694	0.67081	1.06217
Operating Surplus	202	0.18527	0.17348	0.19115	0.20777	0.11924	0.17992	0.08010	0.23028
Total Value Added	209	0.61629	0.54151	0.49674	0.39253	0.22809	0.43768	0.14037	0.58977
Import of intermediate goods		0.85127		0.81750	0.86607	0.39980	0.72126	0.27872	0.87658

		9	10	11	12	13	14	15	16
Crop	1	0.39676	0.20437	0.04085	0.04040	0.00709	0.00566	0.07454	0.00881
Livestock	2	0.00210	0.00408	0.00027	0.00003	0.00020	0.00043	0.00573	0.03021
Other Agriculture	3	0.02270	0.05757	0.00357	0.00302	0.00576	0.00277	0.00571	0.00218
Minerals	4	0.00600	0.01247	0.00358	0.00242	0.01880	0.01141	0.00843	0.00471
Meat processing and dairy products	5	0.01150	0.01144	0.01205	0.00115	0.00263	0.00326	0.00359	0.03743
Fruit and vegetable processing	6	0.00040	0.00016	0.00018	0.00003	0.00010	0.00012	0.00013	0.00025
Other food processing	7	0.00724	0.02872	0.00274	0.00010	0.00102	0.00065	0.00078	0.00094
Rice Milling	8	0.03451	0.02960	0.00615	0.00015	0.00042	0.00054	0.00096	0.00301
Other grain processing	9	1.11785	0.03475	0.06303	0.00183	0.00129	0.00301	0.00108	0.00123
Other food products	10	0.00650	1.01441	0.00939	0.00033	0.00086	0.00077	0.00247	0.00936
Bottled drinks	11	0.00197	0.00126	1.07255	0.00030	0.00120	0.00143	0.00139	0.00079
Tobacco processing and products	12	0.00010	0.00010	0.00010	1.02233	0.00008	0.00009	0.00009	0.00005
Spinning and Weaving	13	0.00443	0.00288	0.00570	0.00141	1.18405	0.41368	0.23144	0.00154
Textile products	14	0.00218	0.00147	0.00317	0.00062	0.02221	1.03112	0.04435	0.00077
Other Fibers	15	0.00140	0.00053	0.00018	0.00009	0.00019	0.00012	1.00344	0.00005
Tannery And Leather Finishing	16	0.00011	0.00007	0.00010	0.00003	0.00006	0.00025	0.01871	1.00522
Leather Products	17	0.00034	0.00030	0.00032	0.00015	0.00026	0.00044	0.00034	0.00017
Foot Wear, Except Of Rubber	18	0.00005	0.00004	0.00038	0.00002	0.00018	0.00012	0.00043	0.00003
Saw mill and wood	19	0.00239	0.00204	0.00261	0.00063	0.00163	0.00147	0.00125	0.00058
Wooden Furniture & Fixture	20	0.00009	0.00012	0.00005	0.00002	0.00011	0.00010	0.00008	0.00004
Paper and printing	21	0.01307	0.01059	0.02047	0.03400	0.00858	0.01853	0.01414	0.00468
Chemical products	22	0.01230	0.00988	0.01111	0.00227	0.07253	0.03300	0.03984	0.01120
Petroleum Refineries and Products	23	0.02694	0.02542	0.01907	0.00478	0.02258	0.01878	0.02429	0.00598
Rubber and plastic products	24	0.01763	0.01705	0.01271	0.00154	0.00401	0.00665	0.00731	0.00218
Ceramic And Earthen Wares	25	0.00010	0.00009	0.00003	0.00002	0.00004	0.00004	0.00005	0.00002
Manufacturing	26	0.04049	0.02552	0.05860	0.01537	0.02447	0.03161	0.02598	0.01368
Electricity and water supply	27	0.02300	0.04610	0.01339	0.00494	0.08320	0.05018	0.03508	0.00946
Construction	28	0.00083	0.00059	0.00051	0.00028	0.00046	0.00058	0.00074	0.00044
Trade	29	0.07091	0.06511	0.04030	0.02837	0.05018	0.08860	0.06004	0.03642
Transport	30	0.03739	0.01733	0.02471	0.00627	0.01020	0.01489	0.01451	0.00855
Other services	31	0.06520	0.04851	0.06281	0.01354	0.05776	0.06813	0.06670	0.03772
Unclassified	32	0.00291	0.00227	0.01133	0.00164	0.00427	0.00450	0.00742	0.00139
Total effects		1.92941	1.67481	1.50202	1.18806	1.58642	1.81296	1.70104	1.23907
Wages and Salaries	201	0.93681	0.68945	0.50876	0.18869	0.58817	0.81487	0.70335	0.25479
Operating Surplus	202	0.19415	0.14188	0.11766	0.07681	0.16253	0.21356	0.23662	0.05326
Total Value Added	209	0.46164	0.35310	0.27454	0.08730	0.21905	0.25040	0.33970	0.10002
Import of intermediate goods		0.76270	0.57754	0.79091	0.80873	0.52021	0.59071	0.68202	0.18809

		17	18	19	20	21	22	23	24
Crop	1	0.00437	0.01147	0.00592	0.00508	0.01128	0.00796	0.00038	0.17669
Livestock	2	0.00205	0.00054	0.00020	0.00017	0.00012	0.00177	0.00002	0.00024
Other Agriculture	3	0.00152	0.00165	0.12875	0.01449	0.00501	0.00286	0.00015	0.01034
Minerals	4	0.00302	0.00421	0.00979	0.00597	0.01141	0.02105	0.03163	0.01024
Meat processing and dairy products	5	0.00645	0.00312	0.00508	0.00320	0.00258	0.00330	0.00054	0.00257
Fruit and vegetable processing	6	0.00012	0.00010	0.00015	0.00010	0.00010	0.00014	0.00002	0.00011
Other food processing	7	0.00050	0.00041	0.00081	0.00038	0.00040	0.01237	0.00010	0.00158
Rice Milling	8	0.00056	0.00048	0.00092	0.00041	0.00083	0.00084	0.00007	0.00049
Other grain processing	9	0.00074	0.00359	0.00169	0.00071	0.01621	0.00550	0.00009	0.00097
Other food products	10	0.00112	0.00064	0.00936	0.00139	0.00100	0.00285	0.00006	0.00128
Bottled drinks	11	0.00123	0.00115	0.00176	0.00120	0.00114	0.00180	0.00022	0.00129
Tobacco processing and products	12	0.00008	0.00007	0.00011	0.00007	0.00007	0.00010	0.00001	0.00008
Spinning and Weaving	13	0.03627	0.07181	0.00536	0.00512	0.00478	0.03277	0.00050	0.01594
Textile products	14	0.02851	0.02081	0.00216	0.00396	0.00353	0.01269	0.00022	0.00292
Other Fibers	15	0.00007	0.00007	0.00014	0.00006	0.00009	0.00008	0.00001	0.00025
Tannery And Leather Finishing	16	0.06372	0.01449	0.00010	0.00219	0.00009	0.00009	0.00001	0.00075
Leather Products	17	1.00054	0.00533	0.00044	0.00038	0.00088	0.00043	0.00002	0.00041
Foot Wear, Except Of Rubber	18	0.00402	1.00403	0.00006	0.00005	0.00006	0.00007	0.00000	0.00006
Saw mill and wood	19	0.00187	0.00153	1.13163	0.09940	0.00137	0.00291	0.00019	0.00234
Wooden Furniture & Fixture	20	0.00005	0.00005	0.00010	1.00010	0.00020	0.00014	0.00002	0.00007
Paper and printing	21	0.00592	0.02503	0.02302	0.01280	1.16897	0.02333	0.00064	0.00855
Chemical products	22	0.01978	0.01322	0.02031	0.01059	0.00730	1.13603	0.00108	0.08936
Petroleum Refineries and Products	23	0.01093	0.00894	0.03724	0.01170	0.01630	0.03898	1.02339	0.02423
Rubber and plastic products	24	0.01145	0.05275	0.00814	0.01947	0.00668	0.00937	0.00046	1.09025
Ceramic And Earthen Wares	25	0.00003	0.00003	0.00005	0.00003	0.00003	0.00029	0.00000	0.00008
Manufacturing	26	0.05320	0.02523	0.05811	0.03412	0.02370	0.02826	0.00566	0.02194
Electricity and water supply	27	0.01129	0.01745	0.04038	0.02629	0.02440	0.06834	0.00962	0.04230
Construction	28	0.00071	0.00120	0.00155	0.00068	0.00161	0.00087	0.00017	0.00078
Trade	29	0.09293	0.07791	0.08644	0.06868	0.09812	0.09039	0.00309	0.09107
Transport	30	0.01331	0.01663	0.03505	0.01809	0.02293	0.02271	0.00228	0.01936
Other services	31	0.05825	0.05414	0.08288	0.05686	0.05250	0.07638	0.01063	0.06034
Unclassified	32	0.00203	0.00202	0.00360	0.00191	0.00281	0.00351	0.00065	0.00242
Total effects		1.43667	1.44009	1.70132	1.40567	1.48650	1.60820	1.09193	1.67934
Wages and Salaries	201	0.43964	0.44166	0.70396	0.40726	0.48791	0.61404	0.09224	0.68113
Operating Surplus	202	0.13773	0.15396	0.19401	0.19355	0.11308	0.14511	0.03210	0.16388
Total Value Added	209	0.33798	0.25555	0.32373	0.32735	0.33369	0.26171	0.13486	0.31589
Import of intermediate goods		0.55542	0.49919	0.63340	0.61212	0.55516	0.51814	0.36708	0.57514

		25	26	27	28	29	30	31	32
Crop	1	0.00533	0.01934	0.00380	0.00657	0.00516	0.01046	0.02386	0.04772
Livestock	2	0.00024	0.00073	0.00017	0.00023	0.00021	0.00025	0.00139	0.00033
Other Agriculture	3	0.01060	0.00670	0.00149	0.00471	0.00190	0.00237	0.01035	0.00755
Minerals	4	0.12131	0.00779	0.25745	0.05470	0.00475	0.00994	0.00701	0.00643
Meat processing and dairy products	5	0.00610	0.05866	0.00501	0.01355	0.00411	0.01250	0.02576	0.01126
Fruit and vegetable processing	6	0.00024	0.00040	0.00019	0.00017	0.00025	0.00022	0.00176	0.00142
Other food processing	7	0.00081	0.00120	0.00050	0.00052	0.00065	0.00063	0.00433	0.00097
Rice Milling	8	0.00089	0.00058	0.00070	0.00046	0.00095	0.00068	0.00679	0.00152
Other grain processing	9	0.00139	0.00215	0.00091	0.00096	0.00125	0.00220	0.00763	0.00176
Other food products	10	0.00145	0.00157	0.00063	0.00090	0.00222	0.00105	0.00531	0.00146
Bottled drinks	11	0.00281	0.00142	0.00227	0.00153	0.00342	0.00398	0.02202	0.00301
Tobacco processing and products	12	0.00018	0.00009	0.00015	0.00009	0.00019	0.00012	0.00144	0.00019
Spinning and Weaving	13	0.01094	0.07683	0.00429	0.01727	0.00457	0.01723	0.00465	0.03093
Textile products	14	0.01157	0.01394	0.00248	0.00476	0.00725	0.01007	0.00594	0.03208
Other Fibers	15	0.00088	0.00032	0.00008	0.00023	0.00040	0.00048	0.00030	0.00021
Tannery And Leather Finishing	16	0.00017	0.00125	0.00007	0.00030	0.00030	0.00027	0.00009	0.00094
Leather Products	17	0.00127	0.00102	0.00016	0.00055	0.00410	0.00052	0.00046	0.01028
Foot Wear, Except Of Rubber	18	0.00006	0.00010	0.00006	0.00007	0.00053	0.00006	0.00025	0.00014
Saw mill and wood	19	0.00604	0.03163	0.00155	0.01004	0.00261	0.00601	0.00128	0.00602
Wooden Furniture & Fixture	20	0.00008	0.00012	0.00007	0.00046	0.00019	0.00011	0.00054	0.00014
Paper and printing	21	0.01919	0.04664	0.00693	0.01271	0.01082	0.01807	0.02151	0.03000
Chemical products	22	0.02386	0.04866	0.00432	0.01615	0.00436	0.01427	0.01202	0.02994
Petroleum Refineries and Products	23	0.05706	0.02374	0.12763	0.04253	0.01464	0.19817	0.01600	0.02399
Rubber and plastic products	24	0.00733	0.04613	0.00558	0.01532	0.00750	0.03452	0.00389	0.09068
Ceramic And Earthen Wares	25	1.00135	0.00005	0.00003	0.00216	0.00022	0.00004	0.00019	0.00045
Manufacturing	26	0.05669	1.05648	0.04637	0.22296	0.01576	0.18671	0.02063	0.14832
Electricity and water supply	27	0.09565	0.02897	1.22509	0.01242	0.02000	0.01873	0.02998	0.02506
Construction	28	0.00234	0.00060	0.00252	1.00134	0.00136	0.00083	0.00250	0.00179
Trade	29	0.05455	0.11278	0.02141	0.09050	1.01813	0.05708	0.04701	0.12834
Transport	30	0.05219	0.02246	0.01957	0.09554	0.02828	1.08561	0.01340	0.05269
Other services	31	0.13498	0.06632	0.11191	0.06553	0.14481	0.09534	1.10625	0.14304
Unclassified	32	0.01265	0.00447	0.00285	0.00371	0.01289	0.01243	0.00504	1.00326
Total effects		1.70020	1.68315	1.85626	1.69894	1.32380	1.80096	1.40959	1.84191
Wages and Salaries	201	0.70397	0.70787	0.85871	0.70495	0.32672	0.80726	0.42207	0.92525
Operating Surplus	202	0.20641	0.16708	0.23490	0.18556	0.18501	0.22415	0.38636	0.11567
Total Value Added	209	0.33640	0.32523	0.38195	0.28692	0.55779	0.26742	0.31890	0.19866
Import of intermediate goods		0.69313	0.59288	0.86162	0.62087	0.91017	0.67092	0.88769	0.64912

Annex 9

Social Account Matrix (SAM)

Annex 9

Social Account Matrix (SAM)¹

What is SAM?

Social accounting Matrices (SAM) represent a significant effort in synthesizing the main economic statistics from the National Accounting on the one hand, and the statistics with regard to households companies on the other hand. In a disaggregated form, they provide the first description (a first "model" in the broad sense of the term) of the characteristic economic flows of a given country.

The SAM is essentially an extension of the conventional input-output (I-O) framework with emphasis on the household sector. The emphasis on households is particularly significant, since the SAM provides a framework, within the context of national accounts, in which the activities of households are clearly distinguished. The development of the SAM, with the household as the focal point, should be viewed against the fact that conventional national accounts often do not provide sufficient information, nor a framework, to properly investigate and address important policy issues, such as household income distribution, personal savings and employment.

What is SAM for?

SAM is used as an enlarged data organisation framework for a given society. The SAM incorporates and reconciles data from various sources within the same framework, including:

- Table of Resources and Expenses;
- Table of Integrated Economic Accounts;
- Balance of Payments;
- Households Survey; and
- Balance Sheets of Companies.

The SAM supplements and widens the restricted framework of compartmental macro, meso or micro-economic systems of statistics.

The SAM describes the circularity of economic flows according to the triptych - Production (Offer) - Incomes – Demand. It puts forward the circular process of Demand leading to Production leading to Income, which in turn leads back to Demand. Thus the following elements are accurately represented and linked:

- The process of Production;
- The source and the distribution of income among economic agents; and
- The allotment of income by agents, to various uses.

¹ Taken from Christian Arnault Emini's presentation power point on "Building a Social Account Matrix with Financial Assets; Benjamin B. King, 1981 "What is a SAM? A Leyman's Guide to Social Account Matrices", World Bank Staff Working Paper No. 463.

The SAM may describe the "society" at various levels:

- Global (worldwide);
- Multi-countries;
- Single-country;
- Regional; and
- Sub-regional.

The SAM is the favorite framework which synthesizes and gauges the input data of CGE type modeling.

How Does It Look Like?

The SAM is a square matrix involving various sets of accounts, which represent whole of the sectors and institutions of a given economy.

Each account consists of a row (for the recording of resources) and a column (for the recording of expenses).

This crisscrossing presentation of the accounts implies that the Double-Entry Bookkeeping of transactions is just performed in the SAM by a single "entry" (or "imputation") in the intersection of the concerned creditor account (row) and debtor account (column) Set: i ($i=1\dots,n$) the index of the rows and j ($j=1\dots,n$) that of the columns.

In a simple Robinson Crusoe economy, the SAM could be as follows:

		Expenditure					
		1	2	3	4	5	6
Receipt	1 Income				1,000		1,000
	2 Demand	1,000					1,000
	3						
	4 Production		1,000				1,000
	5.....						
6 Total		1,000	1,000		1,000		

In one period, the economy produce 1,000 units of a production activity. This represents the level of income, production and demand for the product. As the rows represent incomings and the columns represent outgoings, Column/Row 1 represents "income earner", Column/Row 2 represents "consumer", Column/Row 4 represents "Producer". These various identities could be set out in the form of double-entry accounts.

The general element of the SAM, i, j in the cell (i,j) , is defined as an expenditure (or expense) of the account j that constitutes a receipt (or a resource) for account i .

		Expenses (j)				Total
		1	2	3	k	
	1	$T_{1,1}$	$T_{1,2}$	$T_{1,3}$	$T_{1,k}$	Sum $T_{1,n}$
Resources (i)	2	$T_{2,1}$	$T_{2,2}$	$T_{2,3}$	$T_{2,k}$	Sum $T_{2,n}$
	3	$T_{3,1}$	$T_{3,2}$	$T_{3,3}$	$T_{3,k}$	Sum $T_{3,n}$
	K	$T_{k,1}$	$T_{k,2}$	$T_{k,3}$	$T_{k,k}$	Sum $T_{k,n}$
	Total	Sum $T_{n,1}$	Sum $T_{n,2}$	Sum $T_{n,3}$	Sum $T_{n,n}$	

The built-in consistency of the SAM guarantees that, for each account, total of the resources is identical to total of expenses.

The verification of the above identity for all accounts is symptomatic of the Resources-Expenses equilibrium at the level of each economic agent, product or factor market, sector, and at the level of the whole economy.

When all is set in this way, one says that the SAM is at the same time a micro, meso and macro-consistent framework.

Annex 10

HRD for SMCEs/SMEs under Study

Annex 10-1: Training Need Assessment for the Selected SMCEs & SMEs

Type of training course	Suggested SMCEs ⁽¹⁾				Existing SMEs ⁽²⁾				Group ⁽³⁾	Training	
	1	2	3	4	5	6	7	8		persons	duration
1. For Management Group											
1.1 Management/Leadership	✓	✓	✓	✓	-	-	-	-	A	2-3	7 days ⁽⁴⁾
1.2 Production development quality control	✓	✓	✓	✓	✓	✓	✓	✓	B	2-3	5 days ⁽⁴⁾
1.3 Marketing	✓	✓	✓	✓	✓	✓	✓	✓	C	2	5 days ⁽⁴⁾
1.4 Finance	✓	✓	✓	✓	-	-	-	-	D	2	3 days
1.5 English	✓	✓	✓	✓	-	-	-	✓	A,E	2-3	15-30 days ⁽⁵⁾
2 For Support Group											
2.1 Information technology											
•Internet	✓	✓	✓	✓	✓	-	✓	✓	E	1-2	7 days
•Data base	✓	✓	✓	✓	✓	-	✓	✓			
•Word processor	✓	✓	✓	✓	✓	-	✓	✓			
•Accounting program	✓	✓	✓	✓	✓	-	✓	✓			
2.2 Bookkeeping	✓	✓	✓	✓	-	-	-	-	F	2	3-5 days ⁽⁵⁾
2.3 Accounting	✓	✓	✓	✓	-	-	-	-			

Note:

(1) Suggested SMCEs, Tambon

- 1) Pumreang Silk Weaving, Pumreang
- 2) Yan Li Pao Products, ThaReau
- 3) Wood carving, Na Khrua
- 4) Coconut Shell Products, Chaiburi

(2) Existing SMEs, Tambon

- 5) Silk cloth, Na Po
- 6) Processed Durian, Khao Baisri
- 7) Chinese earthenware, Cehdi Hak
- 8) Ceramic, Ko Kha

(3) Group

- A. President/Chairman, Vice president, Secretary
- B. Production Manager, Assistant & others
- C. Marketing Manager and Assistant
- D. Financial Manager and Assistant
- E. Secretaries
- F. Accountant

(4) Including visits & exchanges

(5) Depending on background knowledge of the prospective trainees

Proposed Terms of Reference

A Study for Formulating Entrepreneurship Education Program For Management Group of OTOP SMCEs/SMEs

1. Background

Vitalization of rural economy is a priority policy agenda of the Thaksin Administration. The administration aims at stimulating macro economy by creating a domestic demand in rural areas. Vitalization of rural economy can be a key approach for the improvement of living standards, generation of income & employment opportunity as well as for the elimination of income disparity and digital divide. Therefore, a strategic policy guidance to vitalize the rural economy will lead to sustainable economic development, and the OTOP is a main policy measure for the economic revitalization by formulating SMCEs which will be upgraded to SMEs in the rural areas of the future.

The RTG has been implementing the OTOP Development Policy since 2001 with an aim to strengthen socio-economic fundamentals in rural areas. So far, more than 14,000 products have been produced in all the Tambons by individuals, groups, SMCEs and SMEs. However, production itself seems to have entered into a stagnant stage due to such factors as:

- Insufficient production technology and quality control;
- Lack of access to financial resources for additional investment;
- Insufficient marketing and undeveloped distribution channels;
- Lack of leadership and skilled labour;
- Undeveloped management system; and
- Lack of accounting system including bookkeeping & IT knowledge.

Though the OTOP Development Policy aims to strengthen these local production units into established community business through the SMCEs towards SMEs, for the above-mentioned reasons/constraints, the policy is yet to achieve its goals.

2. Human Resource Development (HRD): As a Tool

Effective HRD Program is considered a necessary tool for achieving the goals of the OTOP Development Policy. In addition to the micro-HRD Program that should be formulated/implemented to meet specific needs of the targeted SMCEs and SMEs (discussed in Chapter 6 of this Report), a **special HRD Program** specifically for the Management Group of SMCEs/SMEs under the current OTOP framework should be formulated. One of the aims of this special Program is to learn from successful experiences from overseas, particularly Japan.

The “One Village One Product” movement in Oita Prefecture, Japan is referred to hereunder as a case study. The Governor of this Prefecture hosted an HRD program so-called “Toyonokuni Jyuku” as the to nurture leaders at the grassroots level. This case illustrated how such the program facilitates successfully local business opportunities and achieves upgrading of the productivity and quality control on the products.

Outcome of the present Study (**Study of Monitoring and Evaluation Model on the One Tambon One Product Development Policy**) indicated that stagnant (a constraint) of the OTOP productions was caused by the **lack of entrepreneurs with knowledge and skills** which in turn, has resulted in a **weak impact to macro-economy**. Consistently, the mid-term Economic Development Policy of the RTG raises development of potential capability and enhancement of efficiency of human resources as measures to improve production and investment structures in rural areas. The policy specifically aims to implement “a capacity-building program for entrepreneurs and businessmen in rural areas”.

In view of the above, it is therefore considered relevant and most important that **a strategic entrepreneurship education for OTOP leaders** at Tambon level be formulated for implementation, as an approach to make the successful SMCEs towards the future SMEs. Entrepreneurship, if coupled with appropriate knowledge and experience that activate the SMCEs, will facilitate improvement of productivity, creation of new products, awareness of quality control, building management for further business promotion with attention to environmental protection, and hence ultimately contribute to the formulation of the basic ground for sustainable rural development in Thailand.

3. Terms of Reference

The aim of this proposed study is to design and propose the required **Strategic Entrepreneurship E**

ducation Program that enables sustainable economic development through OTOP production in Thailand, utilizing Japanese experiences and technologies. Specific activities include data collection, analysis for the planning of entrepreneurship program and, designing of a pilot project for OTOP human resource development. A team of consultants (the Consultant) should be recruited to perform the following tasks:

3.1 Feasibility Study of the Entrepreneurship Education

The Consultant will conduct the following activities to design and recommend a practical and effective program as a OTOP HRD project.

- Conceptualization of OTOP leadership, based on the outcome of the present Study:-
 - reviewing successful Japanese models (such as those of Oita, Iwate and Gifu prefectures, JETRO, etc.) and considering local-to-local collaboration;
 - investigating IT infrastructure with a view to defining “IT educational level” and possible distance educational methods”; and
 - characterizing the SMCEs/SMEs under the context of OTOP and specifying comprehensive capability building for local leaders.

- Designing an entrepreneurship program and education methodology:-
 - defining the role of local coordinator to promote SMCEs/SMEs in the selected Tambons ;
 - rebuilding the existing entrepreneurship education (virtual company) to fit Thai local areas. Related activities include selecting essence of the program for short term training, partial translation of materials to Thai, applying Thai regulations on tax, sales promotion, transportation cost, etc.;
 - introducing necessary and feasible IT training including archive of entrepreneurship education; and
 - recommendation on a center for regional education program.
- Pilot project implementation in a selected OTOP activity:-
 - selecting a local coordinator;
 - fixing the program to be offered to the selected Tambon;
 - selecting participants with diversified age, sex, role, and background;
 - arranging the participants, materials, classroom, recording system and other necessary issues;
 - evaluating the program implementation and the results.
- Creation of inter-relationship between Thai Tambon and Japanese counterpart:-
 - Prospective Japanese cases include those in Iwate and Gifu Prefectures.

3.2 Preparation on Entrepreneurship Education for OTOP

In view of the envisaged short timeframe of this study program, the Consultant are expected to obtain the necessary information/data and prepare the following model program in advance.

- IT Training
 - using keyboard
 - using CD-ROMs
 - finding <http://www.thaitambon.com/English/AboutTTB.htm>
- Entrepreneurship education for Thai products
 - introduction of selected and successful stories of Japanese business (e.g., charcoal based products development in Iwate Prefecture, etc.)
 - introduction of developed products from the same material (Thai cases) for OTOP Networking;
 - learning new ideas and technologies used for new products development;
 - introduction of Design Center and the concept of joint design creative center for better OTOP production and marketing (e.g., the case of Gifu & Tokyo Design Centre, etc.);

- suggestions on possible success story for the Tambon
- virtual company trial (e.g., using the Kyoko Research Park program comprising such aspects as Management, Accounting, Production and Marketing).

4. Recommendation

As the final outcome of the study and evaluation, the Consultant are expected to make recommendations on some practical ideas for further cooperation with Japan (JICA, JETRO and JBIC) including, but are not limited to, the following:

- Entrepreneurship education center development
- Creative innovation center development
- Distance education development in implementing the entrepreneurship education program
- Joint product creation (Thailand-Japan) through the entrepreneurship program operation
- Financial supporting system for new products development/marketing/distribution on a competition basis
- Materialization plan of the local-to local collaboration concept

5. Timeframe

Six weeks, including resources mobilization and reporting periods.

Annex 11

A Note on Financial System and Requirement for SMCEs/SMEs

Annex 11

A Note on Financial System and Requirement for SMCEs/SMEs

1. Background

Since the OTOP Development Policy was initiated in 2000 and following the OTOP Framework shown in the Figure below, the RTG has been putting a great deal of efforts in the development and promotion of marketing for OTOP products. On the financial aspect, the Government has allocated from the so-called Economic Stimulating Funds through the Office of Small and Medium-Scale Enterprises (SME Office), Ministry of Industry, to support particularly OTOP production groups that need to be upgraded to SMEs. Additionally, many other Ministries participating in OTOP Movement have been assisting the various OTOP production groups financially, using their respective regular budget.

In 2001/2002, for example, a total budget of over Baht 35,000 million has been allocated to the SME Office for supporting the establishment of SMEs in the country. Of this amount, however, the sum allocated specifically to the OTOP Movement was not known. Similarly, the amount allocated by the different Ministries for the OTOP activities was not readily known.

From the case studies, the following views of OTOP producers obtained during the study period confirmed the above-mentioned situation:

- 1) There were many funding sources involved but, it was not clear whether they were specifically for OTOP activities;
- 2) Procedures to obtain them were diversified and complicated;
- 3) The sources were abundant but, often inadequate in terms of amount/quantity of funds which required for big investment (land, building, equipment, etc.) and revolving capital.

In view of the above, many of them had to secure their financial resources from the private sector, including commercial banks, local money lenders and others, with high (interest) cost. The current funding mechanism of OTOP Movement could be illustrated in Figure 1 (attached).

2. Requirement for OTOP SMCEs/SMEs

The above analysis reflected the major problems of the existing funding mechanism, i.e., the “diversified sources” and the “limited amount” which did not always meet with the demand. The existing mechanism should need to be improved to highlight the OTOP Development Policy, particularly on the aspect of adequate financial support from the Government.

From the present case studies (of 20 production groups in the 20 villages), it was found that funding requirements for initial investments of the different production groups varied as following:

- Individual producers approx. Baht 70,000/case
- Group producers/SMCEs approx. Baht 180,000-200,000/case
- SMEs approx. Baht 490,000-500,000/case

A report from these SMCEs and SMEs was that they faced particularly the problem of inadequate funds for further investment. Amount of the required investment funds varied, depending on the nature and size of their activities/plans. To be effective, it is suggested that targeted SMCEs/SMEs should be identified for direct support/assistance from responsible agency(ies) under the OTOP Movement. As an example, taking Baht 0.5-1.0 million as an average amount required per case, **OTOP Funds** of Baht 100 million year should be able to assist 100-200 SMCEs/SMEs.

The responsible agency(ies) should accordingly seek the opportunity to establish a supplementary financial mechanism to assist the targeted SMCEs or SMEs under the OTOP Framework. Producers of all the newly certified OTOP products should be eligible to apply for this assistance, although the highly qualified ones may be selected. The funds should be considered, however, as soft "loans". The existing financial institutions, e.g., BAAC, Government Saving Bank, KTB Islamic Bank, SME Bank, etc., should be entrusted to handle the Funds. A simple but clear set of rules and procedures should be established specifically for the use of the OTOP Funds and made known to the all the eligible producers to ensure that the Funds can be used effectively, returned and used again in the longer term.

Initially, the government budget should be allocated and used as a seed fund.

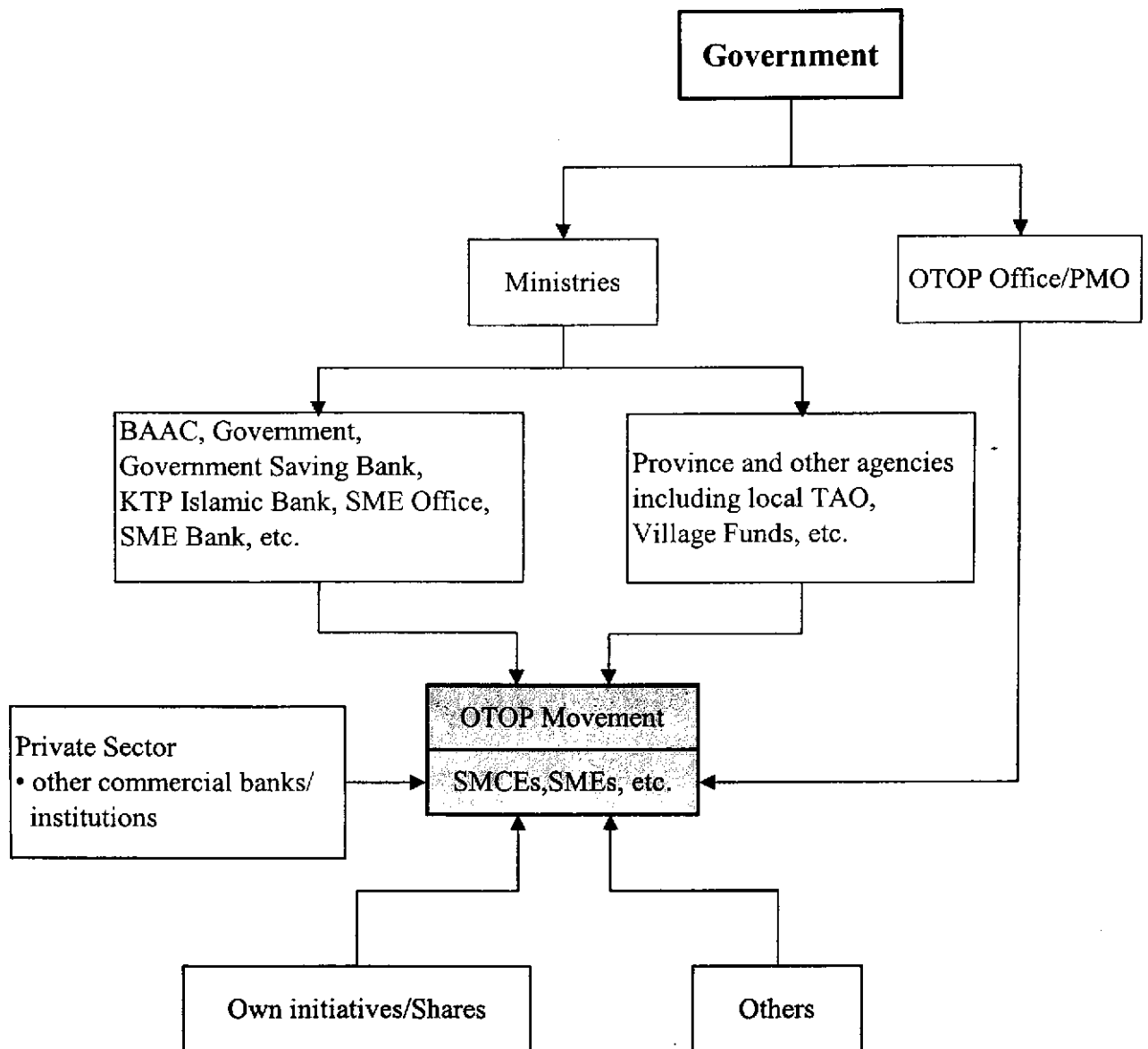


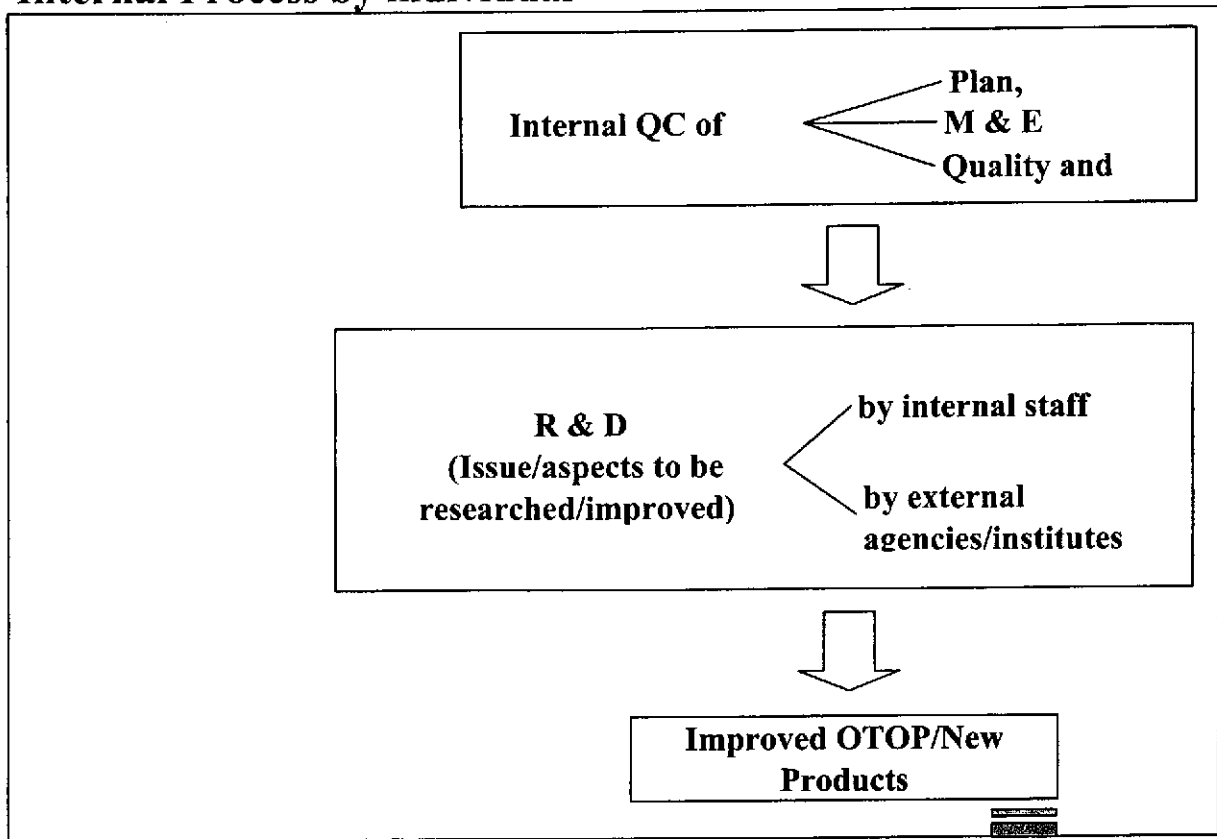
Figure 1: Current Funding Mechanism in Supporting OTOP Movement

Annex 12

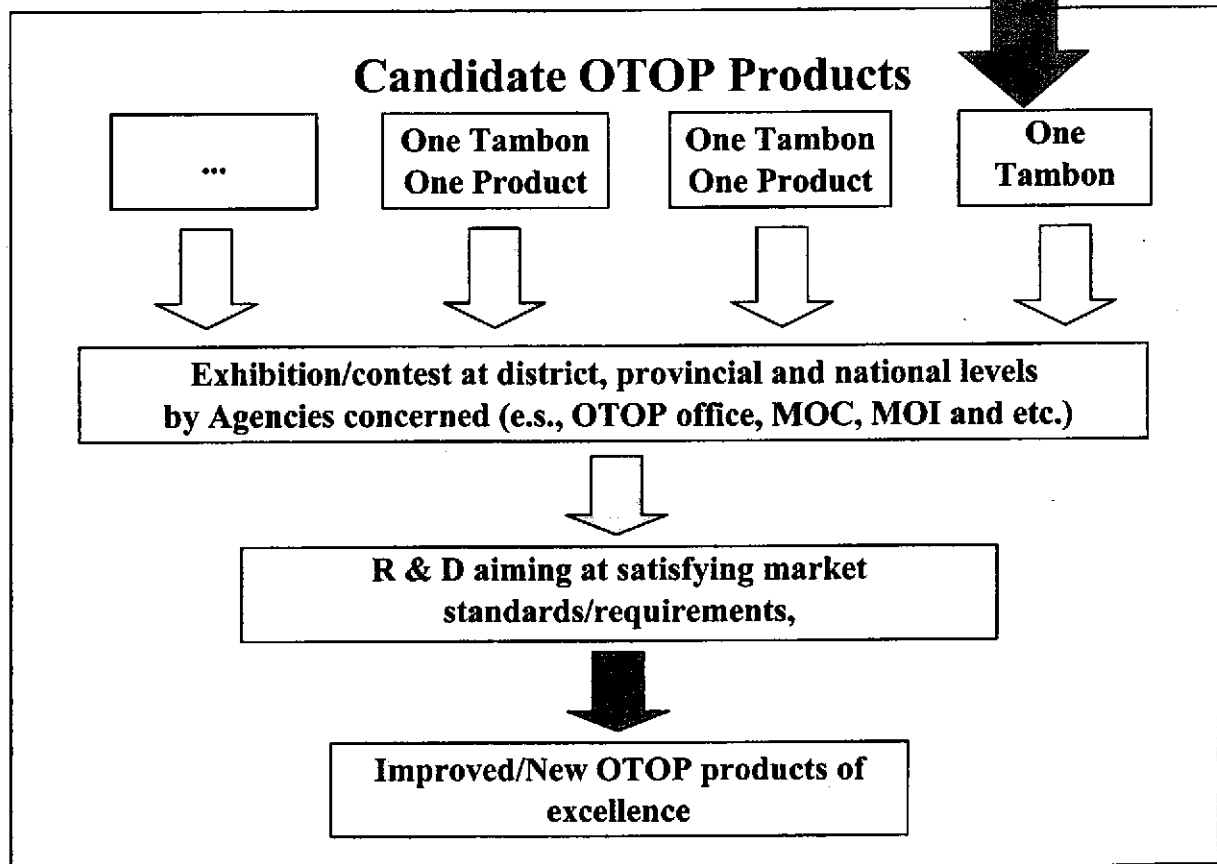
Schematic Diagram for OTOP Product Development and Quality Control

Annex 12: Schematic Diagram for OTOP Product Development and

Internal Process by individual



External Process



Annex 13

A Note on Marketing on OTOP

Annex 13

A Note on Marketing of OTOP

1. Background

Since the OTOP Development Policy was initiated in 2001, the RTG has been putting efforts in the development and promotion of marketing for OTOP products. In addition to the OTOP Office, MIN, MOC, TAT and many other government agencies, including a more recent case of the Mass Communication Organization of Thailand (MCOT), have organized a large number of events for the above-mentioned purposes, e.g., exhibitions, product contests, festivals and trade fairs, domestically and internationally.

As of December 2001, in addition to the local market in the villages of original, there were already 928 places all over the country that displayed and put up the OTOP products for selling. They comprised of the following:

- Department stores 69 places
- Gasoline stands 441 places
- General stores and others 418 places.

OTOP products gain rapidly popularity among consumers in foreign countries as well. As an outcome of the Government's policy, more OTOP products are being exported to such countries as, Japan, Singapore and United States. In Japan, as an example, campaigns for the OTOP products were/are being carried out by the local people (Japanese) and various means too, following their own and successful experiences on the subject. It has recently become a concern that with the ever increasing demand for OTOP products, especially from these foreign countries, it will soon be very difficult for any traditional SMCEs or SMEs to produce their products timely in accordance with the required quantity. Another major concern is on their capability to keep the quality of their products as original.

While the production side of the OTOP products needs to be strengthened greatly (already discussed elsewhere in the present Report), marketing aspects should receive particular attention and improvements be made accordingly.

2. Strengthening of on-going Marketing Campaign

2.1 Public Sector

As a continuation of the on-going efforts, development and promotion campaigns for domestic and international markets should be carried out further for at least a few more years, by the Ministries/agencies concerned to help establish a firm foundation for the producers, merchants and traders in the private sector and particularly at the grassroots level. The following are suggested:

- 1) At the provincial, district and Tambon levels (as far as it is affordable), the government agencies/offices should arrange to have a place or places for displaying/selling the OTOP products for the local producers. These agencies/offices include:-
 - Office of Agriculture
 - Community Development Office
 - Public Health Office
 - Office of Education, etc.
- 2) On the various occasions, e.g., festivals, annual celebration etc., these offices should be coordinated for possible joint organization of the exhibitions or shops that can put up the OTOP products for selling;
- 3) For some provinces which have a high potential for tourism industry, business operation, etc., there should be a support from the government budget to set up a “permanent exhibition/display center” for the OTOP Office;
- 4) The Government should be responsible for organizing annually “national trade fairs” where traders (including those from abroad) can be invited to participate. During the period, responsible agency should try to arrange for meetings (business discussion) between the traders and potential producers of OTOP products OTOP;
- 5) Sometimes, it should provide also support to the selected and potential OTOP producers to participate in international trade fairs which could be organized in other countries;
- 6) Seminars and/or workshops between the traders and potential OTOP producers aiming at information exchange and promotion of trade volume should be organized occasionally;
- 7) Web-site on OTOP and OTOP products should be improved and expanded in such a manner that interest persons/traders could contact directly with the producers. In this connection and as already discussed on the OTOP HRD Program, OTOP producers should also be trained in this field to enable them to use internet and/or communicate with traders through Web-site;
- 8) Sub-contract system should be promoted for certain kinds of OTOP product, for which OTOP producers will be engaged as “sub-contractors”;
- 9) Government Offices in the foreign countries, e.g., the Embassies, Commercial Attache Offices, etc, should arrange to have a space (or a corner in the Office for displaying selected OTOP products; and
- 10) The Government should select qualified traders who are keen in promoting OTOP products and introduce them to OTOP production groups for expanding mutually their business, etc.

2.2 OTOP producers/entrepreneurs

At the grassroots level, the producers/entrepreneurs themselves should be encouraged to do their own marketing as well. As an example, they should be advised and encouraged to:

- 1) Arrange a part of their homes/offices for displaying the products and selling purpose. In some cases, the homes/offices should be reorganized in such a way that customers can make study-visits and see the production processes, etc.
- 2) Arrange among producers in the same and/or from nearby villages to jointly take their products to trade-fairs sites, festivals and others, organized occasionally already by the various government agencies;
- 3) Engage professional “salesman” for promoting their own products, taking the products to wholesalers or customers in the provincial town and other areas, including Bangkok;
- 4) For certain kinds of product that are easy to transport (e.g., small souvenirs/gifts), adopt a similar approach for promoting and selling their products in touristic places, towns and cities (like Chiangmai, Hat Yai and Patthaya);
- 5) Cooperate with local government agencies in sending their products to the trade fairs and/or other events (such as, product contest) organized by those agencies.

3. Going International

OTOP products are gaining more popularity in other countries. Export of these products to international markets is, as a matter of fact, one of the major aims and objectives of this development policy of the RTG to vitalize the rural economy. It is therefore important that utmost efforts are made by all concerned to secure a firmly establishment of foreign markets for the products.

From the producers/entrepreneures’ points of view, export of the OTOP products to foreign markets may be made in two ways, directly and indirectly.

For the former, there are three (3) possibilities as following:

- 1) The producers/entrepreneurs establish within their own companies an “export section” to handle this specific function;
- 2) The producers/entrepreneurs establish their branch offices in foreign countries to promote and sell their products there by themselves; and
- 3) The producers/entrepreneurs designate foreign agents (owned by the native people) to handle the marketing business for them.

These methods are, however, costly and require a lot of good knowledge and skills which most of the OTOP producers in the present days do not possess.

On the contrary, the latter (**indirect export**) is generally more advantage to the producers/entrepreneurs, as they neither need to bear the cost (which is considered a part of fixed cost of the production) nor to have any specific skills on the subject. These are basically under the responsibility of the middlemen: exporters, traders, etc. Under the present circumstance, it is considered more effective that this existing mechanism is strengthened with more inputs and supports by the RTG as following.

- Stimulating further interest of the exporters/traders in the OTOP products and in promoting them in foreign markets by means of:-
 - Making publications on the products and the respective produces to enable information flow and the possibility of direct communication between the exporters/traders and producers;
 - Organizing from time to time seminars “OTOP producers meeting with traders”, for effective introduction of the OTOP Movement and related matters;
 - Providing special rights/privileges and other necessary incentives for promoting a greater volume of transaction on OTOP products. These could include a reduction on tax and levy, customs and service charges on OTOP products;
 - Arranging exhibition booths (as done by DEP, MOC) for OTOP products in international trade fairs, domestically and internationally.
- Extending supports to OTOP producers/entrepreneurs who have a high potential to handle the export business by themselves, either directly or indirectly, by means of:-
 - Establishing a “Going-International Project” for the OTOP products;
 - Through application process, selecting the potential producers/entrepreneurs to join the Project;
 - Organizing training courses to provide the necessary knowledge on export business, including packaging, export procedures, transportation, etc.
 - Providing special credit (e.g., soft loan) for the purpose;
 - Arranging special program for the producers to meet directly with importers from foreign countries;
 - Provision of advisory services on the matters, etc.
- Encouraging the establishment of “Cooperatives for Export” for selected potential groups. Other related steps could include:-
 - Organizing training on the “cooperatives and related procedures”
 - Registration and commencement of operation
 - Introduction of policy advice from CPD that could be of use for the newly established “cooperatives”.
- Stimulating other government agencies concerned to organize/arrange activities that support export business of the OTOP producers by:-
 - Establishing a common policy that enables the departments and agencies concerned to formulate their plans for activities that are in line with their respective duties and functions but, relevant to the needs/requirements of OTOP producers in performing their export business;
 - Allocating the necessary budget for the departments/agencies for carrying out the required projects/activities in accordance with the plans duly approved.

Indirect export thus involves with the following four potential groups:

- 1) Individual merchant exporters**
- 2) Agent exporters**
- 3) Cooperatives**
- 4) Export management company.**

Assistance and supports from the Government to these groups, as outlined above, should help promote the development and expansion of international markets for OTOP products and eventually, ensure an ultimate success to the OTOP Movement as a whole in the longer term.