

BIBLIOGRAPHICAL REFERENCES

- Bacharach, M. (1980), *Biproportional Matrices and Input-Output Change*, Oxford University Press, London.
- Direction de la Statistique (1988a), *Comptes et agrégats de la Nation (1980-1985)*, Documents de la comptabilité nationale, Rabat.
- Direction de la Statistique (1988b), *Enquête nationale sur les entreprises non structurées localisées (milieu urbain)*, Rabat.
- Direction de la Statistique (1992), *Annuaire statistique du Maroc 1992*, Rabat.
- FAO - ministère de l'Agriculture (1988), *Données pour la planification. Comptes économiques agricoles* (document provisoire), Rabat, Unpublished.
- Institute of Developing Economies (1992) *International Input-Output Table for Indonesia-JapanTokyo*.
- Ministère de l'Agriculture et de la réforme agraire - Direction de la Planification et des affaires économiques (Service des statistiques et de la documentation) (1992), *Enquête agricole. Principales productions végétales*, Rabat.
- Ministère de l'Agriculture et de la réforme agraire - Direction de la Planification et des affaires économiques (Service des statistiques et de la documentation) (1990), *Prix payés aux producteurs des céréales et légumineuses*, Rabat.
- Ministère du Commerce, de l'industrie et de la privatisation (1993), *Rapport de synthèse - Estimation du tableau entrées-sorties pour l'année 1990*, Rabat, Unpublished.
- Ministère du Commerce, de l'industrie et de la privatisation (1991,1992), *Les industries de transformation* Rabat.
- Ministère de la Coopération et du développement (1991), *Memento de l'agronome*, Fourth edition, Paris.
- Ministère du Plan, Direction de la statistique (1986), *Équilibres ressources - Emplois. Tableau entrées-sorties*, Rabat.
- Reinert, Kenneth A., and David Roland-Holst (1992). "A Detailed Social Accounting Matrix For the USA, 1988," *Economic System Research*, Vol 4, No 2, p 173-187.
- Roland-Holst, David (1990), "Interindustry Analysis with Social Accounting Matrices," *Economic Systems Research*, 2:2, 125-145.
- Office des Changes (1990), *Annuaire du commerce extérieur*, 2 Volumes (Exportations, Importations), Rabat.

Round, Jeffrey I. (1985), "Decomposing Multipliers for Economic Systems Involving Regional and World Trade," *Economic Journal*, 95, 383-399.

World Bank (1993), *Second Large-Scale Irrigation Improvement Project LSII-2* Country Memorandum, Washington.

Notes

- 1 Ministère du Commerce, de l'industrie et de la privatisation, Morocco (1993).
- 2 Ministère du Plan, Direction de la statistique, Morocco (1986).
- 3 The nomenclature used in the 1990 IO table is the same of that in the 1980 table and is presented together with the current table's 133 sectors in the annexes to this report.
- 4 Another Independent attempt to disaggregate Moroccan agriculture in an input-output framework is to be found in the estimates of Sadoulet reported in Mateus (1990). These have in turn been used by a variety of authors, including Mariens *et al* (1990), and Rudstrom, Rutherford, and Tarr (1993).
- 5 FAO - Ministère de l'Agriculture, Morocco (1988).
- 6 The agricultural sectors considered here are: Cereals, Legumes, Oli Seed, Industrial Crops, Tree Crops (Fruits), Vegetables, Forages, Livestock, Forestry and Fishing.
- 7 As described later, the 23 sectoral gross output values were obtained from direct 1990 official statistics.
- 8 In the absence of direct information, we assumed that this matrix to be diagonal for all crops except *Other Agriculture* and the remaining non zero elements represent linkages for *Livestock, Forestry and Fishing* with the rest of Agriculture.
- 9 The FAO estimates are contained in the Agrostat Database of that Organisation.
- 10 For the US IO table see K.A.Reinert and D.Roland-Holst (1992); for the Indonesia-Japan international IO table see Institute of Developing Economies (1992).
- 11 Ministère de l'Agriculture et de la réforme agraire - Direction de la planification et des affaires économiques (Service des statistiques et de la documentation), Morocco (1992,1990).
- 12 Data concerning this project are taken from World Bank (1993). Note that for Forages it was also necessary to estimate production quantities from yield and area data (see table 3) and that the ratio UF (unité fourragère) to Kg (prices are per UF) was fixed at .5 (see table "Valeur bromatologique et production," in Ministère de la Coopération et du développement, France (1991), p. 1101). Finally, it is noteworthy that the project prices were usually quite close to the FAO estimates or to actual prices surveyed by the Ministry of Agriculture.
- 13 See table 3.25 page 64 in Direction de la statistique (1992).
- 14 See table 1.14 page 107 in Direction de la statistique (1988a).
- 15 Direction de la statistique (1988b).
- 16 See chapter II page 51 in Direction de la statistique (1988b).
- 17 These data are contained in files made available by the Ministry of Foreign Trade under concession of the Ministry of Industry. The same data are available in the yearly survey of the Industrial sectors, see Ministry of Industry (1991).

- 18 Note that these data correspond to the figures published by the 1992 *Statistical Yearbook*. Table 6.3 page 126 in *Direction de la statistique* (1992).
- 19 *Direction de la statistique* (1988b).
- 20 For basic data on these indices, see tables 6.16 page 139 and 15.1 page 418 in *Direction de la statistique* (1992).
- 21 The data sources are statistics from the Ministry of Mining and Energy and Water Governmental Agencies and, for the Services, statistics of the *Direction de la Statistique* and Treasury Accounts. Note that informal activity is only estimated for Commerce, Transport Services and Other Services.
- 22 The only exception is imports and exports of Services.
- 23 See Table no 9 "Exportations (importations) par produit et pays en 1990" in *Office des changes* (1990). The complete listing of the economic sectors is given in Annex 1.
- 24 This correspondance table allows one to go from the six digit classification of products to the three sectors or to one or two digit groups of broad categories (see Annex 1). The correspondance table is available from the authors upon request.
- 25 There are two kinds of exemptions. The first concerns imports of investment goods for Moroccan firms and the second covers temporary imports that are to be domestically processed and then exported.
- 26 In order to avoid double counting, for sector 10 it is necessary to subtract from the range of products 70100-70199 the relevant products that are allocated in sector 5 and belong to that range
- 27 See table 20.6 page 511 in *Direction de la statistique, Morocco* (1992).
- 28 See pages 4 and 5 in *Ministère du Commerce, de l'industrie et de la privatisation, Morocco* (1993) and *Direction de la statistique, Morocco* (1988a).
- 29 See previous section.
- 30 The correspondance used between single products and category 4b, necessary to extract the capital goods from the import files, is not reproduced here but available from the authors upon request.
- 31 *Ministère du Commerce, de l'industrie et de la privatisation, Morocco* (1992).
- 32 See: *Ministère du Commerce, de l'industrie et de la privatisation, Morocco* (1993).
- 33 See: *Direction de la statistique, Morocco* (1992) and *Ministère du Commerce, de l'industrie et de la privatisation, Morocco* (1993).
- 34 For the informal sector see *Direction de la statistique* (1988b). Unfortunately the official statistics on the Commerce sector were still under preparation, so that we could not reproduce at a more disaggregate level what was done in the original IO table.
- 35 *Direction de la statistique, Morocco* 1992.

- 36 In fact it was not possible to apply here the same method we used for Investment. In other words, we could obtain an estimate of which consumer goods were imported but we did not have data on how these were distributed between Consumption and Variation of Stocks. Furthermore, the survey on Household Consumption (Direction de la statistique, Morocco 1992) does not permit discrimination between consumption of imported and domestic goods.
- 37 For a survey of RAS and other matrix balancing methods, see Bacharach (1980).
- 38 Impôts stands for Indirect Taxes and EBE (Excédent brut d'exploitation) stands for Capital payments.
- 39 See page 5 in Ministère du Commerce, de l'industrie et de la privatisation, Morocco (1993)
- 40 See above endnote 18.
- 41 It should be noted that, in the absence of any reliable data, equal labor and capital valued added shares were assumed within Cereals, Forages, Sugar crops and certain Fruits groups.
- 42 This last result is common in most countries, where it is difficult or impossible to attribute value-added to physical public assets. It does not imply, as is sometimes assumed that Government is the most labor intensive activity in the economy.
- 43 Note that 'ec' stands for European Community, 're' for non-EC European Countries and 'rw' for Rest of the World.
- 44 The inherent bias against consumption goods in interindustry multipliers is more fully discussed in Roland-Holst (1990).

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ANNEX 1

Input-Output Table for Morocco - 1990 Detailed Accounting Categories

ACTIVITIES	10 Character labels
1 Hard Wheat	1 HardWheat
2 Soft Wheat	2 SoftWheat
3 Barley	3 Barley
4 Maize	4 Maize
5 Rice	5 Rice
6 Legumes	6 Legumes
7 Sugar Beets	7 SugarBeets
8 Sugar Cane	8 SugarCane
9 Oil Seeds	9 OilSeeds
10 Raw Fibre	10 RawFibre
11 Vegetables	11 Vegetables
12 Alfalfa	12 Alfalfa
13 Berseem	13 Berseem
14 Citrus	14 Citrus
15 Olives	15 Olives
16 Grapes	16 Grapes
17 Dates	17 Dates
18 Almonds	18 Almonds
19 Other Fruit	19 OtherFruit
20 Other Agriculture	20 OthAgri
21 Livestock	21 Livestock
22 Forestry	22 Forestry
23 Fishing	23 Fishing
24 Phosphates	24 Phosphates
25 Non Metal Mineral	25 NonMetMin
26 Metal Mineral	26 MetMin
27 Crude Petroleum Prod	27 CrudePetrol
28 Refined Petroleum Prod	28 RefinPetrol
29 Electricity	29 Electricity
30 Milling	30 Milling
31 Baking	31 Baking
32 Refined Sugar	32 RefinSugar
33 Candy	33 Candy
34 Processed Fruit and Vegetab	34 ProcFrt&Veg
35 Meat Processing	35 Meat Proc
36 Processed Dairy	36 ProcDairy
37 Meat and Veg By-products	37 M&VgByPr
38 Processed Seafood	38 ProcSeafood
39 Other Food Processing	39 OthFoodPro
40 Animal Feed	40 Animal Feed
41 Brewing	41 Brewing
42 Wine	42 Wine
43 Spirits	43 Spirits
44 NonAl Beverages	44 NonAlBev
45 Tobacco	45 Tobacco
46 Wool and Animal Fibres	46 Wl&AnimFb
47 Cotton	47 Cotton
48 Silk	48 Silk
49 Other Textile Industry	49 OthTextile
50 Haberdashery	50 Haberdash
51 Carpets	51 Carpets
52 Hosiery	52 Hosiery
53 Shirts	53 Shirts
54 Trousers	54 Trousers
55 Tailored Garments	55 TailorGam
56 Tanning	56 Tanning
57 Leather Goods and Substitutes	57 Leath&Subs
58 Shoes	58 Shoes
59 Lumber	59 Lumber
60 Veneer and Paneling	60 VeneerPanl
61 Wood Frame and Members	61 WoodFrm&Mb
62 Wood Packaging	62 WoodPack
63 Furniture	63 Furniture

64 Other Wood Prod
 65 Pulp, Newsprint and Cardboard
 66 Paper Product
 67 Printing
 68 Ceramics
 69 Glass
 70 Stone
 71 Cement and Plaster
 72 Other Agglomerations
 73 Marble
 74 Abrasives
 75 Iron and Steel
 76 Nonferrous Metals
 77 Steel Cutlery
 78 Metal Furniture
 79 Forged Tools
 80 Metal Packaging
 81 Wire
 82 Pipes and Tubes
 83 Home Utensils
 84 Other Metal Products
 85 Motors and Turbines
 86 Ag Machinery
 87 Metal and Wood Wrk Mach
 88 Mining and Construction Mach
 89 Specialized Industrial Mach
 90 General Industrial Machines
 91 Other Machines
 92 Private Vehicles
 93 Trucks and Business Vehicles
 94 Motorcycles
 95 Freight Cars
 96 Ship Building
 97 Aircrafts building
 98 Other Transport Equipment
 99 Electric Motors and Generators
 100 Electric Equipment
 101 Signal Equipment
 102 Radio and TV
 103 Other electric Equip
 104 Domestic Appliance
 105 Electric Wires
 106 Batteries and Accumulators
 107 Lighting Equipment
 108 Weighing Inst
 109 Precision Inst
 110 Photographic Product
 111 Watches
 112 Chemicals
 113 Fertilizers and Pesticides
 114 Resines
 115 Paint
 116 Pharmaceuticals
 117 Toiletory
 118 Other Chemicals
 119 Tyres
 120 Rubber objects
 121 Plastic Objects
 122 Jewellery
 123 Musical Instruments
 124 Sports and Games
 125 Office Accessories
 126 Construction
 127 Commerce
 128 Transport Services
 129 Communication
 130 Banking
 131 Insurance
 132 Other Business Services
 133 Public Administration

64 OtherWood
 65 PulpNwpCdb
 66 PaperPr
 67 Printing
 68 Ceramics
 69 Glass
 70 Stone
 71 Cem&Plst
 72 Oth Agglom
 73 Marble
 74 Abrasives
 75 Iron&Steel
 76 NonferMet
 77 SteelCutlery
 78 MetalFurnt
 79 Forged Tools
 80 MetalPack
 81 Wire
 82 Pipes&Tube
 83 HomeUtensil
 84 OthMetalPr
 85 Motor&Turb
 86 AgMach
 87 MetWdMch
 88 MinCstrMch
 89 SpecIndMch
 90 GenIndMch
 91 OtherMach
 92 PrivateVehic
 93 Trucks&Etc
 94 Motorcycles
 95 Freight Cars
 96 ShipBuild
 97 Aircraft
 98 OthTranEqp
 99 EleMot&Gen
 100 ElecEqp
 101 SignalEqp
 102 RadioTV
 103 OthElecEqp
 104 DomestAppl
 105 Elect Wires
 106 Batt Accum
 107 LightEquip
 108 WeighInst
 109 Prec Inst
 110 PhotoProd
 111 Watches
 112 Chemicals
 113 FertilizPest
 114 Resines
 115 Paint
 116 Pharmaceut
 117 Toiletory
 118 OtherChem
 119 Tyres
 120 RubberObj
 121 PlasticObj
 122 Jewellery
 123 MusicalInst
 124 SportGames
 125 OfficeAccsr
 126 Constructn
 127 Commerce
 128 Transport
 129 Communicn
 130 Banking
 131 Insurance
 132 OthServices
 133 PublicAdmtn

Moroccan Definitions

Moroccan NO table

Moroccan Definitions	1-23	Agriculture
1 Blé dur		
2 Blé tendre		
3 Orge		
4 Maïs		
5 Riz		
6 Légumes		
7 Betterave		
8 Carne à sucre		
9 Oléagineux		
10 Coton, fibres		
11 Maraichers		
12 Luzerne		
13 Berain		
14 Agrumes		
15 Oliviers		
16 Vignobles		
17 Dattes		
18 Amandes		
19 Autres fruits		
20 Autres agriculture		
21 Élevage		
22 Forêts		
23 Pêches		
4.1 Phosphates	4.1	Phosphates
4.23 Autres minéraux non métalliques	4.23	Autres minéraux non métalliques
5 Minéraux métalliques	5	Minéraux métalliques
6 Combustibles solides et pétrole brut	6	Combustibles solides et pétrole brut
7 Pétrole raffiné	7	Pétrole raffiné
8 Electricité et eau	8	Electricité et eau
10 Travail des graines & des farines	10	Industries alimentaires
102 Boulangerie, pâtisserie et biscuiterie		
103 Industrie du sucre		
104 Chocolaterie, confiserie		
111 Conserves de fruits & légumes	11	Autres Industries alimentaires
112 Produits d'abattage et conservation viandes		
113 Industrie du lait		
114 Corps gras végétaux ou animaux		
115 Conserves poissons & fruits de mer		
116 Produits alim. divers		
117 Aliments pour les animaux		
121 Fabrication de bières & de malt	12	Boisson et tabac
122 Fabrication de vin, cidre & poires		
123 Fabrication de spiritueux		
124 Boissons non alcoolisées		
125 Industrie du tabac		
131 Industrie de la laine & fibres longues	13	Textiles
132 Industrie du coton & fibres courtes		
133 Industrie de la soie & fibres continues		
134 Autres produits ind textile		
136 Ouvrages simples en tissus		
137 Fabrication des tapis, nattes		
138 Bonnetterie		
141 Confection de linges et chemises	14	Habillement
142 Confection vêtements de dessus		
143 Confection vêtements sur mesure		
151 Tannerie, mégisserie	15	Cuir et articles en cuir
152 Divers articles en cuir ou succédanés		
153 Fabrication de chaussures		
161 Production de bois, scierie & préparation	16	Articles en bois
162 Placage, contreplaqué & panneaux		
163 Charpentes & menuisiers bâtiment		
164 Articles d'emballage en bois		
165 Fabrication meubles, etc		
166 Articles diverses bois, liège, vannerie		
171 Pâte à papier, etc	17	Papier et carton
172 Articles en papier ou carton		

173	Imprimerie, édition industrielle		
181	Articles divers en céramique	18	Matériaux de carrière
182	Industrie du verre		
183	Matériaux de construction en terre cuite		
184	Ciment chaux et plâtre		
185	Fabrication d'agglomérés divers		
186	Produits en marbre, etc		
187	Produits en amiante & abrasifs	19	Industrie métallique
191	Produits sidérurgiques		
192	Métaux non ferreux	20	Ouvrage en métaux
201	Coutellerie, quincaillerie		
202	Mobilier métallique		
203	Menuiserie métallique, chaudronnerie		
204	Emballage métallique		
205	Articles dérivés du fil machine		
206	Tuyauterie, robinetterie		
207	Ustensiles de ménage		
208	Articles métalliques divers		
211	Moteurs & turbines	21	Construction de machines
212	Machines et matériel agricoles		
213	Machines pour travail métal et bois		
214	Machines pour mines bâtim & T.P.		
215	Matériel spécial pour industrie		
217	Machines et matériels industriel non spéciaux		
218	Autres machin. à usage domest.		
221	Véhicules particuliers	22	Matériel de transport
222	Véhicules utilitaires & carrosses		
223	Motocycles & cycles		
224	Matériel ferroviaire roulant		
225	Construction et réparat. navale		
226	Construction aéronautique		
227	Autres matériels de transport		
231	Générateurs & moteurs électr.	23	Matériel électrique
232	Matér. & appareillage électr.		
233	Matér. électr. de signalisat.		
234	Récepteurs radio et TV		
235	Autres produits électroniques		
236	Appareils électro-domest.		
237	Fils câbles isolés, électricité		
238	Piles & accumulat.		
239	Lampes matériel d'éclairage		
241	Machines de bureau, appareils de pesage	24	Instruments de précision
242	Matériel médical, appareils de précis.		
243	Instruments d'optique & photo		
244	Montres et horloges		
251	Produits chimie organique, minérale	25	Chimie para-chimie
252	Engrais, pesticides, insecticides		
253	Résines synthét. ou en plastique		
254	Peinture, vernis, laques		
255	Produits pharmaceutiques, médicaments		
256	Savons, produits d'entretien, beauté		
257	Autres produits chimiques		
261	Pneumatiques, chambres à air	26	Plastique et caoutchouc
262	Ouvrages divers en caoutch.		
263	Ouvrages en matière plastique		
271	Prod. de bijouterie & orfèvrerie	27	Autres industries
272	Instruments de musique		
273	Articles de sport et de jeux		
274	Articles de bureau et divers		
29	Bâtiment, T.P.	29	Bâtiment, T.P.
31	Commerce	31	Commerce
34.5	Transport	34.5	Transport
36	Communication	36	Communication
37	Institution de crédit	37	Institution de crédit
38	Assurances	38	Assurances
39	Autres services marchands	39	Autres services marchands
40	Services non marchands des administrations	40	Services non marchands des administrations