

Subject Index

- Airborne dust
 - reducing in desert cities 205-226
 - transportation and deposition in urban environment 206
- Arad 24, 93
 - general layout 313
- Architecture
 - low-energy technologies for desert 291
 - desert bio-climatic approach 263-277
- Arid 4
 - regions 7
- Arid drylands
 - development 155
- Aridity
 - categories 3
 - climate causes 2
- Barnaui 162, 165, 171-173, 177, 180, 186
- Bedouin towns
 - planning 234
- Be'er Sheva 24, 26, 140, 187-204, 229, 231, 307
 - comprehensive plan 233
 - diagrammatic map 190
 - dust composition 216
 - emergency planning for immigrants 195
 - general layout 308
 - microclimatic variability 196
 - new master plan 192
 - physical layout and road pattern 234
 - preconceived planning 280
 - satellite rural development 194
 - urban forms 197
- Climate
 - aridity 2
 - Be'er Sheva 188
 - control in desert 291-304
- Density 191-195, 201, 202
- Desert
 - creating urban cool island 287
 - energy balance model 283
 - microclimatic considerations 281
 - patio house 282
 - patio house case study 284
 - patio house temperatures 284
 - preconceived planning 280
 - solar neighborhood 251-262
 - thermal environment in street canyons 286
 - urban attractiveness 279
 - urban microclimate 282, 279-289
 - wind speeds in street canyons 285
- Desert architecture
 - ambient / internal summer temperature 276
 - ambient and internal winter temperature 276
 - average temperature at atrium floor 298
 - bio-climatic approach 263-277
 - building design 264
 - climate of Negev 263
 - cool tower 301
 - cooling in down-draft tower 302
 - Etzion house 265
 - evaporative down draft cooler 300
 - external wall section 268
 - indirect space heating 302
 - local climatic conditions 291
 - low-energy technologies 291-304
 - performance monitoring 274
 - solar radiation in Sede-Boker 295
 - space heating by forced convection 303
 - summer / winter radiation: southern wall 275
 - sunken atrium 296
 - value of courtyard 273
 - vertical temperature profile in atrium 299
 - windows 269
 - winter and summer radiation 266
- Desert case study
 - planning theories versus reality 187-204
- Desert cities
 - reducing airborne dust 205-226
- Desert climate
 - urban attractiveness 279
- Desert development 153
 - role of ecology 153-158

- Desert environments
 - responsive planning 227-240
- Desert planning
 - garden city and patio house 280
 - preconceived
- Desert resettlement
 - deterministic paradigm 243
 - regarding the future 247
- Desert settlements
 - Arad 313
 - Be'er Sheva 307
 - development peculiarities, Israel 24
 - development patterns 17-35
 - Dimona 311
 - Eilat 310
 - exogenous factors 20
 - Israel 307-321
 - Mitzpe-Ramon 317
 - policy implications 31
 - socio-economic and physical data 320-321
 - socio-economic and physical data 307-321
 - sustainable population growth 37-59
 - Yeroham 315
- Desertification
 - process 5
- Deserts
 - economic development 21
 - development aspects 18
 - geographic extent 4
 - level of infrastructure development 21
 - urban growth 6
 - urban settlements 18
 - urbanization 18
 - urbanization in Israel 18
- Development
 - Israel policies 117
 - paradigms 21
 - peculiarities of settlements 26
 - urban private construction 61-85
- Development towns 24
- Dimona 24, 93
 - general layout 311
- Dry-subhumid drylands
 - development 157
- Drylands
 - arid development 155
 - development, ecological role 158
 - dry-subhumid development 157
 - hyperarid, development 154
 - semiarid development 155
- Dust
 - airborne in desert cities 205-226
 - chemical and mineral composition 216
 - chemical composition 216
 - deposition rate 214
 - design strategies reducing exposure 220
 - effect of major storms 217
 - experiment 209
 - experimental results 213
 - field methods 213
 - five urban sampling cites 211
 - grain size characteristics 215
 - laboratory methods 213
 - particle size distribution 215
 - particles transport by wind 207
 - rate of deposition 214
 - reduction in desert cities 223
 - sample locations 211
 - sampling sites 210
 - urban sources 218
- Ecology
 - role in desert development 153-158
- Economic development
 - capital criteria 89
 - changes in employment 89
 - construction criteria 90
 - deserts 21
 - economic output criteria 90
 - labor criteria 89
 - theoretical models 22
- Eliat
 - general layout 310
- Etzion house 263-277
- Frontier settlements
 - Siberia, Russia 161-186
- Garden cities 191
- Hyperarid 4
- Hyperarid drylands
 - development 154
- Interregional migration
 - employment and housing factors 112
 - general patterns 118
 - housing-employment paradigm 114, 115
 - Israel 118, 125
- Isolation
 - effect on settlement development 87-110
- Israel
 - annual rates of public construction 152

- changes in population of core and peripheral areas 1948-95 142
 - desert settlements 24
 - desert urbanization 18
 - desert settlements 307-321
 - development policies 117
 - foreign and in-country migration 119
 - ideology and planning 228
 - in-country migration 126
 - interregional migration 118, 125
 - migration curve 128
 - new settlements 18
 - patterns of urbanization 40
 - policy of population dispersal 134
 - population and residential construction 151
 - population growth 1948-1995 141
 - population growth in core and peripheral districts 144, 150
 - population growth of periphery 146
 - private construction trends 64-69
 - regional development patterns 116
 - Sede-Boker solar neighborhood 251-262
 - settlement system 228
 - socio-economic indicators 117
 - urban settlements 39
 - urbanization 117
- Japan
- interregional migration 126
 - migration balance 121
 - migration curve 128
 - migration in-country 120
 - regional development 117
 - regional development patterns 116
 - socio-economic indicators 117,
 - urban development 117
- Krasnoyarsk 162, 165, 167, 171-173, 177, 179-181, 184, 186
- Landscape 188, 193
- Lesosibirsk 162, 165, 171-173, 177, 180, 186
- Microclimate
- Be'er Sheva 189
- Microclimatic variability
- Be'er Sheva 196
- Migration
- attractiveness model 111-131
 - attractiveness of urban areas 53
 - attractiveness, policy implications 129
 - balance Japan 121
 - behavior model 113
 - curves Israel and Japan 128
 - employment-housing paradigm (diagrams) 127
 - generalized model 44
 - in-country Israel 126
 - in-country Japan 120
 - influencing factors 125
 - interregional Japan 126
 - research method 122
 - Mitzpe-Ramon
 - general layout 317
- Negev
- climate 263
 - development concept 230
 - preconceived planning 280
- Norilsk 162, 163, 165, 171-173, 177, 180, 186
- Novosibirsk 161, 165, 171- 173, 177, 180, 186
- Patio house 280, 282
- Peripheral areas
- population growth, effect of public policy 133-152
 - urban development 91
- Peripheral settlements
- climatic harshness 103
 - clusters/ distance from population center 109
 - conclusions and policy implications 108
 - controls 95
 - development 87-110
 - distribution of population and location 91
 - economic development 104
 - index of spatial clustering 100, 101, 102
 - introduction 87
 - measuring economic development 89
 - population growth 88, 98
 - research method 92
 - research results 98
 - research samples 94
 - sample and population 110
 - sustainability of population growth (MB/NG indicator) 101
 - sustainability of population growth 99
 - sustainable population growth 88
- Physical environment
- settlements in Siberia 161-186
- Planning
- applications 238
 - Bedouin towns 234

- Be'er Sheva 233
- Be'er Sheva physical layout/ road pattern 234
- desert environments 227-240
- ideology, Israel 228
- impact on economic growth 33
- impact on population growth 33
- improved transportation 32
- investment incentives 32
- land use regulation 32
- Negev development 230
- preconceived in desert 280
- Rahat 237
- settlement system 228
- theories versus reality 187-204
- urban microclimates 279-289
- Population
 - and residential construction, Israel 151
 - growth structure changes 27
 - model of inter-urban flows 44
 - policy of dispersal in Israel 134
 - region 2
 - regional policy evaluation 134
 - settlement growth model 23
 - urban based 2
- Population growth
 - alternative scenarios 145
 - average rate of net migration 39
 - components 48
 - core and peripheral areas, Israel 1948-95 142
 - core and peripheral districts, Israel 150
 - core and peripheral districts Israel 144
 - effect of public policy 133-152
 - exogenous factors 56
 - inequalities 39
 - influencing factors 144
 - Israel 1948-1995 141
 - key factors 55
 - MB/NG ratio 50
 - measures 38, 46
 - natural growth rate 39
 - overall rate 38
 - peripheral settlements 88
 - periphery, Israel 146
 - policy implications 54
 - relative rate 38
 - sources 1992-94 49
 - strategy of redirecting priorities 57
 - structural changes 27
 - sustainable 37
 - theoretical models 22
 - urban percentage change 38
- Population growth model
 - net balance of migration 50
 - rate of natural growth 51
- Population migrations
 - model 44
- Private construction
 - annual rate and settlement's remoteness 67
 - applications in planning 80
 - accessibility 73
 - buying power 73
 - case study 74-78
 - construction costs 72
 - development data hierarchy 69
 - effect of population size 83
 - general model 72
 - geographic distribution in Israel 66
 - government incentives 71
 - history in Israel 64-69
 - infrastructure 71
 - land availability 71
 - location paradigm 71
 - natural amenities 73
 - population/migration 73
 - proximity and correlation of variables 84
 - research results 79
 - settlement population size 68
 - statistical parameters 85
 - urban development 61-85
- Public construction
 - Israel annual rates 152
- Rahat
 - master plan 237
- Region
 - migration attractiveness model 111-131
- Regional development
 - Israel 116
 - Japan 117
- Regional migration
 - attractiveness model 111-131
 - behavior model 113
- Regional policy evaluation
 - controls 137
 - cost-benefit methodologies 135
 - factors affecting growth 137
 - indirect methodologies 134
 - model 136
 - objects of intended impact 136
 - partial methodologies 135
 - policy targets and measures 136
 - policy effects 138
 - research approach 138

- research methodology 136
- results and discussion 140
- Remoteness
 - effect on settlement development 87-110
- Responsive planning
 - desert environments 227-240
- Suburban development 190-191
- Sede-Boker
 - building clusters 258
 - circulation 255
 - circulation systems 255
 - concept of "p" point 259
 - location in Israel 253
 - "P" point and layout 259
 - solar neighborhood 251-262
 - volumetric constraints 261
 - water heating 261
- Semi-arid 4
- Semi-arid drylands
 - development 155
- Settlement development
 - climatic harshness 30
 - distance to urban center (remoteness) 30
 - effect of remoteness and isolation 87-110
 - influence of desert 30
 - isolation (grouping) 30
 - population 30
- Settlements
 - access to metropolitan center 23
 - annual rate of construction 26
 - annual population growth 1992-93 40
 - availability of skilled labor 21
 - climatic conditions 22
 - climatic harshness 23
 - development clusters with no urban core 31
 - development clusters with urban core 31
 - development peculiarities 26
 - distance for daily commuting 22
 - economics of transition 166
 - exogenous factors influencing index of prestige 174
 - factors influencing attractiveness 180
 - factors influencing index of prestige 173
 - geographic location of samples 25
 - harsh climate 20
 - immigration 42
 - incountry migration 43
 - index of prestige 174
 - Israel 18
 - lack of previous development 20
 - land availability 22, 23
 - level of attractiveness, expert's and resident's 176
 - level of urbanization 23
 - migration/natural growth ratio 26
 - overall population growth 26
 - physical environment, Siberia 161-186
 - physical parameters/index of prestige 173
 - planning policies 31
 - planning strategies 31, 32
 - population growth, migration 23
 - population growth model 23
 - prestige and market value 180
 - rates of private construction 28
 - remoteness 20
 - selection for comparative analysis 25
 - Siberia, components of attractiveness 173
 - Siberia, geographic location 162
 - Siberia, residential land value 184
 - Siberia, social factors/index of prestige 182
 - Siberia, the cities 165
 - Siberia, the region 163
 - Siberia, topological groups of territories (TGT) 172
 - social attractiveness, Siberia 161-186
 - socio-demographic parameters 186
 - spatial patterns/district attractiveness 170
 - spatial isolation 20
 - structure of annual population growth 26
 - urban 25
 - urban patterns 9
- Social attractiveness
 - settlements in Siberia 161-186
- Solar neighborhood 251-262
 - building clusters 258
 - circulation systems 255
 - circulation 255
 - concept of "P" point 259
 - location 253
 - orientation 254
 - pedestrian alley 257
 - view of alley 258
 - view of woonerf 256
 - volumetric constraints 261
 - water heating 261
- Subhumid 4
- Sustainable development
 - ecological role 158
 - economic aspects 38
 - environmental dimension 37
 - socio-demographic aspects 38
- Sustainable population growth
 - definition 37

- MB/NG ratio 50
- measures 46

Urban climate 207

- rainfall 208
- temperature 208
- wind regime 208

Urban development

- environmental management 62
- housing 62
- infrastructure 62
- local government 62
- migration balance vs. private residential construction 63
- peripheral areas 91
- policy implications 31
- population distribution and residential building 64
- private construction 61-85
- socio-economic 62
- transport 62

Urban environment

- transport and deposition of dust 206

Urban localities

- population growth 26

Urban microclimate

- arid conditions 279-289

Urban settlements

- categories for grouping 52
- clustering and private construction 106
- clustering and unemployment 107
- Israel 39
- migration attractiveness 53
- rate of private construction 105
- sustainable population growth 37-59, 88

Urbanization

- deserts 6, 18
- Israel 117
- patterns and policies 40

Yeroham

- general layout 315

Author Index

- Abe H 73, 82, 113, 118, 120, 122, 130
Adams RM 246, 248
Albright WF 243, 248
Alexander ER 229, 239
Alonso W 71, 82
Amiran DHK 235, 239
Anderson B 294, 304
Andoh K 71, 82
Anson J 41, 58
Appleyard D 195, 203
Armstrong H 61, 82, 90, 109, 113, 130
Aynsley RM 209, 225
Azmon A 217, 218, 225
- Bagnold RA 206, 225
Balchin PN 135, 148
Bar-Cohen A 18, 34
Barff R 131
Barkai Z 18, 19, 34
Ben-Arieh Y 189, 203
Ben-David Y 239
Ben-Gurion D 228, 239
Benzaquen J 65, 82
Berliner P 12, 279, 289
Bitan A 30, 34, 46, 58, 82, 96, 109, 122, 123, 130, 209, 225, 283, 289, 293, 304
Boeken B 219, 224, 225
Bonaiuto M 185
Bonnes M 163, 185
Borjas GJ 113, 130
Bourne LS 61, 82, 91, 96, 109
Breines S 194, 203
Brenner S 225
Brown LR 38, 58
Buchman M 223, 225
Burnley IH 113, 130
- Central Bureau of Statistics 46
Champion AG 139, 148
Chandler TJ 208, 209, 225, 280, 289
Christaller W 229, 239
CIA 117, 130
Clark C 66, 71, 82, 103, 109
- Clawson M 61, 82, 91, 109
Clealand CB 17, 18, 20, 34
Cloudsley-Thompson JL 1, 5, 13
Cohen Y 229, 239
Cohen E 228, 229, 239
Comay Y 19, 35, 41, 58, 95, 97, 110
- Davenport AG 200, 203, 209, 225
Davis WB 295, 304
DCC 311, 319
De Jong GF 23, 34, 39, 47, 58, 95, 96, 109, 112, 114, 123, 124, 130, 143, 148
Dean WJ 194, 203
Di H 304
Diamond DR 61, 82, 89, 109, 135, 148
Donagi AE 225
Doxiadis K 96, 103, 109
Drabkin-Darin H 19, 34, 65, 82, 133, 148
- Edri Y 307, 319
Ehrlich AH 47, 58
Ehrlich PR 47, 58
El-Shakhs S 220, 225
Ellis M 131
Encyclopedia Hebraica 248
Ercolani AP 185
Erell E 8, 10, 11, 12, 17, 64, 71, 83, 87, 92, 97, 104, 110, 115, 122, 131, 137, 138, 149, 194, 203, 205, 291, 304
Etzion Y 12, 13, 133, 194, 203, 204, 225, 251, 260, 262, 263, 291, 304
Evenari M 34, 244, 24
Ewers HJ 139, 148
- Faiman D 204, 225, 304
Fawcett JT 23, 34, 39, 47, 58, 95, 96, 109, 112, 114, 123, 124, 130, 143, 148
Fedorovskay E 185
Fergusson JE 206, 216, 225
Fialkoff C 41, 58, 65, 72, 82
Fischer CS 23, 34, 95, 96, 109
Foner HA 225
Frey WH 115, 130

- Friedmann J 57, 58, 112, 130, 139, 148
Fugitt GV 130
Fulton JA 115, 120, 130
- Gabriel S 310, 313, 317, 319
Ganor E 156, 158, 210, 213, 216 217, 218, 225
George P 112, 130
Gerson 19
Gerson M 34
Gibson RM 130
Givoni B 209, 220, 222, 225, 295, 300, 304
Glass D 163, 185
Glueck N 243, 248
Golani Y 192, 193, 194, 200, 203, 204
Golany G 8, 13, 18, 19, 20, 34, 194, 203, 279, 289
Golovatskaya N 166, 185
Goosens D 206, 207, 219, 225, 226
Govaer D 304
Gradus Y 12, 18, 19, 34, 35, 54, 58, 59, 95, 110, 133, 137, 139, 148, 204, 227, 231, 236, 239, 240, 280, 289, 317, 319
Gravetter FJ 163, 185
Green HC 18, 20, 34
Greenwood MJ 112, 114, 130
Grove JM 244, 248
Gubareff GG 294, 304
- HABITAT 62, 82
Hall P 61, 82, 91, 109
Hanlong L 163, 185
Hansen NM 57, 58
Hare KF 2, 3, 13
Harison J 163, 185
Haughton G 37, 58
Haussmann Architects Consultants 200, 203
Henderson RA 89, 109
Herzog Z 188, 203
Hester RT Jr 170, 185
Hillier B 163, 185
Holdren JP 47, 58
Hopf M 157, 158
Howard E 191, 203
Hunter C 37, 58
Huntington E 242, 243, 244, 245, 248
- ICBS 34, 46, 58, 64, 65, 69, 74, 80, 82, 89, 91, 98, 109, 116, 117, 118, 130, 140, 148, 150, 151, 310, 319
IMF 72, 82, 133, 148
Israeli A 188, 203
- Issar AS 8, 12, 241, 245, 246, 248
Isserman AM 135, 149
- Jacobsen T 246, 248
Jacobson J 38, 58
Jain JK 5, 13
Jenner A 130
Johnson DL 13
Johnson-Haring K 13
Joseph JH 156, 158
JSB 116, 117, 120, 121, 123, 130
Justman M 319
- Kaganova O 166, 185
Kamon E 18, 34
Kark S 158
Kates RW 1, 6, 8, 13
Keane C 163, 185
Keane 163
Kirschenbaum A 19, 35, 41, 58, 95, 97, 110
Klein C 245, 248
Kneese AV 17, 20, 26, 35, 97, 110
Konya A 220, 221, 225
Koppen W 3
Krakover S 133, 148, 204, 229, 239
Krushlinskiy V 173, 185
Kuklinski A 57, 58
- LaLonde RJ 113, 129, 130, 144, 149
Lamb HH 244, 248
Landsberg HE 207, 208, 209, 225
Lasurenko S 185
Lavi N 225
Lawrence TE 243, 248
Layton AP 26, 35, 61, 82
LCMR 317, 327
LCT 3, 4, 13
LeCorbusier 187, 204
Leeuw F de 61, 82
Lerman E 41, 58, 133, 149
Lerman R 41, 58, 133, 149
Levinson E 35, 49, 95, 110, 319
Levy A 319
Levy JM 26, 35, 61, 82, 90, 91, 110
Lewando-Hundt G 235, 239
Liang Z 120, 131
Lin N 163, 185
Lipshitz G 63, 64, 82, 101, 110, 112, 113, 131, 133, 137, 138, 139, 140, 144, 149
Lithwick H 310, 319
Lithwick I 310, 319

- Lowdermilk WC 243, 244, 248
Lynch K 163, 185
- Maddock T 17, 35
Mamane Y 218, 225
Markusen A 61, 82, 118, 122, 131
Maslovskiy V 166, 183, 185
McDowell JM 112, 130
McGranahan D 26, 35, 61, 69, 82
MCH 66, 82
Meir IA 12, 187, 193, 196, 201, 203, 204, 220, 221, 223, 225, 291, 304
Melbourne W 225
Merrifield JD 135, 149
Mertens H 194, 204
Messinas EV 196, 204
Michel F 112, 114, 131
Middleton N 3, 4, 5, 6, 13
Mills ES 26, 35, 61, 73, 82
Milne W 115, 122, 131
Moore B 135, 149
Moore EG 23, 35, 47, 59, 95, 96, 110, 113, 114, 123, 131
Motzafi-Haller WR 13, 307
Murphy PA 130
Musham VH 235, 239
Muth RF 71, 83
Neeman E 225
Newman D 24, 35, 41, 59, 95, 97, 110, 307, 319
Newman P 71, 83
Nijkamp P 139, 148
Nir I 307, 319
Novitskiy I 185
NSF 3, 4, 13
- OECD 194, 204
Offer Z 207, 217, 218, 219, 225, 226
Ohta M 71, 82
Oke TR 208, 209, 226, 281, 289
Orev Y 222, 226
- Paciuk M 200, 204, 209, 225, 226
Pearlmutter D 10, 11, 12, 28, 37, 61, 63, 70, 83, 88, 95, 96, 101, 103, 110, 113, 114, 115, 120, 124, 131, 133, 137, 138, 140, 146, 149, 196, 204, 279, 283, 289, 291, 295, 300, 301, 304
Penman HL3
Pennlaker J 185
Perrot A 131
- Perroux F 112, 131
Poeth J 113, 131
Poreh M 200, 204, 209, 226
Portnov BA 1, 8, 10, 11, 13, 17, 28, 37, 54, 59, 61, 63, 64, 70, 71, 83, 87, 88, 90, 92, 95, 96, 97, 101, 103, 104, 110, 111, 113, 114, 115, 120, 122, 124, 131, 133, 137, 138, 140, 146, 149, 161, 164, 166, 183, 185, 307, 308, 319
Pye K 206, 207, 219, 226
- Raban A 246, 248
Rahamimoff A 227, 239, 251, 262, 295, 304
Rahamimoff S 304
Rahman OMA 163, 185
Rapoport A 170, 185, 235, 239
Rhodes J 135, 149
Richardson HW 71, 83, 112, 114, 131
Robertson M 163, 186
Rosenberg MW 23, 35, 47, 59, 95, 96, 110, 113, 114, 123, 131
Royal Dutch Touring Club 195, 204
Rubin S 30, 34, 46, 58, 82, 96, 109, 122, 123, 130, 209, 225, 283, 289, 293, 304
- Safriel UN 11, 153, 156, 158
Sage C 38, 59
Saimi BS 8, 13, 18, 20, 35, 71, 83, 205, 221, 226
Sapir S 189, 203
Schechter J 18, 35
Shachak M 219, 224, 225
Shachar A 229, 239
Shanan L 34, 244, 248
Shantz 4
Shefer D 133, 149
Sheffer G 19, 35
Shilony Z 191, 204
Shinar A 239
Shmueli A 235, 240
Show D 164, 185
Silberstein A 304
Singer J 185
Skibin D 208, 226
Smardon RC 163, 185
Smith WF 26, 35, 61, 83, 90, 91, 110
Spence NA 61, 82, 89, 109, 135, 148
Stern E 19, 34, 54, 58, 188, 204, 227, 229, 236, 240, 280, 289
Stock R 114, 130
- Tadmor N 34, 244, 248

Taylor J 61, 82, 90, 109, 113, 130
Teklenburg JAF 163, 186
The Standards Institution of Israel 294, 304
Thisse JF 131
Thomas D 3, 4, 5, 6, 13
Thornwaite CW 3, 13
Timmermans HJP 163, 186
Topel RH 113, 129, 130, 144, 149
Tsoar H 12, 204, 205, 207, 219, 226
Tugnutt A 163, 186
Turner RK 37, 38, 59

UN 18, 35
UNCOD 2, 4, 5, 6, 13
UNEP 1, 5, 6, 13, 153, 158

Vickery BJ 225
Vining DR Jr 26, 35, 131, 139, 149
Volis S 158
von Schwarze DG 192, 193, 203

Wagenberg AF 186
Walker R 115, 120, 131
Wallnau LB 163, 185
White FG 6, 13
White MJ 120, 131
Wiebenson D 191, 204
Williamson JG 117, 131
Wittick A 170, 186
Wong C 61, 62, 83, 87, 110
Woods S 194, 204
Woolley CL 243, 248

Yeroham Local Council 315, 319

Zangvill A 217, 226
Zemel A 304
Zohary D 157, 158