
Index

- absorptive capacity 13, 129, 141, 158–9, 168, 173, 183, 190, 198
- ACF (advocacy coalition framework) 88, 94–6, 114–15
- advocacy coalitions
 - in Brazil 104–9, 113–15
 - in South Africa 109–15
- Africa
 - modes of innovation in 127–33
 - national system of innovation
 - effects of STI policy on 146
 - emergence of new, legally defined 132
 - evolution of 127–9
 - general classification of 130–131
 - see also* Algeria; Nigeria; North Africa; South Africa; sub-Saharan Africa; Tanzania
- African National Congress (ANC) 102–3, 109–10
- agricultural sector
 - in Nigeria 345, 348, 354, 359–60, 364, 366–8, 370
 - in Tanzania 137–9, 142, 147, 265–6, 270–271, 278, 280–281, 286–7
- Algeria
 - attempts to integrate S&T into economic development 162–3
 - complex innovation systems
 - construction 151
 - Department of Scientific Research 164
 - emerging innovation systems
 - future direction for 174
 - stages
 - accelerating emergence stage 167–72
 - pre-emergence through creation of coordinating structures and research programmes 165–7
 - setting preliminary conditions 163–5
 - take-off 172–3
 - exclusion of players 155
 - factors harmful to technological capability 161–2
 - Ministry of Higher Education and Research (MESRS) 163–4, 167
 - National Centre for Scientific Research (ONRS) 164–5
 - National Research Council (CNR) 164
 - patent rankings 162, 170
 - policy limitations 173
 - Programmes Nationaux de Recherche (PNR) 166–7
 - R&D spend 158
 - scientific research and technological development (SRTD) plan 167
- Argentina
 - case studies
 - housing in Villa Paranacito
 - failures 509
 - first phase 502–3
 - housing for social inclusion 501–2
 - learning from 510
 - second phase 503–4
 - socio-technical alliances 512
 - selection 495
 - small-farming development at national level
 - failures 509
 - first phase 505–7
 - food self-production and S&T public policy 504–5
 - problem–solution dynamic 511
 - second phase 507–8
 - third phase 508–9
 - solar devices in Secano de Lavalle
 - failures 499, 509–10

- first phase 499–500
 - second phase 500–501
 - solar power, clean water and social inclusion 498
 - summary of 509
- Centre for Research and Development for Small Family Farming (CIPAF) 495, 498, 504–9, 511
- Cloipe Group 495, 498–500, 509, 517
- CONICET (National Scientific and Technical Research Council) 44, 517
- Experimental Centre for Affordable Housing (CEVE) 495, 498, 501–4, 509–10, 517
- learning and constraints 509–11
 - changes in socio-technical alliances 512–13
 - shifts in problem–solution dynamic 511–12
 - from transfer framework to knowledge bargaining 513–14
- National Institute of Agricultural Technology (INTA) 495, 498–9, 504–9
- National Programme for Small Family Farming (PNPAF) 495, 498, 504–6
 - preliminary definitions 496–7
 - theoretical and policy failures 494, 509, 514–16
- Bayer Corporation vs. Natco Pharma 337
- Bogotá Manual* 19
- bottom of the pyramid (BOP) 21, 70, 386, 413, 493
- Brazil
 - APLs (local production arrangements) 108
 - bolsa familia* programme 106
 - Cardoso administration 104–5, 109
 - CNPq 44, 105
 - dictatorship supportive of industry 45
 - as fast-growing emerging country 63
 - FINEP innovation agency 105, 109
 - fome zero* (zero hunger) programme 106
 - Franco, I. 105
 - good effects on reducing inequality 23
 - health policy 383–4, 391
 - as influenced by Washington Consensus's recommendations 53
 - innovation policymaking
 - ACF for innovation policy in 114–15
 - implications for advocacy coalition in STI policy subsystem 104–9, 113
 - Innovation Law 108–9, 113
 - natural resources 96
 - performance in S&T indicators and inequality 97
 - structural inequalities and racial cleavages 98–100
 - varieties of capitalism, skills innovation and economic policy 100–104
- Lula administration 102, 106, 108–9, 114
- micro-electromechanical systems development 473
- Ministry of Science and Technology (MCT) 105–8
- National Industry Federation (CNI) 103
- national system of innovation
 - factors affecting efficiency of 42–3
 - innovation policymaking in 96–109, 113–15
- national wealth devoted to STI 377
- PADCT (Support Programme for Development of Science and Technology) 100, 104–6
- R&D
 - funding by government 363
 - generosity of tax regimes with respect to 330
 - industrial funding 362
 - number of researchers per million people 320, 346
 - research agency created 44

- rise in global scene 40
- science, technology and innovation (STI) policy
 - change in rationale for 115
 - implications for advocacy coalition 104–9, 113
 - origins of 96, 99–100
- Secretary for Social Inclusion (SECIS) 106–8
- sharp class disparities in 2
- showing internal tensions 49
- Social Technology Network (RTS) 108
- vocational technological centres (CVTs) 107
- BRICS countries
 - catch-up theory 173
 - developing world looking at experiences of 151–2
 - engagement with Africa 131
 - high levels of inequality 2
 - as latest new node of global capitalist power 132
 - national system of innovation 23, 151
 - rapidly emerging countries 10
 - and social inclusion 23–4
 - STI policy models extended to 205
- business models for innovation, new 63–5, 72, 79
- catch-up
 - innovation systems (CIS) 154
 - theory 156, 173
- China
 - environmental quality 412
 - as fast-growing emerging country 63
 - ‘historical take-off’ of IPR system 153
 - innovation and social inclusion 23–4
 - micro-electromechanical systems development 473
 - researchers per million people 320
 - rise in global scene 40
 - showing internal tensions 49
 - unleashing potential of firms as producers of innovation outcomes 78
- clusters
 - analysis of 312–13
 - approach 20
 - in Brazil 107–8
 - configuration for innovation 224
 - and STI policy 189–92, 205
 - in Thailand 194
 - in Vietnam 416–30
- CMEs (coordinated market economies) 100–103, 106
- Colombia
 - Colciencias
 - as Colombian national science foundation 26
 - governability of
 - access to and diffusion of information 255–6
 - efficacy in allocation of resources 254–5
 - facilitation of public–private relationships 257
 - international cooperation 252–3
 - learning and innovation 253–4
 - organizational openness and transparency 254
 - policy networks 256
 - social systems 256–7
 - landmarks for 240–241, 245
 - legal and regulatory framework as determinant in history of 244
 - loans given to 243
 - opportunities and threats 233–4, 258–9
 - role 250
 - Science and Technology law enacted 239–40
 - within SNCTI structure 247
 - and STI law 245, 248
 - and STI projects 250–251
 - use of Sábato’s triangle 236–7
- CPNCyT (Councils of National Programmes of Science and Technology) 242, 246, 256
- FFJC (Fund Francisco Jose de Caldas) 246–50
- national system of innovation
 - approach 232, 235–8
 - coordination of 248

- creation of 243
- development of 243–4
- future direction for 259
- representations of 237–8
- SNCTI 233–4, 239, 241, 244–7, 250–252, 256, 258–9
- use of concept to set up infrastructure 232
- SNCyT (National System of Science and Technology) 232, 239–44, 246, 254–5, 257
- STI system
 - background 239–40
 - concepts relevant to 232–3
 - five stages 238–9
 - governance of 233–4, 252–7
 - new resources for STI activities 248–51
 - opportunities and threats 258–9
 - profound transformations 233–4
 - recent transformations 244–5
 - royalties 241, 245, 248–59
 - STI law 1286 of 2009 245–8
 - structure of SNCTI 247
 - theories in action in 234–8
 - use of NSI approach 232
- communitarian innovation 436, 442–3, 447–60
- community management framework 436, 438–41, 458, 460
- CONACYT (Consejo Nacional de Ciencia y Tecnología) 44, 207–10, 212–16, 470, 472, 475–6, 480, 484, 486
- constraint-based innovation 60
- Costa Rica
 - Association of Rural Water and Sanitation Systems (ASADAS)-organized communities 443–8, 450–455
 - Blue Flag Ecological Program (BFEP) 436–7, 443–9, 451–2, 454–6, 460–461
- community-based innovation
 - dynamics
 - community capacities 451–4, 457
 - community in all categories 458–9
 - community participation 447–51, 456–7, 461
 - institutions 454–8
 - community management (CM) 436–41, 458, 460
 - institutional analysis and development (IAD) 436–7, 439–40, 454
 - policy implications 460–461
 - Sanitarian Quality Seal Program (SQSP) 437, 443–6, 448–9, 451–2, 454–6, 460–461
 - science, technology and innovation (STI) policy in 437, 460–461
 - suitability for case study 442–3
 - systems of innovation (SIs) 436–41, 458–60
 - theoretical implications 458–60
 - WSS in 444–5
- dance metaphor (innovation policy)
 - in Colombia 234–5, 242, 244–5, 251, 259
- creative dancing
 - emergence of new and more relevant policies and programmes 22–4
 - emergence of new and more relevant theories and concepts 19–22
- dance floor composed of set of rules and actions, in Mexico 206–7, 226, 228
- dancing
 - with innovations 268–70
 - without listening to the music 39, 41, 51
- dancing partners
 - differences in diverse countries 379–80, 407
 - harmony for development 375
 - mutual learning 379
 - objectives pursued by 407–8
 - policy and practice 270–277, 359–62
 - tensions between 287, 309–10
 - theory and policy 277–81, 362–5
 - theory and practice 281–6, 300, 366–9

- translated to government,
 - industry and ERIs 358–71
- in Fonseca Gulf 293, 300, 307–10
- as heuristic to identify failures and opportunities 7–10
- insights in developing countries
 - inclusive innovation 412–14, 430
 - innovation policy 410–412
 - innovation practice 408–9
 - innovation theory 409–10
- leading dance partner
 - governments as 179
 - policy as 15–18
 - practice as 18–19
 - theory as 10–15, 277–81, 286
- in Nigeria 347, 358–71
- in North Africa 152, 173–4
- in sub-Saharan Africa 119–20, 126, 132–3, 145–6
- in Tanzania 266–7, 269–87
- in unequal societies 87–8, 115
- in Vietnam 414–16, 426–31
- demand, effective 159–60, 173–4
- Department of Science and Technology (DST)
 - India 324, 329, 331–2
 - South Africa 110–112
- dependency theory 43, 45, 47, 52, 54
- development
 - approaches
 - development as freedom 19, 388
 - learning school 65–8, 72
 - scarcity-induced innovation 68–9, 72
 - export-led models of 20
 - programming 64, 70–71
- developmentality paradigm 39, 49–50, 52
- DUI (doing, using and interacting) 53, 151, 156, 188, 194, 410, 425, 427
- ‘Dutch disease’ 162
- ECLAC (Economic Commission for Latin America and the Caribbean) 380–384, 387–91
- economic policy
 - affecting industry 354
 - in Brazil and South Africa 100–104, 113
- British colonial 348
- in North African economies
 - in Libya and Mauritania 163
 - research priorities reflecting 166
- in Puebla region of Mexico 477–8
- role of STI policy 90
- in Tanzania 145–6, 266
- education
 - in Algeria 163–4
 - in Costa Rica 443–4, 446, 449, 451–2, 461
 - of fishermen in Fonseca Gulf 307, 310
 - in Latin America 383, 389–90
 - within modes of innovation 123–4
 - in Nigeria 347, 350–351, 353, 362–4, 370–371
 - South Africa and Brazil 99, 103, 107, 113–15
 - and STI policy 185–7, 195, 200, 461
 - in Tanzania 138, 140–141, 144, 266, 278
- emerging innovation systems (EIS)
 - characteristics
 - broken trajectories and de-learning 156–7
 - inappropriate environment 157–8
 - neglected DUI dimension 156
 - weak linkages and exclusion of players 155
- emergence
 - concept of 154
 - difficult
 - in Algeria 163–72
 - in North African countries 161–3, 168–72
 - drivers for
 - absorptive capacity 158–9
 - effective demand 159–60
 - guarantee of innovation effort 160
 - public procurement 160–161
- innovation systems
 - complexity of building 151–2
 - stimulating innovation dynamics 152–3
- take-off
 - analysis of 172–3
 - paradigm 153–4

- weakness of policies and future directions for 173–4
- export-led models of development 20
- failures
 - balanced analysis of 6–7
 - dance metaphor as heuristic to identify 7–10
 - governance 15–18, 215, 219–20, 224, 280–281, 287, 363
 - innovation efforts 297
 - market 78, 90, 160–161, 187–8, 197, 237
 - in Nigeria 346, 356–7, 363–5, 368
 - of NSIs in Latin America 38–9, 41, 46, 51
 - policy 119–20, 135, 142, 152, 179, 356, 494–7, 509, 514–16
 - practice 509
 - social capital 18–19, 257
 - in South Africa 78
 - theoretical 10–15, 152, 494–7, 509, 514–16
 - of ‘villagization’ reform 142
- FCCyT (Foro Consultivo Científico y Tecnológico) 208, 213, 216–19, 225
- fishing sector *see* Fonseca Gulf
- Fonseca Gulf
 - CENPROMYPE 311–13
 - innovation and performance within value chain 306–9
 - innovation management for inclusive growth
 - concepts relevant to 293–4
 - governance and global value chains 299–300
 - inclusive growth and social dimension of sustainability 298–9
 - innovation and systems of innovation 296–8
 - innovation theory and practice 300
 - sustainable development concept 294–5
- methodological elements 292–3, 300–301
- policy implications
 - coordination of efforts 311–12
 - financial scheme consolidation 310–311
 - improving capacity for strategic vision 312–13
 - institutional strengthening with sustainability vision 310
 - integral vision of business 311
 - towards diversification 312
- small-scale fishing sector
 - actors of value chain 302–3
 - characteristics 301–2
 - environmental aspects 305–6
 - fishermen 303–5
 - as stagnant, in situation of survival 292, 309
 - study conclusions 309–10
- frugal innovation concept 20, 23, 60, 64, 332–3, 386–7, 413
- FUMEC (Mexico-US Foundation for Science) 465–6, 469–77, 479–90
- global South
 - commitment to improve development dynamics in 40
 - Globelics working for 18
 - implications for public policy 72–9
 - literature review relevant to 61–72
 - optimistic view of potential for innovation in 64–5
 - STI policy
 - future directions for 79–80
 - as underperforming 59, 69, 72–3
- globalization
 - affecting integrity of NSIs 127–8
 - of capital 125–6
 - enhancing ability to outsource 122
 - impact on importance of nation state 49
 - impact on universities 349
 - increasing significance of innovation 405
 - need for framework incorporating rapid rise in 40, 48
 - reducing labour power 131
- Globelics (Global Network for Economics of Learning, Innovation, and Competence Building Systems) 18, 40, 70–71

- governance
 of Colombian STI 233–4, 252–7
 failures 15–18, 215, 219–20, 224, 280–281, 287, 363
 and global value chains 299–300
 of innovation in emerging countries 1–2
 of national systems of innovation
 growing concern for 205
 in Mexico
 advances in regionalization
 process 215–16
 effectiveness and efficiency
 depending on 226
 evolution of legislation 212–15
 expression of stakeholders
 216–19
 factors affecting 227
 future direction for 228
 post-independence development
 of, in Nigeria 352–3
 in relation to fisheries 303, 309
 rules of the game and 206, 219–22
 grassroots innovation 6, 9, 21–3, 70, 285, 493
 Gulf of Fonseca *see* Fonseca Gulf
- hierarchical market economy (HME)
 94, 103
- import substitution model 13, 20
 inclusive development 408
 inclusive growth
 concept of 298
 innovation management for
 293–300
 and social dimension of
 sustainability 298–9
 inclusive innovation
 concept and theory of 412–14
 as societal process 413, 425–30, 434
 in Vietnam 423–30
- India
 ANDAs (abbreviated new drug
 applications) 340, 342–3
 changes in patents policy
 anti-cancer drug patent case 338
 compulsory licensing case 337
 TRIPS compliance of IPR regime
 date of 317
 differences with previous IPR
 regimes 336
 impact on pharmaceutical
 industry 339–42
 importance of 334–5
 insertion of flexibilities in
 amended patent regime
 335–8
 process of 335
 proximate implications of
 338–9
 and technology transfer 339
 comparison with Brazil 42, 53
 concentration in distribution of
 BERD 332
 cost of mechanical plucking in
 285
 evolution of tax policy with respect
 to R&D 327–33, 341
 extent of subsidization of R&D in
 330
 as fast-growing emerging country
 63
 generics industry performance
 indicators 342
 grassroots and frugal innovation
 approaches 23
 ‘historical take-off’ of IPR system
 153
 Honey Bee Network 71
 innovation models in 63–4
 policy spree and policy paralysis
 316–17, 341–2
 ratio of consultancy fee paid to fees
 paid for royalty and technical
 know-how 341
 rise in global scene 40
 scepticism about replicating
 outputs of innovation process
 71
 science, technology and innovation
 (STI) policy 317, 319, 321–7
 showing internal tensions 49
 survey of policies for promoting
 innovations 318–21
 trends in share of BERD and its
 research intensity 331
 trends in technology trade balance
 320
 use of plucking shears 285

- industrial technical centres (ITCs) 167–9
- inequality
 - advanced knowledge-based 389, 402
 - in Brazil 23, 97, 102, 114–15
 - broad social, in Latin America 44
 - economic growth as insufficient condition for overcoming 10
 - efforts to reduce, in South Africa 109–13
 - increasing rates of 1–2, 22, 87
 - inherited from apartheid 135
 - innovation fostering 385–7
 - in NSI literature 92
 - policies and practices leading to increased 14–15
 - putting pressure on policies 392
 - questions surrounding
 - contribution of innovation policy to 87–8, 113
 - in South Africa
 - income 143–4
 - performance 97, 101, 114–15
 - and STI 377, 380, 382, 384, 388, 392, 396
 - structural
 - and racial cleavages 98–100
 - in VoC theory 92–4
 - in systems of innovation framework 88–9
- information, access to and diffusion of 255–6
- innovation
 - cluster-based 416–30
 - communitarian 436, 442–3, 447–60
 - as complex process requiring systemic approach 39
 - constraint-based 60
 - definitions 60–61, 405–6
 - effort
 - critical success factors for 64
 - failure in 297
 - guarantee of 160, 174
 - inclusive 412–14, 423–30, 434
 - management of, for inclusive growth 293–300
 - modes of
 - in Africa 127–33
 - cases of South Africa and Tanzania 133–45
 - implications for STI policy 145–6
 - theoretical base 120–127
 - new business models for 63–5, 72, 79
 - and performance within value chain 306–9
 - pro-poor 25, 70, 87, 104–9, 115, 380, 385, 397
 - relationships with knowledge and social inclusion
 - comparison of approaches 393–4
 - direct approaches to 385–8
 - indirect approach to 381–4
 - reverse 60, 64
 - scarcity-induced 68–9, 72, 76
 - significance of 405
 - skills for
 - in Brazil and South Africa 100–104
 - in VoC theory 92–4
 - for social inclusion 3, 22–3, 393, 505, 514
 - for social purposes 70–72, 80
 - and systems of innovation 296–8
 - theory and policy 406–7
 - ‘tinkering’ with
 - concept of 269–70
 - helping to explain learning processes and gaps in STI policy 286–7
 - with policy in practice 271–7
 - between theory and practice 282–6
 - Innovation Fund 110–111
 - Innovation Law 108–9, 113
 - innovation policy
 - analysing process of 94–6
 - approaches 21–4
 - in Colombia 235, 241, 245, 248
 - concerns about appropriate unit of analysis in 77
 - dominant focus on competitiveness in Latin America 22
 - emergence of ideas, rationales and instruments of 7, 234, 292–3, 407
 - focus of discussions on 385

- fragmentation of, in South Africa 135–6
- importance of communities as main targets of 20
- inadequate, in sub-Saharan Africa 119
- and inequality in systems of innovation framework 88–9
- as mainstream model 210–212
- most recent, in India 319, 321–7
- neglecting S&T 211
- perceived main challenges 11
- as policy system 195
- potential theoretical failures
 - blamed for misleading 12–13
- role for development
 - need for better understanding of options for change 4–6
 - perspectives on
 - conservative view 3
 - progressive view 3
 - radical view 3–4
- role of, in innovations systems
 - literature 89–91
 - theoretical debate 410–412
- turn from traditional and competitive-based 23–4
- in unequal societies
 - questions surrounding
 - contribution of 87–8, 113
 - STI policymaking 96–115
 - synthesis and conclusions 113–15
 - towards theory for analysis 88–96
- see also* dance metaphor (innovation policy)
- innovation policymaking
 - in Brazil and South Africa
 - ACF for 114–15
 - implications for advocacy coalitions 104–13
 - natural resources comparison 96
 - structural inequalities and racial cleavages 98–100
 - VoC, skills, innovation and economic policy 100–104
- in Latin America 70–71
- NSI falling short in analyzing 88
- innovation practice, policy and theory (IPT) *see* dance metaphor (innovation policy)
- innovation strategy
 - aspects of as trade-offs 66
 - at enterprise level 62–3, 79
 - knowledge management and learning as essential parts of 298
 - OECD's objective 206
- innovation studies
 - centre of gravity in 77
 - concentration on national, sectoral and regional systems of innovation 436
 - as determined by elements from evolutionary economics, economic history and geography 91
 - dominant design 69, 73
 - finding that innovations in emerging economies occur in informal economy 20
 - innovation practice influenced by 300
 - Northern and Southern 48
 - as not completely static 74–5
 - overlap with strategic management 74
 - popular subjects in 87
 - providing 'conceptual practices of power' 47
 - as relatively new field 59
 - rigidities characterizing field of 74
 - significant expansion of 37
 - significant findings on relationship between innovation and inequality 92
 - systems of innovation framework in 88–9
- innovation system (IS)
 - alignment of STI policy to contextualizing, according to ideal types of 189–90
 - horizontal 187, 195–200
 - types of 186–7
 - vertical 187–8, 190–194, 200
 - in Costa Rican study 436–41, 458–60
 - definition 183

- and innovation 296–8
- perspective 181–2
- policy, STI policy as 182–3, 198–200
- as widely disseminated concept 198
- see also* national system of innovation (NSI)
- institution building, trajectory of 207–10, 225
- institutional analysis and development (IAD) framework 436, 439–40, 454–8
- intellectual lock-in 69, 73–7
- Inter-American Development Bank (IDB) 45, 76, 240, 243, 259, 465
- international cooperation 252–3
- international research collaboration paradigm 13
- isomorphism 11
- knowledge
 - absorptive capacity for creation of 159
 - access to 299
 - accumulated 121–2, 138, 156–7, 395
 - assumption of, as public good 197
 - bargaining 497–510, 513–16
 - based inequality 385–6
 - cities 168, 170
 - co-production of 400
 - community acquisition of 459–60
 - competition 151
 - demand for 159, 161, 225, 378
 - democratization of
 - developmental universities as
 - example of 392, 395–403
 - requirements for 380–381
 - strategy for 388–92
 - as tool for development 380
 - developing countries dependent on industrialized countries for 410
 - as development 19
 - dissemination of new 488–9
 - ecologies analysis 75–6
 - ‘economically useful’ 268
 - ‘ecosystem’ 170
 - enterprises as main users of 232
 - exchange between actors 269
 - exploitation 365
 - flows
 - bidirectional 61, 79
 - in Nigeria 366, 369
 - unidirectional 502–3
 - generating new scientific 89, 359
 - of global South firms 65–6
 - heterogeneous and homogeneous 93
 - hierarchy of technical 498, 509, 515
 - incorporating into policymaking 60
 - increasing environmental 448, 452, 457
 - indigenous 3, 409
 - intensive entrepreneurship 326–7
 - lack of demand for, hurting
 - legitimacy of STI policy 374
 - lack of, in case of Fonseca Gulf fishermen 304, 307–9, 311
 - and learning 67–8
 - local 19, 54, 64, 199, 460, 487, 494–5, 503, 505–6
 - management 298
 - models to study 234–5
 - and national systems of innovation 93, 110, 135, 138, 243, 255
 - new economic 153
 - ownership of assets of 323
 - paradigm 69, 74
 - production 11–13, 17–19, 74, 121, 232, 281–2, 384, 395–6, 438, 465, 496–7, 508–10, 513–14, 516
 - relation with innovation 60–61
 - relationships with innovation and social inclusion
 - comparison of approaches 393–4
 - direct approaches to 385–8
 - indirect approach to 381–4
 - role as resource 62
 - scientific and technological 396, 464–6, 506, 515
 - supply and demand of 209, 213
 - tacit 126, 156–7
 - transfer 45, 167, 169–70, 224, 299–300
 - workers, Nigerian 350
- ‘laissez-faire’ approach to markets 13, 90, 104

- Latin America
 and hierarchical market economy
 94, 103
 historical trajectory of STI regimes
 43–6, 51, 54
 influential school of thought 235–6,
 240
 innovation policymaking in 70–71
 investments in absorptive capacity
 198
 lack of studies on developments
 in 40
 main strategy of social inclusion
 in 493
 micro-electromechanical systems
 development 473
 national system of innovation
 avoiding pitfall of reification
 52, 54
 breaking OECD ‘charmed circle’
 43–6
 critique of reification of 40–43,
 47–8, 51
 ‘dancing partners’ metaphor 39,
 41, 51
 as *ex-ante* concept 41, 238
 new directions for research in
 47–52
 politics in 53
 relevance of 50–51
 theoretical power of 38–9
 as unlikely to emerge naturally
 41
 visible normative reification of
 41
 philanthropic causes 466–7, 469
 RICYT (Red Iberoamericana de
 Indicadores de Ciencia y
 Tecnología) 45
 Sábato Triangle 392, 395, 465
 science, technology and innovation
 ECLAC approach to 381–4
 comparison with knowledge
 democratization 390–391
 lack of focus on demand 387–8
 limitations faced by 389
 spending
 and dance partners 379
 national wealth devoted to 377
 structure of 378
 science, technology and innovation
 (STI) policy
 centralization or decentralization
 of 196
 characterized by linearity 196–7
 contextualizing 189
 poor coordination among
 national public agencies 196
 study of responsible research and
 innovation in 22
 technological upgrading through
 trade liberalization in 199
 theoretical and policy failures 494
 value chains in 49
see also Argentina; Brazil;
 Colombia; Costa Rica; Fonseca
 Gulf; Mexico
 LDCs (less developed countries)
 broken trajectories and de-learning
 156–7
 characteristics 155
 inappropriate environment 157–8
 neglected DUI dimension 156
 learning
 and constraints 509–15
 de-learning 156–7
 first-order 132–3, 145, 300
 and innovation 253–4
 process case study 282–6
 second order 132–3, 145–6, 300
 by using 271–2, 274–7
 learning school 65–8, 72
 legislation
 changing rules of the game 221,
 223, 226
 continuous change in 226–7
 evolution in STI, in Mexico 212–15
 expression of stakeholders 216–19
 linear model of innovation 12, 152,
 194, 494
 LMEs (liberal market economies) 100,
 102–3
 Maghreb countries *see* North Africa
 management approaches to STI
 policy
 innovation strategy at enterprise
 level 62–3
 new business models for
 innovation 63–5, 72, 79

- MDGs *see* Millennium Development Goals (MDGs)
- Mexico
- challenge of fostering capability building in 196
 - CONACyT 44, 207–10, 212–16, 470, 472, 475–6, 480, 484, 486
 - FCCyT 208, 213, 216–19, 225
 - General Council for Scientific Investigation, Technological Development, and Innovation 213–16
 - INIC (Instituto Nacional de la Investigacion Cientifica) 44, 208
 - institution building trajectory 207–10, 225
 - micro- and nanotechnology (MNT)
 - growth in development of 464–5
 - human resources training 481–3
 - installation of S&T infrastructure 476–80, 489
 - Mexico-US Foundation for Science (FUMEC)
 - board of governors and political network 471–2, 479, 487
 - central role in promotion of technologies 483–6
 - characterization and qualification of roles played by 487
 - evolution of, and philanthropic origins 469–70
 - funding and institutional independence 470–471
 - initiatives for installation of infrastructure 476
 - in MEMS 472–86
 - Microsystems Programme 473–5, 477, 479, 481–4, 487, 490
 - micro-electromechanical systems (MEMS)
 - dates in development of 475
 - emergence of 472–3
 - FUMEC in 474–88
 - growth and development of 474–88
 - relationships in process of installing and developing 480
 - specialist scientific training activities in 482
 - modelling relationships among organizations involved in 465–6, 488–9
 - philanthropic organizations and NGOs in S&T development 466–9, 487–8
 - promotion, dissemination and commercialization 483–5
- national system of innovation
- future direction for 227–8
 - institutional framework and governance
 - advances in regionalization process 215–16
 - evolution of legislation 212–15
 - expression of stakeholders 216–19
 - rules of the game and governance 219–22
 - as strengthened and advanced over time 225
 - tensions hampering functioning of system 222–5
 - national wealth devoted to STI 377
- REDNACECyT (National Network of State Councils) 213, 215–16
- research agency created 44
- science, technology and innovation (STI) policy
- evolution of 207–10
 - governance
 - and institutional framework 212–19
 - and rules of the game 219–22
 - incipient process of constructing public 225
 - overview of experience of 225–8
 - tensions hampering functioning of system 222–5
- Special Programme for STI (PECiTI) 208–9
- micro- and nanotechnology (MNT) *see* Mexico
- Millennium Development Goals (MDGs) 1–2, 29, 140, 266

- 'Mode 2' model of knowledge production 13, 465
- modes of innovation
 - in Africa 127–33
 - cases of South Africa and Tanzania 133–45
 - implications for STI policy 145–6
 - theoretical base 120–127
- Multimedia Super Corridor (MSC) 170–171
- National Department of Planning (DNP) 240, 246, 248–50, 260
- national innovation systems *see* national system of innovation (NSI)
- national system of innovation (NSI) approach
 - adequacy to reflect non-OECD realities 41–3, 46–52
 - broad version of 136–8, 143–5
 - calls to systematize 38–9
 - combined with global commodity chains 293, 300–301, 309–13
 - concept
 - as *ex-ante* 41, 238
 - as *ex-post* 238
 - as underexploited 232
 - usefulness of 46
 - consisting in, rather than theory 38
 - as could benefit from being more encompassing 39, 51
 - emerging (EIS)
 - analysis of missing stage 172–3
 - challenges of 161–72
 - characteristics 155–8
 - factors driving 158–61
 - future directions for 173–4
 - relevance of 154
 - explaining wider political economic structures 94
 - far-reaching ambition sustained by 37
 - favoured dimensions 39
 - for formulating STI policies 181–3, 185
 - alignment 186–8, 190–200
 - contextualizing according to ideal types of 189–90
 - framework complementary to 93
 - and inclusive growth 298–9
 - influential nationally and globally 38
 - innovation policy and inequality in 88–92
 - and macroeconomic goals 42–3
 - as means of pursuing STI 392–3, 395
 - misunderstanding of 18
 - narrow version of 133–6, 143–5
 - placing of innovation 121
 - privileging government and enterprises 395
 - reductionist version of 46, 51
 - roots of 37
 - specificity as hallmark of 132
 - undermining effects of 12
 - wide application of 40
 - consequences of shortfalls of 77
 - and control 122, 126
 - definition 37–8
 - early occurrences 37
 - and first-order learning 132–3
 - historically grown parameters 95
 - importance of demand for new products and services to 160
 - innovation policy and inequality in 88–9
 - as innovation policy dance 119–20, 126
 - integrity of, affected by globalization 127–8
 - in LDCs
 - broken trajectories and de-learning 156–7
 - characteristics 155
 - inappropriate environment 157–8
 - neglected DUI dimension 156
 - limitation of 88
 - literature of
 - inequality in 92
 - role of innovation policy in 89–91
 - main requirement of 128–9
 - purpose of 110
 - see also* emerging innovation

- systems (EIS); innovation system (IS); *individual countries*
- natural resources
 - in Argentina 503
 - in Brazil and South Africa 96, 114
 - in Colombia 233, 245, 260
 - in Costa Rica 445, 448, 451, 454, 456, 458, 461
 - governance routines oriented towards 16
 - in North African economies 166
 - STI as issue related to 44, 50
 - in sub-Saharan Africa 128
 - in Tanzania 147, 270, 278
- neoliberal approach to markets 13, 100, 102, 140
- neoliberal commitment 42, 51
- NGOs
 - in Brazil 104, 108–9, 113
 - in Costa Rica 438
 - as innovation-producing actor 9
 - in S&T development 466–9
 - in South Africa 112–13
 - in Vietnam 417
- Nigeria
 - as Africa's most populous country 345
 - challenges of S&T policy implementation 356–8, 370
 - education and research institutions (ERIs) 346
 - Federal Ministry of Science and Technology (FMST) 353, 355–6
 - formulation of implicit and explicit S&T policies in
 - agricultural policy 354
 - education policy 353
 - industrial and economic policy 353–4
 - S&T policy 354–5
 - future directions for 370–371
 - historical development of S&T institutions in
 - during Colonial era
 - industrial organizations 348
 - S&T institutions 347–8
 - S&T policy 348–9
 - post-independence
 - industrial organizations 351–2
 - polytechnics 350
 - research institutes 351
 - S&T policy and governance 352–3
 - universities 349–50
- innovation policy dance in
 - government and ERIs 362–3
 - conducting research in areas of interest to government 364
 - education, training and development of human resources 363–4
 - funding of education and R&D by government 363
 - promotion of institution–industry interactions 365
 - protection of intellectual properties of ERIs 364–5
 - government and industry 359–60
 - encouraging industrial funding of research 362
 - encouraging industrial use of local raw materials 361
 - provision of infrastructure by government 360–361
 - industry and ERIs
 - industrial funding of research in ERIs 369
 - industry commercializing research outputs of ERIs 367–8
 - industry reliance on ERI for trained personnel 366–7
 - industry reliance on ERIs to resolve problems 367
 - interactions of industries with ERIs 369
 - three main actors 358–9, 370
- National Centre for Technology Management (NACETEM) 346, 351, 356–7, 362–3, 368
- National Council of Science and Technology (NCST) 352–3
- national system of innovation
 - approach for evaluating STI endeavours 355
 - government role 371
 - interactions between elements of 346, 365, 369–70

- new STI policy for 355–6
 - weak STI capabilities reflected in 346
- petroleum and natural gas industry 345
- poor STI capacity 346
- possible cause of weak research–industry interactions 346–7
- Raw Materials Research and Development Council (RMRDC) 361–2
- NIS *see* national system of innovation (NSI)
- North Africa
 - appropriateness of catch-up paradigm 173
 - complex innovation systems construction 151
 - emerging innovation systems (EIS) 161–72
 - industrial technical centres attractive to 168–9
 - innovation as relatively inaccessible in 155
 - lack of technological progress 161, 163
 - as largely ‘falling behind’ 162
 - as late-industrializing 153
 - and Multimedia Super Corridor 170–171
 - need for fully operational innovation systems 154
 - networking of innovation players 170
 - not yet reaching take-off stage 171–2, 174
 - poorly documented phenomenon in 152
 - specific weaknesses 174
 - technopoles programme in 169, 171–2
 - see also* Algeria
- Novartis AG vs. Union of India 338
- NSI *see* national system of innovation (NSI)
- OAS (Organization of American States) 43, 44, 54, 236, 240, 252, 255
- OECD
 - breaking ‘charmed circle’ in Latin America 43–6, 51, 54
 - definition of innovation 12
 - definition of research 12
 - finding optimal policy mix as continuous process 211
 - on income inequality 1–2, 385
 - national mapping and review approaches 38
 - objective of innovation strategy 206
 - potential theoretical failure examples 12
 - private spending 383
 - project aim 385
 - on South African NSI 119
 - TIA recommended by 111
- opportunities
 - balanced analysis of 6–7
 - for Colciencias 233, 239–40, 248, 251
 - for Colombian SNTCI 258–9
 - for communities 457
 - dance metaphor as heuristic to identify 7–10
 - decisions based on available 269–70
 - of developing country firms 64
 - emergence of new and more relevant policies and programmes 22–4
 - emergence of new and more relevant theories and concepts 19–22
 - employment 421
 - and global value chains 299–300
 - inclusive growth for 298–9
 - innovation for growth 297
 - long-term structures 95, 115
 - micro-electromechanical systems technology as window of 474, 477, 483–6
 - of national innovation systems in Latin America 47–52
 - for Nigeria’s NSI 355
 - in tea sector 275, 285–7
 - technological development opening 89–90, 160
- organizational openness and transparency 254

- patents policy in India 334–42
- policies and programmes, new and relevant 22–4
- policy failures 119–20, 135, 142, 152, 179, 356, 494–7, 509, 514–16
- policy networks 256
- post-colonial histories
 - of Nigeria 349–53
 - of South African NSI 120, 133–6, 141
 - of Tanzanian NSI 120, 136–8, 142
- post-colonial science and technology studies (PCSTS) 47
- pro-poor
 - innovation
 - activities in Brazil 104–9, 115
 - concept 87, 380
 - indirect 397
 - and innovation practices 70
 - as not a priority 25
 - report on 385
 - interventions 494, 514–15
 - solution 509
 - public–private interaction 161, 209, 257, 325
 - public procurement 160–161, 173–4, 321
 - ‘publish or perish’ paradigm 13, 226
- R&D (research and development)
 - in Algeria 151, 158, 164, 167–8
 - in Argentina 497–509, 514
 - BERD (R&D expenditure of business enterprise sector)
 - in Brazil and South Africa 97
 - in India 328, 331–3
 - in Brazil 97, 320, 330, 346, 362–3
 - in Colombia 232, 238, 247, 250, 254, 257–8
 - developing country vs industrialized country intensity 69
 - effective demand for 160
 - in Fonseca Gulf 298–9
 - in India
 - BERD in 328, 331–3
 - financing 325, 327
 - foreign direct investment companies 323
 - GERD in 319, 322, 326, 328
 - goal to establish world-class infrastructure 322
 - improving scientific human resources for 318–20
 - increasing share of foreign companies in performance of 342
 - industries of high concentration 323
 - lacking timely data on 324
 - private sector investment in 323–4
 - STIP considered as innovation policy 324
 - tax policy with respect to 317–18, 325, 327–33, 341–2
 - innovation assessed by 406
 - investment of STI inputs 378
 - laboratories, science policy focus on 89
 - in Latin America 199, 377
 - in Mexico 208–9, 211, 222, 226
 - and modes of innovation 123
 - narrow approach of innovation policy 90
 - in Nigeria 351, 355–7, 359–65, 367–71
 - non-conflation of innovation with 61
 - in North Africa 156–8, 170–172, 174
 - NSI literature going beyond focus on 37
 - package of theory, policy and practice representing problems for 496
 - private sector firms
 - underinvestment 80, 185
 - relationship with poverty levels 1, 3, 385
 - in South Africa 97, 111, 139–40, 346, 362–3
 - and STI policy 188–9, 193, 197, 406–7
 - in sub-Saharan Africa 119
 - in Tanzania 139–40, 142, 144, 265, 277–80
 - of water supply and sanitation systems, in Costa Rica 443

- and Western expenditures 408
- racial cleavages 98–100, 102, 114, 120, 136, 141
- Regional Innovation Systems 19–20, 436
- resource allocation, efficacy in 254–5
- Responsibility Navigator 22
- responsible research and innovation (RRI) 22, 375
- reverse innovation 60, 64
- rules of the game
 - conflicts with legal institutions 223–4
 - effect of law on 221, 223, 226
 - generated from STI public policy construction 225
 - and governance 219–22
 - integration and encoding 206–7
 - and policy makers 228
- S&T law (Mexico) 207–9, 212–14, 216–17, 223, 226
- Sábato Triangle 19, 392, 395, 465
- scarcity-induced innovation (SII) 68–9, 72, 76
- Schumpeter, J. 37–8, 405, 457, 459
- science, technology and innovation (STI)
 - as central driver of economic growth 184
 - Colombian system of
 - background and developments 238–51
 - concepts relevant to 232–3
 - governance of 252–7
 - opportunities and threats 258–9
 - profound transformations 233–4
 - theories in action in 234–8
 - use of NSI approach 232
 - contribution to development 377–81
 - decision making 222, 224–5
 - development programming 71–2
 - ECLAC approach to 380–384
 - comparison with knowledge democratization 390–391
 - lack of focus on demand 387–8
 - limitations faced by 389
 - fostering structural change in productive system 381
 - and inequality 377, 380, 382, 384, 388, 392, 396
 - lagging behind, in sub-Saharan Africa 119
 - limited financial resources for 184
 - literature on public policy in 89
 - performance
 - in developing countries 206
 - in Morocco and Tunisia 163
 - in South Africa and Brazil 97
 - planning landscape, in Tanzania 142–3
 - for social impact, in South Africa 109–13
 - spend on 3
 - state mission wrongly conceived, in Algeria 162
 - trajectory of Latin American regimes 43–6, 51
- science, technology and innovation (STI) policy alignment
 - with innovation systems
 - contextualizing, according to ideal types of 189–90
 - horizontal 187, 195–200
 - types of 186–7
 - vertical 187–8, 190–194, 200
 - with national economic development agendas 26, 90, 142, 162–3
- analytical models of 205–7
- approach 406–7, 426–7
- barriers for implementation 183–6
- division of labour with social policy 381–2, 402–3
- future directions for 51–2, 200
- implications of modes of innovation for 145–6
- from innovation system perspective 181–2
- as innovation system policy 182–3, 198–200
- as inspired by wrong models 152

- and knowledge democratization
 - developmental universities as
 - example of 392, 395–402
 - strategy for 388–92
 - lack of demand for knowledge,
 - hurting legitimacy of 374
 - and mainstream model 210–212, 219, 223–4
 - as marginal for inequality
 - reduction, in neoliberal framework 113
 - and national systems of innovation
 - helpful for design and evaluation of 40–41
 - as important topic for studies of 38
 - need to focus on 205
 - not paying sufficient attention to regimes of 41–2
 - requiring specific 156
 - and relationships between
 - knowledge, innovation and social inclusion
 - comparison of approaches 393–4
 - direct approaches to 385–8
 - indirect approach to 381–4
 - responsive to innovation
 - performers
 - future directions for 79–80
 - implications for public policy
 - innovation systems models 72–3
 - intellectual lock-in 73–7
 - policy reform proceeding slowly 78–9
 - usefulness of literature review 72
 - innovation definition 60–61
 - literature review
 - development approaches 65–9
 - innovation for social purposes 70–72
 - management approaches 62–5
 - overview 61–2
 - near invisibility of, in global South 79
 - use of disciplinary traditions 59–60
- risk of forgoing opportunities to reduce social inequalities 50
 - studies 40, 47–8
 - transversality of 210
 - see also individual countries*
- SDGs *see* Sustainable Development Goals (SDGs)
- Sen's development approach 19, 388
- SNCTI (National System of Science, Technology and Innovation) 233–4, 239, 241, 244–7, 250–252, 256, 258–9
- SNCyT (National System of Science and Technology) 232, 239–44, 246, 254–5, 257
- social capital failures 18–19, 257
- social dimension
 - of inclusive growth 293–4
 - neglect of 39, 75
 - prioritized, in Latin America 44
 - of sustainability 298–9
- social impact
 - and development 408
 - isolation of policies jeopardizing 384
 - STI for, in South Africa 109–13
- social inclusion
 - and developmental universities 396–9
 - innovation for 3, 22–3, 393, 505, 514
 - problems and goals 398–401
 - R&D for 325
 - relationships with knowledge and innovation
 - comparison of approaches 393–4
 - diversity of direct approaches to 385–8
 - indirect approach to 381–4
 - and RRI values 22
 - STI for 106, 228
 - studies in BRICS countries 23–4
 - technologies for (TSIs)
 - case studies 497–509
 - failures of 514–16
 - learning and constraints 509–15
 - outstanding issue for 516
 - reasoning behind, and definitions 493–7
- social innovation
 - concept 20, 70, 87, 493

- support programmes for, in South Africa 109–13
- see also* Argentina
- social purposes, innovation for 70–72, 80
- social systems 256–7
- societal process model 413, 425–30, 434
- South Africa
 - Communist Party of 103
 - Congress of South African Trade Unions (COSATU) 103–4
 - Department of Science and Technology (DST) 110–112
 - ESKOM 101
 - failure to engage innovation performers 78
 - GEAR (Growth, Employment and Redistribution) strategy 102–3
 - Human Science Research Council (HSRC) 109
 - increasing attention to poverty reduction 24
 - Innovation Fund 110–111
 - innovation policymaking
 - ACF for innovation policy in 114–15
 - legislation 99, 113
 - natural resources 96, 138
 - performance in S&T indicators and inequality 97
 - public interests and NGO interventions 112–13
 - STI for social impact 109–13
 - structural inequalities and racial cleavages 98–100
 - varieties of capitalism, skills innovation and economic policy 100–104
 - as most industrialized and diversified economy on continent 120
 - National Research Foundation (NRF) 110
 - national system of innovation
 - addressing participation level of innovation practitioners 145
 - and conditions for effective innovation performance 77
 - implications for STI policy 145–6
 - indicators for 144
 - innovation policymaking in 96–104, 109–15
 - OECD review of 119
 - post-colonial history of 120, 133–6, 141
 - prominent trend in 77
 - Tanzanian comparison 138–45
 - public bodies and private performers 78–9
 - R&D
 - funding by government 363
 - industrial funding of 362
 - researchers per million people 346
 - Reconstruction and Development Programme (RDP) 102
 - science, technology and innovation (STI) policy
 - change in rationale for 115
 - implications for advocacy coalitions 109–13
 - implications of NSI for 145–6
 - origins of 96, 99–100
 - STISI (STI for social impact) 111–12
 - Support Programme for Industrial Innovation 110
 - Technology and Human Research for Industry Programme (THRIP) 110–111
 - Technology Innovation Agency (TIA) 111
 - telecommunications sector 66, 101
- STI *see* science, technology and innovation (STI)
- STI law 1286 of 2009 245–8
- STI policy *see* science, technology and innovation (STI) policy
- STIP *see* science, technology and innovation (STI) policy
- sub-Saharan Africa
 - lagging behind on STI front 119
 - legitimacy of state in 127
 - as one of most economically underdeveloped regions in world 119
 - post-colonial history of conflict across 127

- power configurations shaping accumulation regimes 127–9
see also Nigeria; South Africa; Tanzania
- sustainability
 - in Costa Rica 437–43, 447, 452, 455–61
 - social dimension of 298–9
 - vision for 310
- sustainable development
 - concept 293–5, 412
 - no single blueprint for 428–9
 - STI contributing to 392, 395
- Sustainable Development Goals (SDGs) 2, 29
- systems of innovation (SI) framework 436–41, 458–60
- take-off
 - analysis of 172–3
 - industrial technical centres playing significant role in 167–8
 - and North African countries 171, 174
 - paradigm 153–4
 - role of technopoles 168, 171
 - success story 170
- Tanzania
 - Agricultural Sector Development Strategy (ASDS) 270–271
 - agriculture
 - effect of failure of ‘villagization’ reform 142
 - institutional framework for research 286–7
 - linkage between STI policy and practice 270–271
 - low productivity in 147
 - move towards minerals and ores 140
 - as priority sector for economic growth 137–8, 265–6
 - research condition 280–281
 - sector still flagging 138–9
 - semi-public R&D institutes in 278
 - among poorest economy on continent 120
 - conceptual framework for analysis 268
 - with emergent or nascent IS 189
 - Government of Tanzania (GoT) 265, 267, 281
 - Kilimo Kwanza 271, 274, 281
 - national system of innovation
 - implications for STI policy 145–6
 - indicators for 144
 - post-colonial history of 120, 136–8, 142
 - South African comparison 138–45
 - progress on MDG indicators 266
 - Science, Technology and Innovation Policy Research Organization (STIPRO) 281
 - science, technology and innovation (STI) policy
 - as gloss 287
 - policy
 - and practice 270–277
 - and theory 277–81
 - remaining at national level 286
 - theoretical positioning 265
 - theory
 - and policy 277–81
 - and practice 281–6
 - Tanzania Commission for Science and Technology (COSTECH) 278–9, 281
 - Tanzania Tea Authority (TTA) 272, 275
 - Tea Act 1997 272, 274
 - Tea Board of Tanzania (TBT) 267, 272–3, 275
 - tea sector
 - addressing labour shortages 284
 - effect of low input use and poor field management on 283
 - example of learning by using 271–2, 274–7
 - integrated in global value chains 282
 - lessons learned leading to improvements 283–4
 - new tea clones 279–80
 - privatization efforts 270
 - research institute for 267
 - trialling innovations 284–6
 - value-added tax levied on 271

- Technology Transfer Programme (TTP) 282–4
- TRIT (Tea Research Institute of Tanzania)
 - case study from 282–6
 - funding, creation and governance 267
 - as national agricultural research institute for tea sector 267
 - as participant in training 279
 - policy push 275–6
 - as tea stakeholder 273
 - two-level working 279–80
- Wakulima Tea Company (WTC) 276–7, 284–6
- tax policy evolution, in India 327–33
- tea sector *see* Tanzania
- technological capability-building (TCB) system 66
- technologies for social inclusion (TSI)
 - approaches 494
 - definition 516–17
 - failures common to, in Argentina 494–5
 - inscribed on agendas of theoretical discussion and public policy 493
 - learning
 - and constraints 509–14
 - and tensions in 497–509
- technology transfer
 - failures from rationality based on conception of 514
 - intellectual property offices 369–70
 - move towards knowledge bargaining 513–14
 - paradigm 13
 - in problem-solution relationship 511
 - programmes supporting 112, 279, 282–3
 - social inclusion projects dominated by frameworks of 494–5, 509 and TRIPS compliance 339
 - in Vietnam 414, 425
- technopoles 168–74
- Thailand
 - lack of alignment between policies and problems 193, 201
 - vertical alignment of policies in 194
- theoretical failures 10–15, 152, 494–7, 509, 514–16
- theories and concepts, new and relevant 19–22
- TIA (Technology Innovation Agency) 110–111
- ‘tinkering’ with innovation
 - concept of 269–70
 - helping to explain learning processes and gaps in STI policy 286–7
 - with policy in practice 271–7
 - between theory and practice 282–6
- Triple Helix model 12–13, 19, 234–5, 465
- TRIPS (Trade Related Intellectual Property Rights) compliance, in India 317, 333–41
- TSIs (technologies for social inclusion)
 - case studies 497–509
 - failures of 514–16
 - learning and constraints 509–15
 - outstanding issue for 516
 - reasoning behind, and definitions 493–7
- UNESCO (United Nations Educational, Scientific and Cultural Organization) 38, 43–4, 54, 87, 252–3, 278, 346, 355, 377
- value chains
 - actors in small-scale fishing 302–4, 309
 - in fragmented or dual IS 189–90
 - global, and governance 299–300, 309
 - innovation and performance within 306–9
 - Tanzanian 139–40, 274–6, 282
 - unfavourable local conditions for 49
- varieties of capitalism (VoC)
 - in Brazil and South Africa 100–104
 - structural inequalities and skills for innovation in 92–4
- Vietnam
 - analysis and theoretical implications 422–6

- approach taken to study 413–14
- Bat Trang ceramics village 420–424
- cluster-level innovation 416–30
- craft villages 408, 415
- Duong Lieu cassava products village 416–17, 422–3
- innovation policy dance in 414–16
- Phu Vinh rattan and bamboo Village 419–20, 422–3
- policy implications 426–9
- Van Phuc silk village 417–19, 422–3
- VoC *see* varieties of capitalism (VoC)
- Washington Consensus 40, 42, 45, 48, 53, 100, 102, 105, 199, 384
- water supply and sanitation (WSS) systems
 - and community-based innovation dynamics 436, 442–3, 447–60
 - community capacities 442–3, 451–4, 457
 - cost-sharing system for 438–9
 - failed solutions 436
 - global crisis 435
 - institutions 454–8
 - model based on conceptual frameworks 436, 439–41
 - national demand for more efficient 437
 - participation of community 442–3, 447–51, 456–7
 - policy implications 460–461
 - research design 442–4
 - results and analysis
 - Association of Rural Water and Sanitation Systems 446
 - Blue Flag Ecological Program and Sanitarian Quality Seal Program 445–6
 - community-based innovation dynamics 447–56
 - WSS in Costa Rica 444–5
 - success depending on level of equity and sustainability 438
 - sustained operation of 441
 - theoretical implications 458–60
 - world-system analysis (WSA) 47–9, 52, 54