

## **BRAZIL 2022: A LAND OF GOOD HOPE?**

Ignacy Sachs

“Brazil is well placed to become a paragon of the Lands of Good Hope”, a perspective of positive participation and leadership in a moment when the world experiences a deep crisis. Whether a statement or a question, this strong idea will be tested in the next decade. Ignacy Sachs analyzes the ecological, structural and institutional conditions that are necessary to enable the country to play a leading role in fostering South-South cooperation while enhancing biocapacity, the latter a central concept to the author. Today, we are in presence of four inter-related crises. The complexity and the opportunities of our times are analyzed within an ecosocial development framework.

## **BRASIL 2022: TERRA DA BOA ESPERANÇA?**

“O Brasil está bem posicionado para se tornar um modelo de Terra da Boa Esperança,” uma perspectiva de participação positiva e de liderança em um momento em que o mundo experimenta uma profunda crise. Se isto corresponde a uma afirmação ou a uma questão, esta ideia, bastante forte, será testada na próxima década. Ignacy Sachs analisa as condições ecológicas, estruturais e institucionais necessárias para permitir ao país desempenhar um papel de liderança na cooperação Sul – Sul, ao mesmo tempo ampliando a biocapacidade, esta, um conceito central para o autor. Estamos, hoje, na presença de quatro crises inter-relacionadas. A complexidade e as oportunidades de nossos tempos são analisadas em uma visão ecodesenvolvimentista.

### **1 INTRODUCTION**

Markets are short-sighted and lack social and environmental sensibility. The last thirty years of neoliberal counter-reform, based on the myth of self-regulating markets, have severely undermined, if not destroyed, the nations’ ability to undertake long-term planning and thinking about what in Brazil is subsumed in the term “national project”.<sup>1</sup> The present crisis is an opportunity to reverse this trend and bring forward the concept of socially inclusionary and environmentally sustainable development and its core engine: employment-led economic growth, promoted by a developmental State.

In his pioneering writings on the methodology of long-term planning, Michal Kalecki chose a fifteen-year time span as a suitable horizon.<sup>2</sup> He would often joke with us that everything going beyond fifteen years rather belonged to the realm of astrology.

To set a debate on the long-term prospect for the Brazilian economy, society and politics, we might choose 2022 as the end year. This is a highly symbolic choice, as Brazil will then celebrate the bicentennial of its independence. Moreover, 2022

---

1. This term has been frequently employed among others by Celso Furtado.

2. See the section on long-term planning in *Collected Works of Michal Kalecki*, volume III, pp.181-254, edited by Jerzy Osiatynski, (Oxford: Clarendon Press, 1992).

will mark the fiftieth anniversary of the UN Conference on Human Environment, held in Stockholm, which was instrumental in bringing to the fore the concept of ecocodevelopment, afterwards renamed sustainable development.

Development goals ought to be socially oriented and predicated on the double ethical principle of synchronic solidarity with the present generation and diachronic solidarity with the future generations. To achieve these goals, it is necessary to engage in a sustained economic growth process, at least so long as the basic needs of those living at the bottom of the social pyramid are not adequately fulfilled. The right to decent work for all is its cornerstone, side by side with a social safety net for those who live below the poverty line, the disabled and the elderly. At the same time, the growing pressure of the human population on the biosphere imposes a code of responsible conduct towards nature.

A key question to answer in this context is **which State for which development?** As a matter of fact, we are compelled to answer the same question for the third time in eighty years, the first two rounds having been the aftermath of the 1929 crisis and that of the Second World War.

The 1929 crisis led to a competition between three major institutional responses: Nazism, real Socialism and Roosevelt's New Deal. In the short run, Nazism proved quite efficient at putting Germans back to work by resorting to a Keynesian policy *avant la lettre*: an armament race, which unfolded into the Second World War and its tragic consequences.<sup>3</sup>

The same question – which State for which development? – became central to post war politics. The thirty years that followed the end of the war were marked by a fair measure of consensus about three ideas:

- in order to exorcise the memory of the great crisis and mass unemployment, it was necessary to put at the centre of economic thinking a proactive State capable of providing full employment at the centre of economic thinking;
- economic State interventionism was to be supplemented by social policies aimed at establishing a Welfare State;
- finally, planning was necessary to avoid the waste of resources. When Von Hayek published in 1944 in London his libel against planning<sup>4</sup>, he was the dissident. Everybody around him was planning.

---

3. This is not to say that the armament race is the only possible Keynesian policy. In the late forties of the past century, a controversy opposed partisans of a left wing Keynesianism advocating public investment in socially oriented projects, such as housing, to a right wing, favourable to an armament race as part of the competition between the two rival political systems.

4. F. Von Hayek, *The road to serfdom*, (London: Routledge, 1944).

These three *idées-force* were shared on both sides of what became known as the iron curtain. However, the two competing systems – reforming capitalism and real socialism – differed sharply in the ways to implement them. On several occasions (the Berlin blockade, the Cuban crisis), the world came to the brink of a third world conflict. Stimulated by the competition with the Socialist bloc, Western capitalism went through three decades of a golden age<sup>5</sup>, which coincided, however, with the Chinese revolution, the decolonisation process and the emergence of the Third World.

As for the Socialist bloc, its rising power was soon jeopardized by the Soviet-Chinese rift and the 1968 entry of Soviet tanks in Prague to repress the local brand of “socialism with a human face”. In spite of Gorbatchev’s later efforts, the countries of the Soviet bloc failed in their attempt to democratise and the Soviet Union imploded in 1991, as a consequence of the fall of the Berlin Wall in 1989.

These events paved the way for a thirty-year span of neoliberal counter-reforms, associated with the names of Margaret Thatcher in the UK and Ronald Reagan in the US. It is to be hoped that the present crisis will put an end point to this period of retrocession in terms of the pursuit of inclusionary and sustainable development, even though the neoliberals have not disarmed as yet.

At first sight, everybody has become Keynesian at this juncture, recognising that the State has a major role to play in anti-crisis policies. Yet, behind this apparent unanimity, one finds diametrically opposed stances between those who would like to seize the crisis as an opportunity to steer a new course (among which I include myself), and those who would be happy with the socialisation of the losses suffered by private banks and enterprises, so as to enable them to return as soon as possible to business as usual.

## 2 ONE CRISIS OR FOUR?

In reality, we are in the presence of four inter-related crises.

The financial crisis started in Wall Street by fair people with blue eyes, as pointed out by President Lula, and unfolded into a major socio-economic crisis of worldwide proportions. The parallel with the 1929 crisis is often made; however, there are at least two differences. On one hand, the globalisation processes are far more advanced today. This explains the intensity of the crisis. Not only do wages in developed countries lag behind the increases in productivity, but American and European workers are also replaced by Chinese and Vietnamese low-paid ones.<sup>6</sup> On the other hand, one may expect policy

5. This expression was coined by Steve Marglin, from Harvard University. The well-known French economist Jean Fourastié used the term: *les trente glorieuses*.

6. See on this point A. Lipietz, *Face à la crise, l'urgence écologiste*, (Paris: Les Éditions Textuel, 2009), p.19.

makers to have learnt some lessons from studying the past. In a sense, history never repeats itself. The response hitherto has been much stronger than in 1929, which is not to say that the end of the crisis is within rapid reach.<sup>7</sup>

A corollary to the socio-economic crisis is the impending need to reassess and reorganise the present pattern of highly asymmetric globalisation; the awkward relationship between the United States and China (a future G2?) looms high in it, the UN system is losing its power in comparison with the G20 and the WTO, and developing countries are at pains to find a framework for an expanded South-South cooperation.

The third crisis is of an entirely different nature and must be analysed in a different time perspective. The threat of highly detrimental and partly irreversible climate change brings us back to the very long time span of the coexistence between our species and the biosphere, our habitat. We are at the beginning of the third great transition.<sup>8</sup>

The first started twelve thousand years ago, with the domestication of plant and animal species, the sedentarisation of human populations, paving the way to urbanisation, writing and the emergence of the State. This was indeed a major mutation in which humankind began to artificialise its environment.

The second can be dated back to the end of the seventeenth century. It consisted in the ever expanding use of fossil fuels – first coal, then oil and gas – and led to the successive technical and industrial revolutions, an unprecedented growth of human population – we shall be nine billion in 2050 –, the rise and fall of colonial empires and two terrible world wars.

We are now on the threshold of the third great transition: a gradual exit from the oil age and, if we are smart enough, from the fossil energy altogether. This transition will certainly take decades but once it is off, future historians will see the fossil fuel age as a brief, yet eventful, interlude in the long history of our co-evolution with the biosphere.

The fourth crisis is of an intellectual nature and relates to development thinking.

We are sitting on several failed paradigms: real socialism, the neoliberal model, based on the myth of self-regulating markets and even the social democracy

---

7. See i.a. Martin Wolf, "Crise de 1929, le retour ?", *Le Monde*, 23<sup>rd</sup> June 2009.

8. For the description of the first two transitions, see Clive Ponting, *A Green History of the World* (London: Penguin Books, 1993) and also Jean Guilaine, *Les racines de la Méditerranée et de l'Europe*, (Paris: Collège de France – Fayard, 2008). The eminent French historian who authored the second book drew the following rather pessimistic conclusion in his last lecture before retiring: 'Only ten thousand years after this extraordinary adventure, the inventory is not impressive as a great portion of our contemporaries do not have enough to eat. The hope raised by the Neolithic Age has partly turned into a nightmare. Who is the culprit? Certainly man himself, who became possessive and destructive, putting all his energy in imposing his domination on his peers and evermore deteriorating his environment. Man tirelessly denatures himself. It looks more like the path to alienation rather than to freedom.', p.89-90

in so far as, under the assault of the neoliberal counter-reform, it retreated behind the oxymoron 'yes to market economy, no to market society'.

We must also discard two fallacies.

Compulsive urbanisation is not the only path leading to development; the slum planet is probably the worst of all possible worlds.<sup>9</sup> Contrary to an entrenched prejudice, we cannot afford, in this beginning of the twenty-first century, to avoid a difficult debate about a new cycle of rural development. Peasant farmers still account for almost half of the human population. Among them, only a small minority benefited from the green revolution. The productivity gap between farmers in developed countries and the pre-green revolution farmers in the South was, according to Samir Amin<sup>10</sup>, of ten to one before 1940, but nowadays it reaches hundred to one.

What is at stake is the fate of three billion people, among them a fair proportion of the poorest among the poor. Samir Amin is right to say that, within the next half century, even the most rapid industrial development will not be able to absorb even a third of that manpower reserve. *"It is necessary to accept the permanence of a peasant agriculture throughout the visible future of the twenty-first century. Not on account of a romantic nostalgia of the past, but quite simply because the solution of this problem calls for the overcoming of the capitalist logic, inscribed in the long secular transition to world socialism. One must therefore figure out policies regulating the relationship between the 'market' and peasant agriculture"*<sup>11</sup>, respectful of the food sovereignty of nations.

The more so that, in employment terms, we are going through a period of 'deindustrialisation'.<sup>12</sup> The industrial output advances mainly through increases in labour productivity, bringing about a jobless growth. That is why it is necessary to identify and make the best possible use of all the opportunities for employment-led growth.<sup>13</sup>

On the other hand, experience shows that disembodied technical progress is not the only engine of growth. Natural resources still matter mostly when coupled

9. Mike Davis's book on this subject *Planet of Slums* (2004), was translated in French as *Le Pire des mondes possibles : de l'explosion urbaine au bidonville global*, (La Découverte, Paris 2006).

10. Samir Amin, *Sur la crise – sortir de la crise du capitalisme ou sortir du capitalisme en crise*, (Pantin: Le Temps des cerises 2009), pp.139-140. See also his earlier book, *Pour un monde multipolaire*, (Paris: Syllepse, 2005).

11. *Op cit.*, p.142.

12. Gabriel Palma, *Four sources of 'de-industrialisation' and a new concept of the 'Dutch Disease'*, (University of Cambridge, November, 2004).

13. See on this point, Ignacy Sachs, "L'Economie politique du développement des économies mixtes selon Kalecki: croissance tirée par l'emploi", in *Mondes en Développement*, Paris, vol. 27, n°106, 1999, p. 23-34 (in portuguese: "A economia do desenvolvimento segundo Kalecki: crescimento puxado pelo emprego", in I. Sachs *Rumo à ecossocioeconomia – Teoria e prática do desenvolvimento*, Paulo Freire Vieira, (org.), São Paulo: Cortez Editora, 2007; pp. 357-377); and also *Desenvolvimento incluyente, sustentável, sustentado*, prefácio de Celso Furtado, (Rio de Janeiro: Garamond, 2004).



with research aimed at increasing their productivity, widening the spectrum of derived products and improving the social organisation of production and distribution processes.

### 3 RESHAPING THE DEVELOPMENTAL STATE

This brings us to the roles of a proactive developmental State acting in a public – private **mixed economy**, a concept central to Kalecki's and Tsuru's thinking about developing countries<sup>14</sup> and predicated on the search for a socially inclusionary and environmentally sustainable economic growth path. The social and environmental challenges ought to be tackled simultaneously, so as to create a fair measure of opportunities of decent work<sup>15</sup> while mitigating climate change by reducing the emission of greenhouse gases.

It is up to the State to organise the planning process, which may be described by the following adjectives: strategic, flexible, continuous and negotiated with all the actors of the developmental process – the State, entrepreneurs, workers and the third sector (organised civil society).

Public banks are an important lever in the hands of the State, not only as a source of financial resources, but also as an actor capable of imposing substantive conditionalities to borrowers. So are public enterprises acting in strategic sectors of the economy.

In order to bring into the plan the myriad of small scale farmers and producers, their organisation in cooperatives and other forms of collective entrepreneurship ought to be encouraged. In parallel, steps must be taken to create synergies between large enterprises and the universe of small producers. In Albert Hirschman's terms, we must carefully explore to this effect the backward and forward linkages of large enterprises.<sup>16</sup>

Furthermore, the developmental State cannot omit itself, as already said, from developing a social safety net for the disabled, the elderly and all those living below the poverty line, completing the ongoing processes of land reforms, introducing changes in the fiscal system in order to make it more equitable and expanding research in the public sector, so as to be sure that long-term priorities of national development are properly addressed. Private research has a propensity to 'short-termism' and seeks profitability at the expense of a long term vision of social interest.

14. See M. Kalecki, *Collected Works of Michal Kalecki*, volume V, edited by Jerzy Osiatynski, (Oxford: Clarendon Press, 1993). See in particular "Problems of financing economic development in a mixed economy", pp.45-60. See also S. Tsuru, *Towards a New Political Economy*, *Collected Works of Shigeto Tsuru*, volume 13, Kodansha, Ltd., Tokyo, 1976, "Merits and Demerits of the Mixed Economy in Economic Development: Lessons from India's Experiences", pp.17-34.

15. At first sight, the concept of decent work, put forward by the ILO, may seem fuzzy. It has however the merit of insisting on three simultaneous criteria: fair pay (taking into consideration the level of economic development of each country), fair work conditions and social relations.

16. See A. Hirschman, *Strategies of Economic Development*, (New Haven: Yale University Press, 1958).

While discussing the functions of the developmental States, one may recall the premises on which the 1975 Dag Hammarskjöld Report *What Now* was predicated<sup>17</sup>: ‘*Development is a whole. Its ecological, cultural, social, economic, institutional and political dimensions can only be understood in their systematic interrelationships, and action in its service must be integrated.*’ (p.28).

Development must be geared to the satisfaction of needs and seek the eradication of poverty as its paramount goal. How to reconcile the need-oriented approach with the logic of the market is a major concern, partly overcome by expanding the universal network of social services – social safety nets, education, health, sanitation, maybe housing – provided by the State outside the market. An intriguing mix of the two approaches was suggested by the Indian expert in water management, Shekhar Singh: the water required to satisfy the consumption needs of riparian populations of the Ganga River and for the maintenance of the river’s ecosystem should be kept outside the market. Water for irrigation should be allocated through the market.

Another consideration in this respect is the scope to be given to the production outside the market of goods for self-consumption, a common feature in peasant communities and pre-capitalist societies. Will it expand in post-capitalist economies in which the length of heteronomous work will be gradually reduced, leaving more time for leisure and autonomous work?<sup>18</sup> *What Now* put at the centre of the debate the concept of endogenous and self-reliant as opposed to mimetic development, while stating explicitly that it should not be confused with autarchic development. It also insisted on defining development strategies in harmony with the environment. This may look like a tall order, yet the present configuration compels us more than ever to abide by it.

Brazil urgently needs to regain its capacity for long term planning, severely undermined as the result of the neoliberal counter-reform. However, compared to other countries, it can rely on a strong public financing system, led by the BNDES, Caixa Econômica Federal, Banco do Nordeste and Banco do Brasil. The State oil monopoly – Petrobras – is another strong asset.

So are the pro-poor social policies, which consist of cash transfer payments to some fifteen million families living below the poverty line, conditioned by

---

17. This report was prepared on the occasion of the seventh special session of the UN General Assembly, convened to discuss the New International Economic Order, a subject that should be put again on the agenda of the international community. *What Now*, (Uppsala, 1975).

18. On the discussion of this subject, the reader may be referred to the works of Ivan Illich (*Œuvres complètes*, volumes 1 and 2, Paris: Fayard, 2004 & 2005), and André Gorz, *Métamorphoses du travail* (Paris: Galilée, 1988 and Folio Essais, 2004). See also Ignacy Sachs, *Espaços, tempos e estratégias do desenvolvimento*, trad. de L.L. de Vasconcelos e E. Araujo. (São Paulo: Vertice, 1986). On the analysis of the social models of time use, see Ignacy Sachs, “Developing in harmony with nature: consumption patterns, time and space uses, resources profiles and technological choices”, in *Canadian Journal of Development Studies*, Ottawa, vol. 1, n°1, 1980.

regular attendance to school and vaccination of their offsprings (Bolsa Família).<sup>19</sup> These are now supplemented by the Territórios da Cidadania programme, aimed at providing opportunities for social inclusion through decent work and thus emancipating the beneficiaries of the Bolsa Família from their excessive dependence on cash transfer payments by the State.<sup>20</sup>

Recent years have also seen some progress with respect to the improvement of backward and forward linkages between large enterprises, which recognise their social responsibility, and small producers. However, a fair measure of synergy between these two groups of development actors is yet to be achieved.

Among the policy instruments that require streamlining and more systematic use, are the economic-ecological zoning and the certification schemes, which are at present voluntary but could become compulsory.

On the negative side, one should mention a fiscal system, whose regressiveness has recently been pointed out by a report commissioned by the Council for Economic and Social Development (CDES).<sup>21</sup> A badly missing tribute is a carbon tax which could be offset by a simultaneous reduction of employers' social security contributions, so as to discourage fossil energy consumption while stimulating employment.<sup>22</sup> The proceeds of the carbon tax together with royalties from the exploitation of oil could feed sovereign funds, such as the recently established Amazon Fund, aimed at financing the transition to a low carbon economy.

Another missing attribute is a highly progressive land tax, penalising large unproductive estates and instrumental in fostering the unfinished agenda of land reforms, which looms high among the urgent tasks to be completed.<sup>23</sup> Family agriculture is at a disadvantage, compared with large scale agribusiness, still quite influential in the Brazilian Congress. The agriculture plan for 2010 foresees 92.5 billion reais for the large scale

---

19. Bolsa Família may be considered as a variant on the theme of citizen basic income tirelessly advocated in Brazil by Eduardo Matarazzo Suplicy. (See his book *Renda Básica de cidadania: a resposta dada pelo vento*, Porto Alegre: LPM Pocket, 2006). As a matter of fact, it consolidated several social programmes into one, including the Bolsa Escola, a fellowship programme for children attending primary schools, pioneered by the former governor of Brasília, Cristovam Buarque.

20. A parallel can be drawn between this programme and the Indian Employment Guarantee Scheme.

21. See CDES, *Indicadores de equidade do sistema tributário nacional - Relatório de observação n°1*, Brasília, June 2009.

22. The carbon tax was successfully introduced by Scandinavian countries and is to be preferred to the trade of carbon credits. About the latter, George Monbiot (*Heat - How to Stop the Planet Burning*, London: Penguin Books, 2007) has this to say: "Just as in the fifteenth and sixteenth centuries, you could sleep with your sister, kill and lie without fear of eternal damnation, today you can leave your windows open while the heating is on, drive and fly without endangering the climate, as long as you give your ducats to one of the companies selling indulgences.", (p. 210).

23. An effective enforcement of such a land tax, with imposition rates increasing with the size of the estate and progressing in time would put the land owners before the following alternative: either to invest in making their land highly productive (and thus create employment) or sell it to a public bank that will redistribute it through the land reform process.



agriculture and only 15 billion reais for family agriculture; however, the latter figure represents an increase of 525% as compared with the funds allocated to family farmers in 2002/2003.

Finally, to complete this brief review of the present setup, the situation in the field of public research shows many positive aspects but a lot of progress still to be made.

#### 4 WHERE DO WE MOVE TO?

As already said, the crisis should be used as a turning point to move towards structural reforms.

Immediate transition to socialism – the revolutionary path – is not on the agenda. We may recall that the Eastern European countries defined themselves as people's democracies, thereby implying that the transition between capitalism and socialism needed some time. Anyhow, the memory of the implosion of the Soviet Union is still too fresh, which is not to say that the demise of real socialism should be read as an unconditional approval of capitalism, the end of history as proclaimed by Fukuyama,<sup>24</sup> who has since retracted himself from this extreme view. According to Joseph Stiglitz, the present crisis unleashed in developing countries a wave of disillusion with respect to the American brand of capitalism.<sup>25</sup>

Are we therefore speaking of reforms within capitalism? Of post-capitalism? Of green republicanism, which *"not only offers a critique of excessive wealth creation and its misdistribution, but equally importantly sets its face against 'green consumerism' as a solution or viable path of transition from unsustainability."*<sup>26</sup> How should one classify in this context the 'third way' proposed by Nehru in India under the name of *'socialistic pattern of society'* (as distinct from the socialist one), in which the public sector was supposed to grow at a quicker rate than the private one?

Let us not trap ourselves in the semantic discussion, which has kept many generations of Talmudists busy looking for an answer to the tantalising question: at what point does a black cow with white spots become a white cow with black spots? In compensation, we need to add an 's' to capitalism and socialism and engage in comparative studies of different actual brands of

24. Francis Fukuyama, *The End of History and the Last Man*. (Glencoe, Ill.: Free Press 1992).

25. Joseph Stiglitz, 'Los mensajes tóxicos de Wall Street', *Other News Info*, <http://other-news.info>, 24th June 09. The author, who believes in the Western type of democracy and in the working of regulated markets, fears that this disillusion will prevent the developing countries from learning the correct lesson from the crisis, namely that the way out of it calls for a regime in which the roles of the market and of the State are balanced and the State is strong enough to manage the regulation effectively.

26. See John Barry, "Towards a Green Republicanism: Constitutionalism, Political Economy, and the Green State", *The Good Society*, volume 17, no.2, 2008, p.7. (University of Maryland).

capitalism and socialism<sup>27</sup>, not in order to find readymade blueprints to be replicated, but to stimulate social imagination. History remains open and it is up to coming generations to innovate. In view of the demise of real socialism and of the neoliberal counter-reform, I would be inclined to think that they are more than ever condemned to invent and experiment new solutions.

At least three lines of action seem open to Brazil in its endeavour to transform the present crisis in an opportunity to enter the path of structural changes:

- expanding the universal network of social services, which do not require the mediation of the market as part of a new cycle of territorial development;
- enlarging the perimeter of the social economy<sup>28</sup> within the market economy, and
- engaging into a green socioeconomic agenda, which is not tantamount to giving priority to environmental concerns at the expenses of the social ones. Both ought to be tackled simultaneously, and I agree with Tom Zeller Jr. when he writes that “*the idea is a sort of kill-two-birds-with-one-stone approach to global warming and global poverty*”<sup>29</sup>, but I do not necessarily share the qualification which follows in brackets: “*while making money at the same time*”.

They will be briefly discussed below.

## 5 BRIDGING THE CIVILISATIONAL GAP BETWEEN CITIES AND THE COUNTRYSIDE

Arthur Lewis’s seminal article on *Economic Development with Unlimited Supplies of Labour*<sup>30</sup>, published in 1954, argued that developing countries have a dual economy: a traditional (rural) sector with low productivity surplus labour and a modern capitalist (urban) sector. Development will consist of gradual emptying of the traditional sector by providing to the rural migrants more productive and better paid urban jobs. His Nobel Prize notwithstanding, history took a less optimistic course. We have already seen that outright urbanisation and

27. As far as capitalisms are concerned, see the pioneering study of Michel Albert *Capitalisme contre capitalisme*, (Paris: Éditions du Seuil, 1991), the body of literature produced by the so-called French School of regulation, (in particular, Robert Boyer, *La théorie de la régulation. Les fondamentaux*, (Paris: La Découverte, Coll. Repères, 2004) and, as an attempt to understand the Chinese puzzle, Yashong Huang *Capitalism with Chinese Characteristics – Entrepreneurship and the State* (Cambridge: Cambridge University Press, 2008). According to this author, “*capitalism with Chinese characteristics is a function of political balance between two Chinas – the entrepreneurial, market-driven rural China, vis-à-vis the state-led, urban China [...] When and ever rural China has the upper hand, Chinese capitalism is entrepreneurial, politically independent, and vibrantly competitive in its conduct and virtuous in its effects. When and where urban China has the upper hand, Chinese capitalism tends toward political dependency on the state, and is corrupt.*” (p.xvi - xvii). The comparative study and post mortem *sine ira et studio* of the different brands of real socialisms is still to be produced.

28. The term social economy used by European scholars corresponds to the concept of ‘*economia solidária*’, as used by their Brazilian counterparts.

29. T. Zeller Jr. “Developing a greener Third World”, *International Herald Tribune*, June, 8th 2009.

30. *Economic Development with Unlimited Supplies of Labour*, Manchester School of Economic and Social Studies, vol. 22, 1954.

full employment pushed by industrial expansion are not likely to happen on a worldwide scale in this century.

Instead of stimulating rural – urban migrations, we should therefore emphasise programmes aimed at bridging the civilisational gap between large cities and the countryside by extending to the rural people some of the amenities and opportunities of urban life, while exploring the scope for decentralised industrialisation, enabled by modern communication and production techniques.<sup>31</sup> Deconcentration of industries is welcome, insofar as it helps to offset the counter-productivity phenomena associated with excessive growth of metropolitan cities and creates jobs in the secondary and tertiary sectors in the rural areas.

Hence the importance of extending, throughout the national territory, the networks of social services provided by the State outside the market economy, in fulfilment of citizen rights. Let it be said that development can be seen as the effective universalisation of the three generations of human rights: political, civil and civic; economic social and cultural, starting with the right to decent work; finally collective rights such as childhood rights, environment and city rights.<sup>32</sup>

Two observations are in order here. If properly designed, social services are fairly labour intensive, which is welcome, the more so that they generate a demand for qualified labour, contributing in this way to diversify the social fabric of local communities.

On the other hand, the cost of extending the social services networks to rural areas is inferior to that of providing adequate infrastructure and housing to rural migrants accruing to cities; likewise, the outlays required to fund new jobs are lower in the rural setting as compared to the urban one.

Social services provided by the State act outside the market economy. So long as their expansion occurs at a rate higher than the growth rate of the market economy, the proportions between the market and the non-market in the global economy will change in favour of the latter.

## 6 EXPANDING THE SOCIAL ECONOMY

Let us turn now to a different kind of structural change, this time inside the market economy. The aim is to enlarge the scope of *'social economy'* in European terms<sup>33</sup> – cooperatives, mutualities, non-profit associations and all other forms of

31. See on this point the pioneering book by Michael Piore and Charles Sabel, *The Second Industrial Divide: Possibilities for Prosperity*, (New York: Basic Books, 1986) and the large body of literature on the example of decentralised industrialisation in North Eastern Italy, the Terza Italia in Arnaldo Bagnasco's terms.

32. See on this point, Sachs, Ignacy, "O desenvolvimento enquanto apropriação dos direitos humanos", *Revista Estudos Avançados* (USP São Paulo) August 1998, vol.12, no.33.

33. As already mentioned, the Brazilian term is 'economia solidária'.

collective entrepreneurship that do not follow the rule of private appropriation of the profits. They compete with private and public enterprises, but manage themselves, at least in theory, on the principle of one person, one vote, and, as a rule, decide collectively about the destination to be given to profits, if any, with strong preference for their reinvestment, so as to consolidate and expand their activity. The major hurdle to be avoided when these organisations grow in strength is to prevent them from adopting the behaviour of large capitalist enterprises, their competitors on the market.

In the Brazilian economy, there is still a large scope for promoting all kinds of cooperatives, mutual companies, producers' associations and other forms of organised civil society geared to the non-profit principle. Once more, if their overall rate of growth exceeds that of the global economy, a structural change will occur. Some might be tempted to speak of the subversion of the capitalist system. Why not, after all?

## 7 ROAD BLOCKS FOR A SOCIALLY RESPONSIBLE GREEN NEW DEAL

The Green New Deal is at the top of the political agenda all over the world and ought to be considered as a priority by Brazilian planners. For reasons that have already been explained, we should resist giving priority to environmental concerns at the expense of the social ones. Let us state once more, that what is needed is a socially responsible green agenda, which addresses simultaneously the two major challenges of climate change and social inequalities.

This said, Brazil should be enthused by this prospect on the account of its enormous potential to produce all sorts of biomass within a development strategy respectful of the principles of social inclusiveness and environmental sustainability. Brazil is endowed with favourable climates, abundant water resources (with the exception of the North East *polígono das secas*), the largest tropical forest in the world still 80% intact (which is not tantamount to condoning the ongoing deforestation), and world class biology and agronomy research. It is therefore favourably placed to explore the trinomial **biodiversity – biomass – biotechnologies**, the latter applied at the two ends of production, so as to increase biomass productivity and widen up the spectrum of biomass derived products. Insofar as biomass is food, feed, fuel, fibres, plastics, building materials, bioproducts turned out by biorefineries, pharmaceuticals and cosmetics, we may speak of a **biocivilisation** in the making.<sup>34</sup>

A properly designed green agenda could contribute to the mitigation of climate change, while shaping a new rural development pattern, predicated on an 'evergreen revolution'<sup>35</sup> and geared to the consolidation and expansion of family agriculture.

34. See Ignacy Sachs, "Da civilização do petróleo a uma nova civilização verde", *Estudos Avançados*, (Universidade de São Paulo) 19 (55), 2005.

35. The term 'evergreen revolution' was coined by M.S. Swaminathan in *Sustainable agriculture: towards an evergreen revolution* (Delhi: Konark Publishers, 1996). French scholars use the term 'doubly green revolution'. Its two pillars are agroecology and the pre-eminence given to family and peasant farming.

The latter aspect, namely the social organisation of biomass production, is the one that causes at present the greatest concern. While recognising the weight of modern agribusiness in the Brazilian economy, we cannot afford to lose this extraordinary opportunity to consolidate family agriculture, favouring instead large scale highly mechanised and, therefore, jobless agriculture at the top of jobless development of industries. Social sustainability is as important as environmental sustainability.

Realistically speaking, the dual structure of the biomass-based Brazilian economic complex will not disappear in the fifteen-year time span discussed in this paper. Once more, the question is: what will be the relative growth rates of the two subsystems and what should be the policies leading to a shift in relative GNP shares favouring family agriculture.

In the following sections, I discuss selected key issues that the socially responsible green agenda will have to consider.

## 8 ECOLOGICAL FOOTPRINT AND BIOCAPACITY

These concepts offer a suitable methodological starting point. Biocapacity is defined as the total regenerative capacity of the biosphere available to meet human needs, while the ecological footprint evaluates the amount of biocapacity actually mobilised by human economy throughout the year. The evaluation is made in global hectares per capita (gha) corresponding to the average world productivity.<sup>36</sup>

The footprint of each crew member of spaceship Earth is at present 2.7 global hectares, while the biocapacity at each person's disposal is of only 2.1 global hectares. These world averages are misleading insofar as they mask the fundamental opposition between deficit countries that tend to colonise the biocapacity of others and surplus countries, whose biocapacity is still underused. Should we call the latter Lands of Good Hope, like Pierre Gourou?<sup>37</sup>

The latest data for Brazil, a leading Land of Good Hope, are the following: total ecological footprint: 2.4 gha per capita, total biocapacity: 7.3 gha, ecological reserve: 4.9 gha.<sup>38</sup>

The construction of the green agenda should include on the one hand, attempts at reducing the ecological footprint (and, most of all, the carbon footprint) and on the other hand, steps aimed at making good use of biocapacity as well as at increasing it.

36. See Wackernagel M. & Rees W., *Notre empreinte écologique*, (Montréal: Ecosociété, 1999); Wackernagel et al., *National Footprint and Biocapacity Accounts: the Underlying Calculation Method*. Updated data on footprint and biocapacity are available on [www.footprintnetwork.org](http://www.footprintnetwork.org). For a good overview of the subject, see A. Boutaud & N. Gondran, *L'empreinte écologique*, (Paris : La Découverte, 2009).

37. P. Gourou, *Terres de bonne espérance. Le monde tropical*, (Paris: Plon, 1982).

38. Global footprint Network 2008, Ecological Footprint and Biocapacity 2005, data updated on October, 26<sup>th</sup>, 2008. *Op. cit.* One should observe however that the figure for the carbon footprint, 0.04 gha, seems underestimated.



## 9 CHANGING THE ENERGY PARADIGM

Central to the reduction of the carbon footprint is the change of the energy paradigm by acting along three lines: seeking greater energy sobriety, improving the energy efficiency and replacing fossil fuels with all available renewable energies – solar, wind, hydro, geothermal, tidal and, last but not least, biofuels.

Of course, in the long run, the most effective will be reduction of the demand profile for the energy, obtained by changes in consumption and lifestyle patterns, models of spatial organisation of national and world economy (greater density of local economies, less mobility) and in the transportation systems (greater reliance on rail and water transport, lesser room for motorcars). But these variables are difficult to play with, important as they may be.

As to substitution fossil fuels by renewable energies, the following observations are in order here.

The mere substitution of oil-based fuels by biomass based ones will not be sufficient in the absence of policies aimed at greater energy sobriety and efficiency in final use. But, at the same time, the competition between fuel and food for scarce land and water resources need not lead to a social catastrophe caused by the crowding out of food production necessary to feed the hungry billion by biofuels for rich people's cars.<sup>39</sup> And this for a variety of reasons:

First of all, the hungry do not go hungry because of lack of food production, but on account of their inability to purchase it, as shown by Amartya K. Sen and more recently by Sylvie Brunel<sup>40</sup>. The latter author writes: *"it is wrong to indict agrofuels and non-food crops as producers of hunger. It would be true if food were in short supply on the Earth, which is not the case. Agrofuels can on the contrary offer to peasants the prospect for lucrative markets, increasing their living standards and allowing them to remain on their land."* (p. 272).

The prospect of feeding the growing world population, which will exceed nine billion by the middle of the century, is not too worrisome. According to Ghislain de Marsily, agricultural production has reached 20% of its theoretical potential. 40% are lost because of diseases, 20% because of climatic accidents and 20% in post harvest losses. Furthermore, one must bear in mind that, in developed countries 30% of food purchases are wasted if we include in this the

---

39. For a review of this subject, see my contribution to R. Abramovay (ed.), *A energia da controvérsia*, (São Paulo: Editora Senac, 2009). The latest to join the group of outright critics of biofuel production in Brazil is the leader of MST Pedro Stedile, who, in a recent article, denounced the *'diabolic alliance between oil and motorcars enterprises and the transnationals of agribusiness to act in the South hemisphere countries with abundant land, sun and water to propose the production of agrofuels.'* (J. P. Stedile, "MST: 25 anos de teimosia," *Democracia viva*, n°42, May 2009, p.10).

40. A. K. Sen, *Poverty and Famines: An Essay on Entitlements and Deprivation*, (Oxford: Clarendon Press, 1982); S. Brunel, *Nourrir le monde, vaincre la faim*, (Paris: Larousse, 2009).

fresh products thrown out by the distribution circuits after their end-by date.<sup>41</sup> In addition, in many regions of Africa and Latin America, productivity per hectare is still very low, which allows them to achieve significant and rapid progress in agricultural production by incorporating well-known techniques.

These are not reasons to indulge in excessive self-confidence, but neo-malthusian pessimism is to be equally discarded. Bruno Parmentier is right to point out the need for a major research effort, based on agroecology and on an alliance between agronomists, social scientists and economists, aimed at producing more with less resources by inventing not one, but tens of thousands of local agricultures, well adapted to micro-conditions.<sup>42</sup>

Secondly, the competition between food and biofuel production can be greatly decreased by resorting to integrated food-energy production schemes adapted to different biomes instead of insisting on juxtaposing monoproduction chains and by resorting to dedicated crops for fuel production instead of using food crops, so as to avoid the contamination of food prices by the price hike of fuels.

In particular, there is room for better integration of cattle breeding with oil seed production using oil cakes as feed, while increasing the number of heads per hectare of pasture and in this way free some of the pasture land for food production.

Furthermore, the potential competition between food and fuel turns into complementarity in the second generation of biofuels consisting of cellulosic ethanol extracted from all sorts of agricultural and forest waste; this second generation is around the corner.

Finally, in the longer run, the third generation of biofuels will use algae as feedstock, thus shifting production from agricultural land to water ecosystems.

This evolution will have to go hand in hand with the elimination of predatory forms of bioenergy use, consisting of charcoal production based on massive deforestation. To this effect, we ought to resort to the production of green charcoal based on an efficient carbonisation of agricultural and forest waste, grasses and planted trees.<sup>43</sup>

At the same time, we ought to have in mind that direct substitution of fossil fuels by renewable ones can be complemented by their indirect substitution, arising from a wider use of biomass based products, which

---

41. G. de Marsily, *L'eau, un trésor en partage*, (Paris: Dunod, 2009), p.123.

42. Bruno Parmentier, "Comment nourrir neuf milliards d'habitants ?", in M. Wieviorka (ed.) *Se nourrir, l'alimentation en question, les entretiens d'Auxerre*, (Paris: Édition Sciences Humaines, May 2009). See also by the same author, *Nourrir l'humanité*, (Paris: La Découverte, 2007).

43. Pro-natura International, an NGO also working in Brazil, won an international prize from the ALTRAN Foundation for developing such a process.

require less fossil energy than their equivalents of mineral origin. This leads us to the exploration of the whole biomass-based economic complex consisting, as already said, of food, feed, green fertilisers, bioenergies, building materials, fibres, plastics, the product mix turned out by biorefineries, pharmaceuticals and cosmetics.

## 10 ENHANCING BIOCAPACITY

The second leg of the green agenda should be geared to learning how to make good use of the existing biocapacity<sup>44</sup> and how to enhance it by increasing the productivity of biomass production in different land, forest and water ecosystems. Three important subjects are to be mentioned in this connection.

Prospective studies show that Brazil has an enormous potential for aquiculture along the 8.5 thousand kilometres of its Atlantic coast, 4 million square kilometres of its Exclusive Economic Zone, in the Amazon and Pantanal regions, as well as in manmade lakes, which total 10 million hectares<sup>45</sup>, not only to produce food but also to grow algae likely to become a major feedstock for the third generation of biofuels.

Likewise, Brazil can count on a significant expansion of tree plantations for different purposes: pulp and paper, wood industry, edible and fuel oils, cellulosic ethanol, fruit and other non wood products, etc. In the longer run, it should be possible not only to work with a zero deforestation rate, but to significantly increase land tree cover. At present, the so-called 'planted forests' (in ecological terms, a misnomer for tree plantations) cover 5.5 million hectares. Probably, a zero could be added to this total.

Another opportunity may arise with assisted photosynthesis, recycling carbonic gas in greenhouse production of different kinds of biomass.

## 11 WHITHER THE AMAZON REGION

The Amazon region and its forest, perhaps the single most important laboratory of modern biocivilisation in the world, represent a great responsibility and an extraordinary opportunity for Brazil.

Deforestation must stop as soon as possible and a major effort in this direction should be co-financed by the international community. The recently created Amazon Fund should be expanded and put to this use.

At the same time, we should discard the transformation of the Amazon pristine forest into a mega natural reserve. The region is today home to twenty-five million

---

44. See Catherine & Raphaël Larrère, *Du bon usage de la nature – pour une philosophie de l'environnement*, (Paris: Aubier, 1997).

45. Secretaria Especial de Aqüicultura e Pesca, *Mais Pesca e aqüicultura – Plano de desenvolvimento sustentável*, Brasília. See also A. Ostrensky, J. R. Borghetti & D. Soto, *Aqüicultura no Brasil – O desafio é crescer*, (Brasília: SEAP/FAO, 2008).

people – many of them the most endangered species of the region, in the words of the local poet Thiago de Melo. How many more will join them in the next decades? All the efforts should go to evolve an inclusionary and sustainable strategy for the already deforested areas, transformed into ‘development reserves’, so as to reduce the pressure on the standing forests. The latter should be carefully managed, with the possibility of increasing their yield by densifying the forest with useful species. As already said, the Amazon region is also endowed with an extraordinary potential for aquiculture.

A difficult problem to solve is the transformation of the Manaus industrial centre. It was set as an entry point in Brazil for electro-domestic appliances and other industrial goods assembled from imported parts. However, in the long run, it should be able to process local raw materials and generate a flow of industrial exports.

## **12 INTEGRATING THE STRUCTURAL CHANGES**

The structural changes outlined above do not represent as yet a full fledged plan, a task which goes far beyond the scope of this paper. Let me just mention that, in order to monitor and assess these changes, planners will have to use new performance indicators, such as:

- evolution of ecological footprint and of biocapacity;
- relative growth rates of market and non-market activities related to cultural models of time-use by different social groups (with special reference to women);
- growth rate of social economy as compared with that of global economy;
- growth rate of the biomass-based complex compared with the overall growth rate of the economy;
- relative shares of family agriculture and large scale agribusiness.

## **13 BRAZIL, A PARAGON OF THE LANDS OF GOOD HOPE**

As a country with surplus biocapacity, Brazil is well placed to become a paragon of the Lands of Good Hope, playing a leading role in fostering South-South cooperation (with special reference to exchanges with African countries) and in defending in the international forums the need to define different, yet complementary, strategies for countries with biocapacity surplus and for countries with biocapacity deficit, the burden of the adjustment falling on the latter.

These are complex issues, likely to generate conflicts of interest and difficult negotiations among the two groups of countries. That is why Brazil would be well advised to take the initiative of convening an annual international forum to debate these matters.

**A final comment.** *I owe to the readers of this paper an explanation as to why, after much hesitation, I decided to put a question mark in its title. Objective conditions are met in Brazil to enter on the path of socially inclusive and environmentally sustainable development, as well as to play a leading political role among the Lands of Good Hope. However, it is the political process that will decide whether Brazil will seize this opportunity and I have no ways of prejudging its outcome. Three general elections will take place in 2010, 2014 and 2018 before we reach the symbolic year 2022, which will be again an electoral year.*



## REFERENCES

- ABRAMOVAY, Ricardo (Ed.). *A energia da controvérsia*. São Paulo: SENAC, 2009.
- ALBERT, Michel. *Capitalisme contre capitalisme*. Paris: Éditions du Seuil, 1991.
- AMIN, Samir. *Pour un monde multipolaire*. Paris: Syllepse, 2005.
- \_\_\_\_\_. *Sur la crise: sortir de la crise du capitalisme ou sortir du capitalisme en crise*. Pantin: Le Temps des Cerises, 2009.
- BARRY, John. Towards a green republicanism: constitutionalism, political economy, and the green state. *The Good Society*, University of Maryland, v. 17, n. 2, 2008.
- BOUTAUD, Aurélien; GONDRAN, Natacha. *L’empreinte écologique*. Paris: La Découverte, 2009.
- BOYER, Robert. *La théorie de la régulation: les fondamentaux*. Paris: La Découverte, Coll. Repères, 2004.
- BRASIL. Ministério da Agricultura e Pesca (MPA). Secretaria Especial de Aquicultura e Pesca (SEAP). *Mais pesca e aquicultura: plano de desenvolvimento sustentável*. Brasília, 2008.
- BRUNEL, Sylvie. *Nourrir le monde: vaincre la faim*. Paris: Larousse, 2009.
- CONSELHO DE DESENVOLVIMENTO ECONÔMICO E SOCIAL (CDES). *Indicadores de equidade do sistema tributário nacional: relatório de observação*. Brasília, n. 1, jun. 2009.
- ECOLOGICAL footprint and biocapacity, 2005.
- FUKUYAMA, Francis. *The end of history and the last man*. Glencoe, Illinois: Free Press, 1992.
- FURTADO, Celso. *Desenvolvimento includente, sustentável, sustentado*. Rio de Janeiro: Garamond, 2004. Prefácio.
- GLOBAL footprint network, 2008.
- GORZ, André. *Métamorphoses du travail*. Paris: Galilée, 1998; Folio Essais, 2004.
- GOUROU, Pierre. *Terres de bonne espérance: le monde tropical*. Paris: Plon, 1982.
- GUILAINE, Jean. *Les racines de la Méditerranée et de l’Europe*. Paris: Collège de France, Fayard, 2008.
- HAMMARSKJÖLD, Dag. *What Now*. Relatório. Assembléia Geral da Organização das Nações Unidas (ONU). Uppsala, 1975.
- HAYEK, Friedrich V. *The road to serfdom*. Londres: Routledge, 1944.

HIRSCHMAN, Albert O. *Strategies of economic development*. New Haven: Yale University Press, 1958.

HUANG, Yasheng. *Capitalism with chinese characteristics: entrepreneurship and the State*. Cambridge: Cambridge University Press, 2008.

ILLICH, Ivan. *Ceuvres complètes*. Paris: Fayard, 2004, 2005. v. 1 e 2.

KALECKI, Michal. Collected works of Michal Kalecki. In: OSIATYNSKI, Jerzy (Ed.). *Problems of financing economic development in a mixed economy*. Oxford: Clarendon Press, 1993. v. 5.

LARRERE, Catherine; LARRERE, Raphaël. *Du bon usage de la nature: pour une philosophie de l'environnement*. Paris: Aubier, 1997.

LEWIS, Arthur. Economic development with unlimited supplies of labour. *Manchester, School of Economic e Social Studies*, Oxford, v. 22, 1954.

LIPIETZ, Alain. *Face à la crise: l'urgence écologiste*. Paris: Les Éditions Textuel, 2009.

MARSILY, Ghislain. *L'eau, un trésor en partage*. Paris: Dunod, 2009.

MONBIOT, George. *Heat: how to stop the planet burning*. London: Penguin Books, 2007.

OSIATYNSKI, Jerzy (Ed.). *Collected works of Michal Kelecki*. Oxford: Clarendon Press, 1992. v. 3.

OSTRENSKY, Antonio; BORGHETTI, José R.; SOTO, Doris. *Aquicultura no Brasil: o desafio é crescer*. Brasília: SEAP/FAO, 2008.

PALMA, Gabriel. *Four sources of 'de-industrialisation' and a new concept of the Dutch Disease*. Cambridge: University of Cambridge, Nov. 2004.

PARMENTIER, Bruno. *Nourrir l'humanité*. Paris: La Découverte, 2007.

\_\_\_\_\_. Comment nourrir neuf milliards d'habitants? In: WIEVIORKA, Michel (Ed.). *Se nourrir, l'alimentation en question, les entretiens d'Auxerre*. Paris: Édition Sciences Humaines, mai 2009.

PIORE, Michael; SABEL, Charles. *The second industrial divide: possibilities for prosperity*. New York: Basic Books, 1986.

PONTING, Clive. *A green history of the world*. London: Penguin Books, 1993.

SACHS, Ignacy. Developing in harmony with nature: consumption patterns, time and space uses, resources profiles and technological choices. *Canadian Journal of Development Studies*, Ottawa, v. 1, n. 1, 1980.

\_\_\_\_\_. *Espaços, tempos e estratégias do desenvolvimento*. Tradução Luiz L. Vasconcelos e Eneida Araujo. São Paulo: Vertice, 1986.

\_\_\_\_\_. O desenvolvimento enquanto apropriação dos direitos humanos. *Revista Estudos Avançados*, São Paulo, v. 12, n. 33, ago. 1998.

\_\_\_\_\_. L'économie politique du développement des économies mixtes selon Kalecki: croissance tirée par l'emploi. *Mondes em Développement*, Paris, v. 27, n. 106, 1999.

\_\_\_\_\_. Da civilização do petróleo a uma nova civilização verde. *Estudos Avançados*, Universidade de São Paulo, v. 19, n. 55, 2005.

\_\_\_\_\_. A economia do desenvolvimento segundo Kalecki: crescimento puxado pelo emprego. In: SACHS, Ignacy; VIEIRA, Paulo F. (Org.). *Rumo à ecossocioeconomia: teoria e prática do desenvolvimento*. São Paulo: Cortez Editora, 2007.

SEN, Amartya K. *Poverty and famines: an essay on entitlements and deprivation*. Oxford: Clarendon Press, 1982.

STEDILE, João Pedro. MST: 25 anos de teimosia. *Democracia Viva*, n. 42, maio 2009.

STIGLITZ, Joseph. Los mensajes tóxicos de Wall Street. *Other News Info*, 24 June 2009. Disponível em: <<http://other-news.info>>.

SUPLICY, Eduardo M. *Renda básica de cidadania: a resposta dada pelo vento*. Porto Alegre: LPM Pocket, 2006.

SWAMINATHAN, Mankombu S. *Sustainable agriculture: towards an evergreen revolution*. Delhi: Konark Publishers, 1996.

TSURU, Shigeto. Towards a new political economy. *Collected works of Shigeto Tsuru*, Kodansha, Tokyo, v. 13, 1976.

WACKERNAGEL, Mathis *et al.* *National footprint and biocapacity accounts: the underlying calculation method*. Disponível em: <[www.footprintnetwork.org](http://www.footprintnetwork.org)>.

WACKERNAGEL, Mathis; REES, William. *Notre empreinte écologique*. Montréal: Ecosociété, 1999.

WOLF, Martin. Crise de 1929, le retour? *Le Monde*, Paris, 23 juin 2009.

ZELLER JUNIOR, Tom. Developing a greener third world. *International Herald Tribune*, Paris, 8 June 2009.