# Short Version CV

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Nuclear Science and Isotope Ecology, CENA-USP, MSc
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# -Land Use, Forestry Carbon Cycle and Isotope Ecology Specialist -International Consultant in Agribusiness, Forestry, Climate Change and Sustainability

#### 1. Address and communication

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### 2. Personal information – Short bio

Warwick Manfrinato is an agronomist and engineer, graduated at the University of São Paulo 1989 (www.esalq.usp.br), and achieved a MSc at the Center for Nuclear Energy in Agriculture 1999 (CENA, University of São Paulo www.cena.usp.br), where he studied isotope ecology and biogeochemistry, applied to carbon cycles in forest dynamics. He is currently leading an environmental consultancy company, Plant Environmental Intelligence since 2001 (www.plantBR.com.br), and also member of the executive group of the Amazonia in Transformation Program, at the Institute for Advanced Studies within the University of Sao Paulo, Brazil (www.iea.usp.br/amazoniea). Warwick has worked at Winrock International in Brazil as the country manager for the Natural Resources Management Division. From the years 2000 to 2005 he was an associate researcher and academic at the Laboratory for Chemistry, Cellulose and Energy (www.lqce.esalq.usp.br), as well as a member of the Climate Change group at the Center for Advanced Studies on Applied Economics (www.cepea.esalg.usp.br), both at the University of Sao Paulo.

As a consultant he has assisted, among other organizations, the World Bank, UN Earth Council, the government of Costa Rica and companies such as SGS-Forestry, EcoSecurities, Natsource and CantorFitzgerald. In Brazil he has provided advisory to the Ministry of Environment, State Governments of Amazonas, Bahia and Sao Paulo. In recent years he developed strategic projects for CVRD-Headquarters, Dedine S/A, The Gilberto Freyre Foundation, The Coca-Cola Company (USA), Instituto Coca-Cola Brasil and Brazilian Forum on Climate Change. Since 2003 he has been an invited member to the official Brazilian Delegation to the UNFCCC-COP/MOP. Since 2010 has accepted to become a member of the Brazilian Panel on Climate Change (<a href="www.pbmc.coppe.ufrj.br">www.pbmc.coppe.ufrj.br</a>), and has served as a member of the council for ABEMC (<a href="www.abemc.com">www.abemc.com</a>), the Brazilian Association for Carbon Market Companies, where he acted as the chair for the REDD Chamber and Voluntary Markets (2009-11).

He is currently involved as an active member of working groups at federal and jurisdictional initiatives in the Amazon for climate change mitigation (REDD and renewable energies).

Warwick was born in January 22<sup>nd</sup> of 1960, has two children (Tarik and Chiara) and lives in Piracicaba, near Sao Paulo city, Brazil.

### 3. Education (academic)

University of Sao Paulo – Escola Superior de Agricultura Luiz de Queiroz" (ESALQ – USP), 1989. Agronomy Engineering – (www.esalq.usp.br)

Center for Nuclear Energy in Agriculture – University of Sao Paulo (CENA – USP) 2001. Nuclear Sciences Applied to Agriculture. MSc in nuclear sciences techniques as a tool for ecological studies in agriculture and forestry, analyzing carbon and nitrogen in soils and forest systems while developing procedures for LULUCF dynamics, spatially oriented stock analysis, as well as modeling carbon content in soil systems in different land uses. Dissertation: www.cena.usp.br

#### 4. Other relevant training

<u>London School of Economics:</u> attended a number of environmental management disciplines within the Economic and Environment MSc Graduate Program (1997-1998).

**Educo International School**, Loveland, Colorado, USA, (1992-94). Environmental education and experiential education training. Two years training program on leadership, outdoors corporate training, project development, Wilderness Based Technologies (WBT). (<a href="www.educo.com">www.educo.com</a>)

**Educo School of Canada**, British Colombia, Canada (1987-88). Course on youth training for personal development, experiential education, climbing and mountaineering.

#### 5. Relevant work

<u>Plant Inteligencia Ambiental Ltda</u> (environmental intelligence) – (Director/Founder). Consulting firm on environment and sustainability. Focus of work is in the Climate Change strategies for the private sector, capacity building and intelligence based on environmental planning, sustainable project design. (as director 2003 – current)

**LQCE/LCF/ESALQ/USP** – (**Researcher**) Laboratory of Chemistry, Cellulose and Energy of the Forestry Department at ESALQ – University of São Paulo. Work related to the energy generation base on biomass of forest management in the Amazon basin, with special focus on climate change mitigation opportunities. (2005 - 2008).

<u>CEPEA/University of Sao Paulo</u> – Advanced Center on Applied Economics: associate researcher on environmental economics, climate change economy and project assessment. (2001 – 2005).

<u>IPEF – Institute for Studies and Research in Forestry</u>: associate researcher on aspects of forestry and climate change, under Dr. J.O. Brito supervision. (2002- 2004)

<u>Winrock International</u> Manager for the Forest and Natural Resources Management Division in the Brazil office of Winrock (2000-2001).

World Bank (BIRD); Ministry of Environment of Brazil (MMA) - (PD/A) (2000): Consultant for Evaluation of Demonstrative Projects, funded by the PPG7. Projects evaluated are located in the Atlantic Forest region.

Institute for Forestry and Agricultural Management Certification (IMAFLORA) - Project developer/fundraising: Piracicaba, Brazil (1999 – 2000). Developing institutional contacts and implementing public relation strategies seeking resources for small community's projects in Brazilian Amazonia.

<u>IIED (UK) and Imaflora (BR)</u> (1999) – Research planning on theme: "Private Sector Participation on Sustainable Forestry Management", undertaken by IIED (International Institute for Environment and Development). Funding: DFID-UK, European Commission (DG-VII).

**Earth Love Fund (UK) and Imaflora (BR)** – Oxford UK (1997-98) – Project Development in Brazilian in the region of Boa Vista dos Ramos – Amazonas. Project concept elaboration, identification of potential funding sources in Europe, and follow up to funds approval (UK National Lottery Charities Board). Implementation of woodworkers and forest management training and organization of capacity building in different community levels.

**EcoSecurities Ltd.** – Oxford, UK. (1997-98). Evaluation and certification of Protected Areas Project (OCIC-PAP) for the Costa Rican government. Work was developed in partnerships of SGS-Forestry (Oxford) and EcoSecurities Ltd. (Oxford) and I was part of the team responsible for certifying 1 million

tons of carbon for the OCIC - PAP – Costa Rica. This project represented the first main initiative to be presented by a sovereign state, signatory member to the UNFCCC, that introduced the concepts of AVOIDED DEFORESTATION as a means to attend the objectives of the Climate Convention through Reduction of Emissions from Deforestation (RED), becoming the main basis of knowledge for what has become the concepts of REDD.

Institute for Forestry and Agricultural Management Certification (IMAFLORA) – Project Coordinator: Piracicaba, Brazil (1996-97). Responsible for developing and implementing (I) Imaflora's Projeto Carbono: biodiversity recovery, carbon sequestration and watershed protection within the Corumbataí River Basin, in Piracicaba, SP. (see publication list); (II) Buyers Group Brazil: developing initial stages for a buyers group of certified wood in Brazil. (Finance: WWF-UK).

**PCF Consultores Ltd.**, São Paulo, Brazil (1995-96). Human Resources Training: Associate Consultant/Facilitator on leadership and team work training.

**The Stewardship Community (TSC) -** Colorado, USA (1994). Environmental Education in projects for institutional members who wished to understand Amazonian environments.

MANITOU FOUNDATION (Maurice and Hanne Strong), Colorado, USA Organizer/Facilitator (1991 - 92). Executive collaborator in organizing UNCED-92 parallel events. Coordinated event, which gathered 120 world leaders. Worked under direction of Hanne Strong. Staff member, Coordination and facilitation.

# 6. Relevant Publication and produced documents:

- Manfrinato, W.; Azevedo, T.; Viana, V. Moist Forest Restoration in Brazil: a locally based project of CO2 sequestration, biodiversity conservation and watershed protection in Corumbataí River Basin. ELSEVIER In: Proceedings of Technologies for AIJ 26-29 May 1997 Vancouver, Canada, 1998
- <u>Manfrinato, W</u>. Climate Change, Carbon Emissions and what this has to do with you. **Earth Love Fund**, Oxford UK, July 1998 (www.earthlove.gn.ac.uk)
- Manfrinato, W.; Viana, V.; Seqüestro de carbono como parte de uma estratégia de desenvolvimento sustentável de bacias hidrográficas. In: Memória do Workshop sobre Mudanças Climáticas. Campinas EMBRAPA. 1999
- <u>Manfrinato, W</u> Mudanças Climáticas: Ações e perspectivas para o novo milênio. <u>Boletim QUALIDADE DE VIDA</u> Centro de Estudos Avançados em Economia Aplicada (CEPEA-ESALQ-USP); Novembro 1999.
- Manfrinato, W. "Surge uma nova commodity ambiental" (a new commodity is born). Gazeta
   Mercantil (daily economic newspaper), 6 de Dezembro de 2000.
- Watson, T.R. et al. Land Use, Land-Use Change and Forestry. A special report of the IPCC. Cambridge University Press. 2000 – country expert and reviewer, agriculture and forestry dynamics. (http://www.ipcc.ch/ipccreports/sres/land\_use/index.php?idp=317)
- Bueno, A.; <u>Manfrinato, W.</u> Investimentos em projetos agro-florestais de seqüestro de carbono. Presented at the I Symposium Iberian-American on Forestry Management; July 4-7, Porto Seguro, Bahia, Brazil. 2001.
- Manfrinato, W.; Verde que te quero verde. Agroanalysis Magazine, v.21, n.1. Janeiro/2001.
- <u>Manfrinato, Warwick</u>; Carvalho, Pedro M. de. Uma Proposta de "Fast-track" para o Mecanismo de desenvolvimento Limpo em Projetos Agroflorestais, <u>Prepared for the Ministry</u> of Environment (GOB) – NEPEMA/CEPEA/ESALQ/USP – (August - 2001)
- Manfrinato, W.A.; PICCOLO, M.C.; CERRI, C.C.; BERNOUX, M.; CERRI, C.E.P.A. Medicion de la variabilidad especial y temporal del carbono del suelo con el uso de los isotopos estabeles, en una transicion bosque-pasto en el Estado del Parana, Brasil. Resumenes del Simposio Internacional Medicion y Monitoreo de la Captura de Carbono en Ecosistemas Forestales. Valdivia, Chile. 2001.
- LANDERS, J.N.; BARROS, G de C.B.; ROCHA, M.T.; MANFRINATO, W.A.; WEISS, O.J. Environmental impacts of zero tillage in Brazil A first approximation. In: WORLD CONGRESS ON CONSERVATION AGRICULTURE, 1., Madrid, 2001. Cordoba, 2001. 5p.
- MANFRINATO, W.A. Estoques de Carbono no Solo em uma Cronosseqüência de Florestapastagem em Guaraqueçaba (PR). Dissertação de Mestrado. Centro de Energia Nuclear na Agricultura, Universidade de São Paulo, Brasil. 2002.

- **Manfrinato**, **W.A**. (coord) IISD: study on international subsidies subsidizing unsustainable development at the VanLennep Initiative IISD and Earth Council (2003) www.iisd.org .
- Impactos econômico e espacial do Desenvolvimento do Centro-oeste brasileiro e a abertura de um eixo de comércio exterior com o Pacífico. Mello, P.C. (Coord.); Caixeta Filho, J.V.; Bacha, C.J. C.; Miranda, S.H.G.; Manfrinato, W.; Rocha, M.T.; Faria, L.V.; Pimentel, R.A.; Rocha, H.F.N.; Villanova, J.A.; Barros, A. S.C.; Alencastro, L.F. BM&F. Agosto/2003.140p. (Doc. XI-3)
- Mello, P.C. (Coord.), Miranda, S.H.G.; Manfrinato, W.; Rocha, M.T. "Estudo sobre certificados ambientais: o mercado de carbono". Parceria BM&F- CEPEA/FEALQ. Outubro/2003. (Doc.XV-1)
- Mello, P.C. (Coord.), Miranda, S.H.G.; Manfrinato, W.; Rocha, M.T. Estudo do potencial de geração de energia renovável proveniente dos "aterros sanitários" nas regiões metropolitanas e grandes cidades do Brasil. Sumário Executivo. Convênio SQA-MMA/CEPEA-FEALQ. Dez/2001 – Junho/2003. 54p. (Doc.XV-4)
- Mello, P.C. (Coord.), Miranda, S.H.G.; Manfrinato, W.; Rocha, M.T. Convênio FAST-TRACK para MDL Fase II. Relatório 1, 2 e 3. Relatório Final. SQA-MMA/CEPEA-FEALQ. Jan/2002-Março/2003. 172p. (Doc. XV-5)
- Mello, P.C. (Coord.), Miranda, S.H.G.; Manfrinato, W.; Rocha, M.T. Produção de energia renovável proveniente de resíduos sólidos em Jaguariaíva – PR. Relatório de Pesquisa. Convênio MMA/FNMA/PNUD-FEALQ. Julho/2003. 118p. (Doc. XV-6)
- Manfrinato, W.A. (coord). APP e Reserva Legal No contexto da mitigação das mudanças climáticas Mudanças Climáticas, o Código Florestal, o Protocolo de Quioto e o Mecanismo de Desenvolvimento Limpo. The Nature Conservancy, (prelo-mimeo). 2004.
- **Manfrinato, W.A.** Reports on potential participation of riparian forests in the climate change emerging markets and payment for environmental services. Secretariat for Environment and Sustainable Development of the State of Amazonas (prelo-mimeo) 2004.
- Manfrinato, W.A. Amazonas: technical note about the opportunities for the state of Amazonas with the substitution of diesel oil by natural gas and reference to potential use of wood residues in energy generation. (www.ipaam.br) 2004.
- Manfrinato, W.A. Report on participation at the COP-9 www.ipef.br 2004.
- MANFRINATO, W.; GALLO, P.; BEZERRA, M. O. Global warming, Clean Development Mechanism and biodiversity. In: Congresso Mineiro de Biodiversidade – Expominas. Belo Horizonte. 23 -28 de abril de 2006 (Congress of Minas Gerais State on Biodiversity). (in Portuguese only)
- BEZERRA, M. O.; MANFRINATO, W.; CARVALHO P.M.; MIRANDA, S. H. G. State of Art of Carbon Markets: future and options contracts; evolution and guidelines. In: XII Simpósio Internacional de Iniciação Científica da Universidade de São Paulo (XII International Symposium of Scientific Initiation of University of São Paulo). 2004. (in Portuguese only)
- MANFRINATO, W. The Amazonian region and climate change. Revista ECO 21, ano XII,
   n. 85, p. 22-23, dezembro de 2003. (Collaboration BEZERRA, M. O.). (in Portuguese only)
- MANFRINATO, W.; CENAMO, M.; BEZERRA, M. O. Biofuels Brazil and the new energy generation era. Inwent. Outubro 2004. www.inwent.org.
- MANFRINATO, W.; SIMOES, M.; OMETTO, J.; BEZERRA, M. O.; PINTO, T. M.; GALLO, P. Brazil Rainforest Water Program In: Forest Day. United Nations Framework Convention on Climate Change COP 13, Parallel Event, 2007, Bali. Forest Day. United Nations Framework Convention on Climate Change COP 13, Parallel Event., 2007.
- MANFRINATO, W. A.; OMETTO, J.; MOURA, L.F.; BEZERRA, M. O.; PINTO, T. M.; GALLO, P.; NOBRE, A. . Crop vulnerability to drought in southern Brazil: initial insights into the potential impacts of Amazonian deforestation. In: Conferência Científica Internacional Amazônia em perspectiva Ciência Integrada para um Futuro Sustentável, 2008, Manaus. Conferência Científica Internacional Amazônia em perspectiva Ciência Integrada para um Futuro Sustentável, 2008.
- Manfrinato, W. & Viana, V.M. 1999. "Sequestro de Carbono como parte de uma estrategia de desenvolvimento sustentavel de Bacias Hidrograficas." Projeto Carbono. Document presented at the Workshop on Climate Change and the Brazilian Agribusiness. Embrapa - Meio Ambiente - MCT (Ministerio da Ciencia e Tecnologia). Campinas, SP.

#### 7. Project Developed under the leadership and advisory

#### **REDD** projects

FSM acting as project technical development and coordination. Team effort to service Florestal Santa Maria (<a href="www.florestalsantamaria.com.br">www.florestalsantamaria.com.br</a>), a forest management company based in Colniza, State of Mato Grosso, Brazil. Role of project leadership in the preparation of documentation, surveying areas, consulting rules and regulations in place to apply for VCS registration of Modular Methodology prepared by the Avoided Deforestation Partners (ADP-007). Project currently (Nov, 2011) under validation. Preparations started in mid-2009, and the dimensions of the project is of approximately 70,000 hectares with an avoided deforestation potential of over 30,000 hectares and a GHG emission reduction potential of 27,000,000 tons of CO2-eq.

Registered:

https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=875&lat=-8%2E999312&lon=-59%2E426658&bp=1

#### **Social-Environmental Activities**

#### The Coca-Cola Company

Project developed to target the State of Sao Paulo rural areas and working in conjunction with regional NGOs and local farmers, the Coca-Cola Company commits \$13.5 million to a reforestation project along vital waterways in Brazil. The project aims to restore 3,000 hectares of tropical rainforest while providing local citizens with employment opportunities in environmental services. The project also aims to sequester 30 million tons of CO2 over 30 years' time.

http://www.institutococacola.org.br/projeto-meioambiente.htm

http://www.csrwire.com/press\_releases/22453-Clinton-Global-Initiative-Recognizes-Coca-Cola-Brazil-s-Rainforest-Water-Program

#### ProNatura (France); EADS (SpotImage)

Project Green Hands is an initiative in India that recovers Tsunami affected areas and communities in the East of India and the interior regions of the Provinces of Coimbatore and Puducherry. Our team deployed an evaluation of the forestry status and community assessment with the Auroville Forestry division, offering the contribution to prepare for increased activities and access to CDM and Environmental Services markets. www.pronatura.org.br

#### **Climate Change and Carbon Markets**

#### CVRD, VALE SA

# Concepts for structuring a Carbon Project for CVRD

Year: 2003

Description: Consultancy aimed at determining opportunities for a Carbon Project in forests managed by CVRD for pig-iron (gusa) production near the municipalities of Imperatriz and Açailândia, in the state of Maranhão. [FerroGusa Carajas]. Work developed in partnership with IPEF (Institute for Forestry Research, <a href="www.ipef.br">www.ipef.br</a> and the University of São Paulo, <a href="www.ipef.br">www.ipef.br</a> and <a href="www.ipef.br">www.i

#### Citrosuco - Fischer Group (www.citrosuco.com.br)

2007-2010

Orange exporters are demanded by clients to report emission of GreenHouseGases in the entire chain of products, demonstrating carbonfootprint of each step for considerations in future emission reductions. Based on the needs of the company a **Environmental Directive Plan** was produced which includes climate change, emission reductions and social and environmental policies. This program was designed with our assistance and is currently being one of the most important changes in the company's policy for the near future.

# Renewable Energy Activities and Emissions Quantification

ElPaso: Exploration for sources of biomass for bioelectricity

Year: 2003

Description: This work involved exploration for strategic sources of biomass, mainly from sawmills and industrial wood processing conglomerates, to assess feasibility and justify private and public investments for production of bioelectricity in the state of Amazonas.

# Lanxess: Energy switching project from fossil fuel to woodchip sources in the State of São Paulo

Description: This consultancy consisted of exploring for sources of woodchips in a radius of 300 km from the municipality of Porto Feliz, estate of São Paulo. We also developed a Project Design Document (PDD) for insertion of a project in the Voluntary Carbon Market (replacement of fossil fuel in steam generation boilers, AMS-I.C.).

#### Dedini Industrias de Base - steel industry (www.dedini.com.br)

Promotion of Brazilian technology in Europe seeking to aggregate value to the next generation of ethanol production via the DHR Concept (Dedini Rapid Hidrolisis) at an event in Tuebingen, Germany. Renewable energy event. http://www.uni-tuebingen.de/uni/bzf/Aktuell/Umwelt-Symposium/Symp-Band-A2a.pdf

### Thermal treatment of wood for energy and structural purposes

Year: 2006-2009

Description: A series of researches were performed to the characterization of several woods thermallytreated for energy generation and furniture making. These studies demonstrated the technical advantages of thermal treatment on wood properties for several uses.

# Arcelor Mittal: quantification and statistical modeling of greenhouse-gas emissions in charcoal production

Year: 2008

Description: Several carbonization kilns were evaluated for their greenhouse-gas emissions and establishment of statistical modeling of emission factors. This study was carried out for baseline characterization and insertion of a project in the Clean Development Mechanism (AM0041).

Other SPECIFIC activities yet to be updated: - 2009 - 2010 - 2011 - 2012 - 2013 - 2014

- Congo: UNESCO meeting presenting opportunities for REDD in the Congo Basin 2010 Pronatura International;
- FSM: PDD-REDD+ no MT Colniza 2011 complete PD, based on VCS-ADP V-1 Modular Methodology;
- JAVA2G: sustainability partnership <a href="www.java2g.com.br">www.java2g.com.br</a> 2010 partnership with communication for sustainability; IEA: Amazonia in Transformation events in 2009 2011 Executive Director position; 3.
- Coca-Cola Reforestation projects implemented in 2008-2009 Clinton Global Initiative;
- Eucaliptus Plantation projects implemented in State of Mato Grosso do Sul 2009 2010;
- Amazonian Fishery (Pirarucu leather): sustainable markets 2009 2010:
- Nurseries native species: Cacique Nurseries Plant Viveiros 2003 2011; ILTC: Museum of Technology: Chicago SEP 2010;
- 10. ILTC: Petrobras Sustainability Analysis REPLAN NOV 2011;
- 11. INWENT-Germany 2008-2009: member of the steering group for Low Carbon Economy Country representative;
- 12. The Guariba REDD Project under development: MAY 2011 State of Amazonas;
- 13. The Caarapo REDD Project under development: NOV 2011 State of Mato Grosso;
- 14. APERAM Arcelor-Mittal CDM forestry component auditor for validation of project of substitution of mineral coal by renewable charcoal – Project – NOV 2011;
- 15. Documentary/Film interviewed: 2009 ZugZwang: http://vimeo.com/40093375#
- 16. Documentary/Film production: 2012 "Mind the Limits" prepared for Rio+20. http://vimeo.com/44251277
- 17. Instituto E (2012) partnership under development corporate sustainable responsibility in the fashion and garment industry. (www.institutoe.org.br)
- 18. COSMOS International partnership under implementation China Brazil relationship in the Green Economy. (www.mauricestrong.net) - (2012)
- 19. SCOPE-ZHONGYU Environmental forum paper presentation on Forests and carbon markets in Brazilian Amazonia, at the Taiyuan Shanxi Province event (October 2012).
- 20. IGEA International Green Economy Association (Beijing, China) member of Board of Advisors/Brazil chair (2013). (www.igea-un.org)
- 21. HUB.e (2013) sustainable development group providing services on environmental planning for construction of large development of a coastal enterprise for tourism near Rio de Janeiro (Brazil) (hotel, resort, spa commercial facilities).
- 22. FOREST TRENDS, NGO coordination of Payment for Environmental Services Study elaboration of Brazilian Matrix on the theme of services of climate change mitigation, water resources use and social development. (http://brazil.forest-trends.org)