UNIVERSITAS
GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU,
PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

## Daftar Pustaka

Agarwal, C., Green, G.M., Grove, J.M., Evans, T.P., & Schweik, C.M. (2002). A Review and Assessment of Land-Use Change Models: Dynamics of Space, Time, and Human Choice, *Apollo The International Magazine Of Art And Antiques*, 62. http://doi.org/10.1289/ehp.6514.

Ahmad, A., Saleh, M.B. dan Rusolono, T. (2016). Model Spasial Deforestasi di KPHP Poigar, Provinsi Sulawesi Utara, *Jurnal Penelitian Kehutanan Wallacea*, Vol 5 Issue 2: 159-169.

Apan, A.A. and Peterson, J.A. (1998). Probing Tropical Deforestation: The Use of GIS and Statistical Analysis of Georeferenced Data, *Applied Geography*, 18(2): 137-152.

Arnold, L.L., 2008, Deforestation in Decentralised Indonesia: What's Law Got to Do with it? *Law Environmental and Development Journal*, *4*(2), 75-101.

Arowolo, A. Deng, X., Olatunji, O.A., Obayelu A.E. (2018). Assessing changes in the value of ecosystem services in response to land-use/land-cover dynamics in Nigeria. *Science of the Total Environment* (636) 2018

Azizi, Z., Najafi, A., and Sohrabi, H. (2008). Forest Canopy Density Estimating Using Satellite Images, *The International Archive of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, Vol XXXVII. Part B 8. Beijing; 2008.

Bavaghar, M.P. (2015). Deforestation Modelling using Logistic Regression and GIS. *Journal of Forest Science*, 61(5):193–199. http://dx.doi.org/10.17221/78/2014-JFS

Beckers, V., Beckers J., Vanmaercke, M. Van Hecke, E. Van Rompaey, A., and Dendonker, N. (2018). Modelling Farm Growth and Its Impact on Agricultural Land Use. A Country Scale Application of an Agent-Based Model. *Land* 7 (3), 109

Benenson, I. and Torrens, P. (2004). *Geosimulation: automata-based modeling of urban phenomena*. John Willey & Sons, New York, USA.

BBKSDA-Balai Besar Konservasi Sumber daya Alam NTT. (2018). *Profil Cagar Alam Mutis Timau*. Dimuat dalam http://bbksdantt.menlhk.go.id/kawasan-konservasi/ca/ca-mutis/profil-ca-mutis-timau, diakses 05 Mei 2019

BMKG–Badan Meteorologi, Klimatologi dan Geofisika. (2019). *Data Online – Pusat Database - BMKG*. Dimuat dalam: dataonline.bmkg.go.id/home, diakses 11 Mei 2019.

Bonabeau E (2002). Agent-Based Modeling: Methods and Techniques for Simulating Human Systems. *PNAS* 99(2): 7280 – 7287

Bos, A.B. (2013). *To see the Forest for the Trees: Understanding drivers and processes involved in deforestation and modelling forest change dynamics in central Vietnam*. Master thesis. ITC/UTwente – Utrecht University – Wageningen University.

Boserup, E. (1965). *The Conditions of Agricultural Growth*. Aldine, Chicago

Bounfour, A. and Lambin, E.F. (1999). How valuable is remotely sensed information? The case of tropical deforestation modeling. *Space Policy*, 15(3):149-158

BPK Kupang - Balai Penelitian Kehutanan Kupang. (2010). *Kandungan Karbon di Kawasan Hutan Gunung Mutis*. Laporan Hasil Penelitian BPK Kupang. Kupang

BPK Kupang - Balai Penelitian Kehutanan Kupang. (2013). *Kajian Valuasi Potensi dan Kelembagaan KPHL Mutis*, Laporan Hasil Penelitian BPK Kupang, Kupang.

BPS – Badan Pusat Statistik. (2016). *Persentase Rumah Tangga Menurut Provinsi dan Bahan Bakar Utama untuk Memasak Tahun 2001, 2007-2016*. Dimuat dalam https://www.bps.go.id/statictable/2014/09/10%2000:00:00/1364/persentase-rumah-tangga-menurut-provinsi-dan-bahan-bakar-utama-untuk-memasak-tahun-2001-2007-2016.html, diakses pada 5 Mei 2019.

BPS TTS. (2017). *Kabupaten Timor Tengah Selatan Dalam Angka tahun 2017*. BPS Kabupaten TTS. Soe, NTT.

UNIVERSITAS
GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU,
PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

BPS TTU. (2017). *Kabupaten Timor Tengah Selatan Dalam Angka tahun 2017*. BPS Kabupaten TTU. Kefamenanu, NTT.

Briassoulis, H. (2000). *Analysis of land use change: theoretical and modelling approaches*. The Web Book of Regional Science (ed. S. Loveridge). Regional Research Institute, West Virginia University. Dimuat dalam http://www.rri.wvu.edu/WebBook/Briassoulis/contents.htm, diakses 11 Mei 2018.

Broich, M., Hansen, M., Stolle, F., Potapov, P., Margono, B.A. and Adusei, B. (2011). Remote sensed forest cover loss showeds high spatial and temporal variation across Sumatera and Kalimantan, Indonesia 2000-2008. *Environmental Research Letter*, 6.

BSN – Badan Standardisasi Nasional. (2010). *Klasifikasi penutup lahan*. Badan Standarisasi Nasional. Jakarta

Burgess, R., Hansen, M., Olken, B. A., Potapov, P., & Sieber, S. (2011). The Political Economy of Deforestation in the Tropics. *NBER Working Paper Series, 17417*.

Candrashekhar, B.M., Saran, S., Raju, P.L.N. and Roy, P.S. (2005). Forest Canopy Density Stratification: How relevant is Biophysical Spectral Response Modeling Approach? *Geocarto International*, Vol. 20, No.1. http://dx.doi.org/10.1080/10106040508542332.

Castella, J., & Verburg, P. H. (2007). Combination of process-oriented and pattern-oriented models of land-use change in a mountain area of Vietnam. *Ecological Modelling* 202: 410–420. http://doi.org/10.1016/j.ecolmodel.2006.11.011

Chakravarty, S., Ghosh, S., & Suresh, C. (2011). Deforestation: Causes, Effects and Control Strategies. In D. D. C. A. Okia (Ed.), *Global Perspectives on Sustainable Forest Management* (pp. 3–29). http://doi.org/10.5772/33342

Chayanov. (1966). *The Theory of Peasant Economy.* [1925]. The University of Wisconsin Press, Madison, Wisconsin

Chowdhury, R.R. (2006). Driving forces of tropical deforestation: The role of remote sensing and spatial models. *Singapore Journal of Tropical Geography 27*: 82–101

Coe, M.T., Marthews, T.R, Costa, M.H. (2013). Deforestation and climate feedbacks threaten the ecological integrity of south–southeastern Amazonia. *Phil Trans R Soc B* 368: 20120155. http://dx.doi.org/10.1098/rstb.2012.0155

Congalton, R.G., and K. Green. (1999). *Assessing the accuracy of remotely sensed data: Principles and practice*. Lewis Publishers, New York.

Congalton, R.G. (1996). *Accuracy Assessment: A Critical Component of Land Cover Mapping. Gap Analysis.* American Society for Photogrammetry and Remote Sensing.

Culas, R.J. (2012). REDD and forest Transition: Tunneling through the environmental Kuznets. *Ecological Economisc*. 79:44-51

Cushman S.A., MacDonald E.A, Landguth E.L., Mahli, Y. and MacDonald, D.W. (2017). Multiple-scale prediction of forest loss risk across Borneo. *Landscape Ecol* (2017) 32:1581–1598

Dako, F.X., Purwanto, R.H, Farida, L.R.W and Sumardi. (2019). Kerusakan antropogenik kawasan lindung Mutis Timau dan Upaya Penanggulangannya di Pulau Timor Barat. *Journal of Natural Resources and Environment Management* 9 (2): 437-455

De Sy, V., Herold, M., Achard, F., Asner, G.P., Held, A., Kellndorfer, J., Verbesselt, J. (2012). Synergies of multiple remote sensing data sources for REDD+ monitoring. *Curr. Opin. Environ. Sustain*. 4, 696–706.

De Vries, B. (2015). *Monitoring tropical forest dynamics using Landsat time series and community-based data*. PhD thesis, Wageningen University, Wageningen, NL. 170 pages.

UNIVERSITAS GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU, PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

Deadman. P., Robinson, D., Moran, E. and Brondizio, E. (2004). Colonist household decion making and land use change in the Amazon Rainforest: an agent-based simulation. *Environmental and Planning B: Panning and Design*, Vol. 31: 693-709

Deka, J., Tripathi, O.P. and Khan, M.L. (2013). Implementation of Forest Canopy Density Model to Monitor Tropical Deforestation. *Journal Indian Society Remote Sensing*, 41(2): 469-475, http://dx.doi.org/10.1007/s12524-012-0224-5.

Direktorat IGRK dan MPV – Direktorat Inventarisasi Gas Rumah Kaca dan Monitoring, Pelaporan, dan Verifikasi. (2017). *Pedoman Pengukuran, Pelaporan, dan Verifikasi (Measurement, Reporting, and Verification) REDD+ Indonesia*. Kementerian Lingkungan Hidup dan Kehutanan, Jakarta.

Direktorat IPSDH. (2019). *Basis Data Geospasial 2019*. Kementerian Lingkungan Hidup dan Kehutanan, Jakarta, Indonesia.

Dwarakish, G. S., Ganasri, B. P., & De Stefano, L. (2015). Impact of land use change on hydrological systems: A review of current modeling approaches Public Interest Statement. *GIS Applications of International Journal of Earth Sciences and Engineering and Editor of Aquatic Procedia Ms. B.P. Dwarakish & Ganasri Cogent Geoscience*, *1*(1), 1115691–1115691. http://doi.org/10.1080/23312041.2015.1115691

Eghenter, C. (2000). *Mapping Peoples ' Forests: The Role of Mapping in Planning Community-Based Management of Conservation Areas in Indonesia* . Washington DC.: Biodiversity Support Program (BSP).

Ellis, F. (2000). *Rural livelihoods and Diversity in Developing Countries*. Oxford University Press. Oxford

Elz, I., Tansey, K., Page, S.E. and Trivedi, M. (2015). Modelling Deforestation and Land Cover Transition of Tropical Peatland in Sumatra, Indonesia Using Remote Sensed Land Cover Data Set. *Land*, 4 : 670-687; http://dx.doi.org/10.3390/land4030670.

ERDAS. (2013). ERDAS Imagine 2013. Hexagon Geospatial, Peachtree Corners Circle Norcross

ESRI - Environmental Systems Research Institute. (2016) *ArcGIS Release 10.4.1*. Redlands, CA.

FAO – Food and Agriculture Organization. (1995). *Forest Resources Assessment 1990. Global Synthesis.* FAO, Rome

FAO. (2001). *Global Forest Resources Assessment 2000: term and definition.* FAO, Rome

FAO. (2010). *Global Forest Resources Assessment 2010: term and definition.* FAO Working Paper 144/E. Food and Agriculture Organization (FAO) of the United Nation (UN), Rome.

FAO. (2011). *Assessing forest degradation, Towards the development of globally applicable guidelines*. FAO Working Paper 177. Food and Agriculture Organization (FAO) of the United Nation (UN).

FAO. (2016). *Global Forest Resources Assessment 2015*. Rome: FAO.

FAO. (2018). *The State of the World's Forests 2018 - Forest pathways to sustainable development.* Rome, available online at: http://www.fao.org/3/I9535EN/i9535en.pdf

FAO. (2020). *Global Forest Resources Assessment 2020*. Rome: FAO.

Farida, W.R., Triono, T., Handayani, T.H., Ismail. (2005). Pemilihan Jenis Tumbuhan Sumber Pakan dan Tempat Bersarang Kuskus (Phalanger sp.) di Cagar Alam Gunung Mutis, NTT. *Biodiversitas*, Vol 6, No.1, Hal. 50-54. http://dx.doi.org/10.13057/biodiv/d060110.

Firdaus, R. (2014). *Assessing Land Use and Land Cover Change toward Sustainability in Humid Tropical Watersheds, Indonesia Assessing Land Use and Land Cover Change toward Sustainability in Humid Tropical Watersheds, Indonesia*. Doctoral Dissertation. Hiroshima University. Japan.

UNIVERSITAS GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU, PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

Fisher, L.M., (1998). Cattle, Cockatoos, Chameleons and Ninja Turtles: Seeking Sustainability in Forest Management and Conservation in Nusa Tenggara, Indonesia. *International CBNRM Workshop.* Washington D.C.

Fisher, L., Moeliono, I. and Wodicka, S. (2003). The Nusa Tenggara Upland, Indonesia: Multiple-site lessons in conflict management. In D. Buckles (Ed.), *Cultivating Peace - Conflict and Collaboration in Nature Resources Management* (p. 300pp). Ottawa, Canada: International Development Research Center (IDRC).

Fuller, D.O, Meijaard, E.M, Christy, L. and Jessup, T.C. (2010). Spatial Assessment of threats to biodiversity within East Kalimantan, Indonesia. *Applied Geography*, 30: 416-425. http://dx.doi.org/10.1111/j.1467-9493.2006.00235.x

FWI – Forest Watch Indonesia. (2001). *Keadaan Hutan Indonesia*. Bogor, Indonesia: Forest Watch Indonesia dan Washington D.C.: Global Forest Watch

FWI. (2003). *Pemetaan Land Use Land Cover (LULC) dari Penginderaan Jauh Landsat7 ETM+ untuk Wilayah Mamberamo dan Raja Ampat Provinsi Papua.* Laporan Proyek, Kerjasama: FWI, Baplan-Departemen Kehutanan dan Conservation International Indonesia-Papua Program, Bogor

FWI & CIFOR. (2006). *Analisis Kondisi Tutupan Hutan di Papua dan Irian Jaya Barat Sebagai Salah Satu Langkah untuk Mendukung Pengelolaan Hutan Alam dan Pembatasan Konflik di Sektor Kehutanan.* Laporan Updating Landcover Mapping Papua, Kerjasama: FWI-Bogor dan CIFOR, Bogor.

Gaveau, D.L.A., Wandono, H. and Setiabudi, F. (2007). Three decades of deforestation in Soutwest Sumatra: Have protected area halted forest loss and logging, and promoted re-growth? *Biological Conservation*, 134: 495-504.

Gaveau, D.L.A., Linkie, M., Suyadi, Levang, P. and Leader-Williams, N. (2009). Three decades of deforestation in southwest Sumatra: Effects of coffe prices, law enforcement and rural poverty. *Biological conservation*, 142: 597-605. http://dx.doi.org/10.10016/j.biocon.2008.11.024.

Geist, H.J. and Lambin, E.F. (2001) *What Drives Tropical Deforestation? A Meta-Analysis of Proximate and Underlying Causes of Deforestation Based on Subnational Case Study Evidence.* LUCC International Project IV. International Human Dimensions Programme on Global Environmental Change (IHDP) V. International Geosphere-Biosphere Programme (IGHP) VI. LUCC Report Series 4. pp 1-116

Geist, H..J. and Lambin, E.F. (2002). Proximate Causes and Underlying Driving Forces of Tropical Deforestation. *BioScience, 52 (2)*, 142-150.

Geoghegan, J., Pritchard jr, L., Himmelberger, Y.O., Chowdhury, R.R., Sanderson, S. and Turner II, B.L. (1998). "Socializing the Pixel" and "Pixelizing the Social" in Land-Use and Land-Cover Change. In *People and Pixels: Linking Remote Sensing and Social Science*, Liverman, D., Moran, E.F., Rindfuss, R.R. and Steern, P.C. (Eds). National Academy Press. Washington. http://doi.org/10.17226/5963

Getahun, K., van Rompaey, A., van Turnhout, P. and Poesen, J. (2013). Factors controlling patterns of deforestation in moist evergreen Afromontane forest of Southwest Eithopia. *Forest Ecology and Management* 304 (2013): 171 - 181

Goldewijk, K.K. & Ramankutty, N. (2004). Land Use Changes during the Past 300 Years. *Encyclopedia of Life Support Systems (EOLSS), I.*

Goody, J. (1969). The Fission of Domestic Groups among the LoDagaba. In *The Development Cycle in Domestic Groups*, Goody, J. (Ed). Cambridge University Press.

Government of Republic of Indonesia. (2002). *National Action Programme (NAP) for combatting land degradation in Indonesia: in relation to United Nation Convention to Combat Desertification (UNCCD).* The Ministry of Forestry. Jakarta. Dalam: https://knowledge.unccd.int/sites/default/files/naps/indonesia-eng2002.pdf.

UNIVERSITAS
GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU,
PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

Government of Republic of Indonesia. (2015). *Indonesia – Land Degradation Neutrality National Report*. The Ministry of Forestry. Jakarta. https://knowledge.unccd.int/sites/default/files/inline-files/indonesia_ldn_country_report.pdf, diakses pada 30 August 2019

Graham, S. (2004). *From 'Timor Koepang' to 'Timor NTT': A Political History of West Timor, 1901-1967*. PhD Thesis. Charles Darwin University. Australia

Grimm, V. and Railbacks, S.F. (2005). *Individual-based Modelling and Ecology*. Princeton University Press, Princeton-New Jersey.

Grimm, V., Berger, U., Bastiansen, F., Eliassen, S., Ginot, V., Giske, J., Goss-custard, J., Grand, T., Heinz, S.K., Huse, G., Huth, A., Jepsen, J.U., Jørgensen, C., Mooij, W.M., Muller, B., Peer, G., Piou, C., Railsback, S.F., Robbins, A.M., Robbins, M.M., Rossmanith, E., Ruger, N., Strand, E., Souissi, S., Stillman, R.A., Vabø, R., Visser, U. and Deangelis, D.L. (2006). A Standard Protocol for Describing Individual-Based and Agent-Based Models. *Ecological Modelling*, 198, 115-126.

Grimm, V., Berger, U., Deangelis, D.L., Polhill, J.G., Giske, J. and Railsback, S.F. (2010) The ODD Protocol: A Re- view and First Update. *Ecological Modelling*, 221, 2760-2768.

Hadi, F., Wikantika, K., Sumarto, I. (2004). Implementation of Forest Canopy Density Model to Monitor Forest Fragmentation in Mt. Simpang and Mt. Tilu Nature Reserves, West Java, Indonesia. *Indonesian FIG Regional Conference*, 3-7 Oktober 2004.

Haggith, M., Iv, S., Muetzelfeldt, R.I. & Taylor, J. (2003). Modelling Decision-making in Rural Communities at the Forest Margin. *Small-scale Forest Economics, Management and Policy*, 2(2): 241–258.

Hajj, M.E., Begue, A., Lafrance, B., Hagolle, O., Dedieu, G. and Rumeau. (2008). Relative Radiometric Normalization and Atmospheric Correction of a SPOT 5 time series. *Sensors*, 8, 2774-2791. http://dx.doi.org/10.3390/s8042774.

Haliuc, A., Feurdean, A., Mindrescu, M., Frantiuc, A. and Hutchinson, S.M. (2018) Impact of forest loss in the eastern Carpathian Mountain: linking remote sensing and sediment changes in a mid-altitude catchment (Red lake, Romania). *Regional Environmental Change*. http://doi.org/10.1007/s10113-018-1416-5

Harper, K.A., Macdonald, S.E., Burton, P.J., Chen, J. (2005) Edge Influence on Structure and Composition in Fragmented Landscapes. *Conservation Biology*, 19: 768–782.

Hersperger, A.M., Gennaio, M.P., Verburg, P.H., & Bürgi, M. (2010). Linking land change with driving forces and actors : Four conceptual models. *Ecology and Society*, *15*(4), 1–19.

Hosmer, D.W. and Lemeshow, S. (2000). *Applied Logistic Regression* (2nd Edition ed.). Canada: John Wiley and Sons, Inc.

Hosonuma, N., Herold, M., De Sy, V., De Fries, R.S., Brockhaus, M., Verchot, L., Angelsen, A. and Romijn, E. (2012). An Assessment of deforestation and forest degradation drivers in developing countries. *Environmental Research Letter*, 7 (2012) 044009. http://dx.doi.org/10.1088/1748-9326/7/4/044009.

Howell, S. and Bastiansen, E. (2015). *REDD+ in Indonesia 2010–2015: Report of a Collaborative Anthropological Research Programme*. Department of Social Anthropology University of Oslo. Norwegia. pp 1-25

Hoyos, L., Cabido, M. and Cingolani, A. (2018). A multivariate approach to study drivers of land-cover changes through remote sensing in the Dry Chaco of Argentina. *ISPRS International Journal of Geo-Information*, 7(5), 170. http://dx.doi.org/10.3390/ijgi7050170

UNIVERSITAS
GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU,
PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

Htun, N.Z., Mizoue, N. and Yoshida, S. (2013). Changes in Determinants of Deforestation and Forest Degradation in Popa Mountain Park, Central Myanmar. *Environmental Management*, 51: 423–434. http://dx.doi.org/10.1007/s00267-012-9968-5.

Huettner, M., Lemans, R., Kok, K., and Ebelling, J. (2009). A comparison of baseline methodologies for 'Reducing Emissions from Deforestation and Degradation'. *Carbon Balance and Management*, (4):4. http://dx.doi.org/10.1186/1750-0680-4-4.

IBM Corp. (2015) *IBM SPSS Regression 23*. Armonk, NY: IBM Corp. Dalam: ftp://public.dhe.ibm.com/software/analytics/spss/documentation/statistics/23.0/en/client/Manuals/IBM_SPSS_Regression.pdf, diakses pada 01 Maret 2019.

Indarto, J. and Mutaqin, D.J. (2016). An Overview of Theoritical and Empirical Studies on Deforestation. *Journal of International Development and Cooperation*, 22 (1 & 2), 107-120.

Internasional Crisis Group. (2010). *Timor Leste: Oecusse and the Indonesian Border*. Policy Briefing, Asia Briefing N 104. Dilli/ Brussels

ITTO – International Tropical Timber Organization. (2002). *ITTO Guidelines for the Restoration, Management and Rehabilitation of Degraded and Secondary Tropical Forests*. ITTO Policy Development Series No. 13. Yokohama.

Jensen, J. (2005). *Introductory Digital Image Processing: A Remote Sensing Perspective* (3rd ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Junior, O.A.C., Guimaraes, R.F., Silva, N.C., Gillespie, A.R., Gomes, R.A.T., Silva, C.R. and Carvalho, A.P.F. (2013). Radiometric Normalization of Temporal Images Combining Automatic Detection of Pseudo-Invariant Features from the Distance and Similarity Spectral Measures, Density Scatterplot Analysis and Robust Regression. *Remote Sensing*, 5, 2763-2794. http://dx.doi.org/10.3390/rs5062763.

Kaimowitz, D., & Angelsen, A. (1998). *Economic Models of Tropical Deforestation A Review*. *Environment and Development Economics* (Vol. 6). http://doi.org/10.17528/cifor/000341

Kanade, R. and John, R. (2018). Topographical influence on recent deforestation and degradation in the Sikkim Himalaya in India; Implications for conservation of East Himalayan broadleaf forest. *Applied Geography* 92(2018) 85-93. http://doi.org/10.1016/j.apgeog.2018.02.004

King, K.L. and Locke, D.H. (2013). A Comparison of Three Methods for Measuring Local Urban Tree Canopy Cover. *Arboriculture & Urban Forestry*, 39 (2): 62-67.

Kissinger, G., Herold, M. and De Sy, V. (2012). *Drivers of Deforestation and Forest Degradation: A Synthesis Report for REDD+ Policymakers*. Lexeme Consulting, Vancouver Canada. pp 1–46

KLHK - Kementerian Lingkungan Hidup dan Kehutanan. Direktorat Jenderal Pengendalian Perubahan. Direktorat Inventarisasi GRK dan Monitoring, Pelaporan, Verifikasi (2018). Laporan Inventarisasi Gas Rumah Kaca, Monitoring, Pelaporan, dan Verifikasi Nasional Tahun 2017

Koomen, E. and Stillwell, J. (2007). Modelling land use: Theories and methods. In Modelling Land-Use Change: Progress and Applications, Koomen, E., Stilwell, J., Bakema, A., and Scholten, H.J. (Eds.).*GeoJournal Library,* 90: 1-21.

KPHL Mutis Timau. (2012). *Rencana Pengelolaan KPHL Mutis Timau*. KPHL Mutis Timau. Dinas Kehutanan Provinsi NTT. Kupang

Kucsisca, G. and Dumitrica C. (2019). Spatial modelling of deforestation in Romanian Carpathian Mountains using GIS and Logistic Regression. *J. Mt. Sci.* (2019) 16(5): 1005-1022

UNIVERSITAS GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU, PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

Kurniadi, R. dan Rumboko, L. (2015). Implementasi Kebijakan Silvopastur di Cagar Alam Gunung Mutis dan Perlawanan Masyarakat Lokal. *Jurnal Ilmu Sosial Politik* Vol. 19, No.2.

Kurniadi R., Purnomo, H., Wijayanto, H., and Fuah, A.M. (2017). Model Pengelolaan Ternak di Sekitar Hutan Gunung Mutis dan Dampaknya terhadap Kelestarian Hutan. *Jurnal Ilmu Kehutanan*, 11 (2017): 156-172

Kurniawan, M. dan Subandono, E. (2018). *Tabukan Cagar Alam Mutis Berubah Fungsi?* Balai Besar Konservasi Sumber Daya Alam NTT. Kupang.

Kuznets, S. (1955). *The American Economic Review*, Vol. 45, No. 1, pp. 1-28

Lambin, E. F. (1994). Modelling Deforestation Processes: A review. *International Journal of Remote Sensing*, *17*(5), 132. http://doi.org/10.1080/01431169608949066

Lambin, E.F. (1999). Monitoring forest degradation in tropical regions by remote sensing: some methodological issues. *Global Ecology and Biogeography Letters*, 8, 191–198

Le, Q.B. (2005) *Multi-agent system for simulation of land-use and land cover change: a theoretical framework and its first implementation for an upland watershed in the Central Coast of Vietnam*. Ecology and Development Series 29. Cuvillier Verlag Gottingen, Gottingen.

Le, Q.B., Park, S.J., Vlek, P.L.G., Cremers, A.B. (2008). Land use dynamic simulator (LUDAS): a multi-agent system model for simulating spatio-temporal dynamics of coupled human–landscape system. 1. Structure and theoretical specification. *Ecological Informatics* 3 (2), 135–153

Le, Q.B., Park, S.J. and Vlek, P.L.G. (2010). Land Use Dynamic Simulator (LUDAS): A multi-agent system model for simulating spatio-temporal dynamics of coupled human-landscape system. 2. Scenario-based application for impact assessment of land-use policies. *Ecological Informatics*, 5: 203-221

Lentz, C., Malo, M. and Bowe, M. (1998). Environmental Management in Gunung Mutis. *International Association for the Study of Common Property*, 10-14 June. Vancouver, Canada.

Ligtenberg, A., van Iammeren, R., Breght, A. and Beulens, A.J.M. (2010). Validation of an agent-based model for spatial planning: A role-playing approach. *Computer Environment and Urban Systems* 34 (5): 424-434

Lillesand, T.M., Kiefer, R.W. and Chipman, J.W. (2004). *Remote Sensing and Image Interpretation* (5th ed.). Hoboken, NJ: John Willey & Sons, Inc.

Lim, K., Deadman, P., Moran, E., Brondizio, E., & McCracken, S. (2002). Agent-Based Simulations of Household Decision Making and Land Use Change near Altamira, Brazil. In *Integrating Geographic Infromation Systems and Agent-Based Modeling Techniques for Simulating Social and Ecoogical Processes* (pp. 277–310).

Linkie, M., Rood, E. and Smith, R.J. (2010). Modelling the effectiveness of Enforcement strategies for avoiding tropical deforestation in Kerinci Seblat National Park, Sumatra. *Biodiversity Conservation*, 19: 973-984

Linkie, M., Smith, R.J. and Williams, N.L. (2004). Mapping and predicting deforestation patterns in the lowlands of Sumatra. *Biodiversity and Conservation* , 13: 1809-1818.

Lodhu, L., B. (1998). *Implikasi Etnobotani Kuantitatif Dalam Kaitannya Dengan Konservasi Gunung Mutis, Timor*. Disertasi IPB, Bogor

Macdonald, E.A., Collins, M., Johnson, P.J., Clayton L.M., Malhi, Y., Fisher, J.B., Milner-Gulland, E.J. and Macdonald, D.W. (2011). Wildlife conservation and reduced emission from deforestation in a case study of Nantu National Park, Sulawesi. *Environmental Science and Policy*, Vol: 14, Pages: 697-708.

Magliocca, N.R., van Vliet, J., Brown, C., Evans, T.P., Houet, T., Messerli, P., Yu, Q. (2015). From meta-studies to modeling: Using synthesis knowledge to build broadly

UNIVERSITAS
GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU,
PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

applicable process-based land change models. *Environmental Modelling & Software*, *72*, 10–20. http://doi.org/10.1016/j.envsoft.2015.06.009

Mahapatra, K. and Kant, S. (2005). Tropical deforestation: A multinomial logistic model and some country-specific policy prescriptions. *Forest Policy and Economics* 7 (1): 1–24.

Mardiastuti, A. (2012). *The Role of UN_REDD in the Development of REDD+ in Indonesia, Vol. III: Highlight of REDD+ Related Projects in Indonesia*. Kemenhut RI, UN-REDD, FAO, UNDP, UNEP. Jakarta, Indonesia. pp 1-96

Margono, B.A. (2014). *Advancing Indonesian Forest Resource Monitoring using Multi-source Remotely Sensed Imagery*. Dissertation. University of Maryland. USA.

Margono, B.A., Potavov, P.V., Turubanova, S., Stolle, F. and Hansen, M.C. (2014). Primary forest cover loss in Indonesia over 2000-2012. *Nature Climate Change*. http://dx.doi.org/10.1038/NCLIMATE2277.

Margono, B.A., Turubanova, S., Zhuravleva, I., Potapov, P., Tyukavina, A., Baccini, A., Goetz, S. and Hansen, M.C. (2012). Mapping and monitoring deforestation and forest degradation in Sumatra (Indonesia) using Landsat time series data sets from 1990 to 2010. *Environmental Research Letter*, 7 (2012) 034010 (16pp). http://dx.doi.org/10.1088/1748-9326/7/3/034010.

Marohn, C., Schreinemachers, P., Quang, D.V., Berger, T., Siripalangkonont, P., Nyuyen, T.T. and Cadisch G. (2013). A software coupling approach to assess low-cost soil conservation strategies for highland agriculture in Vietnam. *Environmental Modelling & Sofware*, 45: 116-128

Maslow, A.H. (1943). A Theory of human motivation. *Psychological Review*, 50 (4):370-96.

Mather, A.S. (1992). The Forest Transition. *Area*. Vol 24: 367-379

McCracken, S.D., Brondizio, E.S., Nelson, D., Moran, E.F., Siquera, A.D., Pedraza, C.R. (1999). Remote Sensing and GIS at Farm Property Level: Demography and Deforestation in the Brazilian Amazon. *Photogrammetric Engineering & Remote Sensing*, Vol. 65, pp. 1311-1320

Media Indonesia. (2011). Tergiur Mangan: Dari Timor mengalir ke Cina. *Media Indonesia*, Edisi Cetak 16 Maret 2011.

Mertens, B. and Lambin E.F. (2000). Land-Cover-Change Trajectories in Southern Cameroon. *Annals of Association of American Geographers*, 90(3): 467-494

Mertens, B., Kaimowitz, D, Puntodewo, A., Vanclay, J. and Mendez, P. (2004). Modelling Deforestation at Distinct Geographic Scales and Time Periods in Santa Cruz, Bolivia. *International Regional Science Review*, 27(3): 271-296.

Meyfroidt, P., Chowdury, R.R., de Bremont, A., Ellis, E.C, Erb, K.H., Filatova, T., Garret, J.M., Grove, J.M., Heinimann, A., Kuemmerle, T., Kull, C.A., Lambin, E.F., Yandon, Y., le Polain de Waraoux, Y., Messerli, P., Muller, D., Nielsen, J.Q., Peterson, G.D., Verburg, P.H. (2018). Middle-range theories of land system change. *Global Environmental Change*, Vol. 53, November 2018, pages 52-57.

Miettinen, J., Stibig, H-J. and Achard, F. (2014). Remote Sensing of Forest Degradation in Southeast Asia-Aiming for a regional view through 5-30 m satellite data. *Global Ecology and Conservation*. 2(2014) 24-36. http://dx.doi.org/10.1016/j.gecco.2014.07.007.

Mitchell, A.L., Rosenqvist, A. and Mora, B. (2017). Current remote sensing approaches to monitor forest degradation in support of countries measurement, reporting and verification systems for REDD+. *Carbon Balance and Management*, 12: 9. http://dx.doi.org/10.1186/s13021-017-0078-9

UNIVERSITAS
GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU,
PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

Miyasaka, T., Le, Q.B., Okuro, T., Zhao, X. and Takeuchi, K. (2017). Agent-based modeling of complex social–ecological feedback loops to assess multi-dimensional trade-offs in dryland ecosystem services. *Landscape Ecology* (2017) 32:707–727

MoEF - Ministry of Environment and Forestry, Republic of Indonesia. (2018a). *The State of Indonesia's Forest 2018*. The Ministry of Environment and Forestry, Republic of Indonesia.

MoEF – Ministry of Environment and Forestry, Republic of Indonesia. (2018b). *Indonesia Report on REDD+ Performance*. Directorate General of Climate Change. The Ministry of Environment and Forestry. Indonesia.

Mon, M.S., Mizoue, N., Htun, N.Z., Kajisa, T. and Yoshida, S. (2012). Estimating forest canopy density of tropical mixed deciduous vegetation using Landsat data: a comparison of three classification approaches, *International Journal of Remote Sensing*, 33:4, 1042-1057. http://dx.doi.org/10.1080/01431161.2010.549851

Monk, K.A., Fretes, Y. De. and Reksodiharjo-Lilly, G. (1997). *The ecology of Nusa Tenggara and Maluku.* Periplus., Hongkong: Oxford University Press.

Montgomery, R. (2015). *Will no one Plant a Tree in Indonesia? Yes, the Poor will, and on Islands not known for Their Forests: One such is Timor.* Asia Research Centre Working Paper 69. Asia Research Centre (ARC) London School of Economics & Political Science Houghton Street, London - UK.

Morales-Barquero, L., Borrego, A, Skutsch M., Kleinn C. and Healey, J.R. Identification and quantification of drivers of forest degradation intropical dry forests: A case study in Western Mexico. *Land Use Policy* 40(2015) 296-300

Moreno, N., Quintero, R., Ablan, M., Barros, R., Davila, J., Ramirez, H., Tonella, G. and Acevedo, M.F. (2007). Bio-complexity of Deforestation in the Caparo tropical forest reserve in Venezuela: an integrated multi-agent and cellular automata model. *Environmental Modelling & Software*, 22: 664-673.

Moser, S.C. (1996). A Partial Instructional Module on Global and Regional Land Use/Cover Change: Assessing the Data and Searching for General Relationships. *GeoJournal* 39(3): 241-283

Muller, C. and Yan, H. (2016). *Household Fuel Use in Developing Countries: Review of Theory and Evidence*. halshs-01290714. https://halshs.archives-ouvertes.fr/halshs-01290714/document (diakses tanggal 15 Januari 2020)

Mulyani, M. and Jepson, P. (2013). REDD+ and Forest Governance in Indonesia: A Multistakeholder Study of Perceived Challenges and Opportunities. *Journal of Environment and Development*, 22(3): 261-283. http://dx.doi.org/10.1177/1070496513494203

Mulyanto, L. and Jaya, I.N.S. (2004). Analisis Spasial Degradasi Hutan dan Deforestasi: Studi Kasus di PT. Duta Maju Timber, Sumatera Barat. *Manajemen Hutan Tropika, X* (1), 29-42

Munthali, K. G., & Murayama, Y. (2014). Modeling deforestation in Dzalanyama Forest Reserve, Lilongwe, Malawi: a multi-agent simulation approach. *GeoJournal*, 1–15. http://doi.org/10.1007/s10708-014-9592-4

Nandy, S., Joshi, P.K. and Das, K.K. (2003). Forest Canopy Density Stratification using Biophysical Modeling. *Indian Society of Remote Sensing* Vol. 31, No.4.

NRC - National Research Council. (2013). *Advancing Land Change Modeling: Opportunities and Research Requirements*. Washington, DC: National Academies Press

Nugroho, H.Y.S.H., van der Veen, A., Skidmore, A.K. and Husein, Y.A. (2018). Expansion of traditional land-use and deforestation: a case study of an adat forest in the Kandilo

UNIVERSITAS GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU, PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

Subwatershed, East Kalimantan, Indonesia. *Journal of Forestry Research*, 29(2):495-513

Nugroho, S. (2012). *Metode Deteksi Degradasi Hutan menggunakan Citra Satelit Landsat di Hutan Lahan Kering Taman Nasional Gunung Halimun Salak*. Disertasi. Sekolah Pasca Sarjana Institut Pertanian Bogor (IPB), Bogor.

Oliveras, I. and Malhi, Y. (2016). Many shades of green: the dynamic tropical forest–savannah transition zones. *Philosophical Transactions. R. Soc. B* 371: 20150308. http://dx.doi.org/10.1098/rstb.2015.0308

Ormeling, F.J. (1957). *The Timor Problem: A Geographichal Interpretation of an Underdeveloped Island*. Groningen, ND.

Orr, B.J., A.L. Cowie, V.M. Castillo Sanchez, P. Chasek, N.D. Crossman, A. Erlewein, G. Louwagie, M. Maron, G.I. Metternicht, S. Minelli, A.E. Tengberg, S. Walter, and S. Welton. (2017). *Scientific Conceptual Framework for Land Degradation Neutrality*. A Report of the Science-Policy Interface. United Nations Convention to Combat Desertification (UNCCD), Bonn, Germany

Ostrom, E., (1990). *Goveming the Commons. The Evolution of Institutions for Collective Action*. Cambridge University Press, Cambridge, UK

Parker, D.C., Manson, S.M., Janssen, M.A., Hoffmann, M.J., & Deadman, P. (2002). Multi-Agent Systems for the Simulation of Land-Use and Land-Cover Change : A Review Forthcoming. *Workshop on Agent-Based Models of Land Use*, (Nag 56406), 75. http://doi.org/10.1111/1467-8306.9302004

Pedraza, C., Clerici, N., Forero, C.F., *et al.* (2018) Zero Deforestation Agreement Assessment at Farm Level in Columbia Using ALOS PALSAR. *Remote Sensing*, 2018, 10, 1464. http://doi.org/10.3390/rs10091464

Pontius, R.G., & Schneider, L.C. (2001). Land-cover change model validation by an ROC method for the Ipswich watershed, Massachusetts, USA. *Agriculture, Ecosystems & Environment*, 85(1): 239- 248.

Potapov, P., Yaroshenko, A., Turubanova, S., Dubinin, M., Laestadius, L., Thies, C., Aksenov, D., Egorov, A., Yesipova, Y., Glushkov, I., Karpachevskiy, M., Kostikova, A., Manisha, A., Tsybikova, E. and Zhuravleva, I. (2008). Mapping the world's intact forest landscapes by remote sensing. *Ecology Society.* 2008: 13(2):51

PPID KLHK. (2020). *Berhasil Tekan Deforestasi, Indonesia Terima Dana dari Norwegia*. Siaran Pers Biro Humas KLHK tanggal 20 Mei 2020 – Nomor: SP. 208/HUMAS/PP/HMS.3/5/2020. Dimuat dalam: http://ppid.menlhk.go.id/siaran_pers/browse/2481, diakses tanggal 28 Mei 2020

Prenzel, B. and Treitz, P. (2004). Remote sensing change detection for a watershed in north Sulawesi, Indonesia. *Progress in Planning*, 61: 349-363.

Price, M.F., Gratzer, G., Duguma, L.A., Kohler, T., Maselli, D. and Romeo, R. (editors). (2011). *Mountain Forests in a Changing World - Realizing Values, addressing challenges*. Published by FAO/MPS and SDC, Rome

Pujiono, E. (2012). *Analysing Deforestation using GIS and RS*. MSc Thesis. Korea University, Seoul, Korea

Pujiono, E, Lee, W.K., Kwak, D.A., and Lee, J.Y. (2011). Assessing the extent and rate of deforestation in the mountanious tropical forest. *Korean Journal of Remote Sensing*, 27(3): 315-328

Pujiono, E., Sadono, R., Hartono, Imron, M.A. (2019a). A Three Decades Assessment of Forest Cover Change in the Mountanious Tropical Forest of Timor Island, Indonesia. *Jurnal Manajemen Hutan Tropika*. DOI: http://doi.org/10.7226/jtfm. 5.1.51

UNIVERSITAS GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU, PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

Pujiono, E., Sadono, R., Hartono, Imron, M.A. (2019b). Assessment of causes and future deforestation in the mountainous tropical forest of Timor Island, Indonesia. Journal of Mountain Science. https://doi.org/10.1007/s11629-019-5480-1

Purwanto, J. Rusolono, T. and Prasetyo L.B. (2015). Spatial Model of Deforestation in Kalimantan from 2000 to 2013. *Jurnal Manajemen Hutan Tropika*, Vol. 21, (3): 110-118. http://dx.doi.org/10.7226/jtfm.21.3.110.

Puyravaud, J. (2003). Standardizing the calculation of the annual rate of deforestation. *Forest Ecology and Management*, 177: 593-596. http://dx.doi.org/10.1016/S0378-1127(02)00335-3.

Qadri, M., Hardjanto, dan Hero, Y. (2016). Kontribusi pendapatan dan kebutuhan lahan minimum dalam pengembangan hutan rakyat cendana di Kabupaten Kupang. *Jurnal Silvikultur Tropika* Vol. 07 No.3, Hal 174-180

Railsback, S. F. & Grimm, V. (2012). *Agent - Based and Individual - Based Modeling: A Practical Introduction*. Princeton: Princeton University Press

Redy, M.B. and Blah, B. (2009). Topographic normalization of satellite imagery for image classification in India. *Progress in Physical Geography*, 33(6): 815-836. https://doi.org/10.1177/0309133309351048

Ribot, J.C. and Peluso, N.L. (2003). A theory of access. *Rural Sociology*. 68 (2), 153–181.

Rikimaru, A., Roy, P.S. and Miyateke, S. (2002). Tropical Forest Cover Density Mapping. *Tropical Ecology*, 43(1):39-47. https://tropecol.com/pdf/open/PDF_43_1/43104.pdf

Russell, S.J. and Norvig, P. (1995) *Artificial intelligence: a modern approach*. Prentice and Hall, Englewood Cliffs, New Jersey, USA

Salminah, M. dan Wibowo, A. (2017). Sinkronisasi Kebijakan Nasional REDD+ dengan Kepentingan Para Pihak pada Tingkat Nasional. *Jurnal Analisis Kebijakan Kehutanan*, Vol. 14 No.2: 105-120

Schindler, J. (2009). *A multi-agent system for simulating land-use and land-cover change in the Atankwidi catchment of Upper East Ghana*. Dissertation. University of Bonn. Germany.

Scholz, R.W. and Binder, C.R. (2004). Principles of Human-Environment Systems (HES) Research. *International Congress on Environmental Modelling and Software*. 116. http://scholarsarchive.byu.edu/iemssconference/2004/all/116

Serneels, S. and Lambin, E.F. (2001). Proximate Causes of Land-Use Change in Narok District, Kenya: A Spatial Statistical Model. *Agriculture, Ecosystems and Environment*, 85: 65–81. http://doi.org/10.1016/S0167-8809(01)00188-8

Shu, G.N. (2003). *Detection and analysis of land cover dynamics in moist tropical rainforest of South Cameroon*. Master Thesis, International Institute for Geo-Information Science and Earth Observation, Enshede, The Netherland.

Steward, J.H. (1955). *Theory of Culture Change. The Methodology of Multi- linear Evolution*. Illinois Press, Urbana.

Sumanto, S.E. dan Pujiono, E. (2009). Pengelolaan sumber daya alam secara tradisional di Timor Barat: Studi sosio-ekologi di Kabupaten Timor Tengah Selatan. *Info Sosial dan Ekonomi Kehutanan* 9(3): 179-186.

Sunderlin, W.D., Angelson, A., Belcher, B., Burgers, P., Nasi, R., Santoso, L., Wunder, S. (2005). Livelihoods, Forests, and Conservations in Developing Countries: An Overview. *World Development*, 33(9): 1383-1402.

Suwarno, A. (2016). *Optimising Land Use in Central Kalimantan Province, Indonesia : Modelling ecosystem benefits and land-use dynamics Optimising land use*. PhD Thesis. Wageningen University, Wageningen. The Netherland

Suwarno, A. and van Noordwijk, M. (2016). Indonesia's forest conversion moratorium assessed with an agent-based model of Land-Use Change and Ecosystem Services (

UNIVERSITAS
GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU,
PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

LUCES ). *Mitigation and Adaptation Strategies for Global Change*. http://doi.org/10.1007/s11027-016-9721-0

Suwarno, A., Hein, L., and Sumarga, E. (2015). Governance, Decentralisation and Deforestatio: The Case of Central Kalimantan Province, Indonesia. *Quarterly Journal of International Agriculture,* 54(1), 77–100.

Swart, R. (2016). *Monitoring 40 Years of land Use Change in the Mau Forest Complex, Kenya*. Thesis. Wageningen University, Wageningen, The Netherland.

Swart, R.J., Raskin, P. and Robinson, J. (2004). The Problem of future: sustainability science and scenario analysis. *Global Environmental Change 14*: 137–146

Syahli, F. (2015). *The Impact of Land Use Change on Soil Erosion in Serayu Watershed, Case Study Merawu Watershed, Banjarnegara, Central Java*. Master Thesis. Double degree program - Gadjah Mada University - University of Twente.

Tang, W. and Yang, J. (2020). Agent-Based Land Change Modelling of a Large Watershed: Space-Time Locations of Critical Threshold. *Journal of Artificial Societies and Social Simulation.* 23 (1)

Tempo. (2015). *Warga Timor Leste Kuasai Perbatasan, Warga Kupang ancam Usir*. Tempo tanggal 17 April 2015. https://nasional.tempo.co/read/news/2015/04/17/078658609/warga-timor-leste-kuasai-perbatasan-warga-kupang-ancam-usir, diakses pada 20 Juni 2017.

Tichy, L. (2016). Field test of canopy cover estimation by hemispherical photographs taken with a smartphone. *Journal of Vegetation Science*, 27: 427-435. https://doi.org/10.1111/jvs.12350

Tole, L., (2002). An estimate of forest cover extent and change in Jamaica using Landsat MSS data. *International Journal of Remote Sensing,* 23(1): 91-106

Turner, B.L. II and B.L. Meyer. (1994). Global Land Use and Land Cover Change: An Overview. In *Changes in Land Use and Land Cover: A Global Perspective*, eds. W.B. Meyer and B.L. Turner II, 3-10. Cambridge: Cambridge University Press.

Turner, B.L. II, Skole, D., Sanderson, S., Fischer, G., Fresco, L. and Leemans, R. (1995). *Land-Use and Land-Cover Change; Science/Research Plan*. IGBP Report No.35, HDP Report No.7. IGBP and HDP, Stockholm and Geneva.

UNDP Indonesia. (2020). *Environmental and Social Safeguards Disclosure : Indonesia REDD+ RBP Proposal*. Dimuat dalam: https://www.id.undp.org/content/indonesia/en/home/library/environment_energy/ESS-Disclosure.html, diakses pada 15 juni 2020

USGS. (2015). *Landsat surface reflectance data (ver. 1.1, March 27, 2019)*: U.S. Geological Survey Fact Sheet 2015-3034, 1 p., https://doi.org/10.3133/fs20153034

USGS. (2020). *Landsat Collection 2 level-2 Science Product*. USGS Product. https://www.usgs.gov/land-resources/nli/landsat/landsat-collection-2-level-2-science-products

Vaca, R.A. (2019). Drivers of deforestation in the basin of the Usumacinta River: Inference on process from pattern analysis using generalised additive models. *PLoS One* . 2019; 14(9): e0222908

Valbuena, D., Verburg, P.H. and Breght, A.K. (2008). A Method to define a typology for agent-based analyis in regional land-use research. *Agriculture, Ecosystems and Environment*, 128: 27-36

van Noordwijk, M., Lusiana, B., Villamor, G., Purnomo, H. and Dewi, S. (2011). Feedback loops added tofour conceptual models linking land change with driving forces and actors. *Ecology and Society* 16(1): r1. [online] URL: http://www.ecologyandsociety.org/vol16/iss1/resp1/

UNIVERSITAS
GADJAH MADA
**MODEL SPATIO-TEMPORAL PERUBAHAN TUTUPAN DAN PENGGUNAAN LAHAN PADA KAWASAN HUTAN MUTIS TIMAU,
PROVINSI NUSA TENGGARA TIMUR**
EKO PUJIONO, Dr. Ir. Ronggo Sadono; Prof. Dr. Hartono, DEA, DESS; Dr. Muhammad Ali Imron, S.Hut, M.Sc
**Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/**

Verburg, P.H., Schot P.P., Dijst, M.J., and Velkamp, A. (2004). Land-use change modelling: current practice and research priorities. *GeoJournal*, 61: 309-324.

Villamor, G.B., Le, Q.B., Djanibekov, U. (2014). Biodiversity in rubber agroforests, carbon emissions, and rural livelihoods: An agent-based model of land-use dynamics in lowland Sumatra. *Environmental Modelling & Software* 61 (2014) 151-165.

Villamor, G.B., Noordwijk, M.V., Troitzsch, K.G. & Vlek, P.L.G. (2012). Human decision making for empirical agent-based models : construction and validation. *International Congress on Environmental Modelling and Software*. Leipzig. Germany.

Villamor, G.B., Troitzsch, K.G., & Noordwijk, M.V. (2013). Validating human decision making in an agent-based land-use model. *20th International Congress on Modelling and Simulation*. Adelaide. Australia.

von Thunen, J. H. (1966). *Von Thunen's Isolated State: an English Edition.* (Carla M. Wartenburg, Translation): Pergamon

Wada, Y., Rajan, K.S. and Shibasaki, R. (2007). Modelling the spatial distribution of shifting cultivation in Luangprabang, Lao PDR, *Environment and Planning B: Planning and Design*, *34*: 261–278. http://doi.org/10.1068/b31180

Wang, C. and Myint, S. (2016) Environmental concerns of deforestation in Myanmar 2001–2010. *Remote sensing*, 8(9), 728. http://dx.doi.org/10.3390/rs8090728

Ward, J.S., Worthley, T.E., Smallidge, P.J. and Bennet, K.P. (2006). *Northeastern Forest Regeneration Handbook - A Guide for Forest Owners, Harvesting Practitioners, and Public Officials*. USDA Forest Service. Newtown Square, PA 19073.

WCED - World Commission on Environment and Development. (1987). *Report of the World Commission on Environment and Development: Our Common Future*: https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf

Whitmore, T.C. (1984). *Tropical Rain Forests of the Far East.* Second Edition. ELBS/Oxford University Press, Oxford.

Wijaya, P.A., Saleh, M.B. and Tiryana, T. (2015). Spatial Model of Deforestation in Jambi Province for the Period 1990–2011. *Jurnal Manajemen Hutan Tropika*, 21(3): 128–137. http://dx.doi.org/10.7226/jtfm.21.3.128

Williams, M. (2006). *Deforesting the Earth from Prehistory to Global Crisis, An Abridgment.* Chicago: University of Chicago Press.

Wooldridge, M. (2002). *An introduction to multi-agent systems*. John Wiley & Sons,New York, USA

Wulandari, R. (2011). *Pemodelan Spasial Deforestasi di Pulau Lombok, Nusa Tenggara Barat, Periode 2000–2010*. Skripsi, Institut Pertanian Bogor, Bogor, Indonesia.

WWF Nusa Tenggara. (1999). *Aspek Sosial Ekonomi dan Budaya Pola Ternak Lepas dalam Kaitannya dengan Pelestarian SDA di Kawasan Gunung Mutis*. Laporan Penelitian Kerjasama WWF Nusa Tenggara, BPK Kupang, BBKSDA Provinsi NTT

Young, N.E., Anderson, R.S., Chignell, S.M., Vorster, A.G., Lawrence, R., and Evangelista, P.H. (2017). A survival guide to Landsat preprocessing. *Ecology*, 98(4), 2017, pp. 920–932. http://dx.doi.org/10.1002/ecy.1730.

Yuniati, D., Kurniawan, H., Pujiono, E., Banani, F. (2014). Pendugaan simpanan karbon di beberapa tipe hutan di Provinsi Nusa Tenggara Timur. dalam : Pratiwi, Herianyah, I., Gunawan, H., Dharmawan, I.W.S., Irianto, R.S.B., Kustadi, (editor). *Seminar: Peran IPTEK Hasil Hutan Bukan Kayu untuk Kesejahteraan Mayarakat*, Kupang 16 Oktober 2012. Hal. :53-66