Firman Hadi

Curriculum Vitae

▬ Personal detail

Date of birth	21-12-1975
Nationality	Indonesian
Employer	*Universitas Diponegoro*
Position	Lecturer at the Department of Geodesy Engineering

▬ Affiliation

April 2020 – present	**External Expert**, *GeoInformatics Center, Asian Institute of Technology*. Remote Sensing and GIS Specialist
June 2019 – present	**Quality Panel**, *HCV Resoure Network*. Remote Sensing and GIS Expert
2005–present	**Researcher**, *Center for Remote Sensing - Institut Teknologi Bandung*, Indonesia. Specialized in Environmental Remote Sensing and Landscape Ecology.

▬ Referees

1. **Dr. Manzul K. Hazarika**, *Director of GeoInformatics Center - Asian Institute of Technology*, Thailand, Email : manzul@ait.ac.th.
   Phone: +66-81-826-3492

2. **Prof. Ketut Wikantika**, *Head of Center for Remote Sensing - Bandung Institute of Technology*, Indonesia, Email : ketut@gd.itb.ac.id.
   Phone: +62-81-2202-4120

▬ Education

2006–2011	**Doctoral Degree**, *Bandung Institute of Technology*, Indonesia, *GPA − 4.0*. Specialized in Remote Sensing and Landscape Ecology.
2010–2011	**Short Course**, *Nagoya University Global Environmental Leader Programme*, Japan. Short course on Climate Change, Waste Management and Biodiversity.

NUGELP Short-Term is an international program offered at the Graduate School of Environmental Studies, Nagoya University, Japan. The six-month program is implemented as a part of the NUGELP Full-Term (Master Course), which aims to foster future environmental leaders who can propose concrete solutions to various environmental problems at a policy and technology arena around the world.

2002–2004 **Master of Engineering**, *Bandung Institute of Technology*, Indonesia, *GPA − 3.68*. Specialized in Remote Sensing.

1994–2001 **Bachelor of Science**, *Padjadjaran University*, Indonesia, *GPA − 3.13*. Specialized in Ecology and Conservation.

Dissertation

Title *Spatial Analyses on Vegetation Fragmentation and Its Relationship with Javan Gibbon's (Hylobates moloch) population*

Supervisors Prof. Ishak H. Ismullah, Prof. Ketut Wikantika & Prof. Erri N. Megantara

Description The aim of this research was to produce the algorithm of remote sensing data processing to identify the habitat of Javan Gibbon and to produce the map of Javan Gibbon habitat based on its level of fragmentation. This information will be useful in developing the strategic plan of Javan Gibbon conservation based on the Javan Gibbon density and the fragmentation level. The result of this research will also useful to define the appropriate site for Javan Gibbon reintroduction.

Master Thesis

Title *Modification of Forest Canopy Density Model with Topographic Effects Correction to Monitor Forest Fragmentation*

Supervisors Dr. Ketut Wikantika & Dr. Irawan Sumarto

Description This research was aimed to test the capability of FCD Model and modified-FCD Model in detecting the forest canopy degradation. Its objectives were to compare the result of FCD-and Modified- FCD Model, to compare the forest canopy coverage and to detect the characteristics of forest canopy decrement in the period between 1997-2001. To achieve the objectives, GRASS GIS was used to process the FCD model and R for statistical analyses.

Bachelor Thesis

Title *Food composition, hunting techniques and breeding behaviours of Javan Hawk-eagle (Spizaetus bartelsi, Stresseman 1924)*

Supervisors Drs. Ross Rosanto, Dr. Johan Iskandar & Dr. Dewi M. Prawiradilaga

Description The research was conducted to observe the feeding- and breeding-ecology of Javan Hawk-eagle in three locations in West Java, Indonesia between August 1998 and May 1999. The result showed that Javan Hawk-eagles preferred most mammals as their primary diets compared to birds and reptiles. During the breeding period, the adult male took roles in collecting nest-materials and hunting preys for the adult female and the eaglet.

Work Experience

Sep 2014 – **Program Specialist**.
Dec 2018 GeoInformatics Center, Asian Institute of Technology, Thailand

Jan 2013 – **Geomatics Specialist**.
Jul 2014 PT. Integrasia Utama, Indonesia

Nov 2015 – **Researcher**.
Jun 2012 Center for Remote Sensing, Bandung Institute of Technology, Indonesia

Project Experience

Jun – Nov **Spatial Dynamics Expert** , PT. Amythas, Client : Ministry of National Devel-
2020 opment Planning of the Republic of Indonesia.
Supporting the team to model the spatial dynamics for Strategic Environmental Assessment of the New Capital City of Indonesia in East Kalimantan).

Main tasks delivered in the project were: (1) extracting land cover information from remote sensing datasets using Google Earth Engine, (2) modeling the spatial dynamics of land use land cover (LULC) and making LULC prediction for the year of 2035 and 2045, based on extracted LULC from remote sensing and existing GIS datasets.

Jun – Nov 2020 WebGIS Expert PT. Sucofindo Client : The Indonesia Investment Coordinating Board / BKPM Supporting the team to develop and implement WebGIS for promoting the investment in Indonesia).

Main tasks delivered in the project were: (1) designing and developing the software architecture, (2) supervising the implementation of the WebGIS in BKPM for promoting the investment

Sep – Des **Remote Sensing Expert** , PT. Agrisoft Citra Buana, Client : Indonesia
2019 Climate Change Trust Fund - Bappenas.
Supporting the team to map and analyse peatland distribution in Indonesia using active and passive remote sensing data.

Main tasks delivered in the project was analying remote sensing data (active and passive) to model the distribution of peatlands in Indonesia. The methods implemented to achieve the task were desktop-based processing using GRASS GIS and QGIS, cloud processing (Google Earth Engine, Machine Learning) dan geostatistic modeling using R.

Mar – June **Geospatial System Specialist**, Asian Institute of Technology, Client :
2019 The World Bank.
Supporting the Asian Institute of Technology Project Team for implementing Integrated Disaster Decision Support System for Uttarakhand State, India.

The main task is to implement a High Availability WebGIS Server based on PostgreSQL, GeoServer and Apache Tomcat server.

Jul 2016– **Remote Sensing Specialist**, Sentinel Asia, Client : JAXA.
Dec 2018 Supporting the International Charter on Disasters as Project Manager (PM) and communication, generation and dissemination of Value Added Products (VAPs) for Sentinel Asia.

Activities performed were managing more than 20 Sentinel Asia / IDC activation with main activities such as communication with Data Provider and the End Users; download and upload remote sensing data; generating and dissemination of VAP

Dec 2014 –
Jun 2016
RS/GIS Specialist, Technical Advisory Service for Implementing City Planning Labs, Client : The World Bank.

Supporting the World Bank in the mainstreaming of improved geospatial data management and analysis capacity in Indonesian cities through the continued implementation of the City Planning Labs initiative.

The activities performed were participatory planing and analytics workshop; co-production of urban spatial analytics with city governments.

Dec 2014 –
Mar 2016
RS/GIS Specialist, JAXA Mini Project, Client : JAXA.

The aim of the project was to develop a relationship between the backscatter of ALOS-2 data and ground biomass in order to prepare forest biomass maps.

The activities performed were methodology development, training and capacity building.

Jan 2013 –
July 2014
Geomatics Specialist, PT. Integrasia Utama, www.integrasiautama.com.

Developing system to maintain a spatial data production server using Red Hat Enterprise Linux, PostGIS, QGIS, OpenGeo Suite and GeoGit.

Leading the GIS division to educate and create WebGIS application using Open Source Softwares.

Helping the fleet management system division to migrate from proprietary softwares to Open Source Softwares such as GNU/Linux, PostgreSQL + PostGIS, ZeroMQ and MongoDB.

May – Oct
2013
GIS Specialist, Institute of Ecology, Padjadjaran University & PT. PLN, Indonesia.

The main tasks are to analyse spatial aspects and to assist Species and Ecosystem Experts to formulate a Biodiversity Management Plan of Upper and Lower Cisokan Dam, West Java, Indonesia.

Apr – June
2012
Remote Sensing Specialist, Bakorkamla, Indonesia.

The main task was to carry out scientific study on the integration of ships detection, remote sensing and coastal radar data.

Jul – Oct
2012
Landscape Analyst, Institute of Ecology, Padjadjaran University & PT. PJB, Indonesia.

The main task was to carry out land use land cover change analyses on Cirata Watershed, West Java Indonesia. The analyses was used to observe the relationship of land use change to the electric power generated by Cirata Hydro-generated Power Plant.

June – Dec
2012
System Analyst, PT. SUCOFINDO, Indonesia.

The main task was to develop a webgis for PT. Pertamina Exploration & Production (Pertamina EP) to display their assets. My role was to assist Pertamina EP in designing the system in accordance with Public Petroleum Data Model and to ensure the system is running in Red Hat Enterprise Linux Server.

Aug – Dec **GIS Specialist**, Transportation Agency of West Java , Indonesia.
2011 The main task was to develop a webgis for Safety Flight Zone of Bandung International Airport. The system was built using Open Source Softwares (OpenGeo Suite, Apache WebServer and Openlayers).

2010 **Remote Sensing Specialist**, British Petroleum, Indonesia.
The main task was to produce land use / land cover map of Southern Sumatera, Indonesia.

2009 **Remote Sensing Specialist**, BP Migas, Indonesia.
The main task was to produce land use / land cover map of Timika, Papua, Indonesia.

Publications

2016 **Hadi, F.**, R.B. Thapa. M. Helmi, M.K. Hazarika and L.N. Deshapriya. 2016. Urban Growth and Land Use/Land Cover Modeling in Semarang, Central Java, Indonesia. Asian Conference on Remote Sensing. Colombo, Srilanka.

2012 **Hadi, F.**, R. Febrianto. I. H. Ismullah, K. Wikantika and E.N. Megantara. 2012. Exploring ALOS PALSAR for Forest Structure Analyses of Javan Gibbon's Habitat. Final Report on ALOS Application and Verification Project. 2nd Edition. Japan Aerospace Exploration Agency.

M. Ilham, **F. Hadi**, and K. Wikantika. Multi-regression Vegetation Index Approach to Estimate Carbon Stock *in Bunga Rampai Penginderaan Jauh Indonesia*. 2012. Ketut Wikantika & Lissa Fajri (eds). Center for Remote Sensing - Institut Teknologi Bandung. 2012. pp. 184 - 198.

R. Ragajaya, **F. Hadi** and K. Wikantika. 2012. Estimating Biomass with Polarimetric SAR Method using ALOS PALSAR *in Bunga Rampai Penginderaan Jauh Indonesia*. 2012. Ketut Wikantika & Lissa Fajri (eds). Center for Remote Sensing - Institut Teknologi Bandung. 2012. pp. 168 - 182.

2010 Withaningsih, S., Parikesit, S. Okubo, **F. Hadi** and J. Iskandar. 2010. Spatial Analyses of Rare and Threatened Raptor Diversity : Empirical Base for Establishing Conceptual Framework and Policy Guidance in Biodiversity. Asian Raptors : Science and Conservation for Present and Future. Proceedings of the 6th International Conference on Asian Raptors. Ulaanbaatar, Mongolia: Asian Raptor Research and Conservation Network - Mongolian Ornithological Society - National University of Mongolia. Internet: http://www5b.biglobe.ne.jp/r̃aptor/Asian%20_raptors_6th_symposium_text.pdf

2009 **Hadi, F.**, D.M. Hakim, Y. Perdana, A. Hadiyana S. Darmawan, O. Mubarak, S. Nashrrullah and K. Wikantika. 2009. The Use of Spectral Library for Land Cover Classification with Satellite Imagery. The Second International Remote Sensing and Geographic Information Science Workshop Series on Demography, Land Use Land Cover and Disaster organized by Research Group of Remote Sensing and Geographic Information Science, Dept. of Geodesy and Geomatics, Institut Teknologi Bandung. Bandung. Indonesia.

Hadi, F., A. Hadiyana, S. Nashrrullah, K. Wikantika and S. Darmawan. 2009. Utilization of ALOS Data for Landslide Disaster Management in Indonesian ALOS Pilot Project Report. Japan Aerospace Exploration Agency. Internet: http://www.sapc.jaxa.jp/about/data/indonesia_pilotproject_e.pdf

2008   **Hadi, F.**, I.H. Ismullah, K. Wikantika. 2008. Forest Canopy Density with ASTER Imagery. The First International Remote Sensing Workshop Series on Demography, Land Use Land Cover and Disaster. A Cooperation between Center for Remote Sensing and Chiba University. Bandung.

Wikantika, K., D. Nugroho, A. Riqqi, R. Abdulharris, **F. Hadi** and S. Darmawan. 2008. Detecting Distribution of Industrial Areas using Spectral Mixture Analysis (SMA) of Landsat-ETM Satellite Image. International Journal of Tomography and Statistics. Vol. 8, No. W08, Winter 2008.

2007   Wikantika, K., A. Sinaga, **F. Hadi**, S. Darmawan. 2007. Quick Assessment on Identification of Destructed Building and Land Use Change in the post-Tsunami Disaster with a Quick Look Image of IKONOS and Quickbird (A Case Study in Meulaboh area, Aceh), International Journal of Remote Sensing, Volume 28, Issue 13 & 14 2007, pp. 3037 - 3044.

2005   **Hadi, F.**, K. Wikantika, I. Sumarto. 2005. Implementasi Model Forest Canopy density dalam pemantauan fragmentasi hutan di Cagar Alam Gunung Simpang dan Gunung Tilu, Jawa Barat, Berita Inderaja, Volume IV, No 7, pp 20-23.

2004   **Hadi, F.** , K. Wikantika, S. Darmawan, O. Gumilar. 2004. Penerapan Aplikasi Open Source GRASS GIS untuk Pemetaan Lahan Kritis. Pertemuan Ilmiah Tahunan ke-XIII Masyarakat Penginderaan Jauh Indonesia : Peningkatan Peran Teknologi Penginderaan Jauh Untuk Pembangunan Sosial-Ekonomi dan Lingkungan. Jakarta: Masyarakat Penginderaan Jauh Indonesia (MAPIN).

Hadi, F., K. Wikantika, I. Sumarto. 2004. Implementation of Forest Canopy Density Model to Monitor Forest Fragmentation in Mt. Simpang and Mt. Tilu Nature Reserves, West Java, Indonesia. Proceeding of the 3rd FIG Regional Conference for Asia and The Pacific : Surveying the Future - Contributios to Economic, Environmental and Social Development. Jakarta : International Federation of Surveyors (FIG) - Ikatan Surveyor Indonesia (ISI) - Badan Koordinasi Survey dan Pemetaan Nasional (Bakosurtanal).

Hadi, F., K. Wikantika, O. Gumilar, I. Sumarto. 2004. The Assessment of Atmospheric Correction in Landsat TM Due to Topographic Effects. Proceeding of the 3rd FIG Regional Conference for Asia and The Pacific : Surveying the Future - Contributios to Economic, Environmental and Social Development. Jakarta : International Federation of Surveyors (FIG) - Ikatan Surveyor Indonesia (ISI) - Badan Koordinasi Survey dan Pemetaan Nasional (Bakosurtanal).

2003   **Hadi, F.**, 2003. Foraging Time of Three Sympatric Species of Raptors in Mt. Tilu - Mt. Simpang Nature Reserve, West Java, Indonesia. Abstracts of the 3rd Asian Raptor Research and Conservation Network Symposium. Taipei: Raptor Research Group of Taiwan - Asian Raptor Research and Conservation Network.

2001   **Hadi, F.**, 2001. Preliminary Results on Diet and Breeding Behaviour of Javan Hawk-eagle (Spizaetus bartelsi) in West Java, Indonesia. Abstracts of the 4th Eurasion Congress on Raptors, Seville : Estacion Biologica Donana - Raptor Research Foundation.

2000   **Hadi, F.**, 2000. Observation Notes on the Diet, Breeding and Hunting Behaviour of Javan Hawk-eagle (Spizaetus bartelsi). Abstracts of the 2nd Asian Raptor Research and Conservation Network Symposium. Bandung: Lembaga Ilmu Pengetahuan Indonesia - Kelompok Kerja Pelestarian Elang Jawa - Asian Raptor Research and Conservation Network.

Workshops / Training

2019   **Trainer**,"Training on Synthetic Aperture Radar (SAR) and Snow Mapping for National Center of Hydrology and Meteorology of Bhutan", Geoinformatics Center, March 4 - 15, 2019, Bangkok, Thailand.

2019   **Trainer**,"Strengthening agro-climatic monitoring and information systems (SAMIS) to improve adaptation to climate change and food security in Lao PDR", Food and Agricultural Organization of the United Nations, February 4 - 8, 2019, Vientiane, Laos.

2018   **Trainer**,"Training on Remote Sensing and GIS for Natural Resource Management", Geoinformatics Center – GIZ Laos, September 24 - 28, 2018, Bangkok, Thailand.

2018   **Trainer**,"Training on QGIS for Beginner", Geoinformatics Center – GIZ Laos, June 11 - 15, 2018, Bangkok, Thailand.

2018   **Trainer**,"Training on Remote Sensing for Glacier Mapping", Geoinformatics Center – Cryosphere Services Division, National Center for Hydrology and Meteorology, Bhutan, January 29 - February 9, 2018, Bangkok, Thailand.

2017   **Trainer**,"QGIS Training", Geoinformatics Center – Department of Geology and Mines, Ministry of Economic Affairs, Bhutan, March 27 - April 2, 2017, Bangkok, Thailand.

2017   **Trainer**,"Professional Development Training on Open Source WebGIS and ArcGIS Server", Geoinformatics Center – Central Statistical Agency of Ethiopia, January 12 - 18, 2017, Bangkok, Thailand.

2015   **Trainer**,"Training on ArcGIS Server", Geoinformatics Center – Ethiopian Agricultural Transformation Agency (ATA), June 22 - 24, 2015, Bangkok, Thailand.

2014   **Trainer**,"Professional Development Training Program for Microwave Remote Sensing", Geoinformatics Center – Ethiopian Agricultural Transformation Agency (ATA), October 15 - 17, 2014, Bangkok, Thailand.

2013   **Trainer**,"GIS and Remote Sensing Workshop for Beginners", PT. Integrasia Utama – Lemigas, Jakarta, Indonesia, December 16 - 20, 2013, Jakarta, Indonesia.

2013   **Trainer**,"Utilization of OpenGeo Suite to Develop Spatial Data Dissemination using WebGIS Technology", Center for Remote Sensing - ITB – ProInfo, Pusat Pemanfaatan Inderaja, LAPAN, Indonesia, December 2 - 5, 2013, Jakarta, Indonesia.

2013	**Trainer**,"Utilization of Remote Sensing Techniques to Estimate Forest Carbon Stock", PT. Integrasia Utama – Forclime-FC Module, Ministry of Forestry, Indonesia, September 17 - 24, 2013, Jakarta, Indonesia.
2012	**Oral presentation**, "Modeling of Forest Biomass by Remote Sensing Data", Asia Forum on Carbon Update, February 15 - 17, 2012, Bandung, Indonesia.
	Oral presentation, "Exploring ALOS PALSAR for Forest Structure Analyses of Javan Gibbon's Habitat", Final Symposium of the Application and Verification Project for Use of ALOS Data in Indonesia, February 23, 2012, Jakarta, Indonesia.
2011	**Trainer**, "The Use of Open Source Remote Sensing Software on Natural Resource Management", September 12 - 15, 2011, Institute of Ecology, Padjadjaran University, Bandung, Indonesia.
2010	**Trainee**, FOSSGIS Japan, Tokyo. Attended PostGIS session by **Paul Ramsey** and Mapserver session by **Jeff McKenna**.
2008	**Trainer**, "Object-based Remote Sensing Data Analyses", National Institute of Aeronautics and Space – Remote Sensing Affairs, Jakarta, Indonesia.
2007	**Trainee**. Training of Trainers: Free/Open Source Software Geographic Information System (F/OSS GIS) for Disaster Management, Trained by **Arnulf Christl**, IOSN - InWent - RISTEK, March 24 - 28, 2007, Jakarta, Indonesia.
	Trainer. Training of Trainers: Free/Open Source Software Geographic Information System (F/OSS GIS) for Disaster Management, IOSN - InWent - RISTEK, Oct 22 - 26, 2007, Jakarta, Indonesia.

Awards

2010	JENESYS Scholarship for Nagoya University Global Environmental Leader Programme – Ministry of Education, Culture, Sports, Science and Technology, Japan
2011	Scholarship for Researcher, Author, Writer, Artist, Journalist, Sportmen and Public Figure – Directorate of Higher Education, Ministry of Education, Indonesia

Computer skills

Basic	PolsarPro, GMT5SAR
Intermediate	PYTHON, LATEX, R, POSTGIS, SQL, GEOSERVER, ArcGIS Server, Google Earth Engine
Advanced	GNU/Linux System Administration, GRASS GIS, QGIS, ArcGIS

Languages

Bahasa Indonesia	**Mothertongue**	
English	**Advance**	*Conversationally fluent*