

International Black Sea Modern Scientific Research Congress

September 29, 2022 - October 02, 2022
Rize / Türkiye



Abstracts Book

Editors

Dr. Mehmet TATOĞLU

Andrei JICHITA

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INTERNATIONAL BLACK SEA MODERN SCIENTIFIC RESEARCH CONGRESS

September 29, 2022 - October 02, 2022 / Rize

EDITORS

Dr. Mehmet TATOĞLU

Andrei JICHITA

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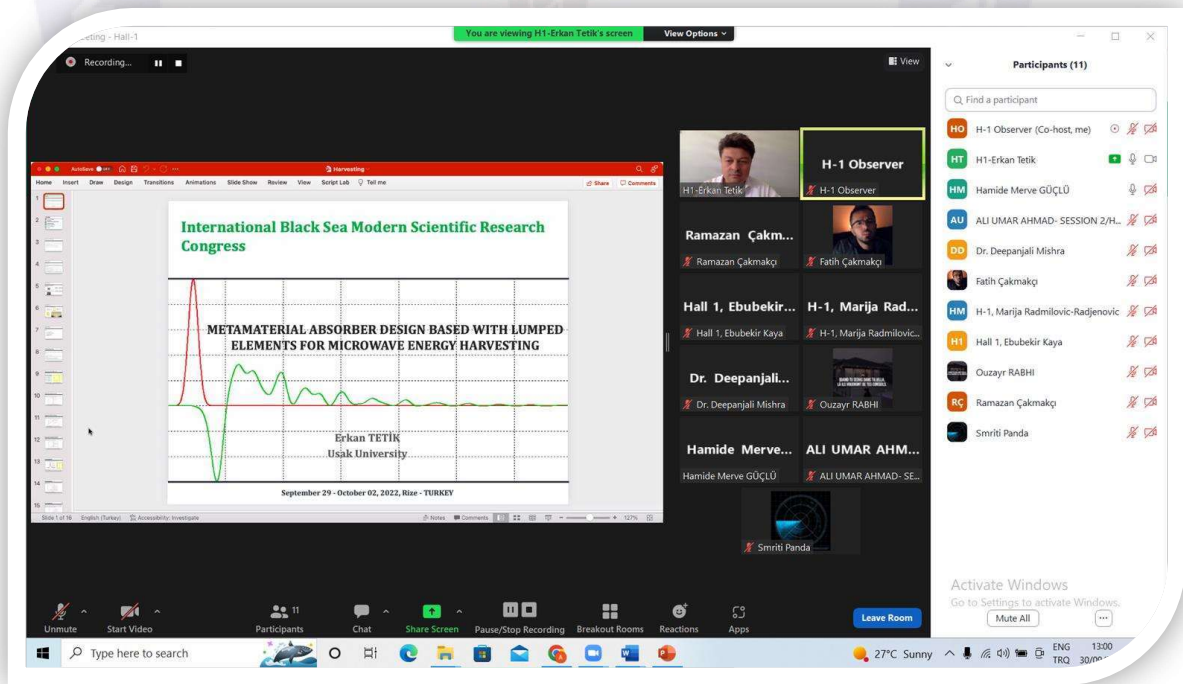
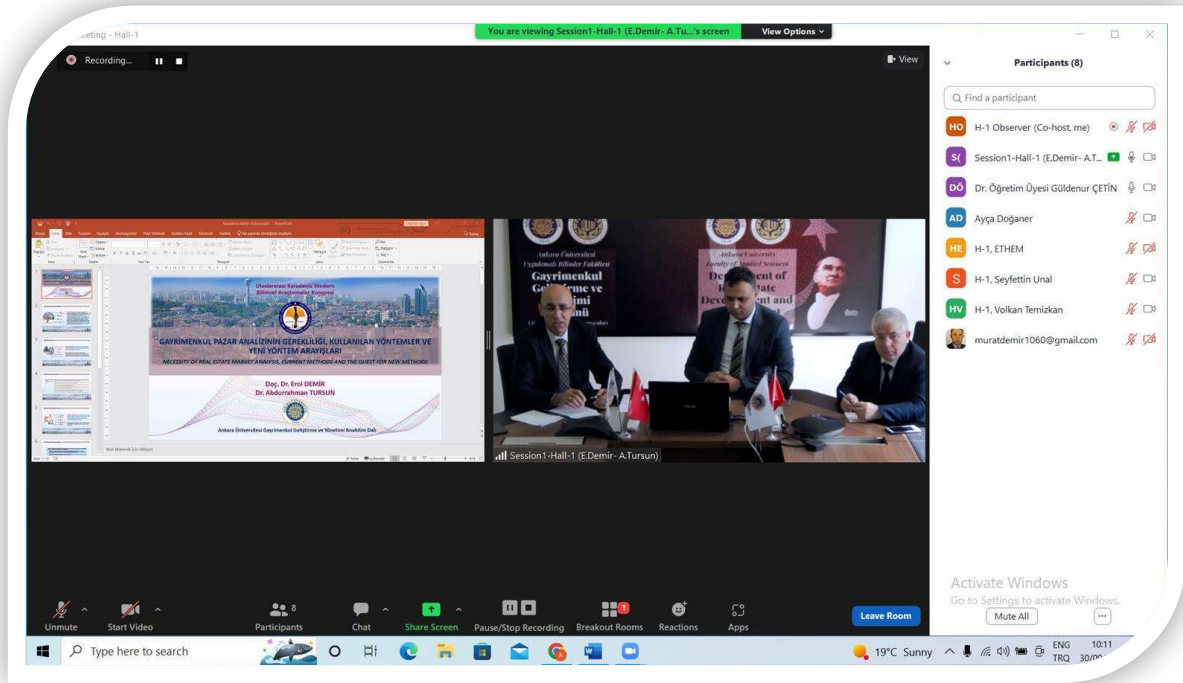


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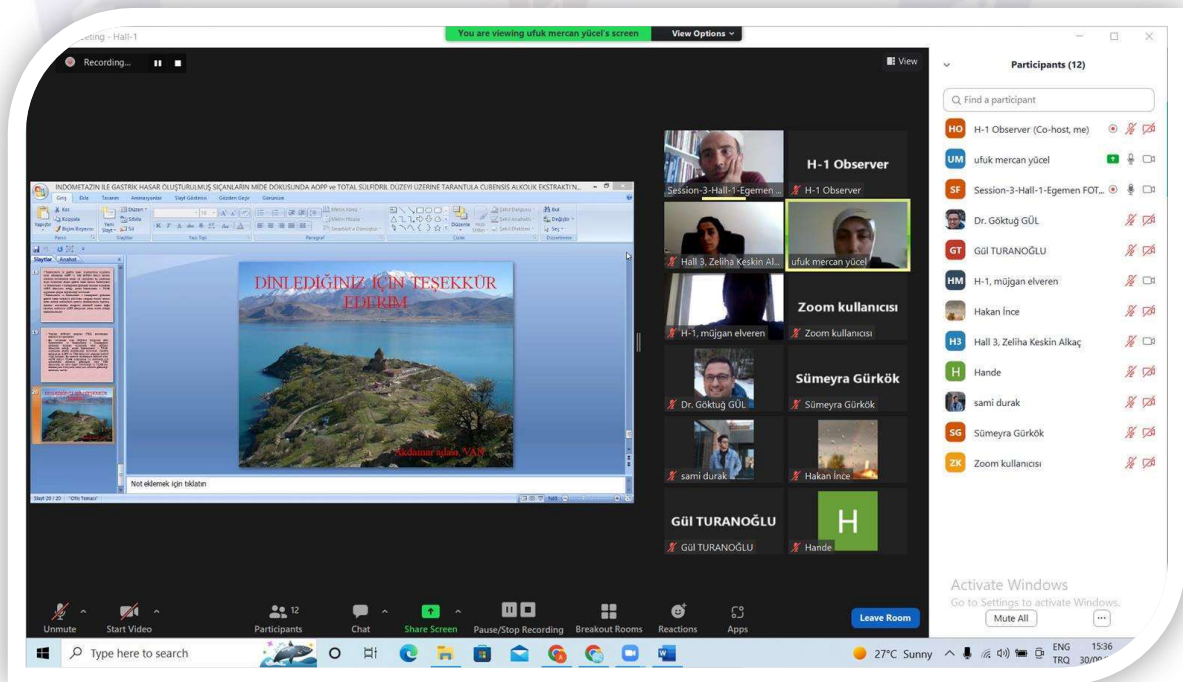
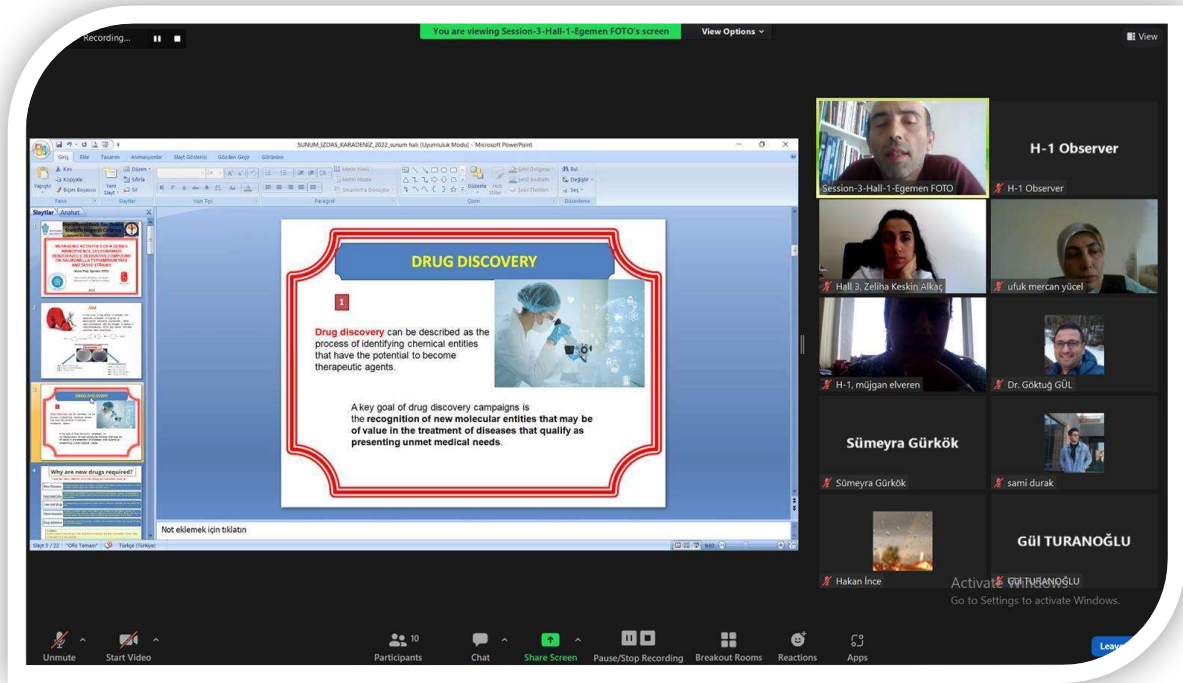


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2 Sümeysra Gürkök Microbial Synthesis of Silver Nanoparticles (Ag-NP) and Their Biological Activities - PowerPoint

Introduction - Mechanisms of Antibacterial Properties of NPs

The mechanism has not been fully clarified.

NPs exert antimicrobial effects by using one or more of these proposed mechanisms simultaneously!

Inactivation of protein synthesis

Damage to ETS

Generation of ROS

Enzyme inhibition

Cell wall inhibition

Disruption of cell membrane

Damage to DNA

Inhibition of quorum sensing


Antioxidant activity

Not eklermek için tıklatın

yediliyor...

Abstract

Calgary and Edmonton are cities in Alberta where homelessness is concentrated and devastated. Lack of accommodation, inadequate labour market, and flows of job seekers are three main objectives behind this pennilessness in the province of Alberta. Calgary is a vibrant multicultural migrant Canadian city where people from around the world are migrating, but the problem is the insufficient accommodation supply of the town. It has less than half the rental units in Edmonton.



Ananda Majumdar...
Ananda Majumdar - H4

Hall 4 - Observer
Hall 4 - Observer

Pelletier Petra
Pelletier Petra

K
H-4, Dr.Paluri Bharathi

Dr. Remus RUN...
Dr. Remus RUNCAN

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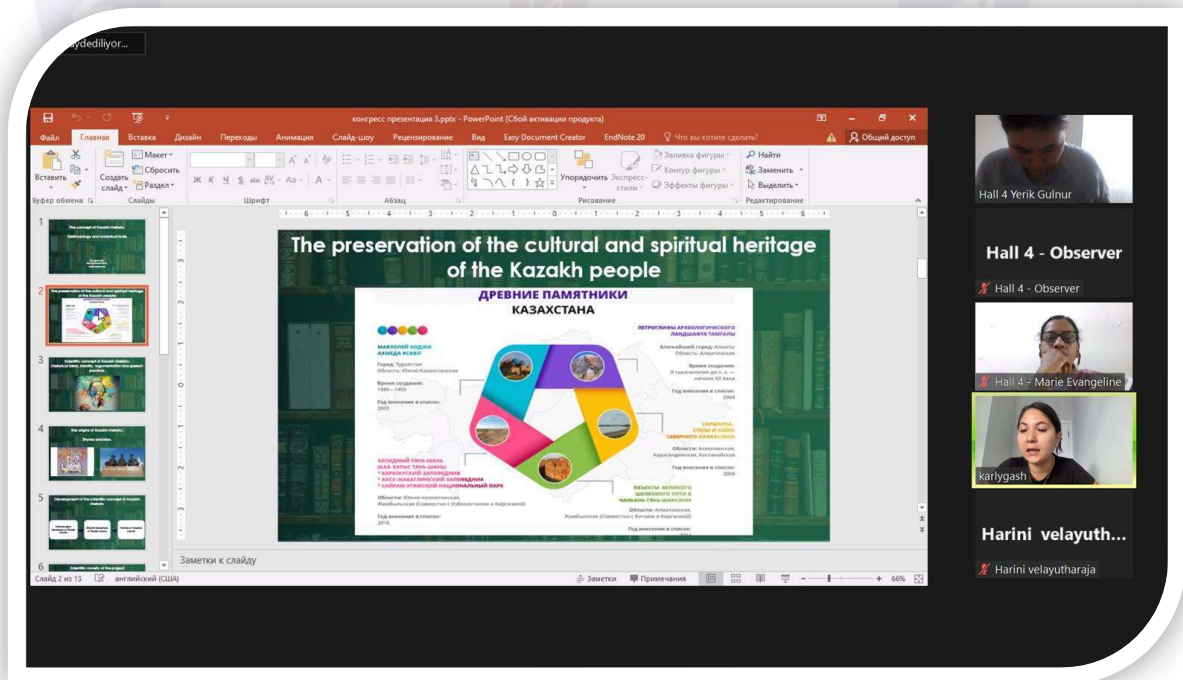
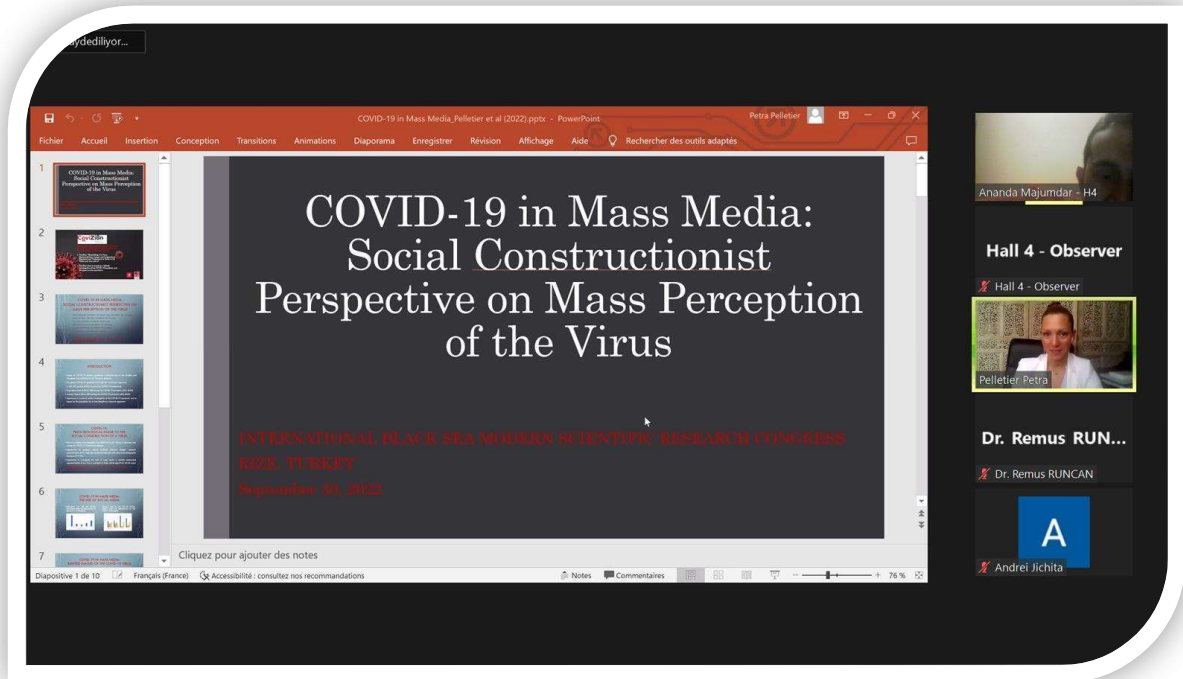
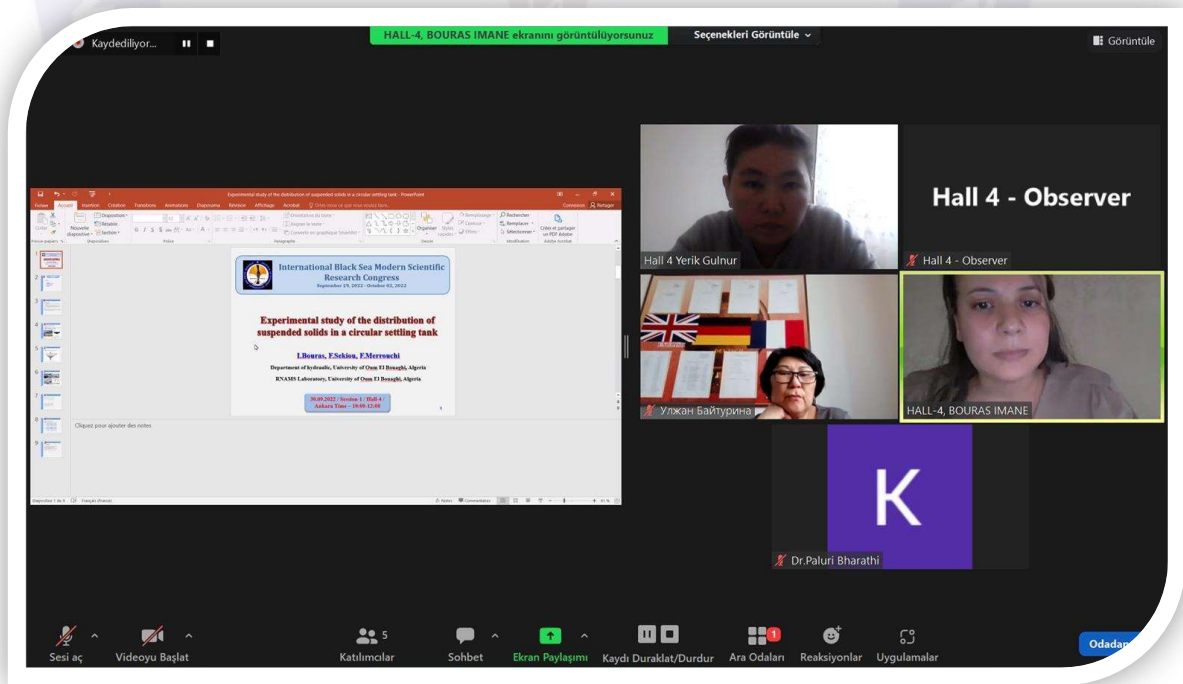
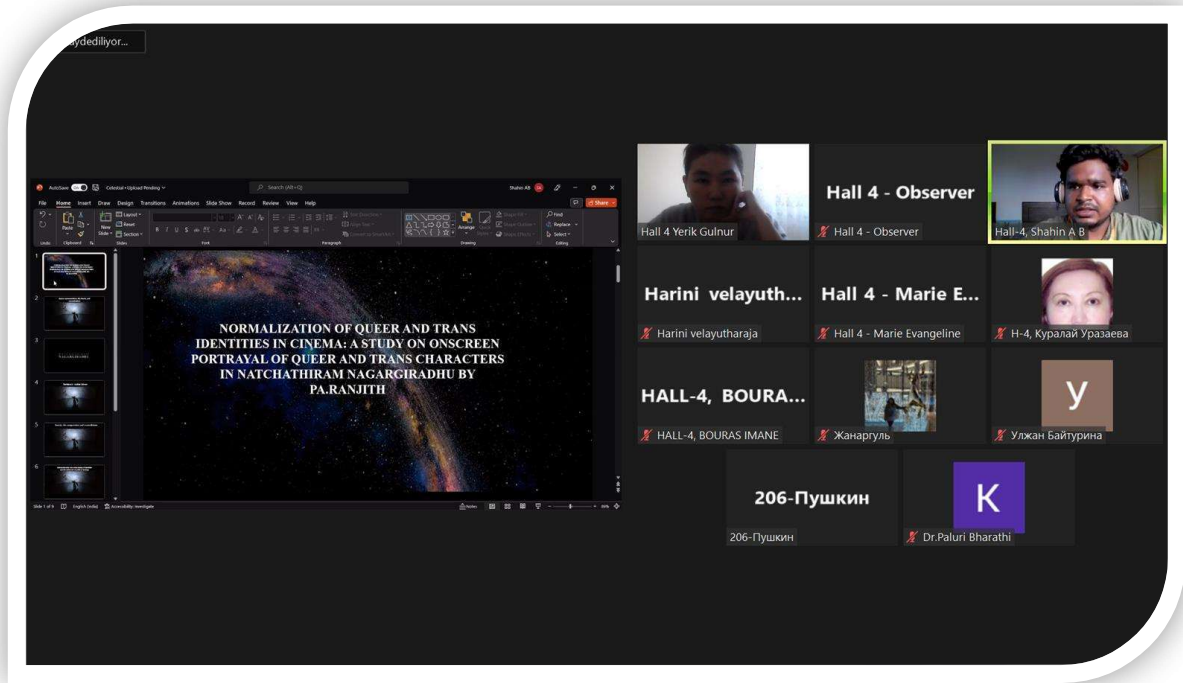


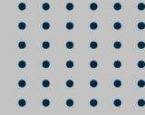
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International Black Sea Modern Scientific Research Congress

September 29, 2022 – October 02, 2022
Babillon Hotel, Rize / Türkiye



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Head of Session: Prof. Dr. Murat HATİPOĞLU

Authors	Affiliation	Presentation title
Res. Assist. Dr. Fulya YILMAZ Assist. Prof. Dr. Gamze D. TETİK Assist. Prof. Dr. Gizem CELEP	Uşak University (TÜRKİYE)	ABRASION RESISTANCE OF DENIM FABRICS FROM VIRGIN AND RECYCLED COTTON YARNS
Res. Assist. Dr. Fulya YILMAZ	Uşak University (TÜRKİYE)	TRANSITION OF BLUE DENIM TO GREEN DENIM IN SUSTAINABILITY PERSPECTIVE
Deniz İzlen ÇİFÇİ	Tekirdağ Namık Kemal University (TÜRKİYE)	OPTIMIZATION OF THE TREATMENT OF TEXTILE INDUSTRY WASTEWATER BY UV/S ₂ O ₈ OXIDATION WITH CENTRAL COMPOSITE DESIGN
Deniz İzlen ÇİFÇİ	Tekirdağ Namık Kemal University (TÜRKİYE)	METHYLENE BLUE DYE REMOVAL BY Ag/Fe-TEA WASTE PREPARED BY THE GREEN SYNTHESIS METHOD
Prof. Dr. Murat HATİPOĞLU Lect. Hakkı BABALIK Lect. Dr. Evrim ÇOBAN Assist. Prof. Dr. Volkan ÇİL Lect. Dr. Hilmi GÜNEY	Dokuz Eylül University (TÜRKİYE) Adnan Menderes University(TÜRKİYE) Muğla Sıtkı Koçman University (TÜRKİYE) Atatürk University (TÜRKİYE) Niğde Ömer Halis Demir University (TÜRKİYE)	THE IMPORTANCE AND NECESSITY OF MODERN AND ANCIENT GEMOLOGY IN SUSTAINABLE PRODUCTION FOR TURKEY
Prof. Dr. Murat HATİPOĞLU Lect. Dr. Evrim ÇOBAN Assist. Prof. Dr. Volkan ÇİL Lect. Hakkı BABALIK Lect. Dr. Hilmi GÜNEY	Dokuz Eylül University (TÜRKİYE) Muğla Sıtkı Koçman University (TÜRKİYE) Atatürk University (TÜRKİYE) Adnan Menderes University (TÜRKİYE) Niğde Ömer Halis Demir University (TÜRKİYE)	GEM QUALITY CORUNDUM (Al ₂ O ₃) MINERAL (BLUE SAPPHIRE) DEPOSIT FROM TURKEY; THEIR FORMATIONS AND GEMOLOGICAL CHARACTERISTICS
Dr. Natela Borisovna POPKHADZE	Head of Scholarly Information Center at Phassis Academy in Tbilisi in Georgia/Sakartveo/ (GEORGIA)	INNOVATION ABOUT DRINKING WATER SUPPLY IN BATUMI REGION IN SAKARTVELO//GURCISTAN//GEORGIA REPUBLIC
Renu Kundu Dr. Ritwij Bhowmik	Indian Institute of Technology,Kanpur, (INDIA)	AN ETHNOGRAPHIC STUDY OF INDIAN HANDICRAFT USER INTERFACES
Alexander Sanjaya Agus Setiawan Christine Wulandari Rahmat Safe'i Bainah Sari Dewi Prof. Dr. Zainal Abidin	Magister Study Program of Environmental Science, University of Lampung (INDONESIA)	THE STUDY ECOLOGICAL DIMENSIONS OF THE PETENGORAN MANGROVE FOREST FOR ECOTOURISM IN PESAWARAN REGENCY, LAMPUNG PROVINCE

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THE STUDY ECOLOGICAL DIMENSIONS OF THE PETENGORAN MANGROVE FOREST FOR ECOTOURISM IN PESAWARAN REGENCY, LAMPUNG PROVINCE

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ABSTRACT

Mangrove forests have the potential to be developed into ecotourism areas which have always been under-appreciated. The purpose of this study was to assess the ecological conditions and mangrove cover in Petengoran and to analyze the land suitability of the mangrove ecosystem as an ecotourism area. This research was conducted in Gebang village, Pesawaran district from July 2022 to August 2022. The method used is a survey method. Analysis of determining sustainable management is to look at the score and the weights obtained from each parameter studied are: mangrove zoning, mangrove density, mangrove land pressure, mangrove rehabilitation, coastal abrasion and environmental sanitation. Furthermore, Dimensional Scaling was analyzed with Rapfish software to determine the ordinance and stress value and carried out sensitive analysis (leverage analysis) and Monte Carlo analysis. Determination of mangrove cover using remote sensing methods using satellite imagery in assessing changes in mangrove forest cover so that it can be seen changes in the area of damaged or reduced mangrove forests and their density levels. From the observations in the field, it is known that *Rhizophora apiculata* dominates the species found in Petengoran. Based on field data analysis using Rap-Mforest (Rapid Appraisal of the status of Mangrove Forest) software. The results show that the value of the ecological sustainability index (60.40%) which describes the status is quite sustainable, and for the stress value (0.16) while the R^2 value is 0.94. The results of the leverage analysis show that the ecological dimensions that are the main levers are mangrove rehabilitation and mangrove density. By intervening in the future, it is hoped that it will improve the sustainability status.

Keywords: Ecological Dimensions, Mangrove Petengoran, Ecotourism

ABSTRACT BOOK



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Kajian Dimensi Ekologi Kawasan Hutan Mangrove Petengoran Untuk Ekowisata Di Kabupaten Pesawaran Propinsi Lampung

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ABSTRACT

Hutan mangrove sangat berpotensi untuk dikembangkan menjadi kawasan ekowisata yang selama ini selalu kurang diperhatikan. Tujuan penelitian ini adalah Menilai kondisi ekologi dan tutupan mangrove di Petengoran dan menganalisa kesesuaian lahan ekosistem mangrove sebagai kawasan ekowisata. Penelitian ini dilaksanakan di desa Gebang kabupaten Pesawaran pada bulan Juli 2022 sampai Agustus 2022. Metode yang digunakan adalah metode survey. Analisa penetapan pengelolaan berkelanjutan adalah melihat skor dan pembobotan yang diperoleh dari setiap parameter yang di kaji yaitu: zonasi mangrove, kerapatan mangrove, tekanan lahan mangrove, rehabilitasi mangrove, abrasi pantai dan sanitasi lingkungan. Selanjutnya dianalisis *Dimensional Scalling* dengan *software* Rappfish untuk menentukan ordinasi dan nilai *stress* serta melakukan analisis sensitif (*leverage analysis*) dan *Monte Carlo analysis*. Penentuan tutupan mangrove menggunakan metode penginderaan jauh menggunakan citra satelit dalam menilai perubahan tutupan hutan mangrove sehingga dapat diketahui perubahan luas area hutan mangrove yang rusak atau berkurang serta tingkat kerapatannya. Dari hasil pengamatan dilapangan diketahui bahwa *Rhizophora apiculata* mendominasi jenis yang ada di Petengoran. Berdasarkan analisis data lapangan menggunakan *software* Rap-Mforest (*Rapid Appraisal of the status of Mangrove Forest*). Hasil menunjukkan bahwa nilai indeks keberlanjutan ekologi (60,40%) yang menggambarkan status cukup berkelanjutan, dan untuk nilai *stress* (0,16) sedangkan nilai R^2 sebesar 0,94. Hasil analisis *leverage* menunjukkan pada dimensi ekologi yang menjadi faktor pengungkit utama adalah rehabilitasi mangrove dan kerapatan mangrove. Dengan melakukan intervensi dimasa yang akan datang diharapkan dapat meningkatkan status keberlanjutan.

Kata kunci : Dimensi Ekologi, Mangrove Petengoran, Ekowisata

Pendahuluan

Desa Gebang memiliki topologi wilayah desa berupa daratan yang berada di wilayah pesisir sehingga keberadaan hutan mangrove di kawasan pesisir desa Gebang merupakan potensi ekologi yang sangat penting untuk selalu dijaga dan dilestarikan sebagai upaya konservasi terhadap lingkungan. Mangrove adalah hamparan hutan yang tersebar di sepanjang garis pantai tropis dan sub tropis yang memiliki potensi ekonomi dan ekologis yang besar walaupun mereka rentan terhadap gangguan yang disebabkan oleh perubahan lingkungan . (Satyanarayana et al , 2012). Oleh karena itu, kawasan hutan mangrove Petengoran sebagai lokasi ekowisata memiliki potensi fisik antara lain lokasinya strategis serta dekat dengan pusat kota, kondisi visual tapak yang sangat bervariasi, dan terdapat area wisata pantai yang indah. Maka kawasan ekowisata hutan mangrove Petengoran menjadi penting untuk dilakukan penilaian tingkat keberlanjutan dimensi ekologi yang dilakukan dengan menggunakan teknik *dimensional scalling* (MDS).

Status keberlanjutan dimensi ekologi dalam pengembangan pengelolaan ekowisata hutan mangrove Petengoran di desa Gebang kabupaten Pesawaran merupakan penggambaran tingkat keberlanjutan pada pengembangan ekowisata mangrove tersebut yang didasarkan pada aspek ekologi yang dievaluasi berdasarkan 6 (enam) atribut utama, yaitu, yaitu (1) zonasi mangrove, (2) kerapatan mangrove, (3) tekanan lahan mangrove, (4) rehabilitasi mangrove, (5) abrasi pantai, (6) sanitasi lingkungan. Permasalahan utama adalah pengaruh dan tekanan habitat mangrove bersumber dari keinginan manusia untuk mengkonversi areal hutan mangrove menjadi areal pengembangan kegiatan-kegiatan komersial. Dalam situasi seperti ini habitat dasar dan fungsinya menjadi hilang dan kehilangan ini disertai dengan kemungkinan hilangnya ruang terbuka hijau yang jauh lebih besar dari nilai penggantinya.

Sejalan dengan upaya pemerintah dalam mengoptimalkan dan memanfaatkan potensi ekowisata mangrove, maka kebutuhan akan data dan informasi potensi serta keberadaan sumberdaya hutan mangrove sangat dibutuhkan sehingga perlu dilakukan kajian dimensi ekologi pada kawasan hutan mangrove Petengoran. Keberadaan kawasan hutan mangrove tersebut sangat berpotensi untuk dikembangkan menjadi kawasan ekowisata sebagai tujuan

wisata alternatif di kabupaten Pesawaran. Tujuan dari penelitian ini adalah menganalisis kondisi dimensi ekologi kawasan hutan mangrove Petengoran sebagai kawasan ekowisata.

Metode Penelitian

Pengambilan data primer dilakukan dengan teknik wawancara kepada responden kunci dan masyarakat sekitar kawasan hutan mangrove secara langsung serta melalui survei lapangan untuk mengetahui nilai dari masing-masing atribut meliputi kondisi kerapatan vegetasi, zonasi mangrove dan tekanan lahan mangrove. Kegiatan observasi mangrove untuk mengetahui *scoring* dari atribut kerapatan vegetasi, zonasi mangrove dan tekanan lahan mangrove di wilayah desa Gebang juga dilakukan dengan penginderaan jauh menggunakan citra satelit yang sangat efektif dalam menilai perubahan tutupan hutan mangrove sehingga dapat diketahui perubahan luas area hutan mangrove yang rusak atau berkurang serta tingkat kerapatannya. Penggunaan teknologi pengindraan melalui citra satelit ini cukup tepat untuk mendapatkan data permukaan bumi yang kompleks dengan wilayah kajian yang cukup luas dengan cepat dan efisien (Nissa, 2017).

Analisis data menggunakan *software Rapfish* atau *Rapid Appraisal analysis* (RAP) adalah teknik yang dikembangkan oleh University of British Columbia Canada untuk sumberdaya perikanan, untuk mengevaluasi keberlanjutan sumberdaya perikanan secara multidisipliner. Metode ini adalah metode yang sederhana dan fleksibel yang menampung kreatifitas dalam pendekatannya terhadap suatu masalah. Metode ini memasukkan pertimbangan-pertimbangan melalui penentuan atribut yang akhirnya menghasilkan skala prioritas (Fauzy dan Anna, 2005).

Tahapan dalam analisis Rapfish sebagai berikut: 1) analisis terhadap data ekowisata hutan mangrove yang diteliti melalui data statistik, studi literatur, dan pengamatan di lapangan; 2) lakukan *skoring* dengan mangacu pada literatur dengan Excell; 3) lakukan analisis MDS dengan *software* Rapfish untuk menentukan ordinasi dan nilai *stress* melalui ALSCAL Algoritma; 4) lakukan rotasi untuk menentukan posisi sumber daya pada ordinasi buruk (*bad*) dan baik

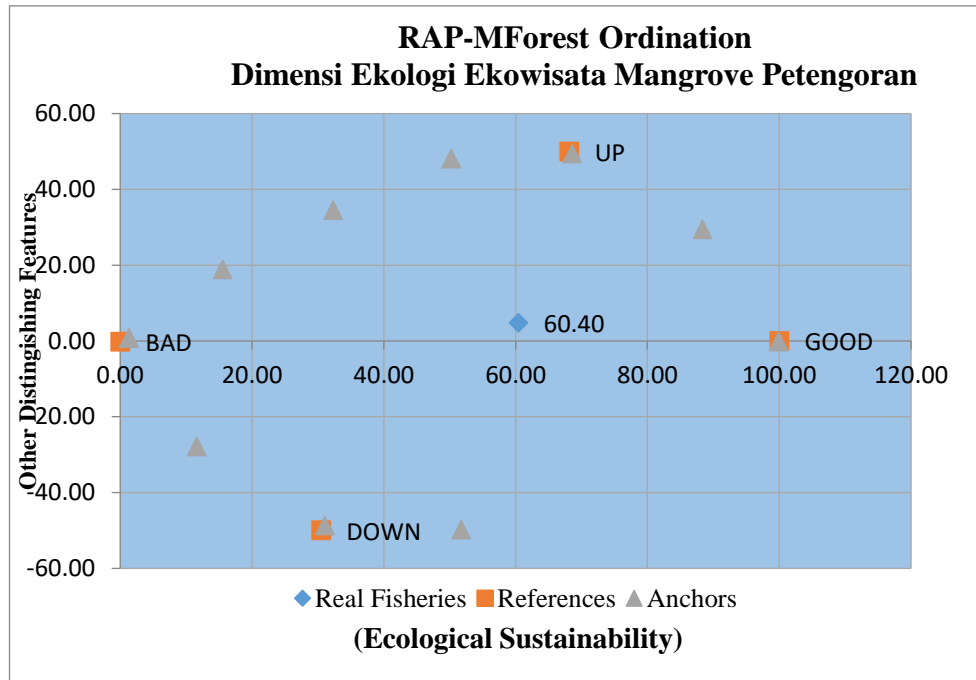
(*good*) dengan Excell dan Visual Basic; 5) selanjutnya melakukan analisis sensitif (*leverage analysis*) dan *Monte Carlo analysis*.

Hasil Pembahasan

a. Analisis RAP-MForest Dimensi Ekologi

Pada lokasi penelitian terdapat luas hutan yang masih ditumbuhi mangrove yaitu 88 Ha dengan kondisi cukup baik. Berdasarkan analisa vegetasi hutan mangrove Petengoran terdapat pola penanaman mangrove di kawasan pesisir desa Gebang tidak mengacu pada sistem zonasi, dimana pada masing-masing zona seharusnya berbeda jenis pohon penyusunan-penyusunannya. Dari hasil pengamatan langsung kawasan ini merupakan habitat bagi jenis spesies mangrove dengan *Rhizophora apiculata* yang menjadi spesies vegetasi yang paling dominan membentuk struktur vegetasi yang rapat dan menjadi habitat beberapa jenis spesies burung yang sangat menarik sebagai potensi biologis.

Berdasarkan analisis data lapangan menggunakan *software Rap-Mforest (Rapid Appraisal of the status of Mangrove Forest)*. Hasil menunjukkan bahwa nilai indeks keberlanjutan ekologi (60,40) yang menggambarkan status cukup berkelanjutan, dan untuk nilai *stress* (0,16) sedangkan nilai *stress* yang diperbolehkan yaitu tidak besar dari 0,25 dan R^2 sebesar 0,94 dan nilai R^2 tidak lebih besar dari nilai 1 (satu). Hasil analisis leverage menunjukkan pada dimensi ekologi yang menjadi faktor pengungkit utama adalah rehabilitasi mangrove dan kerapatan mangrove. Dengan melakukan intervensi dimasa yang akan datang diharapkan dapat meningkatkan status keberlanjutan. Analisis ordinasasi *Rap_Mforest* dengan metode MDS pada dimensi ekologi menghasilkan nilai indeks keberlanjutan ekologi seperti tertera pada berikut:



Gambar : Status keberlanjutan pada dimensi ekologi
 Sumber: Hasil analisis (2022)

Pada keadaan tersebut menunjukkan bahwa tingkat pengelolaan ekowisata mangrove Petengoran ditinjau dari aspek ekologi yang dilakukan selama ini tergolong cukup baik dan cukup berkelanjutan. Dalam analisis MDS juga didukung dengan analisis kelayakan model. Analisis kelayakan model dengan menggunakan uji normalisasi dengan mengacu pada besaran nilai *S-Stress* (tekanan) dan nilai *Squared Correlation* atau koefisien determinasi (R^2). Hasil perhitungan metode *RAP-MForest* terkait dengan nilai *S* dan R^2 pada dimensi ekologi dapat dilihat pada Tabel 6.

Tabel 6. Hasil uji statistik validasi keberlanjutan pengelolaan ekowisata mangrove Petengoran pada dimensi ekologi.

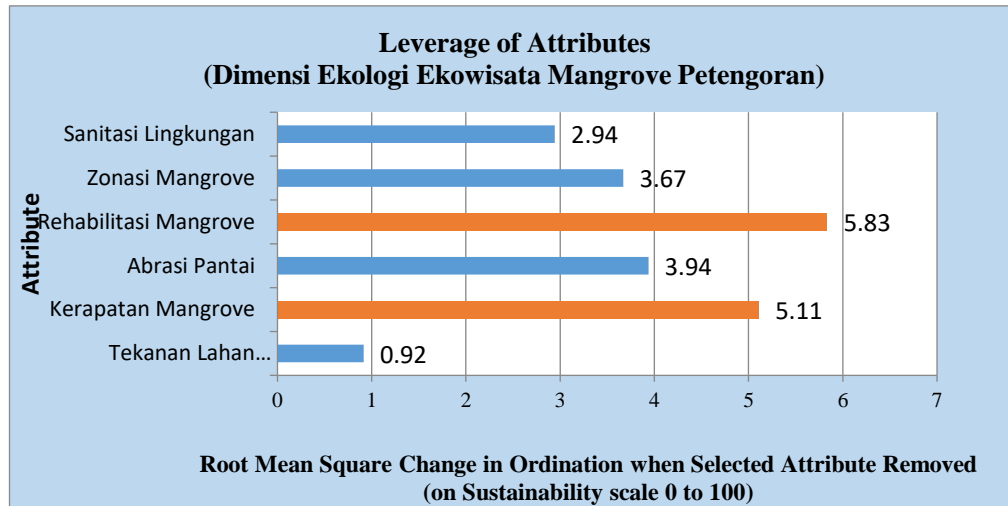
S-Stress	= 0.16	Iteration	Stress	Delta
Squared Correlation (R^2)	= 0.94	1	0.223346	9E+20
Nilai Monte Carlo	= 59.51	2	0.219923	0.003424
Nilai Ordination	= 60.40			

Sumber: Hasil analisis (2022)

Hasil uji nilai *S-Stress* (tekanan), dimana proses perhitungan *stress* dilakukan dengan dua kali iterasi, hingga didapatkan nilai *stress* untuk model ini adalah sebesar 0,16 atau mendekati 0 (nol). Nilai tersebut berada pada kategori cukup. Nilai *stress* yang mendekati nol, maka output yang dihasilkan semakin mirip dengan keadaan yang sebenarnya atau semakin rendah nilai *stress*, maka semakin baik atau cocok model tersebut. Kavanagh (2001) menyebutkan bahwa nilai *stress* yang dapat ditolelir adalah $< 20\%$, dengan demikian model pendugaan indeks keberlanjutan pada dimensi ekologi adalah dapat diterima dengan baik karena memiliki nilai *stress* 16%. Hasil uji nilai koefisien determinasi (R^2) juga menunjukkan bahwa model pendugaan indeks keberlanjutan dapat digunakan, dimana hasil analisis *RAP-MForest* diperoleh nilai R^2 adalah 0,94 atau mendekati nilai 1. Nilai R^2 semakin mendekati 1 berarti data yang ada semakin terpetakan dengan sempurna, Nilai tersebut menggambarkan bahwa lebih dari 94% model dapat dijelaskan dengan baik, dan sisanya $< 6\%$ yang dijelaskan oleh faktor/atribut lain. Kavanagh (2001) menyebutkan bahwa nilai *Squared Correlation* (R^2) lebih dari 80% menunjukkan bahwa model pendugaan indeks keberlanjutan pada dimensi ekologi adalah baik dan memadai untuk digunakan.

b. Analisis *Leverage of Attributes* pada dimensi ekologi

Analisis *leverage* dilakukan untuk menemukan faktor pengungkit (*leverage factors*) dalam status keberlanjutan ekowisata mangrove Petengoran untuk dimensi ekologi. Nilai indeks keberlanjutan dimensi ekologi masih dapat ditingkatkan melalui atribut-atribut yang sensitif dengan analisis *Leverage*. Hasil analisis sensitivitas (*leverage analysis*) diperoleh nilai RMS (*Root Mean Square*) dari masing masing atribut dimensi ekologi. Pada Gambar 22 tersaji nilai RMS dari masing-masing atribut yang mempengaruhi keberlanjutan ekowisata mangrove Petengoran pada dimensi ekologi.



Gambar 22. Faktor-faktor yang berpengaruh pada dimensi ekologi
 Sumber: Data primer, diolah (*primary data, processed*)

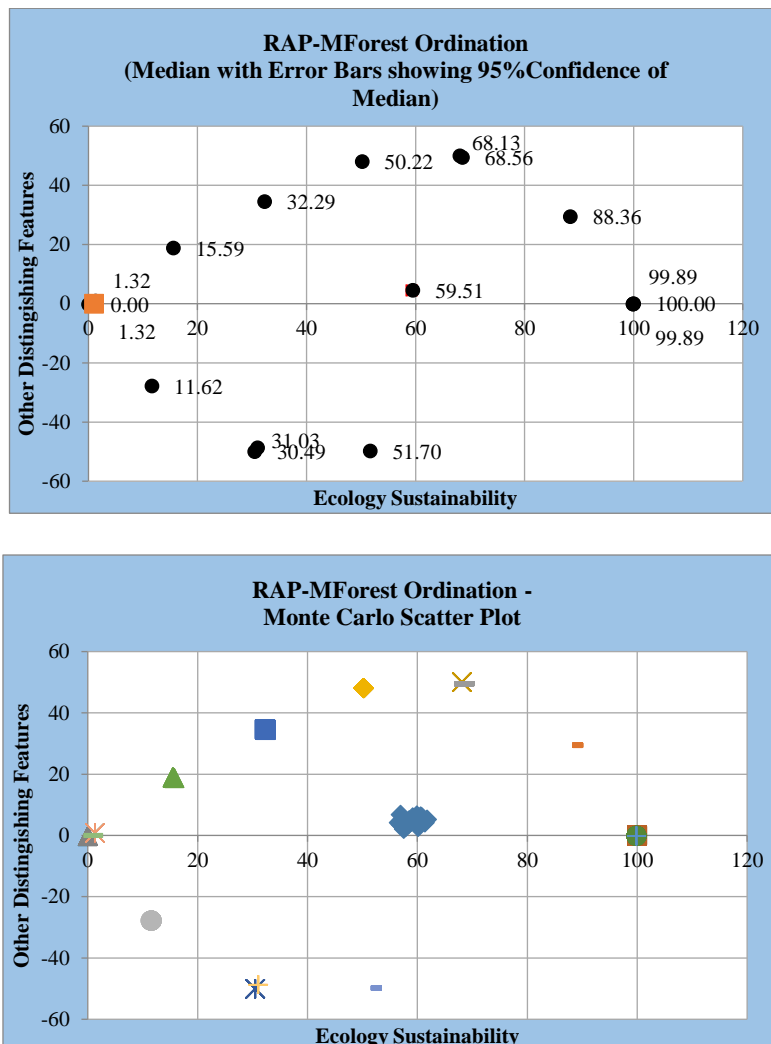
Berdasarkan hasil analisis leverage keberlanjutan ekowisata mangrove Petengoran dimensi ekologi dijelaskan pada Gambar. 22 dari enam atribut yang dianalisis ada dua atribut yang paling sensitif mempengaruhi besarnya nilai indeks keberlanjutan dimensi ekologi, yaitu tingkat rahabilitasi mangrove dengan nilai RMS (5,83%) dan kerapatan mangrove dengan nilai RMS (5,11%). Dengan demikian atribut tersebut perlu mendapat perhatian dan dikelola dengan baik agar indeks keberlanjutan pengembangan pengelolaan ekowisata mangrove Petengoran pada dimensi ekologi dapat meningkat dimasa yang akan datang dan menjadi kawasan ekowisata yang lebih baik.

c. Analisis *monte carlo* pada dimensi ekologi

Simulasi *Monte Carlo* menggambarkan hasil simulasi berupa perbedaan nilai ordinasi sedikit, maka hasil ordinasi MDS telah dapat mengatasi adanya kesalahan acak melalui metode “*scatterplot*”. Metode *scatterplot* adalah suatu metode penentuan persamaan suatu garis dengan memplot data dalam suatu grafik. Langkah pertama dalam menerapkan metode *scatterplot* adalah memplot titik-titik data sehingga hubungan antara atribut dapat terlihat. Plot ini disebut dengan *grafik scatter*.

Berdasarkan hasil analisis simulasi *Monte Carlo* yang *running* sebanyak 25 perulangan pada dimensi ekologi dengan *confidence*(95%)

menyajikan nilai rata-rata (57,21%), tersaji pada gambar.23 dan apabila dibandingkan dengan nilai ordinasi MDS (56,97%), sehingga diperoleh selisih (0,14%) atau kurang dari (5%). Hal tersebut menunjukkan bahwa ketepatan model sangat tinggi dimana selisih antara nilai *Monte Carlo* dengan nilai ordinasinya <5%. Nilai tersebut menunjukkan bahwa pengaruh galat (*error*), atau dampak dari kesalahan pemberian skor relatif kecil. Dengan demikian, disimpulkan model RAP-*MForest* ordinasi MDS dimensi ekologi yaitu keberlanjutan pengembangan pengelolaan ekowisata mangrove Petengoran, dinyatakan terdapat akurasi sebagai penduga nilai indek keberlanjutan dimensi ekologi. Hasil analisis model RAP-*MForest* ordinasi MDS dimensi ekologi dapat dilihat pada gambar berikut:



Gambar 23. Hasil Analisis Monte Carlo pada dimensi ekologi
 Sumber: Data primer, diolah (*primary data, processed*)

Kesimpulan

Perlu adanya perencanaan pengelolaan ekowisata mangrove berkelanjutan terkait pengembangan dan perbaikan kinerja pada delapan indikator kunci untuk meningkatkan status keberlanjutan pengelolaan ekowisata mangrove Petengoran di kabupaten Pesawaran. Perbaikan kinerja tersebut diantaranya meningkatkan kegiatan rehabilitasi mangrove sekaligus menjaga kerapatan vegetasi mangrove; pemanfaatan ekosistem mangrove yang menjadi daya tarik kunjungan wisatawan sekaligus berkontribusi pada peningkatan pendapatan masyarakat; peningkatan peran kelompok mangrove sekaligus mengurangi serta mengatasi potensi konflik yang ada; dan peningkatan koordinasi antar stakeholder sekaligus peningkatan komitmen pemerintah daerah untuk konservasi.

DAFTAR PUSTAKA

- Dharmawan, I.W.E. & Pramudji. 2014. Panduan Monitoring Status Ekosistem Mangrove. COREMAPCTI. Pusat Penelitian Oseanografi. Lembaga Ilmu Pengetahuan Indonesia.
- Fauzi, A. 2019. Teknik Analisis Berkelanjutan. Jakarta (ID): PT Gramedia Pustaka Harahab, N. 2010. Penilaian Ekonomi Ekosistem Hutan Mangrove dan Aplikasinya
- Osmaleli. 2014. Analisis Ekonomi dan Kebijakan Pengelolaan Ekosistem Mangrove Berkelanjutan di Desa Pabean Udik, Kabupaten Indramayu[tesis]. Bogor (ID): IPB.
- Puspitaningrum, C. dan Dian, O. 2021.Strategi Pengembangan Ekowisata Mangrove Desa Sriminosari Labuhan Maringgai Lampung Timur.*Fisheries of Wallacea Journal*, Volume 2, No. 2, 2021.
- Satyanarayana, B., Bhanderi, P., Debry, M., Maniatis, D., Foré, F., Badgie, D., Jammeh, K., Vanwing, T., Farcy, C., Koedam, N. And Dahdouh-Guebas, F., 2012. A Socio-Ecological Assessment Aiming At Improved Forest Resource Management And Sustainable Ecotourism Development In The Mangroves Of Tanbi Wetland National Park, The Gambia, West Africa. *Ambio*, 41(5), Pp.513-526.
- Tuwo, A. 2011.Pengelolaan Ekowisata Pesisir dan Laut: Pendekatan Ekologi,Sosial-Ekonomi, Kelembagaan, danSarana Wilayah. Surabaya (ID):Brilian Internasional.