

# India Keshopur-Miani Community Reserve



Designation date Site number

26 September 2019 2414 Coordinates 32°05'34"N 75°23'23"E Area 343,90 ha

https://rsis.ramsar.org/ris/2414 Created by RSIS V.1.6 on - 1 February 2020

# Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

# 1 - Summary

# Summary

Keshopur-Miani Community Reserve is located in State of Punjab, North West India. The community reserve lies in the district Gurdaspur at a distance of 6 Km from Gurdaspur township which is also the administrative headquarters of the district. The community reserve is spread in villages Dalla, Miani, Matwa, Dhalla and Magarmudhian that are located along the road connecting the Gurdaspur township and Behrampur village near the Indo-Pakistan border. The Keshopur-Miani Community Reserve lies in the former flood plains of the Rivers Ravi and Beas. It consists of a mosaic of natural marshes, aquaculture ponds and agricultural wetlands where crops such lotus and chestnut are cultivated. These wetlands are sustained by rainfall (Average annual rainfall - 959 mm). The wetlands are surrounded by rice, wheat and sugarcane fields. The area was declared as community reserve in 2007 primarily for its biodiversity. It is the only habitat for sarus and common cranes in Punjab and hosts large number of resident and migratory birds both during summer and winter season. The wetlands lie on the Central Asian Flyway. The management committee (Community Reserve Committee) of Keshopur-Miani Community Reserve has restricted conversation of wetland land use. The population from surrounding villages are dependent on the wetland for their livelihood.

Keshopur-Miani Community Reserve cum wetland regularly supports more than 20,000 waterbirds. The waterbird population census conducted during last three years (2017-2019) indicates that the number of waterbirds ranged between 21,040 and 23,018. Keshopur-Miani Community Reserve supports the resident and migratory populations of vulnerable species of birds - sarus crane (Antigone antigone), common pochard (Aythya farina), woolly-necked stork (Ciconia episcopus) and greater spotted eagle (Clanga clanga) [Vulnerable - 4]. The terrain of Keshopur is largely plain and flat land. It varies in climate between subtropical, semi-arid and monsoonal. There are four distinct seasons in the area. The spring season extends from February to March, summer season extends from April to June, monsoon season extends from July to September and the winter season from October to January. It receives water from rains, surface runoff and is filled with water throughout the year. Keshopur-Miani Community Reserve is under the jurisdiction of the Department of Forests and Wildlife Preservation, Punjab.

# 2 - Data & location

- 2.1 Formal data
- 2.1.1 Name and address of the compiler of this RIS

# Compiler 1

Name	Principal Chief Conservator of Forests (Wildlife) and Chief Wildlife Warden, Punjab.
Institution/agency	Department of Forests & Wildlife Preservation.
Postal address	Forest Complex, Tower No 2, 2nd floor, Sec -68, S.A.S Nagar, Punjab.
E-mail	cwlwpunjab@gmail.com
Phone	0172-2298010

#### Compiler 2

Name	Rivers, Wetlands and Water Policy
Institution/agency	World Wide Fund for Nature - India
Postal address	172-B, Max Muller Marg, Lodi Estate, New Delhi - 110 003
E-mail	gkanwar@wwfindia.net
Phone	011-43516280

#### 2.1.2 - Period of collection of data and information used to compile the RIS

From year	2007
To year	2019

# 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish) Keshopur-Miani Community Reserve

# 2.2 - Site location

# 2.2.1 - Defining the Site boundaries

#### b) Digital map/image

<1 file(s) uploaded>

Former maps 0

#### Boundaries description

The site's boundary is the same as the Keshopur-Miani Community Reserve. It is located in State of Punjab, north west part of India. The community reserve lies in district Gurdaspur at distance of 6 Km from Gurdaspur township which is also the administrative headquarters of the district. Boundaries of the Conservation reserve are described below:

North - Agriculture lands of Village Shamsherpur and habitation of Village Miani. West - Majithi Minor and Doga Nala crossing Gurdaspur- Dorangla road, Chhamb surrounded by Agriculture lands of Village Bhagokauwan South - Agriculture land of Villages Keshopur, Sadhu chak & Bhukra. East - Behrampur road and habitation of Village Dalla.

#### 2.2.2 - General location

a) in which large administrative region does the site lie?	urdaspur district of Punjab
b) What is the nearest town or population Gur	iurdaspur

#### 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes O No (

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party?

## 2.2.4 - Area of the Site

Official area, in hectares (ha): 343.9

Area, in hectares (ha) as calculated from GIS boundaries

# 2.2.5 - Biogeography

Biogeographic regions	
Regionalisation scheme(s)	Biogeographic region
Freshwater Ecoregions of	Lower & Middle Indus
the World (FEOW)	

#### Other biogeographic regionalisation scheme

Biogreographic regionalization scheme: Terrestrial Eco-regions of the World.

Scientific Code: IM1304 Eco-Zone: Indomalayan Biome: Desert and xeric scrub-land Eco-region: Northwestern scrub forest Country: India. North-western part in State of Punjab.

# 3 - Why is the Site important?

# 3.1 - Ramsar Criteria and their justification

<no data available>

# Criterion 2 : Rare species and threatened ecological communities

# ☑ Criterion 5 : >20,000 waterbirds

Overall waterbird numbers	21040-23023
Start year	2017
Source of data:	Asian waterbird census

# 3.2 - Plant species whose presence relates to the international importance of the site

<no data available>

# 3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Species qualifies under criterion2469	Speciescontributesundercriterion357	Pop. Size Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
Birds											
CHORDATA / AVES	Aquila clanga	Greater Spotted Eagle	ØOOO							IUCN status Vulnerable	
CHORDATA / AVES	Aythya ferina	Common Pochard	ØOOO				W				
CHORDATA / AVES	Aythya nyroca	Ferruginous Duck	ØOOO				NT		Z		
CHORDATA / AVES	Ciconia episcopus	Woolly-necked Stork	ØOOO				VU				
CHORDATA / AVES	Grus antigone	Sarus Crane	Ø O O O							IUCN status Vulnerable	
Others											
CHORDATA / REPTILIA	Geoclemys hamiltonii	Spotted Pond Turtle	eoo				EN	N			

1) Percentage of the total biogeographic population at the site

Note:

Other accepted scientific names/synonyms of the following species: 1. Greater spotted eagle : Clanga clanga ; Aquila clanga 2. Sarus crane : Antigone antigone; Grus antigone

3.4 - Ecological communities whose presence relates to the international importance of the site

<no data available>

# 4 - What is the Site like? (Ecological character description)

# 4.1 - Ecological character

Keshopur-miani community reserve lies in the flood plains of river Beas and Ravi in Punjab. This mosaic of wetlands is comprised of managed fishponds where both Indian major carps and exotic species are cultivated. Cultivated aquatic crops include water chestnut and lotus. The natural marshes have a variety of habitats depending upon depth and duration of water in its different parts. Accordingly, the vegetation types include free floating macrophytes like Eichhornia crassipes, Pistia stratiotes, and Salvinia molesta and emergent like Phragmites sps, Cyperus papyrus, Typha species and wild rice species. Keshopur wetland has a rich variety of flora with 344 species of plants recorded in the area. Major varieties are herbs (175), grasses (54), trees (48) and climbers (26). Herbs and grasses constitute 2/3 total floral species. The fauna in the cultivated ponds includes a variety of invertebrates, amphibians, reptiles, birds, mammals. The faunal diversity in the natural marshes include 16 species of mammals, 434 species of migratory and resident birds and 27 species of fishes. The wetland is an important corridor that facilitates movement of animals like Axis porcinus, Manis crassicaudata and Sus scrofa. Annual winter water bird census is conducted in Keshopur-miani reserve by Department of Forests and Wildlife Preservation, Punjab and WWF-India. The total count of winter migratory and resident water birds has varied between 20883 – 23023 from 2018-2020. Total of 74 water bird species were recorded from the Keshopur Community Reserve census. The highest number of migratory water bird species recorded from annual bird census includes atra, Mareca strepera, Gallinula chloropus, Spatula clypeata, Anas acuta and Anas crecca. The wetland plays important ecological function viz recharging of ground water for sustaining agriculture, habitat for resident and migratory birds and rare and endangered species, stabilisation of local climate, natural storage base for carnon and natural sinks for pollutants.

# 4.2 - What wetland type(s) are in the site?

Inland wetlands				
Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/ pools	Keshopur-miani chambh	2		
Fresh water > Marshes on inorganic soils >> Ts: Seasonal/ intermittent freshwater marshes/ pools on inorganic soils		1		

#### Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
1: Aquaculture ponds		3		
4: Seasonally flooded agricultural land		2		

# 4.3 - Biological components

#### 4.3.1 - Plant species

Invasive alien plant species			_
Scientific name	Common name	Impacts	
Cannabis sativa sativa	Marijuana	Actually (minor impacts)	No change
Eichhornia crassipes	Water hyacinth	Actually (major impacts)	No change
Parthenium hysterophorus	Carrot grass or congress grass	Potentially	No change
Salvinia molesta	Giant salvinia or Kariba weed	Actually (minor impacts)	No change

#### Optional text box to provide further information

The detailed plant and animal species checklist for Keshopur-miani community reserve is put in 6.1.2. under additional material.

#### 4.3.2 - Animal species

Invasive alien animal species				
Phylum	Scientific name	Common name	Impacts	
CHORDATA/ACTINOPTERYGII	Cyprinus carpio	Common carp	Actually (major impacts)	No change

# 4.4 - Physical components

## 4.4.1 - Climate

Climatic region	Subregion
B: Dry climate	BWk: Mid-latitude desert (Mid-latitude desert)

#### Not known

# 4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)	242
a) Maximum elevation above sea level (in metres)	245
	Entire river basin
	Upper part of river basin $\square$
	Middle part of river basin 🗹
	Lower part of river basin $\Box$
	More than one river basin $\Box$
	Not in river basin
	Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

River Beas and Ravi Basin

4.4.3 - Soil

Mneral 🗹 Organic 🗆 No available information 🗆

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes O No (•)

Please provide further information on the soil (optional)

The soils are alluvial. The soil texture is clayey loam.

# 4.4.4 - Water regime

Water permanence	1	
Presence?		7
Usually seasonal, ephemeral or intermittent water present	No change	
Source of water that maintain	s character of the site	~
Presence?	Predominant water source	
Water inputs from rainfall		No change
Water destination Presence?		
Feeds groundwater	No change	
Stability of water regime	_	
Presence?		
Water levels fluctuating (including tidal)	No change	
(FCD) on the second		
Connectivity of surfa	groundwater	wn
(ECD) or the th		
(LOD) Stratification a	nd mixing regime No strat	inication. Wind-mixed.

4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site  $\Box$ 

Significant accretion or deposition of se	diments occurs on the site
Significant transportation of sediments of	xcurs on or through the site $\Box$
Sediment regime is highly variable, either s	easonally or inter-annually
:	Sediment regime unknown 🗹
(ECD) Water turbidity and colour	Turbid.
(ECD) Light - reaching wetland	Not assessed
(ECD) Water temperature	24-25 degree Celsius (in summer), 16-19 degree Celsius (in winter)

# 4.4.6 - Water pH

Acid (pH<5.5) 
Circumneutral (pH: 5.5-7.4 )
Alkaline (pH>7.4) 
Unknown

### 4.4.7 - Water salinity

Fresh (<0.5 g/l) 🗹

Mixohaline (brackish)/Mixosaline (0.5-30 g/l)

Euhaline/Eusaline (30-40 g/l) 🗖

Hyperhaline/Hypersaline (>40 g/l)

Unknown 🗖

(ECD) Dissolved gases in water

Oxygen reliable in water.

## 4.4.8 - Dissolved or suspended nutrients in water

Eutrophic	
Mesotrophic 🗹	
Oligotrophic	
Dystrophic	
Unknown 🗆	

## 4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological

characteristics in the area surrounding the Ramsar Site differ from the i) broadly similar O ii) significantly different O

site itself:

Surrounding area has greater urbanisation or development  $\hfill \Box$ 

Surrounding area has higher human population density  $\Box$ 

Surrounding area has more intensive agricultural use  $\ensuremath{\mathbb{Z}}$ 

Surrounding area has significantly different land cover or habitat types  $\Box$ 

# 4.5 - Ecosystem services

# 4.5.1 - Ecosystem services/benefits

# Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	High
Wetland non-food products	Reeds and fibre	Low
Wetland non-food products	Livestock fodder	Medium

**Regulating Services** 

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Storage and delivery of water as part of water supply systems for agriculture and industry	Medium
Maintenance of hydrological regimes	Groundwater recharge and discharge	Low
Climate regulation	Local climate regulation/buffering of change	Low
Hazard reduction	Flood control, flood storage	Low

#### **Cultural Services**

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	Low
Scientific and educational	Educational activities and opportunities	Medium

#### Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	High
Pollination	Support for pollinators	Medium

Outside the site: 10,000s

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site?

#### 4.5.2 - Social and cultural values

i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland

#### Description if applicable

The site is a mosaic of natural marshes, aquaculture ponds and agricultural wetlands where crops such lotus and chestnut are cultivated. The use of the wetlands cannot be altered as per the regulations of the management committee. Thus the site is a rare example of wise use of a community managed wetland.

ii) the site has exceptional cultural traditions or records of former  $\hfill civilizations$  that have influenced the ecological character of the wetland

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples

iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

# 4.6 - Ecological processes

(ECD) Primary production	Not investigated
(ECD) Nutrient cycling	Not investigated
(ECD) Carbon cycling	Not investigated
(ECD) Animal reproductive productivity	Not investigated
(ECD) Vegetational productivity, pollination, regeneration processes, succession, role of fire, etc.	Not investigated
<sup>(ECD)</sup> Notable species interactions, including grazing, predation, competition, diseases and pathogens	Not investigated
(ECD) Notable aspects concerning animal and plant dispersal	Not investigated
(ECD) Notable aspects concerning migration	The community reserve is used by migratory birds in both summer and winter seasons.
(ECD) Pressures and trends concerning any of the above, and/or concerning ecosystem integrity	Not investigated

# 5 - How is the Site managed? (Conservation and management)

# 5.1 - Land tenure and responsibilities (Managers)

#### 5.1.1 - Land tenure/ownership

Public ownership		
Category	Within the Ramsar Site	In the surrounding area
Public land (unspecified)		×
Local authority, municipality, (sub)district, etc.	Ø	

#### Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)		V

#### Other

Category	Within the Ramsar Site	In the surrounding area
No information available		×

#### Provide further information on the land tenure / ownership regime (optional):

The areas of the wetland under cultivation of aquatic crops and aqua-ponds was leased by respective gram panchayat (Gram panchayat or village council is the only grassroots-level of panchayati raj formalised local self-governance system in India at the village or small-town level, and has a Sarpanch as its elected head).

# 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:	The community reserve is managed by a management committee formed by the Department of Forests and Wildlife Preservation, Punjab.
Provide the name and title of the person or people with responsibility for the wetland:	Sarpanch – Village Panchayat Keshopur - Member Sarpanch – Village Panchayat Dalla - Member Sarpanch – Village Panchayat Miani - Member Sarpanch – Village Panchayat Matwa - Member Sarpanch – Village Panchayat Magarmudian - Member Range Officer (Wildlife),
Postal address:	Range Officer, Keshopur-Miani Community Reserve
E-mail address:	dfowildlifepathankot@gmail.com

# 5.2 - Ecological character threats and responses (Management)

# 5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

#### Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified development	unknown impact			1

#### Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Drainage	Medium impact		1	

#### Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Non specified	Medium impact			×
Wood and pulp plantations	Low impact			×
Marine and freshwater aquaculture	Medium impact		×	
Annual and perennial non- timber crops	Low impact		×	

# Biological resource use Factors adversely affecting site Actual threat Potential threat Within the site In the surrounding area Fishing and harvesting aquatic resources Low impact Image: Comparison of the surrounding area

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities		Low impact	×	

Natural system modifications				
Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Vegetation clearance/ land conversion	Low impact			Ø

#### Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Invasive non-native/ alien species	Medium impact		×	

#### Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Agricultural and forestry effluents	Medium impact			V

#### Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified	unknown impact		×	×

# 5.2.2 - Legal conservation status

National legal designations			
Designation type	Name of area	Online information url	<b>Overlap with Ramsar Site</b>
Community Reserve	Keshopur-miani community reserve	http://www.pbforests.gov.in/comm unity_reserves.html	whole

# 5.2.3 - IUCN protected areas categories (2008)

la Strict Nature Reserve	]
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- Ib Wilderness Area: protected area managed mainly for wilderness protection
  - Il National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- V Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

# 5.2.4 - Key conservation measures

# Legal protection

Status
Implemented

#### Habitat

Measures	Status
Soil management	Partially implemented
Land conversion controls	Implemented

Species	
Measures	Status
Control of invasive alien plants	Partiallyimplemented

Human Activities

Measures	Status
Communication, education, and participation and awareness activities	Partially implemented
Harvest controls/poaching enforcement	Implemented
Livestock management/exclusion (excluding fisheries)	Partially implemented

# 5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

Has a management effectiveness assessment been undertaken for the site? Yes O No  $\textcircled{\sc op}$ 

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning Yes O No processes with another Contracting Party?

# 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No need identified

## 5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Water quality	Proposed
Soil quality	Proposed
Birds	Implemented

# 6 - Additional material

# 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

1. Bal, R and Dua. A (2010). Birds of Natural Wetlands of North-West Punjab, India. Our Nature (2010) pp. 72-81. Rajasekar, D. & Jerath, N. (2008) Birds of Keshopur Wetland (A Field Guide).

2. Ladhar, S. (2002). Status of ecological health of wetlands in Punjab, India. Aquatic Ecosystem Health & Management, 5 (4), 457-465. Chandigarh: Punjab State Council for Science & Technology, iii-vii, pp. 1-7 [16].

3. Kanwar, G. 2019. Short Communication on water bird census in wetlands of Punjab to Asian Water bird Count, 2019. Published by Wetland International.

4. Hassan, S, 2016. Ecological status of Keshopur Chhamb Miani Wetland (Community Reserves) at Distt- Gurdaspur (Punjab) India, International Journal of Engineering Technology Science and Research.

5. Rajasekar, D., Sharma, J. and Yogalakshami, J. (2008). Participatory Wildlife Conservation in Keshopur Chhamb Community Reserve (India's lst) in Punjab-Past, Present and Future Management Strategies. Proceedings of Taal (2007) World Lake Conference. PP: 1247-53. 6. Rajasekar, D. & Jerath, N. (2008) Birds of Keshopur Wetland (A Field Guide). Chandigarh: Punjab State Council for Science & Technology, iii-vii, pp. 1-7.

7. Sandhu, G.S. (2014). Planning from ecological and economic perspective as a new dimension in urban planning (a case study of Keshopur Chhamb of Gurdaspur, Punjab). Conference paper.

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<1 file(s) uploaded>

ii. a detailed Ecological Character Description (ECD) (in a national format)

iii. a description of the site in a national or regional wetland inventory

iv. relevant Article 3.2 reports <no file available>

v. site management plan

vi. other published literature

# 6.1.3 - Photograph(s) of the Site

#### Please provide at least one photograph of the site:



Another view of Keshopur-



Indian spot-bill duck at Keshopur-miani community reserve ( *Gitanjali Kanwa* 06-01-2019 )



/iew of Keshopur-miani community reserve ( Gitaniali Kanwar 24-04 2019 )



Aquaculture Pond at Keshopur-miani community reserve (Gitanjali Kanv 25-04-2019)

miani community reserve ( Gitanjali Kanwar, 24-04-2019 )

Kanwar 19-01-2018



Sarus Crane at Keshopurmiani community reserve ( *Gitanjali Kanwar, 14-12-*2018 )

# 6.1.4 - Designation letter and related data

#### **Designation letter**

Date of Designation 2019-09-26