

## Gulleen Plant Nursery - Forest Report-Draft

Date: [March.4.2025]

Ref No: GPN-20250304-003-PF-Swizz

To: Mr.Mikail

Subject: Choman-Forest

Dear Mr.Mikail,

Thank you for reaching out to Gulleen. We appreciate your interest in our services and are pleased to provide you with a draft report for the exclusionary phase for your requested order.

Indeed, to prepare this report, I consulted with academic instructors from the Forest Faculty at Salahaddin University, all of whom hold PhD degrees. Additionally, I had a meeting with the General Manager for Forestry at the Ministry of Agriculture, where I presented my study on similar projects.

**Note:** The General Directorate for Forests at the Ministry of Agriculture mentioned that they'll need a site plan and feasibility study to get things officially started. He also said he'll give the approval and will have a word with the minister. They're more than happy to collaborate on this project and were asking about your requirements while you're providing the funding

- <u>Background:</u> Choman is renowned for its natural beauty and geographical diversity, featuring mountains, caves, valleys, rivers, waterfalls, and lakes, as well as archaeological sites and a national park with wildlife..
  - Choman consists of four sub-districts: Gelala, Haji Omeran, Smilan, and Qasre, and is home to nearly 116 villages.
  - **Gelala**, right in the heart of the Balikati region, is home to ten villages. It's a place known for its lovely tourist spots, two rivers, and the numerous fold mountains part of the beautiful Zagros mountains. Nomads have traditionally settled here from late spring right through to early autumn. **Qasre** is mostly agricultural, with 25 villages and some great places to visit, like Kani-Basta, and about 95% of the land is mountainous which is rich in natural resources. **Haji-Omaran**, with 18 villages, borders Sidakan, Sulaymaniyah, Choman, and Iran. It's a place full of livestock and fertile land, with plenty of snow and rain each year that gives it cold winters and pleasant springs and summers. **Smelan**, a mountainous area with several valleys, heavy snowfall and rainfall, is home to 36 villages and sits between Choman, Sidakan, Warti, and Soran.
  - Forest Aim: To absorb carbon dioxide and provide health benefits for all of us. And Provide safe areas for wildlife to migrate, find food, and repopulate.
  - Challenges: There are still abandoned minefields left from the Iran-Iraq war, and a real lack of fire prevention measures. Human activity has caused a lot of destruction and deforestation. There's also the looming risk of the forest being exploited by investors for profit. On top of that, there are issues with pets and biological diseases, and the constant bombardment of the border area by both the Iranian and Turkish governments.

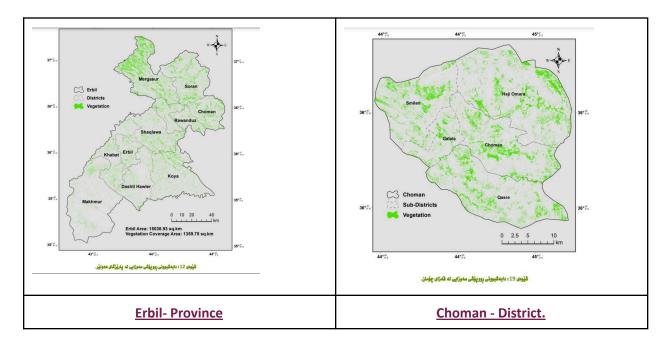


• **Plants**: I suggest focusing on trees that are native to the area, as they align with the local climate, soil, and natural environment. At the same time, they support wildlife and contribute to sustainability.

No.	Name	Types	Percentage	Numbers	Notes	
1	Oak Tree	Native	35	175	Dominant in Zagros forests	
2	Pistacia atlantica	Native	20	100	documented in Choman's slopes	
3	Juniper	sparse	10	50	Sparse in high mountains	
4	Pinus Brutia	planted	25	125	Not exactly native to Choman	
5	Wild fruit trees	dominant	8	40	such as: Hawthorn, Wild Almond	
6	Shrubs	Native	2		Various native shrubs that dominate the area.	
	Total			490	We can also plant seeds, but in a specific percentage.	
7	Water-source	pond	0	2	Separate ponds for territorial animals.	

note, I didn't mention the price because the age and height of the tree influence the cost. However, they recommended trees that are about two years old. Also, the price from the government nursery is much lower compared to private ones.

- Facts- report 2015: The greenery density in erbil governorate is (9.05%) and in Choman district is (13.7%)
  - The Greenery Density in the Kurdistan region is (500-1000) square meter, which equals (1021.22) (km)2.
  - The greenery density in the Kurdistan region is (1,000-1,500) square meters, which equals (1040.42)km².
  - Vegetation covered area in Erbil governorate is (1359.75) (km)2 and overall area (15038.93)(km)2.
  - Vegetation covered area in Choman district is (11742) hectares and overall area (89174) hectares.
  - There is a government-run plant nursery for plants and trees, offering subsidized prices.
  - In the Kurdistan region: There are 62 cases in court, of which only (24) have been resolved. The fire occurred in a natural forest covering (843.5)dunums and (52) dunums of created forest.





No.	District	Project Name	Plantation	Tree Types	Area in (Dunam)
30	choman	Darstane .Galala	1994	Cupressus, Pinus Brutia	251.75
31	choman	Darstane Choman		Cupressus, Pinus Brutia	20.40
32		Bardarshan	1994	Cupressus, Pinus Brutia	20.56
33		Darmanawa + Hajiomeran		Cupressus, Pinus Brutia	49.17

## **Created forest in Choman district**

- Choman Wildlife: (Blanford's fox, leopard, wild bear, Golden eagle, Grey wolf, Mammals, lammergeier and owls and wild goat, Lutrogale perspicillata).
- Management: needs a centre that brings together a tracking and monitoring hub, a rehabilitation centre for wildlife, particularly for injured animals, a plant nursery to grow saplings and tree seeds for regeneration, a research centre, a forest commission institute, and a center focused on managing water resources. It's also important to focus on mobilising the local community.
- Terms I'm currently working on:
- How to increase resilience against risks and ensure protection.
- How to ensure sustainability, and continuation of reforestation.
- How to ensure self-sustainability and ongoing maintenance.
- Strategies to manage the watering system and irrigation methods.
- Align with laws and regulations to safeguard the forest from any unwanted activities in the future.
- Prevent soil erosion and provide necessary fertilisation techniques.
- Features and indicators for the design.
- Forest techniques that help adapt to environmental stress.
- Mapping understory plants and trees in the area alongside the forest inventory.
- Once the area is chosen by the Directorate of Forests, we'll select geometric reference data for the sites and analyse climate data.
- Required work and documentation to secure funding from local environmental organisations.

Best regards, Nahida Umer Gulleen Plant Nursery

