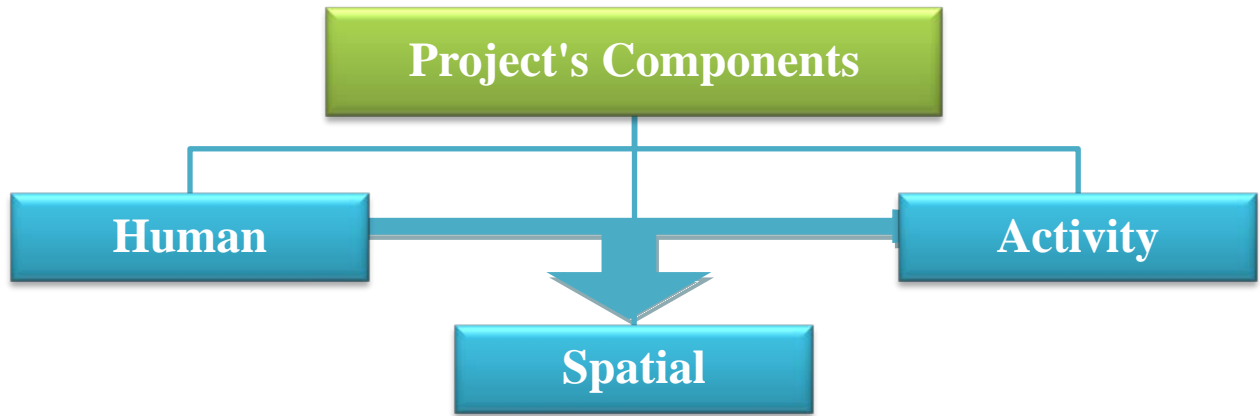
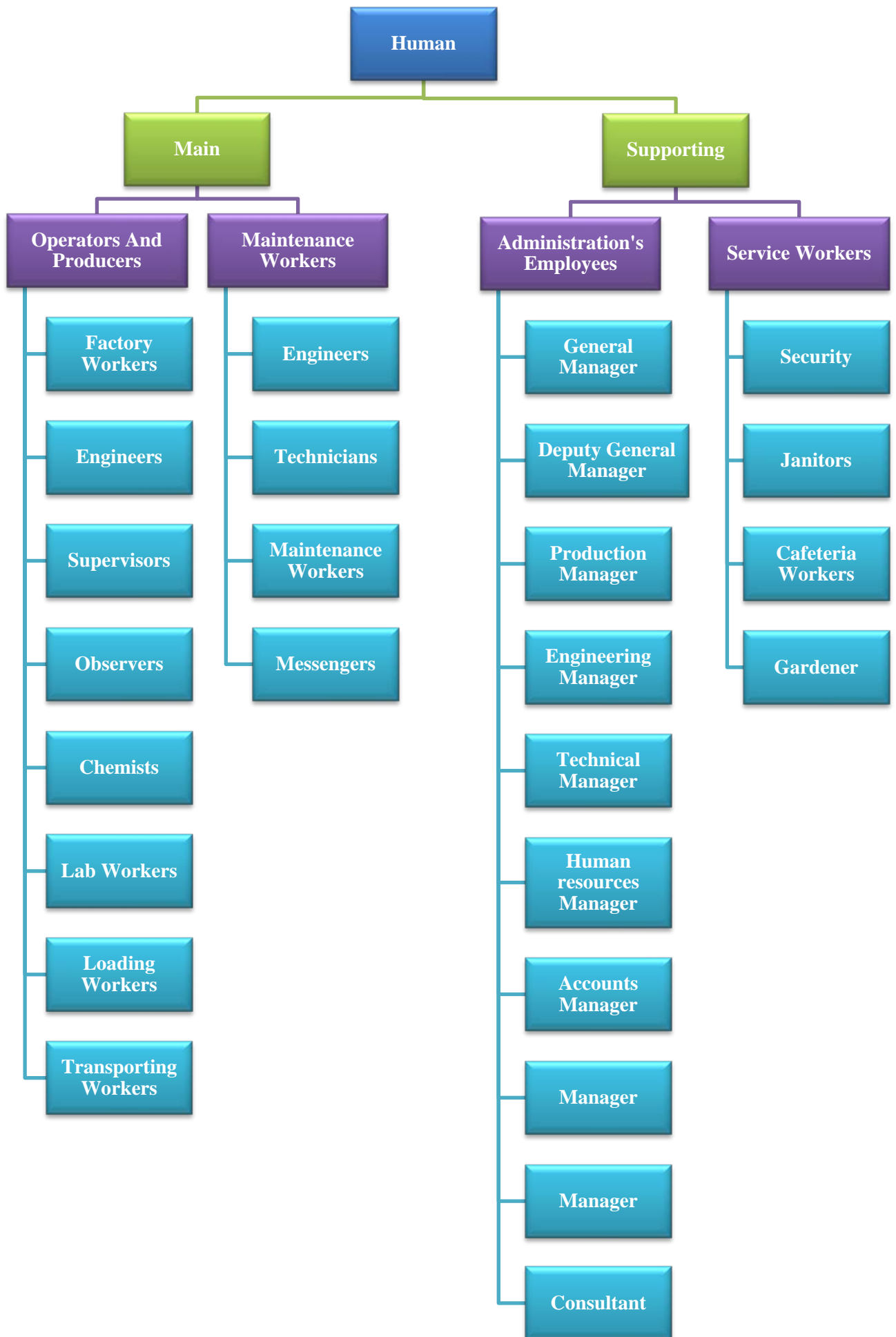


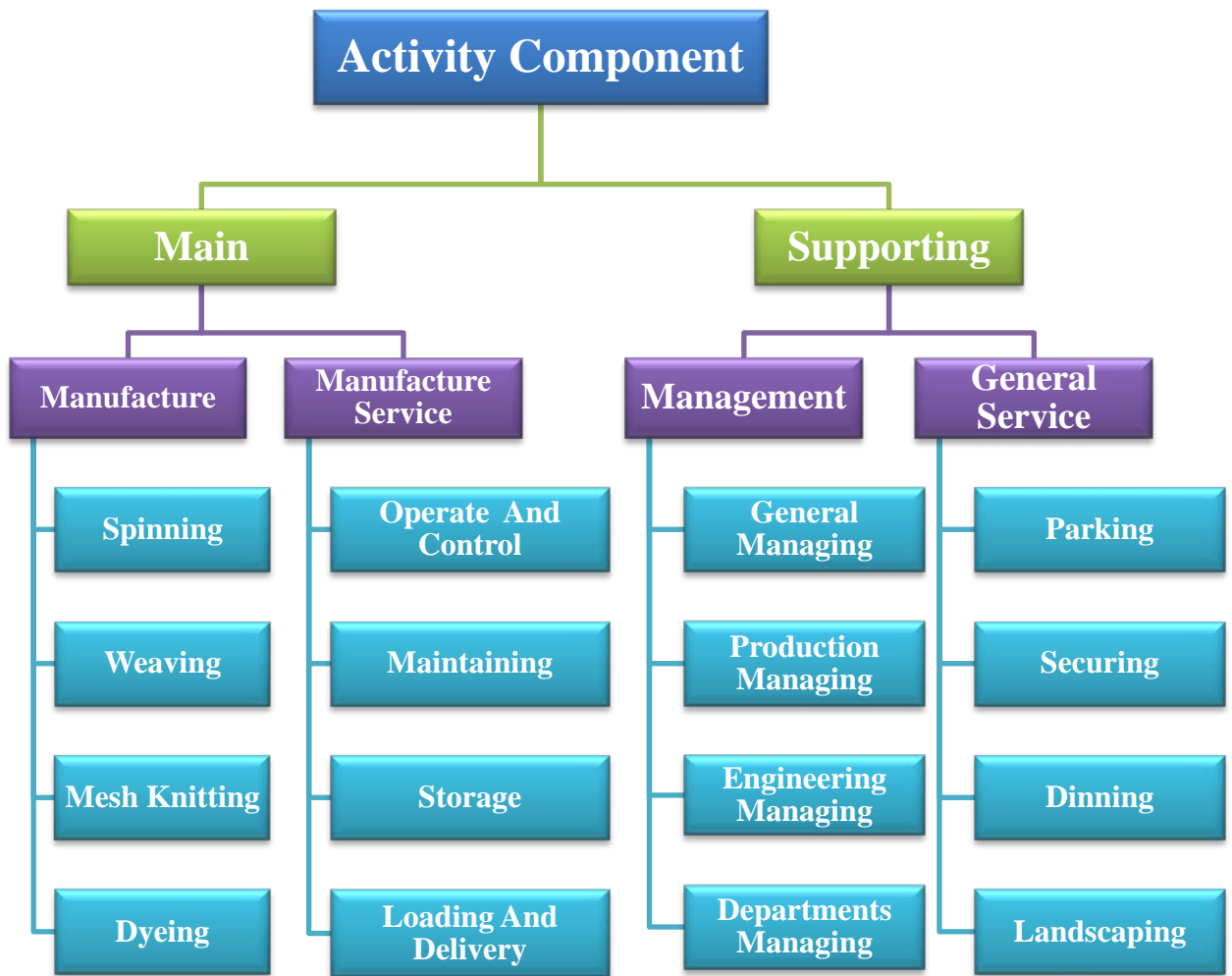
PROJECT ANALYSIS

Functions Analysis:-

Components analysis:-







Activities table:-

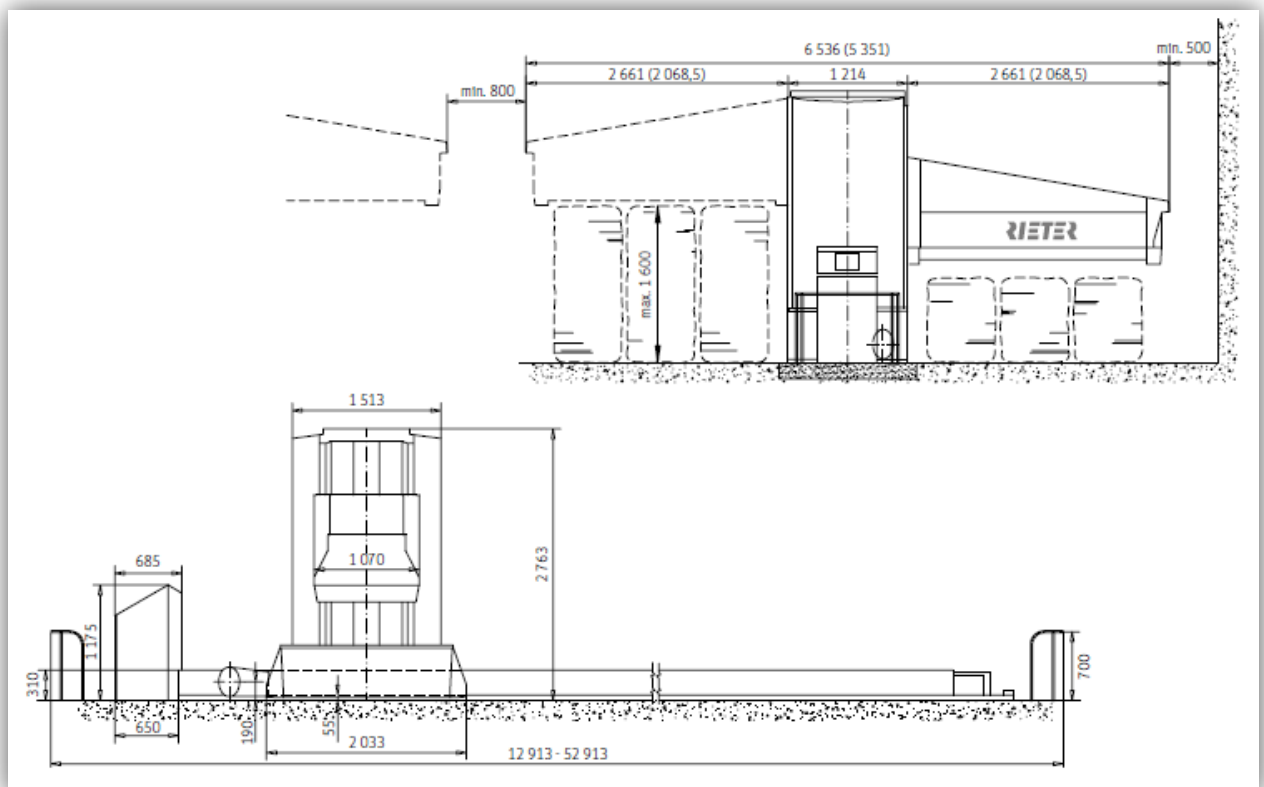
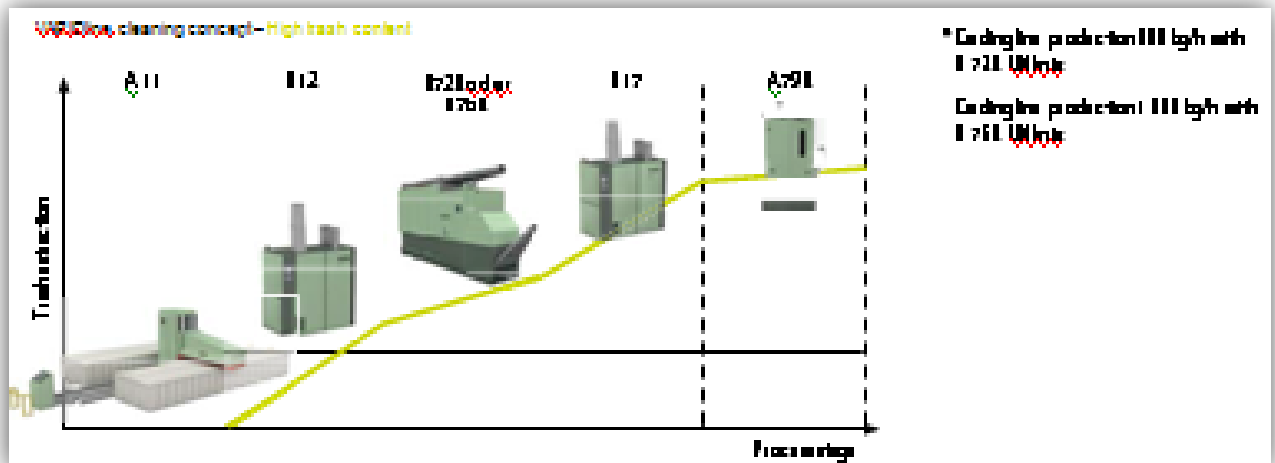
Space study:-

Main spaces:

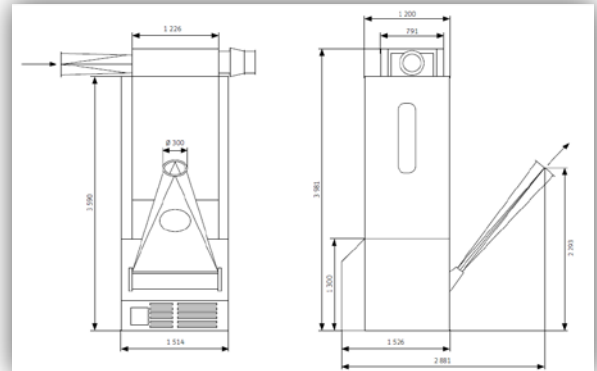
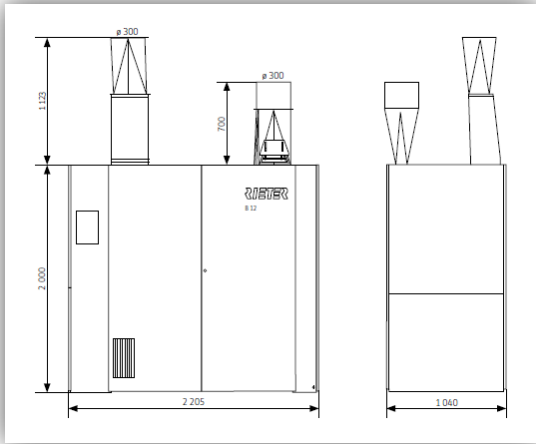
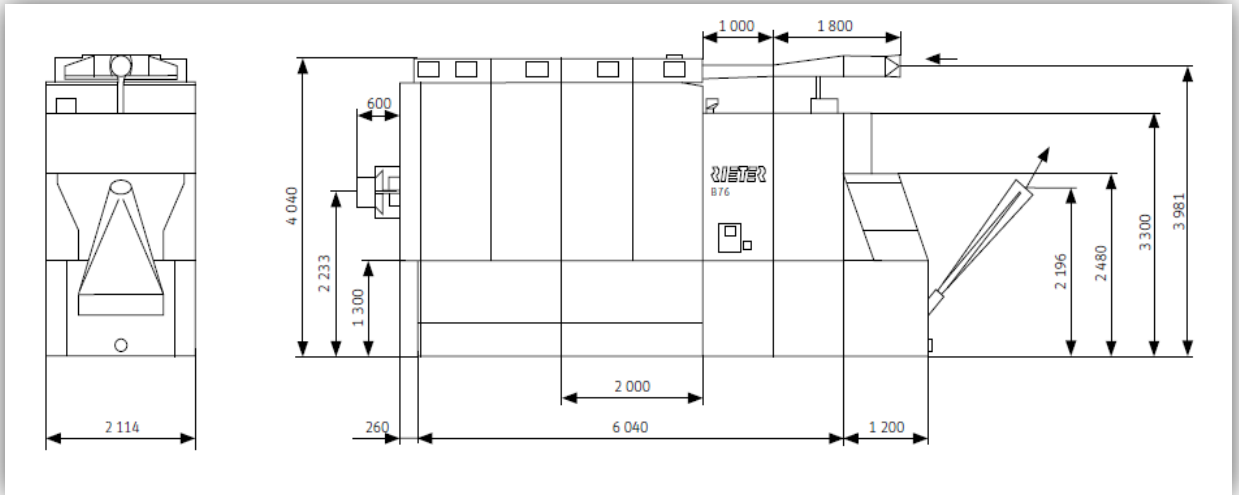
Production halls:

Spinning hall:

Blow room:

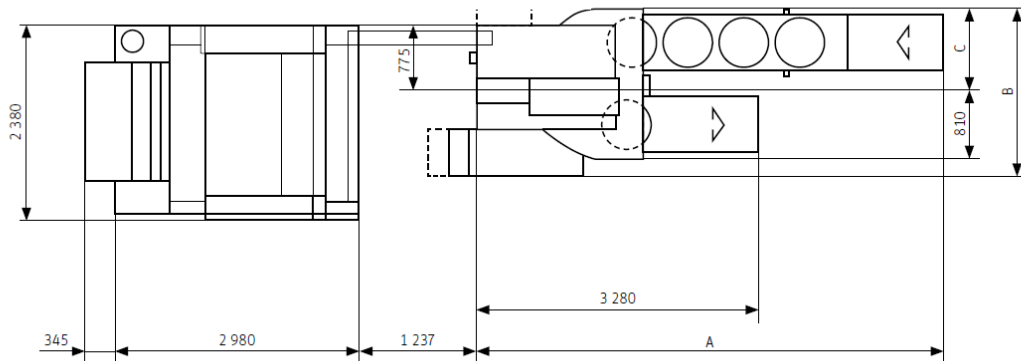


Uni floc A11



Carding:

C 70 card
with RSB module



Administration spaces:-

- **Some areas required for employees in administrative buildings:-**

- The average employee needs an area of 2.30m².
- The employee dealing with the public needs an area of 2.50m².
- Secretarial room not less than 10 m².
- One employee in a private office needs an area of 9 m².
- Employee in a shared room with another employee 5 m².
- Employee in a staff room 3.8-4 m².
- The individual needs an area of 2.5 m² in the meeting room.

- **Administrative office types are divided into two types:-**

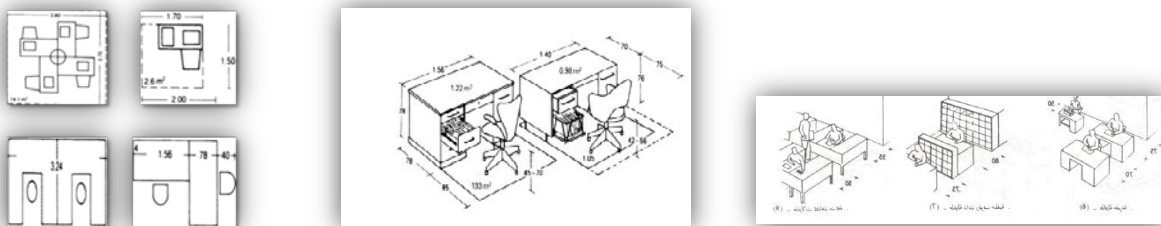
1. **open offices :**

- It is an open area that includes a number of employees in which offices are separated by the use of glass partitions.

Advantages	Disadvantages
Effective and efficient vacuum user	The initial cost is high
Allows optimal exploitation of space available	Insulation is very poor
Featuring high flexibility and possibility of configuration	The difficulty of distributing mechanical equipment
Easy supervision and control	
Easy communication between employees	

Table (3-): Advantages and Disadvantages of Open Offices

- **Open office distribution modes: -**



(3-) Standard dimensions for office furniture
(Open office distribution positions)

▪ **Dimensions and corridors: -**

- Due to the high number of workers the width of the large and the middle corridor is designed to allow the passage of 3 to 4 people and to design the width of the side corridor for the passage of one to two persons.

2. Closed Office :-

- Offices that are insulated with fixed walls so that the employee who works in it is independent and is usually used for managers and senior staff .

Advantages	Disadvantages
Provide the required confidentiality	Difficulty supervising and monitoring employees
Allows focus on work	It occupies a large area
Achieve independence and privacy	Lacking flexibility
Easy to distribute mechanical equipment	
Provide the required confidentiality	

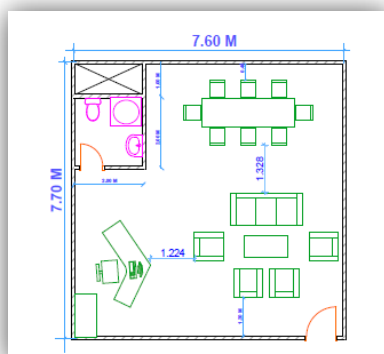
Table (3-): Advantages and Disadvantages of closed Offices

1. Executive Director office :-

Activity: factory Management .

Furniture required: Desk - Meeting table - Seating set - Wardrobe - Bathroom - Small room.

space Area: 58.00 m².



(executive director office)

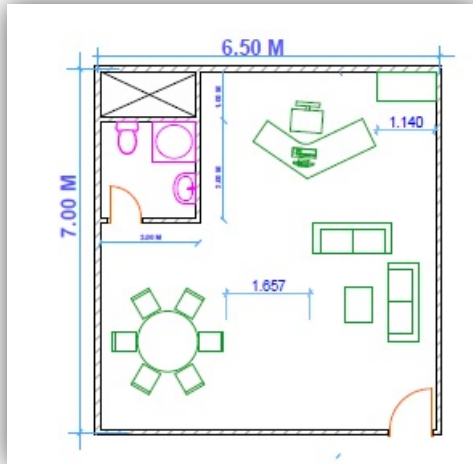
2.Executive Director deputy office :-

Activity: Office activity.

Furniture Required: -

Office - Seating Set - Wardrobe.

Area of the space: 45 m².

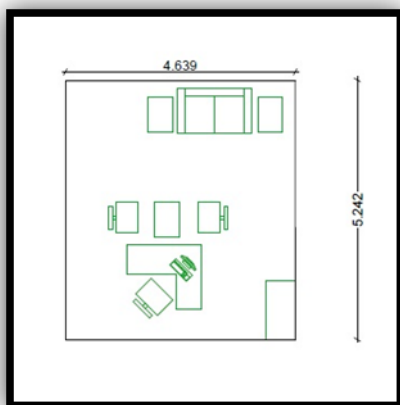


(Executive Director deputy office)

3.General manager's office :-

Furniture required: Office - - Seating - Wardrobe

Area of the space: 25 m².



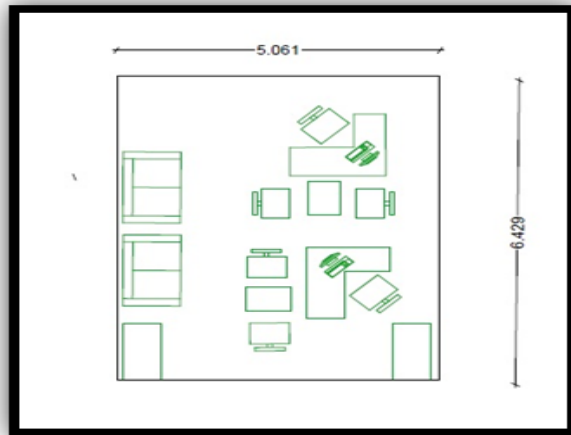
(general manger office)

4. Office of Directors: -

Activity: Office activity.

Required Furniture: Office - Seating Set - Wardrobe.

Area of the space: 33 m².



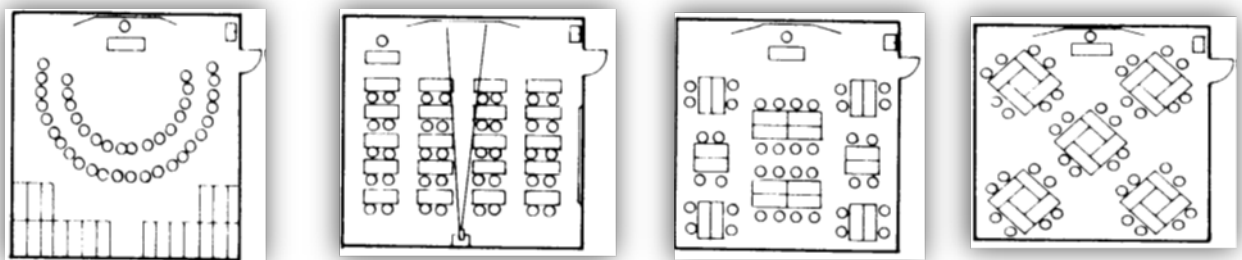
(Office of Directors)

Meeting Room:

- Furniture used: Social table - Bearings.
- The area of the individual in the space: 2.5 m².
- Number of users: 12 individuals.
- Area of the apartment: 30 m²

Seminars hall:

- The hall is used to give lectures and receive information



(3-) Different forms of halls

- The area of the individual in the space 0.8m².
- Number of users: 100 individuals.
- Area of the space: 80 m².

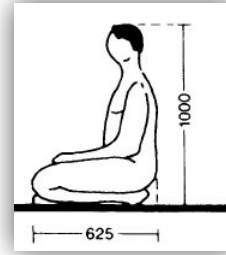
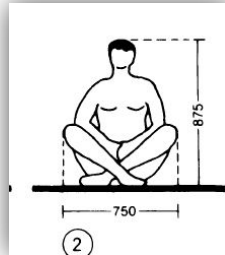
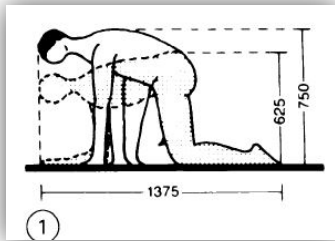
Service spaces:-

praying area:-

The area of the individual in the space 0.86m^2 .

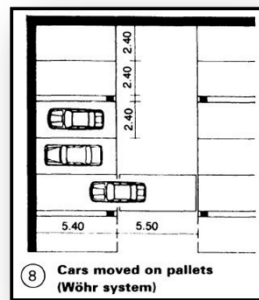
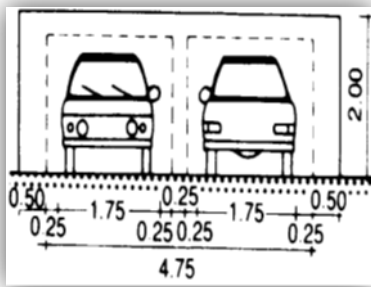
Number of users: 500 individuals.

Area of the space: 430 m^2 .

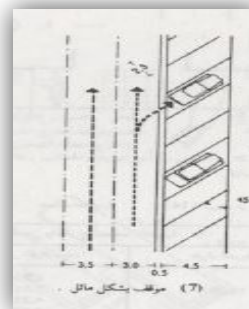
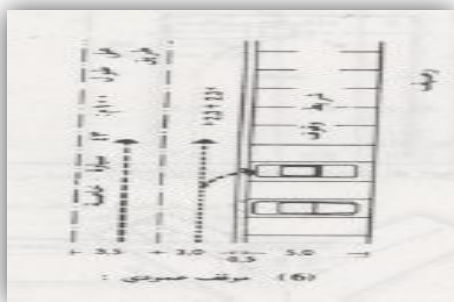


Parking area :-

The area of the car in the space: 12.5 m^2 .

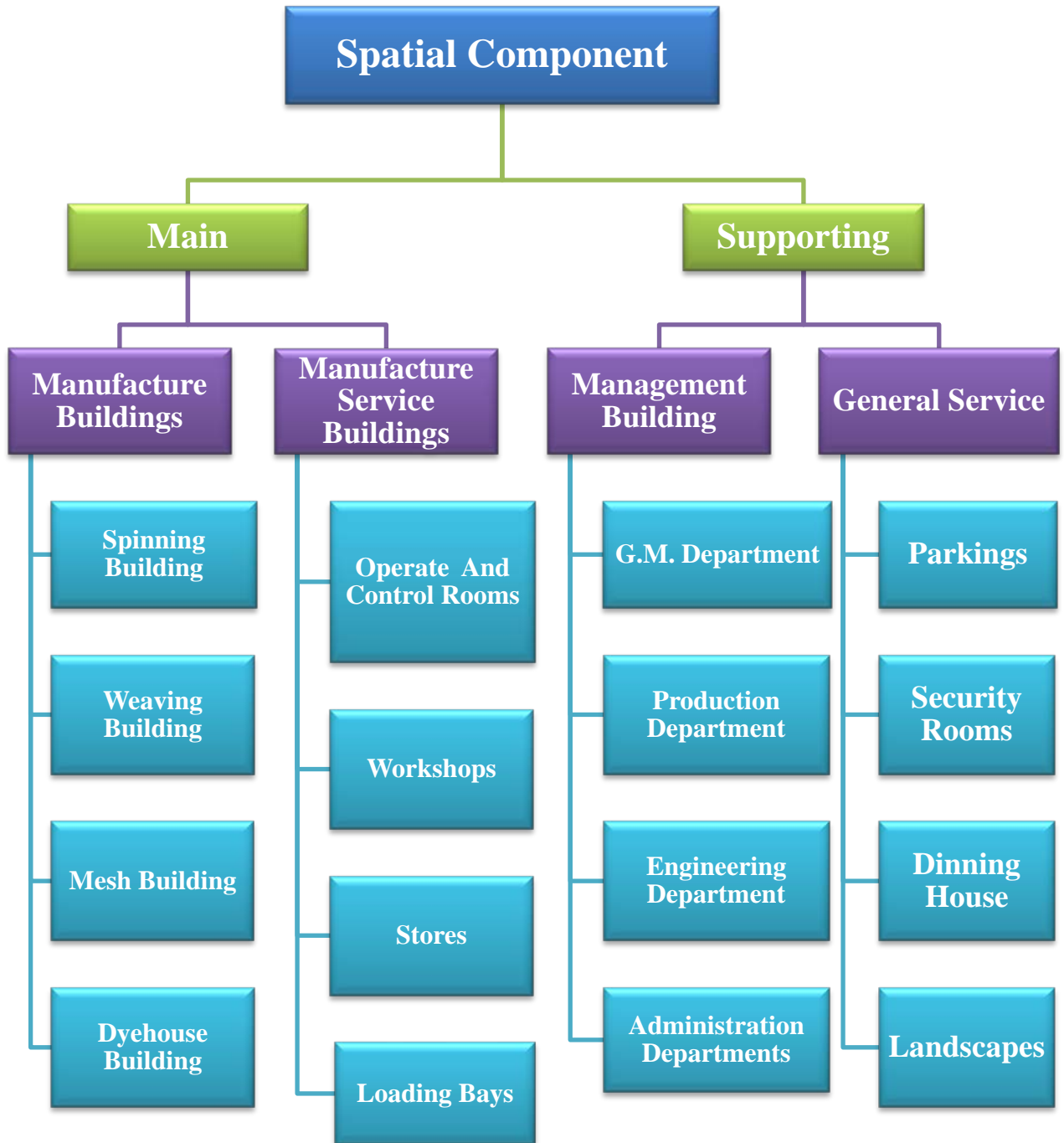


(Dimensions of parking)



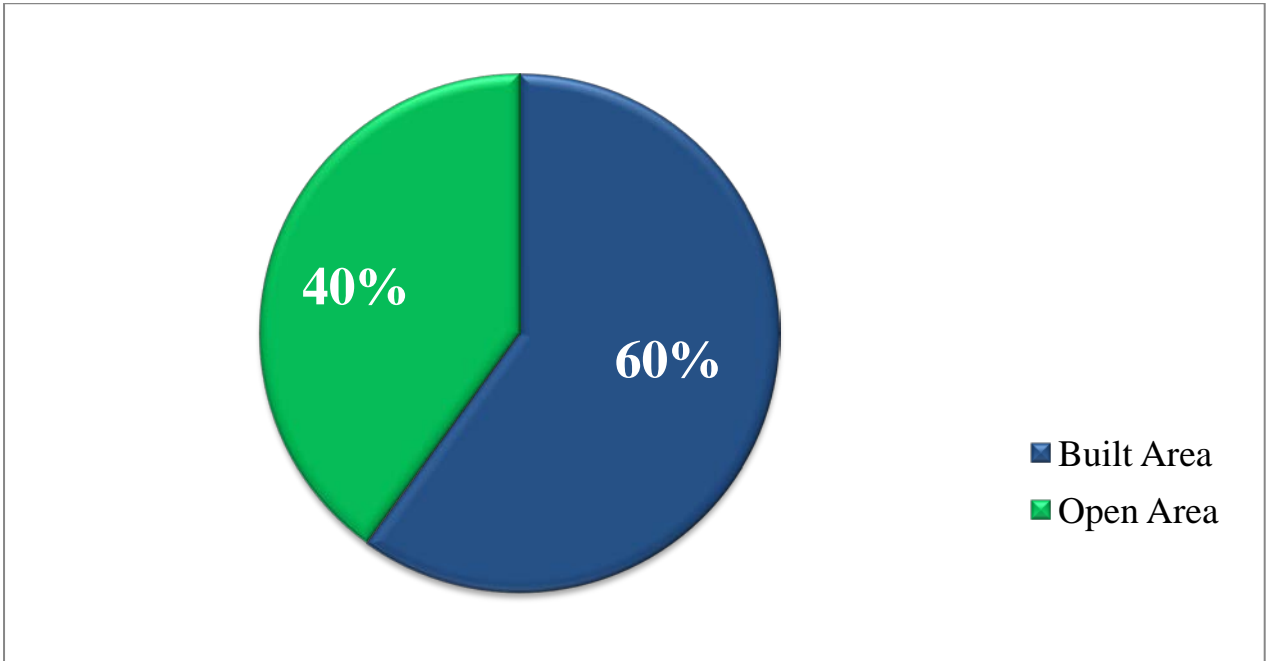
(Some forms of parking situations)

Spatial component:

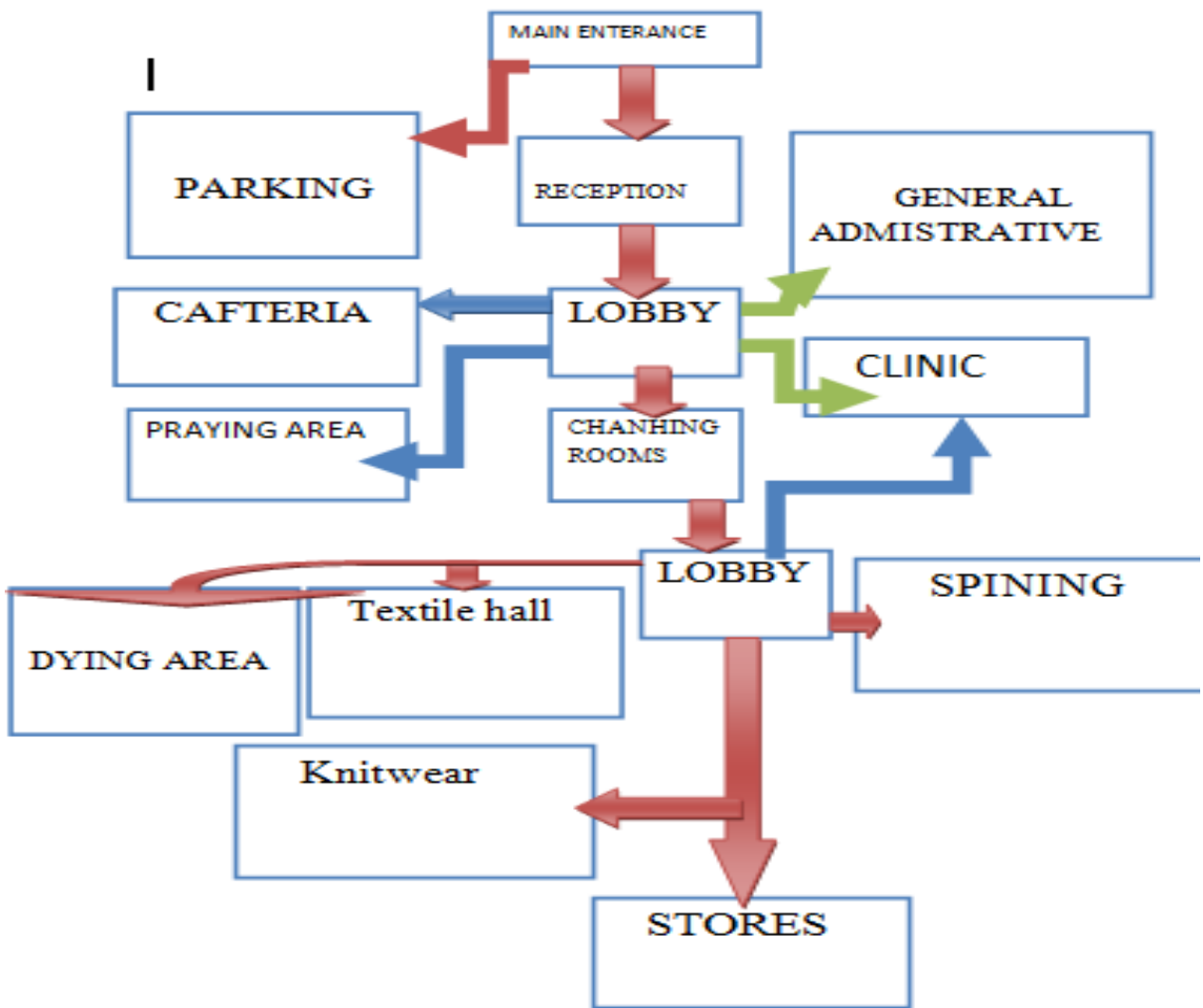


Spaces Table:-

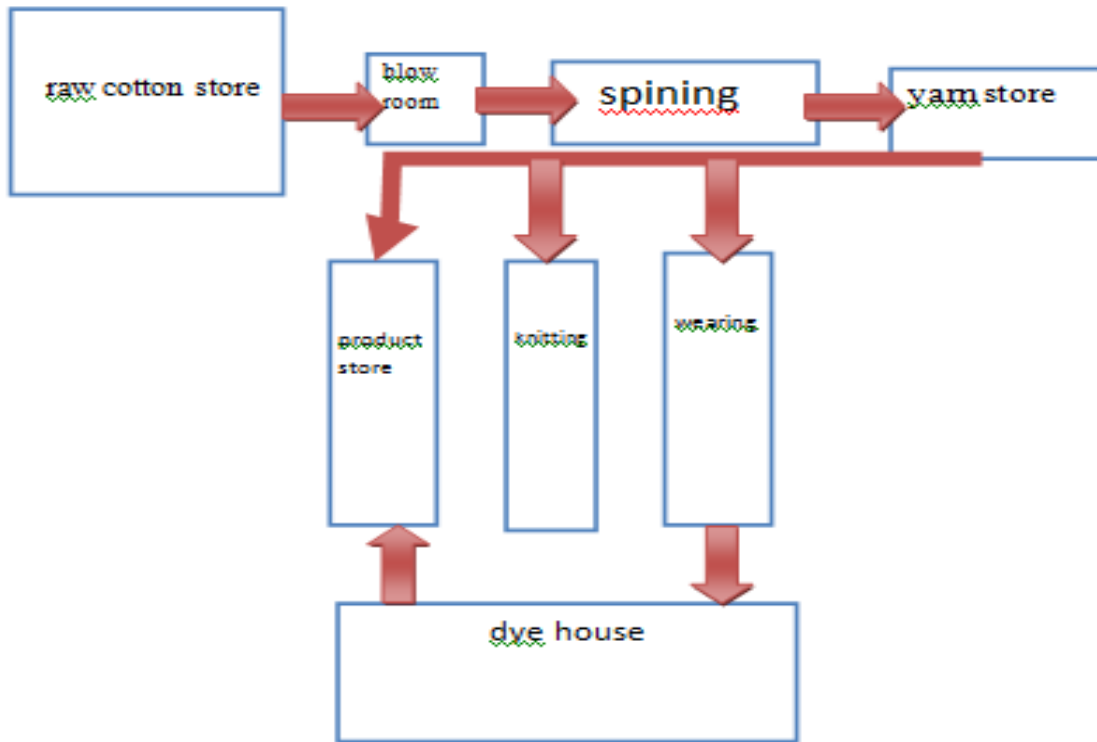
	ZONE	SPACE	AREA m ²
MAIN SPATIAL	MANUFACTURE BUILDINGS	SPINNING BUILDING	28,000
		WEAVING BUILDING	6,300
		MESH BUILDING	448
		DYEHOUSE BUILDING	6,300
	MANUFACTURE SERVICE BUILDINGS	OPERATE AND CONTROL ROOMS	1,100
		WORKSHOPS	420
		WAREHOUSE	13,200
		ROW COTTON STORE	51,000
SUPPORTING SPATIAL		ADMINISTRATION BUILDING	1,100
	GENERAL SERVICE	PARKINGS	420
		SECURITY ROOMS	100
		DINNING HOUSE	800
		LANDSCAPES, MOVEMENT	22,700
		TOTAL AREA	131,888



Movement charts:-

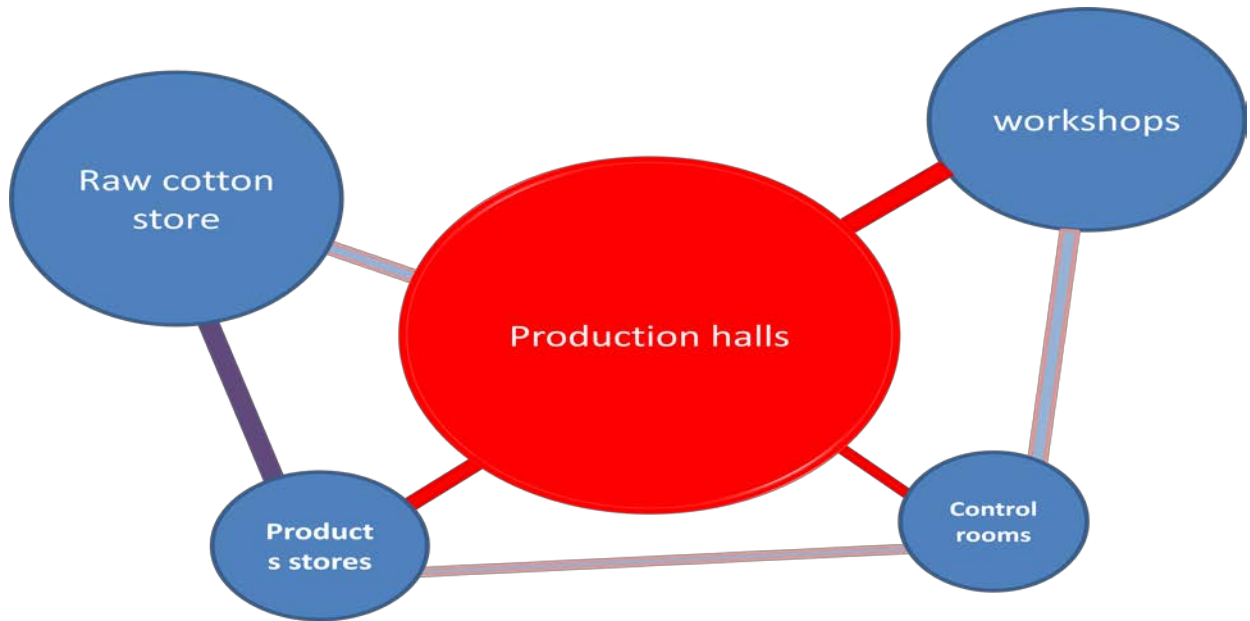


Movement of workers scheme

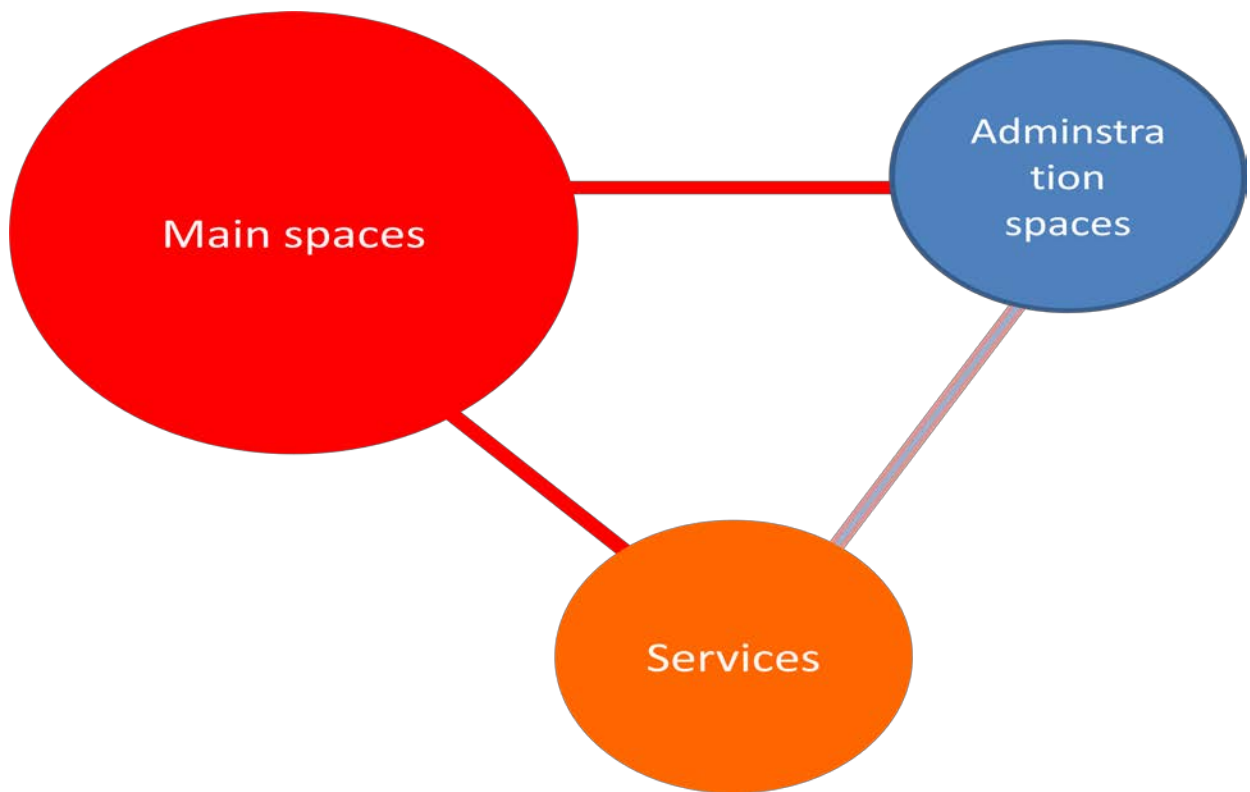


Production line

Functional relationships:



(3-) Main Spaces Bubble Diagram



(3-) General Bubble Diagram

Symbol	meaning
	Strong relation
	Medium relation
	Poor relation

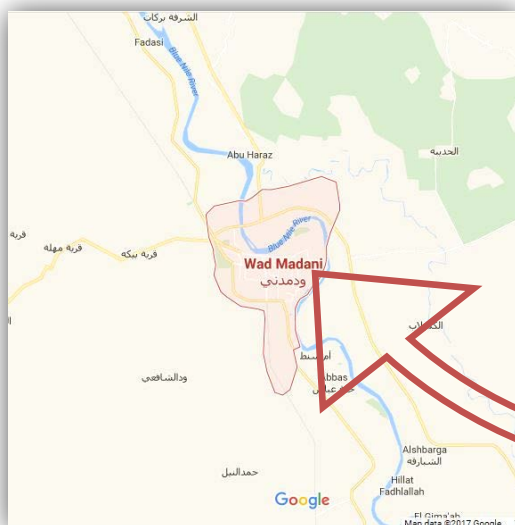
Site Study:-

Suggested sites:-

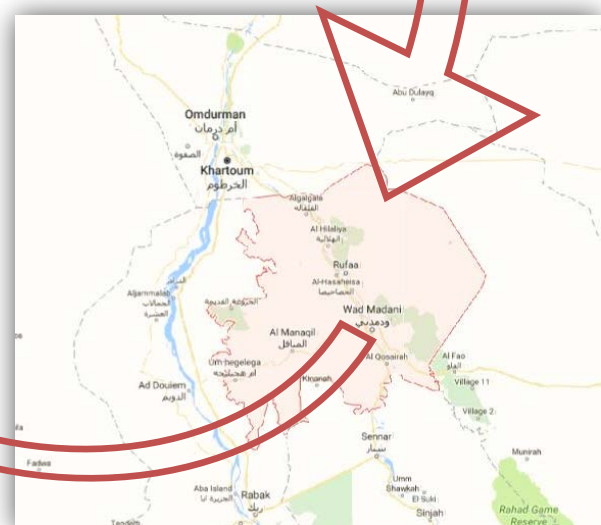
- All 3 sites are located in Wad- Madani, Aljazirah state, Sudan.



Sudan



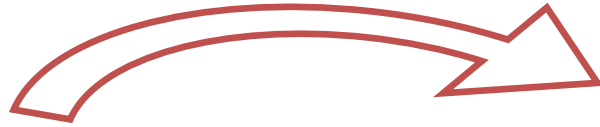
Wad-Madani



Al Jazirah State

Site 1:-

- It's located in the industrial sector of Wad Madani.



Site 2:-

- It's located in Marenjan, Wadd Madani.



Site 3:-

It's located in Marenjan, Wad Madani.



- **Comparison:-**

	Percentage	Site 1	Site 2	Site 3
Area	35%	15%	33%	30%
Accessibility	15%	15%	10%	10%
Neighbors	25%	20%	24%	23%
Services	15%	9%	10%	13%
Shaping and orientation	10%	7%	10%	7%
TOTAL	100%	66%	87%	83%

- The table shows that the best site is **SITE 2**.

Location:-

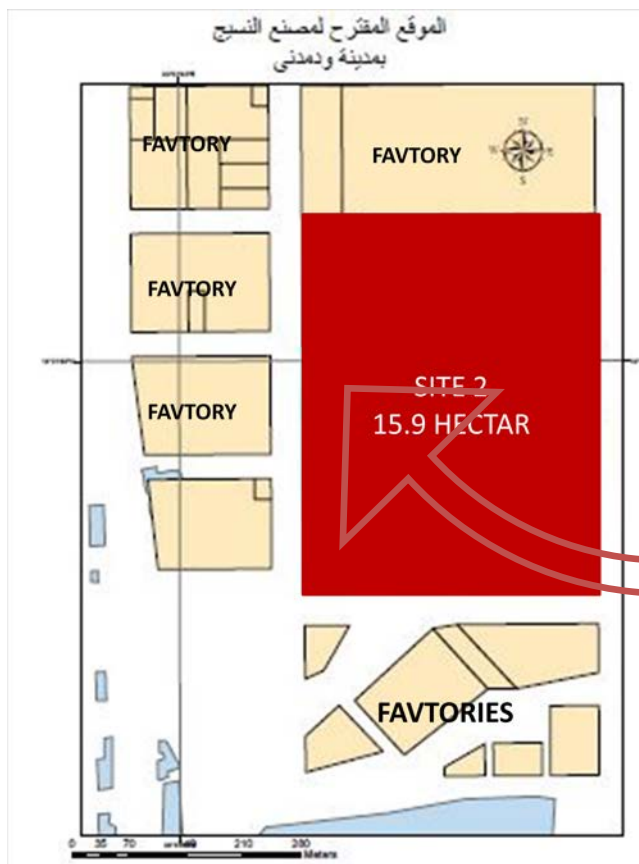
- The site lies in Marinjan industrial area, Wad-Madani Locality, Al Jazirah State.
- The site is surrounded by industrial buildings from all sides.



Sudan



Al Jazirah State



Wad-Madani.

Reasons for choosing the site:

- Availability of services (electricity and water supply, public transportation by the main road etc)
- Good orientation
- Suitable for industrial building, as to its surroundings
- Close to the area of raw material production.

Services and neighbors:-

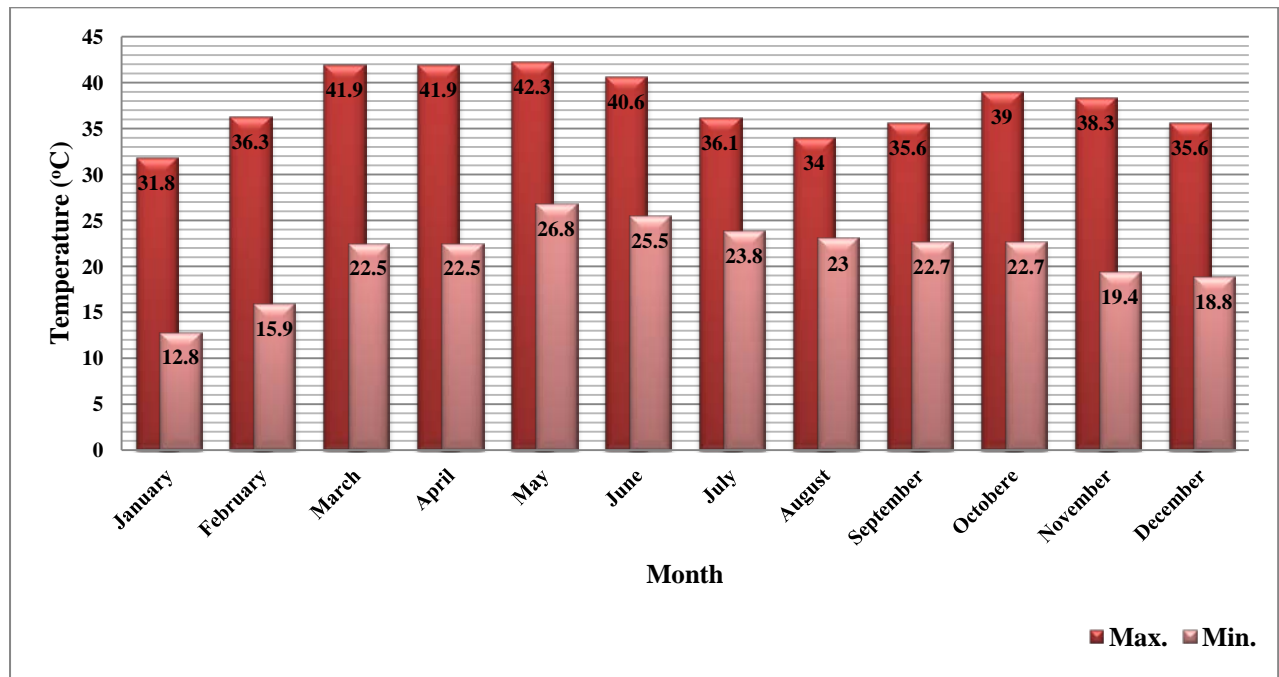
Weather analysis:

Solar radiation:

The region's sky is clear most days of the year and the sun's brightness is about 11 hours / day during the year. This rate is relatively low due to the volume of moving clouds during the rainy season, so that the sun's brightness is about 9 hours / day.

The angle of the sun's rays is tilted and distributed over a larger surface area, thus increasing the rate of acquisition in the eastern and western elevations.

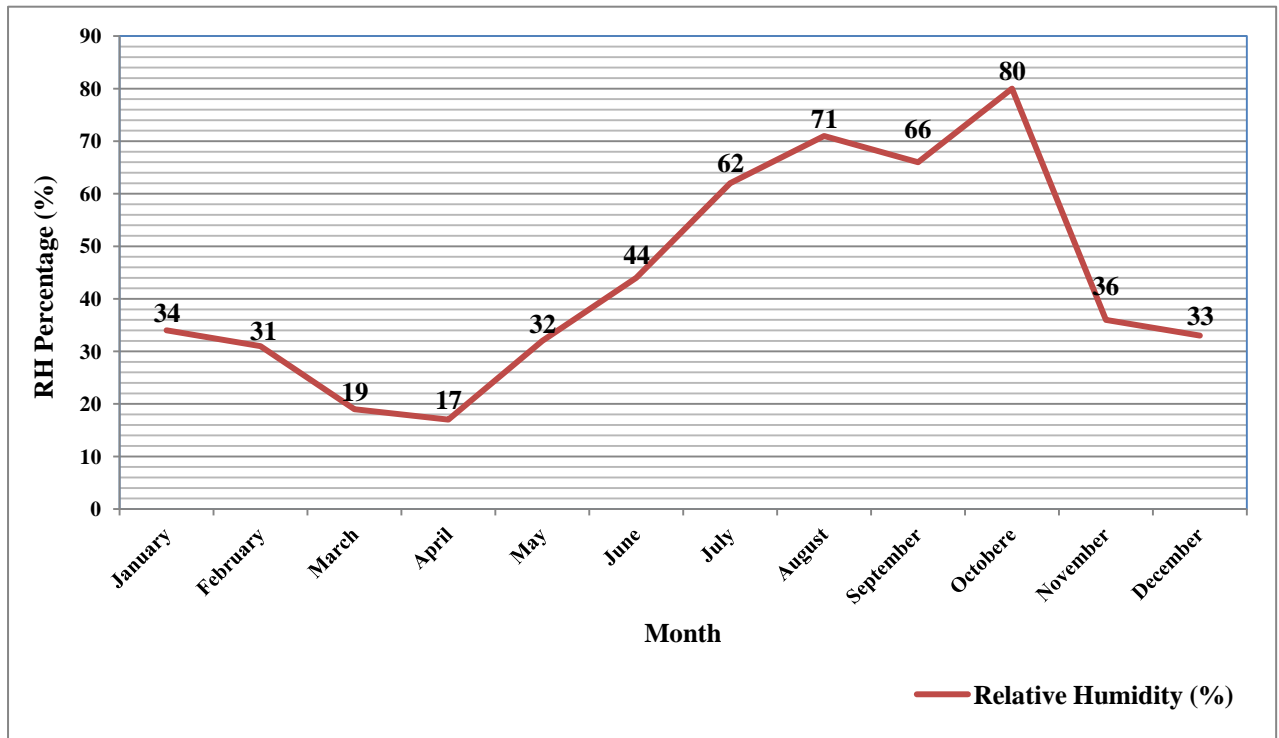
Temperature:



(4-) Maximum and Minimum Temperature Degree Chart

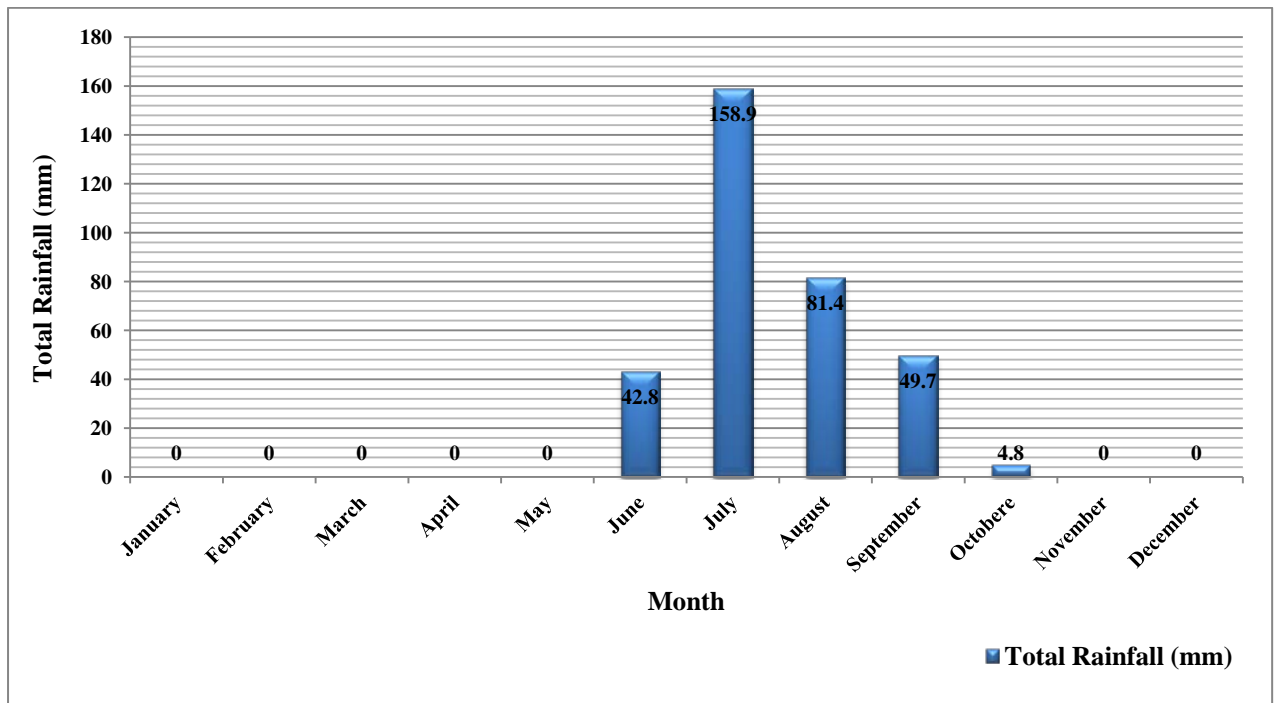
•

Relative humidity:

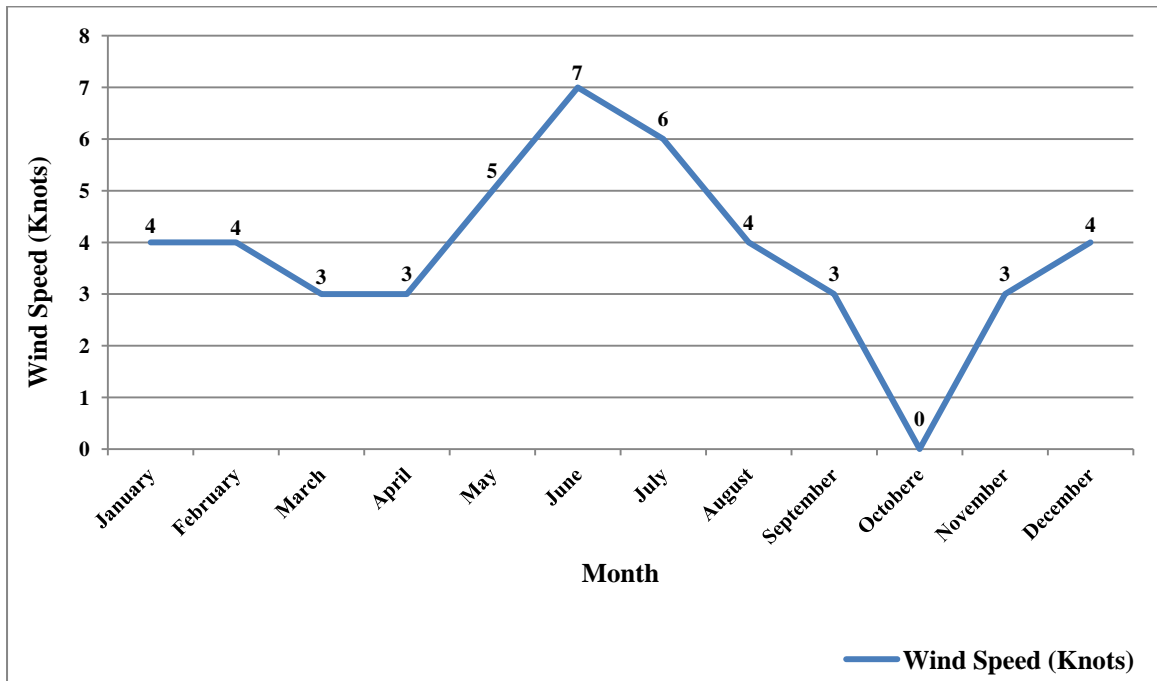


(4-) Relative Humidity Percentage Chart

Total rain fall:



(4-) Total rain fall Chart



Indicators:-

- Stores should be put in the west side of the site close to the railway; so it will ease the handling of loading and delivery process.
- Production halls orientation should be east- west to reduce air pollution.
- Use sun shades with the production halls' walls to reduce the heat.
- Raw cotton store put in the south -west side of the site to avoid the fire expansion to the neighbors.
- Production line starts from the raw cotton store in the south and ends in the west side at the products stores.
- Green areas around the site to reduce pollution.
- The administration building orientation north-south to get the best natural ventilation possible.
-

Zoning:-

