

MES PONNANI COLLEGE www.mesponnanicollege.ac.in

Govt. Aided Institution | Affiliated to the University of Calicut Estd.: 1968 | Recognized under UGC 2(f) & 12(B) NAAC Re-accredited (II Cycle) with 'A' Grade

GREEN AUDIT





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GREEN AUDIT



MES COLLEGE PONNANI MALAPPURRAM Kerala

EXECUTED BY



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ACKNOWLEDGEMENTS

We express our sincere gratitude to the **MES COLLEGE, PONNANI** for giving us an opportunity to carry out the project of Green Audit. We are extremely thankful to all the staffs for their support to carry out the studies and for input data, and measurements related to the project of Green audit.

College Team Members

1	Dr. Jyothi PV	Associate Professor
2	Dr. Brijesh VK	Asst. Professor
3	Mr. Limseerali PA	Asst. Professor

Also congratulating our Green audit team members for successfully completing the assignment in time and making their best efforts to add value.

GREEN AUDIT TEAM

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3. Mr. Jaideep P P, Project Engineer - ME, Energy Engineering.



Yours faithfully

Managing Director Athul Energy Consultants Pvt Ltd

1. GREEN AUDIT SUMMARY

The actionable summary of the audit report is given in the table below.

- College constructed its buildings without disturbing its natural geography of land and thus avoid the damage to the ecosystem
- The buildings are constructed as to provide maximum sun light and ventilation to classrooms, and we observed the carbon dioxide levels are as per standard level in college.
- Rainwater harvesting done by collecting water from main office, hostels and stored and then feed into cultivation are of vetiver in the college.
- Students of NSS unit of college and nature club volunteers conducted several programmes as nature camps, environmental day celebrations, seminars, photo exhibition, rally's, etc.
- Special program for organic farming called Jaivam, , connected with more than 10,000 persons got several appreciation from different sectors.

2. GENERAL DETAILS

The general details of the BCM College are given below in table.

Sl.No:	Particulars	Details
1	Name of the College	MES College
		Ponnani South
2	Address	Malapuram- 679586
3	Contact Person	Capt. Mohammed Koya
		0494-266607
4	Contact Phone numbers & Fax	0494-2666077
5	E-mail ID	principalmesponnani@gmail.com
6	Type of Building	Educational Institution
7	Annual Working Days	210
8	No: of Shifts	Day Shift (One) (9AM -4PM)

Table 1: GENERAL DETAIL

ABOUT MES COLLEGE

The last five decades have witnessed the remarkable transformation in the educational status of Muslims in Kerala, supposedly the most backward in education. The driving force behind this effort has been M.E.S., the largest educational agency of the Muslim community in India having thousands of life members and hundreds of institutions. The movement started under the great leadership of late Dr. P.K. Abdul Gafoor in 1964 at Calicut, was supported by a large number of professionals and businessmen and in a short span of time, it spread to all Districts, Taluks and even to the Panchayaths in Kerala and other parts of India and abroad. As on today it is the largest Muslim service organization in the country. It has also well-established units in Middle East countries like Saudi Arabia, Qatar, Oman, Dubai, Abu Dhabi, Kuwait, etc. and still the organization is growing fast, extending its services further to reach every nook and corner of the world. MES is the largest corporate educational agency of Muslims in India, with more than 150 institutions including Medical College, Dental College, Engineering Colleges, College of Nursing, Arts and Science colleges, Training Colleges, CBSE schools, State syllabus Higher Secondary Schools and Industrial Training Centres with more than 60,000 students and around 15,000 employees. Hospitals, Orphanages, Old age homes, Special Schools for Mentally Challenged, Cultural complexes and various hostels draw up the broad canvas of the services offered and activities undertaken by the society. The idea of a college at Ponnani actually emanated from the brain of late Dr. P.K. Abdul Gafoor Sahib, while addressing a public meeting organized by M.E.S. Ponnani unit in 1967. In the keynote address, he unequivocally stated that M.E.S. was ready to start a College here at Ponnani, provided the Ponnani M.E.S. units mobilize the required land and 1 lakh rupees. It was a great source of inspiration for the energetic members of the Ponnani unit. They took it up as a challenge and managed to accomplish all the requirements within a short duration. A sprawling 32 acres of land was obtained from the government and they also raised an amount of 1.25 lakhs rupees by means of public contribution. The long-cherished dream thus became a reality when the college came into existence in 1968 under the patronage of M.E.S. President late Dr. P.K. Abdul Gafoor, Sri. E.K. Imbichi Bava and Sri. C.H. Mohammed Koya, being then the Ministers of Kerala. The college enjoys 2(f) and 12(B) status of UGC and is affiliated to University of Calicut. At present it provides higher education to more than 1400 students in five Post Graduate courses and nine Under Graduate courses. Among five Post Graduate departments, three departments are recognized as Research Centres by Calicut University. There are 69 Teaching faculties and 25 Nonteaching staff in our college. The college was re-accredited by the NAAC at A level in September 2012. Ponnani lies on the western outskirts of Malappuram district. The college is situated in Ponnani municipal area and its campus stretches to the west side of Tippu Sultan road. This is the only higher education centre between Tirur and Guruvayoor in the coastal belt of Malappuram district. The

National Highway 66, the K.S.R.T.C. bus depot and the private bus stand make commuting very easy for the students. Kuttipuram railway station is 18 kms towards northeast and Guruvayoor railway station in 29 kms towards south.

Vision

To immortalize the legendary Ponnani wisdom and tradition, whilst assimilating the ever-altering spirit and ingenuity of the academic firmament.

Mission

To ensure the scholastic, social and cultural emancipation and empowerment of people of the environs especially of the fisher folk whose rights and privileges have been suppressed and trampled upon for centuries owing to the historical, political and social reasons.

Objectives

We endeavor to fulfill the fair aspirations of all stakeholders and to disseminate the fame of institution as an epitome of excellence in all walks by setting the following objectives: -

- Developing a culture of equality, secular outlook, all-inclusiveness and impartiality.
- Embracing innovative curricular, co -curricular and extracurricular activities from the globalized world.
- Setting an exceptional academic ambience ensuring the collaboration and contribution of all stakeholders.
- Promoting scientific temperament and rationale thinking as envisioned in the Constitution of India.
- Empowering the vulnerable sections of the society through committed and unswerving programs.
- Providing a life-oriented education to students, making them agents of transformation for the wellbeing of the Nation.

Core Values

- 1. Social Equity
- 2. Ethical Justice
- 3. Civic Responsibility
- 4. Accountability and Transparency
- 5. Intellectual Integrity
- 6. Inclusive Employment



GREEN AUDIT

The whole world is on the road to a sustainable development, and the environment conservation is the top priority among the list as every human activity has its effect on their surroundings, which is the environment. Hence be it a house, a commercial building, an industrial building, or any other construction will disturb the balance of the environment. It is very important to do a detailed study about the effects on the environment. This is conducted under the name of *Green Audit*, which can be defined as *the official examination of the effects a company or other organization has on the environment, especially the damage that it causes*. The objectives of the green audit can be listed as follows:

- Including participants from every section of the organization in the auditing process.
- Understanding the environment by drawing a simple sketch of the total area.
- Identifying the activities in the premises and listing them.
- Calculating the resource consumption like the land and water.
- Assessing the waste management and disposal.
- Study the energy usage pattern.
- Identify the good practices.
- Suggest the viable solutions to improve the sustainable nature of the organization.
- Compile the report with the above-mentioned details.
- Conduct a walkthrough audit to check the suggestions implemented by the institution and suggest for further improvements
- Verify all the points with actual measurements is it is meeting the performance and gave suggestions for improvement

CAMPUS ENVIRONMENT

The environment in and around the college campus plays an important part in maintaining a healthy atmosphere in nurturing talents. Trees are the major source of the oxygen we breath and receiver of the carbon dioxide we exhale. The sustainability of an ecosystem depends on the number of plants and trees in and around the surroundings. MES College constructed in te location were the sands are infertile and having water porosity and hence it does not hold the water in surface. They perfectly maintain different buildings of college such as main building, academic block, auditorium, hostels, mosque etc. in an aesthetic way and do not affecting ventilation of each building. Large open space in the college is used for gardening and maintain a botanical garden and different species of birds in a vernacular manner.

Scientific studies are proved that the nature can able to cure any diseases and this will reduce the stress among students during theirs studies and increase the compassion among them and to nature Ultimately the campus is maintaining natural equilibrium trees, birds and cattle's and water bodies with human beings.



FIGURE 1: BOTANICAL GARDEN

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Trees are the major source of the oxygen we breathe and receiver of the carbon dioxide we exhale. The sustainability of an ecosystem depends on the number of plants and trees in and around the surroundings. There is well maintained garden inside of the college.

Scientific studies are proved that the nature can able to cure any diseases and this will reduce the stress among students during theirs studies and also increase the compassion among them and to nature. Ultimately the campus is maintaining natural equilibrium trees, birds and water bodies with human beings. Gardens and landscape are an aesthetic delight and it promotes attentiveness of students. Persons exposed to plants have higher level of positive feelings (pleas ants, calm) as opposed to negative feelings (anger, fear).



SUSTSINABLE CONSTRUCTION OF BUILDINGS

MES Ponnani has developed and ecological design in their buildings and adopted minimum negative impact on ecosystem. They approach the constructional activities consciously to conserve energy and ecology and avoid the adverse effects of ecological damage.

Energy consuming devices installed to achieve the comfort levels for the occupants of the building gives rise to heat generation which adversely affects the environment within the building and in the surrounding. Buildings are thus the major pollutants that affect the urban air quality and contribute to climate change. Buildings are the major consumers of energy during their construction, operation and maintenance.

MES management constructed the building to optimum utilisation of land and classrooms and with abundant light and natural ventilation. Maximum day light ingression and natural ventilation Page 11 of 27

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increases the indoor air quality and avoid the sick building syndrome. The whole facility and buildings are designed to maximum and optimum utilisation of land without affecting the natural hill area design and thus avoiding the landslides.



Library Building

1. CARBON DIOXIDE LEVELS

Air quality is a major area of concern inside a building. The percentage share of oxygen and carbon dioxide should be such that the occupants are able to perform their tasks without any discomfort. This is generally done through a provision of fresh air duct for the air conditioning systems or by providing windows. Numerous factors need to be considered for the design and fabrication of the fresh air supply system like the number of occupants, weather pattern and air quality of the location, and so on. For the human comfort, production of carbon-dioxide (CO2) within a building space is the prime area of consideration. This is associated with respiration which produces CO2. As a result, the carbon-dioxide levels will increase if ventilations are not provided. As per various standards (like the ASHRAE Standard 62.1-2016), indoor CO2 concentrations up to

1200 ppm is considered acceptable. For a typical outdoor condition, this value may change from 300 to 500 ppm.

The measurements were recorded along different locations inside the campus and the peak values are given in the following sections. The key concentration was on the study of carbon dioxide levels. The measurement has been done. The measured readings are given below in Table.

Sl. No.	AREA	Measured CO ₂ PPM	Standard Maximum CO ₂ level PPM	Remarks
1	Class rooms	415	410	Good
2	Staff rooms	412	410	Good
3	Air-conditioned labs	520	410	Good
4	Computer lab	490	410	Good
5	Hostel Rooms	680	410	Satisfactory
6	Adm Office	590	410	Good

 TABLE 2: CARBON DIOXIDE LEVELS

LIST OF PLANT IN THE CAMPUS

Sl No:	Botanical Name	No: of plants
1	Mangifera indica	27
1.	Alstomia scholaris	2
2.	Acacia auriculiformis	11
3.	Acacia mangeum	4
4.	Casuarina neriifolia	24
5.	Samanea saman	8
6.	Delonix regia	1
7.	Phyllanthus emblica	19
8.	Psidium guajava	6
9.	Citharexylum spinosum	1
10.	Syzygium cumini	9
11.	Acacia catechu	6
12.	Pithecellobium dulce	3
13.	Anacardium occidentale	13
14.	Azadirachta indica	11
15.	Saraca asoca	9
16.	Macaranga indica	6
17.	Ficus religiosa	13
18.	Bauhinia purpurea	19
19.	Pongamia pinnata	8
20.	Caesalpinia sappan	6
21.	Swietenia mahagoni	6
22.	Vitex negundo	2
23.	Bambusa arundinacea	7
24.	Phyllostachys aureosulcat	2

30.	Ziziphus jujubaTerminalia catappaTamarindus indicaOchlandra sp.Ioringa pterygospermaGarcinia cambogiagerstroemia ispeciosaTectona grandisArtocarpus hirsutusPolyalthia longifolia	6 9 10 1 1 1 1 6 3 4
27. 28. 29. M 30. 31. La 32. 33. 34.	Tamarindus indicaOchlandra sp.Ioringa pterygospermaGarcinia cambogiagerstroemia ispeciosaTectona grandisArtocarpus hirsutus	10 1 1 1 6 3
28. 29. M 30.	Ochlandra sp.Oringa pterygospermaGarcinia cambogiagerstroemia ispeciosaTectona grandisArtocarpus hirsutus	1 1 1 6 3
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30. 31. La 32. 33. 34.	Garcinia cambogiagerstroemia ispeciosaTectona grandisArtocarpus hirsutus	1 6 3
31. La 32. 33. 33. 34.	gerstroemia ispeciosa Tectona grandis Artocarpus hirsutus	6 3
32. 33. 34.	Tectona grandis Artocarpus hirsutus	3
33. 34.	Artocarpus hirsutus	
34.		4
	Polyalthia longifolia	
35.		4
	Simarouba glauca	1
36.	Thespesia populnea	3
37.	Cocos nucifera	14
38.	Ferula asafoetida	1
39.	Mimusops elengi	3
40.	Terminalia chebula	1
41.	Terminalia bellirica	1
42.	Ficus bengalensis	1
43. Ai	rtocarpus heterophyllus	2
44. P	terocarpus marsupium	3
45.	Biancaea sappan	2
46.	Phyllanthus acidus	1
47.	Santalum album	2
48.	Cassia fistula	2
49.	Gmelina arborea	1
50.	Achras sapota	3
51.	Annona squamosa	4
52.	Annona reticula	3
53.	Annona muricata	1
54. C	aesalpinia pulcherrima	2
55.	Garcinia mangostana	3
56.	Ficus racemosa	1

Figure 2: List of trees with botanical name

Special initiatives of college

Establishment of oxygen park

Plantation of oxygen rich plants Our college has a beautiful green campus. We have skilfully planted the plants like, Neem Trees and Tulasi to make the campus full of oxygen. The greenery has remained useful in developing Oxygen Park in our college.

"Parking bay for Vehicles"

To avoid the air pollution the vehicles are not allowed in the campus, but they are parked in the parking area, reasonably away from college. Our college has a separate parking area to avoid pollution

Silence zones in the college

Various display boards have been placed in the library and other places for awareness to maintain silence in the college



FIGURE 3: OXYGEN PARK

1. WATER RESOURCES

The requirement of water for the college, hostels and gardening etc are met by borewell water as 14 Numbers of different capacities and all are working well. The water is collected in many tanks. Borewell water is pumped into different tanks located in each building. The details of Borewell and capacity anf locations are given below table. Water table in the MES college area is very high because it is nearer to sea shore and bay of Bharathapuzha river.

Sl No:	Capacity (HP)	Location
1	0.5	HM Hall
2	1.5 -02 No	Aquaculture back side
3	0.5	Old Building
4	0.5	Library
5	1	Commerce Building
6	1.5	Academy Block
7	0.5	Golden Jubilee Block
8	1.5	EK Auditorium
9	0.5	Computer Science
10	0.5	Canteen
11	1.5	Mosque
12	0.5	Men's Hostel
13	0.5	Ladies Hostel

1. WATER UTILITIES

The labs have the highest tap points whereas the toilet accounts for the major consumption.

The water outlet points in the college campus and hostel are listed in the following table.

Location	No: of taps
Canteen area taps	12
Toilets	24
Flushes	18
College compound and garden	12
College hostel	18
Ladies Hostel	24
Lab	42
Staff and other office rooms	24
Total	

TABLE 3: WATER TAPS

2. GROUND WATER RECHARGING

Ground water is one of the valuable resources. Ground water occurs in the saturated soil and rock below the water table. Pumping from wells can have great deal of influence on water levels below ground especially in the vicinity of the well. If the water drawn from at faster rate which is replenished either by infiltration from the surface or from streams, then the water table become lower resulting a cone of depression around the well. By recharging these aquifers or balancing of cone of depression during rainy season is important for recharging the drain out points and for reducing the saline ingression into the ground water.

Ground water recharging is adopted by the college is cultivation of vetiver in the college helps to reduce the soil erosion from the surface soil the roots of these vetiver will help the water to percolate into ground water.

Notes:

- The use of biomass in the form coconut shells can be used to cover the foot of the trees which can behave as recharging soak pits.
- Suggested to conduct a detailed study on geological and hydrogeological mapping of the area to find out proper sizing, deep well recharging, collection of water collecting from roofs and possible methods for ground water recharging where the water table is in high level.

STUDENT ACTIVITIES FOR NATURE

Bhoomithra Club

Trees are the major source of the oxygen we breath and receiver of the carbon dioxide we exhale. The sustainability of an ecosystem depends on the number of plants and trees in and around the surroundings. There is well maintained garden and pond inside of the college. Bhoomithrasena Club is an initiative of Directorate of Environment & Climate Change (DOECC), Government of Kerala, Thiruvananthapuram. DOECC introduced this club in the colleges and higher secondary schools all over the Kerala. The objective of this programme is to make the students aware of the importance environment education and serve the society through the environmental activities.



Bhoomithrasena Club played an important role the beautification of campus. Students were taught how to keep the campus clean, organized and beautiful. The club members took up a project of planting trees in an area of 20 cents allotted to them which they did successfully. The club members actively involved in the green campus projects and the whole club was divided into four groups and specific area was allotted to them for planting saplings and maintaining the greenery of the campus



ADUKKALATHOTTAM - ORGANIC VEGETABLE GARDEN

On Keralappiravi day, the unit started the rest of the organic farming activities. The nutrified soil prepared by the students under the guidance from Ponnani Krishi bhavan was filled in the grow bags for making them ready for planting. The filled bags were arranged over the terrace area of the main block building. The organic farming activities of the unit was widely appreciated by the college authorities. The saplings of ladies' finger, pea, brinjal and chilly supplied by Krishi Bhavan were planted in the various grow bags arranged over the terrace. Volunteers enjoyed the joy of planting and cultivating their own food. "Adukkalathottam" In order to aware the common people about organic farming and importance of poison less vegetable the unit introduced "Adukkalathottam" in 20 houses near the college with 5 grow bags each under the "go green" project of the unit. 46 volunteers participated in the programme.



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Butter fly Garden Butterflies are attracted to brightly coloured, fragrant flowers and feed on nectar produced by the flowers. As the butterflies travel from one flower to another, they pollinate the plants, resulting in further development of plant species. Numerous plants rely on pollinators, such as butterflies, for reproduction. BCM College has a butterfly garden. NSS volunteers and programme officers of BCM college NSS unit has decided and has set up a butterfly garden in their homes for a healthy ecosystem. Areas rich in butterflies and moths are rich in other invertebrates. These collectively provide a wide range of environmental benefits, including pollination and natural pest control.



 A group of students visited the herbal garden maintained by Sri. Jagannadan at Kallurma near Changaramkulam. He is nurturing about 60 medicinal plants in his land including wide variety of rare species. He used to take classes for the needy in and out of Kerala



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On behalf of the Bhoomithrasena Club a nature camp was arranged at Kayyeni Camp Site Attapadi It was a wonderful experience for the members as they had completely natural and hyegenic stay and food for two days. There were many adventure games and trekking and a fine bath in Siruvani river which is Asia's second-best pure water source. Mr. Sajan. Camp Coordinator took a class on the Tribal Sustainable Food culture of Attappadi



Fig: In Siruvani river

Fig: Yoga at camp centre

In collaboration with Directorate of Environment and Climate Change BhoomithraSena club of MES Ponnani College, observed the World Forestry Day on March 26 .Sri. C. R. Neelakandan, Environmental Activist giving a talk on 'Importance of Sustainable Forest Management' He commented that Development should move in line with protecting the flora, fauna and diversity of Kerala. He also added that the students should come forward in protecting the forest, hills, grasslands and wetlands.

In connection with the seminar a social painting competition was conducted. It was inaugurated by Sri. C. R. Neelakandan. Many students participated in the social painting by painting different images related to forest conservation and sustainable growth.



In the afternoon interdepartmental face painting competition was conducted on the topic 'Save Forest: save Life'. 16 groups representing various departments participated in the competition. Students actively participated by portraying different sketches conveying the of importance of conservation of forest for the existence of life on earth.



Environment Day celebrations June -5: Bhoomithrasena club celebrated the environmental day by planting of tree samplings in college campus.



Reception ceremony for first year volunteers of Bhoomithra sena club members are done Club volunteers and they planted the saplings in college and their homes.



On 28th August, Bhoomithrasena Club students planted Mango tree saplings front of the Golden Jubilee Block. It was a great initiative to green the campus. Prof. M.N Mohammed Koya inaugurated the planting the saplings.



On 27th January 10 am, Bhoomithrasena Club organized a one-day camp at Veliyamkode and 120 students participated in the programme. Dr. Abdul Jabbar, Assistant Professor, Kerala Agricultural University inaugurated the function and he presented a paper on Sunday farming. Prof. M.N Mohamed Koya, principal chaired over the programme and Mr. Abdul Rasheed Vaisyamveettil presented a topic on Aquaponics. Prof. V. K Baby, Sri. V. K Akbar, MD Minority Welfare, Thoufeeq Rahman Vazhakkat spoke. In the afternoon session students visited Canoli Canal and farm house of Prof. V. K Baby.



Energy audit report – MES College - Ponnani



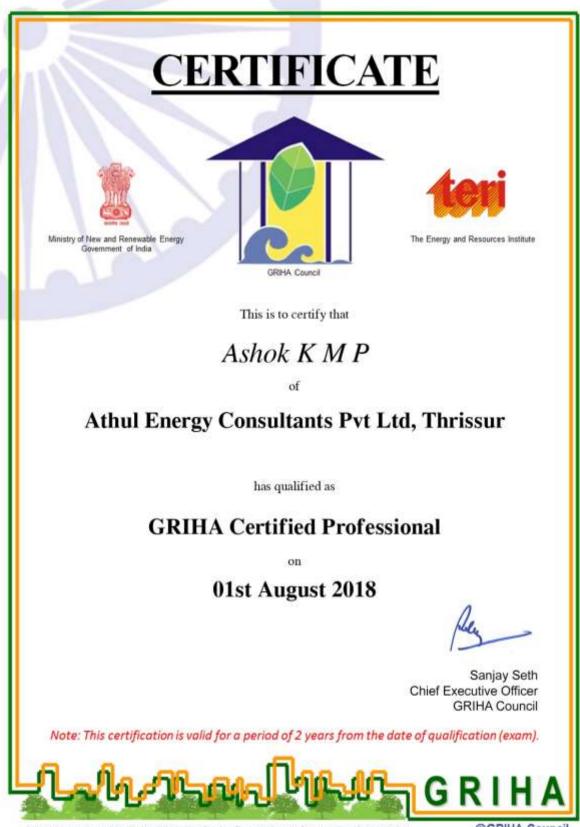
CONCLUSION:

Green Audit is the most efficient & ecological way to solve such an environmental problem. Green Audit is one kind of professional care which is the responsibility of everyone who are the part of economic, financial, social, environmental factor. Green audits can "add value" to the management approaches being taken by the college and is a way of identifying, evaluating and managing environmental risks (known and unknown). The green audit reports assist in the process of attaining an eco-friendly approach to the development of the college.

The auditors observed during the campus visit and after the conversation with the staff and students of MES college, Ponnani that they have taken continuous and considerable effort in several years for nurturing and maintaining the green coverage over the campus which is being well appreciated by us. There is still opportunity to attain the perfection some of the identified suggestions are listed in the executive summary.

ANNEXURE-1

		gement Centre - K	
	Department o	of Power, Govt of Ker	alaj
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