

 ARCHSTORMING
ARCHITECTURE COMPETITIONS

MOZAMBIQUE PRESCHOOL

FLOR DA MANHÃ

/ARCHITECTURE COMPETITION/

in collaboration with

 ESTAMOS JUNTOS

and



INTRODUCTION

Archstorming's new competition takes us to Mozambique, a country where 70% of the population lives below the poverty line. This difficult economic situation, most severely affects the situation of children. Frequently, the lack of financial resources is a significant barrier to the enjoyment of their fundamental rights. They experience many problems; such as the inability to access school, health-care, and housing...

In Mozambique, one child out of five is not educated. Preschool is neither mandatory nor free.

For those who go to school, study conditions are very different from the conditions of those in developed countries. The buildings, school equipment and facilities (chairs, tables, desks...) are in bad shape or absent.

Moreover, the figures show a discrepancy of the education between boys and girls. The classes have a majority of young boys. This is in part because of the profusion of harassment and sexual violence in schools toward girls.

Besides that, in Mozambique, 14% of children between two and nine years old are disabled. They are often hidden away by their families – in effect rendered invisible – and are vulnerable to discrimination as well as an increased risk of violence. These children need greater support from their families and better access to education, which would enable them to attend school with their peers. But that can only happen if the necessary facilities, equipment and training are provided.

In the current competition, we will help Assa, a Mozambican teacher, build a center for children with disabilities and affected by social exclusion, with the help of the Estamos Juntos Initiative and the NGO Somos del Mundo.



CULTURAL AND SOCIAL CONTEXT

Mozambique borders Tanzania, Malawi, Zambia, Zimbabwe, South Africa, and Swaziland. Its long, Indian Ocean coastline of 2,500 kilometers faces east to Madagascar. About 70% of its population of 28 million (2016) live and work in rural areas. It is endowed with ample arable land, water, energy, as well as mineral resources and newly discovered natural gas offshore; three deep seaports; and a relatively large potential pool of labor.

Unfortunately, families in Mozambique are struggling to cover even their most basic needs, such as running water, proper sanitation and regular access to food. Income distribution remains highly unequal in a country where the richest twenty per cent control over half of the national household income.

A few years after peace could be secured in Mozambique, disastrous floods destroyed much of the country's infrastructure during a time in which it was slowly rebuilding itself. Rural Mozambique is frequently affected by droughts. Famine is widespread and many locals suffer from illnesses that are directly related to it. For the average Mozambican, life expectancy is as low as 58 years. The country has one of the highest HIV rates in the entire world: 12.3 per cent of the population are HIV-positive, meaning that roughly 3.6 million Mozambicans are living with the disease.

In March 2019, the coastal city of Beira was hit by a tropical cyclone that affected 1.7 million people across Mozambique, including an estimated 260,000 children. Devastating floods damaged bridges and roads, which stopped the delivery of food and other emergency supplies. Public water supplies were unable to be treated, leaving many Mozambicans susceptible to water-borne diseases such as cholera and malaria. Up to an estimated 50 per cent of the annual crop production was destroyed, leaving many without food or means to an income.

Although there have been impressive steps forward in terms of school enrolment, only 40 per cent of children who attend school complete their primary level education. From this, only 16 per cent of children go on to secondary education. Factors such as lack of safe school spaces and early marriage and pregnancy are major reasons for children to not complete school. Around 40 per cent of girls have given birth before they are 18 years old, and half are already married.

An estimated 1.2 million children do not attend school at all. At least a basic level of education is of considerable importance for growth and development and empowers the child to break the vicious circle of poverty when becoming an adult. On average, Mozambicans complete only 3.5 years of schooling.



ORGANIZERS

Assa Jacinto Mabai



Create a preschool for vulnerable and disabled children, that is the dream of Assa. In the area they are known as “escolinhas”, and there are only a few that depend on the State and some that depend on private entities, which leaves the vast majority of children without access. In addition, the fact that pre-school education is not compulsory in Mozambique makes this a luxury that very few can enjoy.

Assa dreams of a escolinha where everyone has a space. She studied for several years and became a child educator, and her motivation has always been to cover the most vulnerable population in the area where she lives, including children with disabilities, something that does not exist in the Gaza Province.

Children who do not have the possibility of entering pre-school enter the first grade with less intellectual and social skills and do not tend to persevere in the education system. School desertion is very high in the province, leaving children exposed to child labor. Assa is a member of an Association that is beginning to support her in thinking about ideas to carry out her project.

Estamos Juntos Initiative



When, back in the year 2000, Andreas and Marisol traveled to Mozambique, they knew that this country had something special and that there was no place they felt as useful as there. He spent two years helping to rebuild the villages devastated by the floods caused by the Limpopo River. She spent four years accompanying the communities to regain hope, empowering women and young people, the great protagonists of the post-catastrophe era.

After that stage, geography separated them a few years, he moved back to Germany and she moved to Argentina, but eventually they came together again to continue a common project, a vision of life that would lead them to help people in countries like India, Bolivia, Nepal, Argentina, Italy or Germany. Although always hoping they could return someday to the country they felt that special connection with: Mozambique.

Finally, the day arrived, and in January 2018 they returned to Mozambique to work on disaster risk reduction and adaptation of communities to climate change.

They are now helping people like Assa and the children of the region to fulfill their dream: build a school.



ORGANIZERS

Somos del Mundo



In 2012, a group of friends traveled to Mozambique to do some humanitarian aid work. For that, they prepared for 6 months, learning the official language, the local dialect and the history and cultural context of the country and above all, raising the necessary funds. Without a pre-established course, the fire of a classroom rushed them to help with their constructive knowledge and to work together with the community. That experience wouldn't be the only one.

This is how SOMOS DEL MUNDO was born, a network of people that promotes skills development programs for social impact, with two areas of work:

- 1) Promote the training of change agents through the development of skills.
- 2) Generate solutions in rural communities.

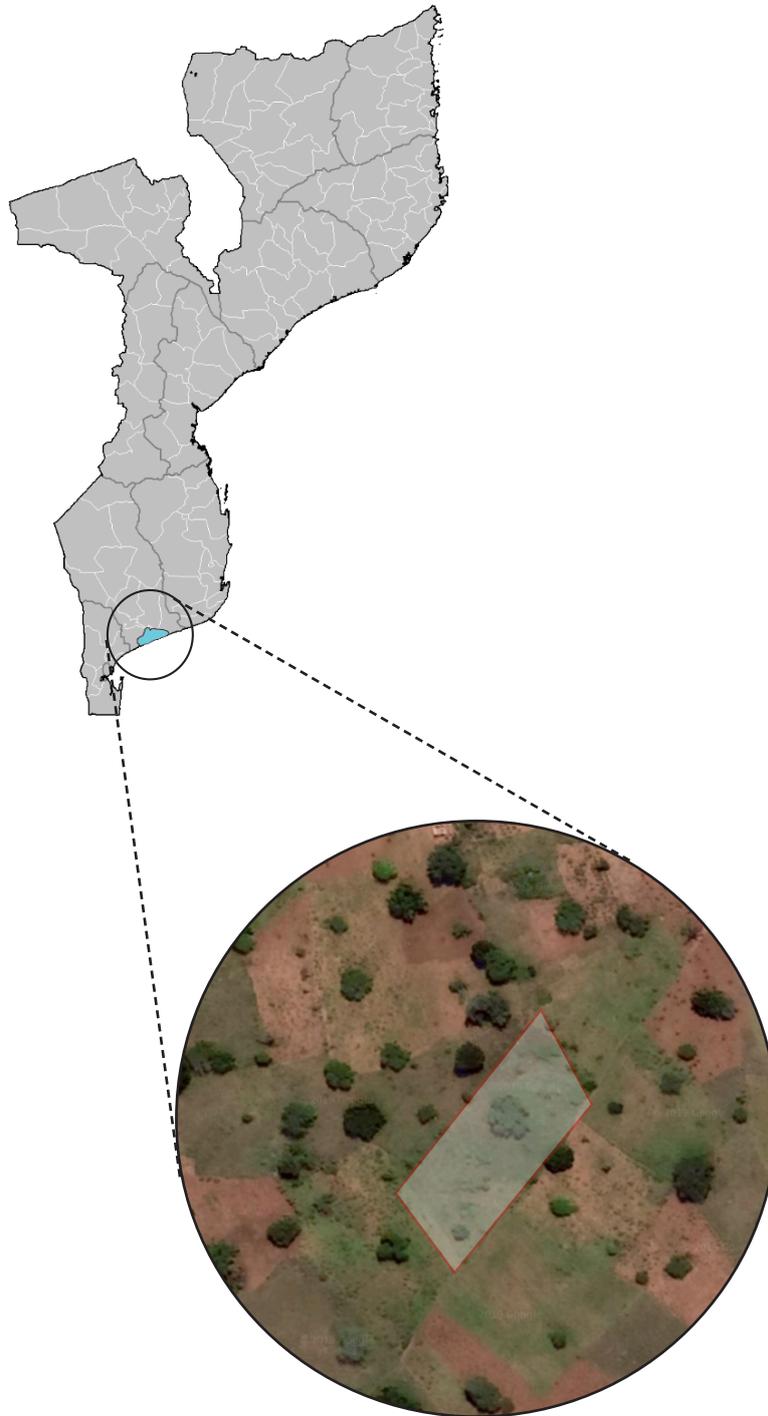
Nine years later, 86 classrooms have been built in around 50 rural communities in Mozambique, and 205 participants have been involved. Participants live with the rural communities for a month, working side by side and sharing their experiences.

With every action of SOMOS DEL MUNDO, more and more children can go to an actual school and their classrooms are not under a tree anymore.





LOCATION



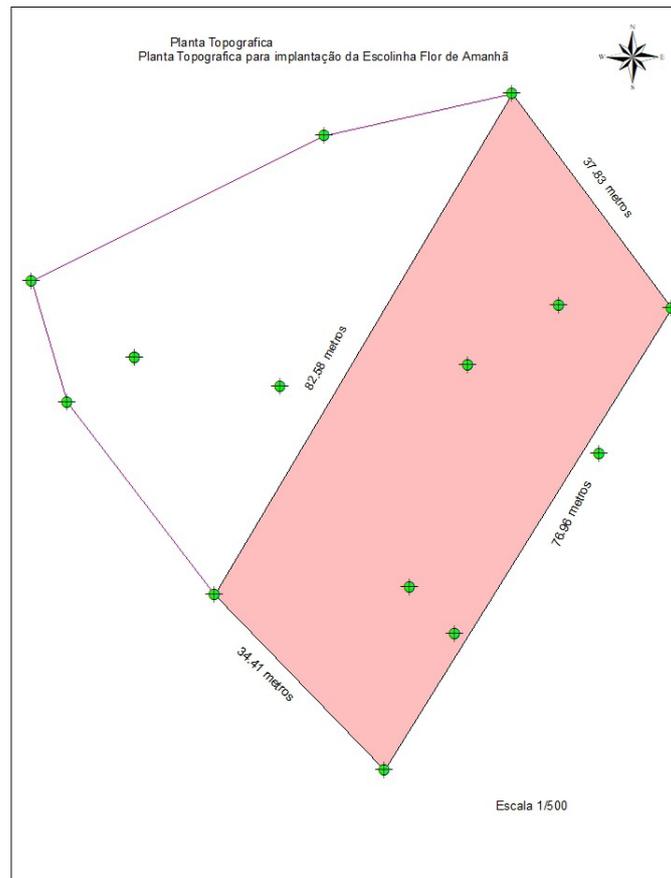
Archstorming is calling for proposals to design a preschool in the Xai-Xai District (Gaza Province, Mozambique).

Xai-Xai District is a district of Gaza Province in south-western Mozambique. The administrative center of the district is Chongoene. The district is located in the south of the province, and borders with Chibuto District in the north, Manjacaze District in the east, Bilene Macia District in the southeast, and with Chókwè District in the west. In the south, it is bounded by the Indian Ocean. The area of the district is 1,908 square kilometres (737 sq mi).

The school will be located in a plot between the cities of Xai-Xai and Chongoene, approximately 1 km away of the road that connects them.



THE SITE



In the current competition, the study of the site characteristics is very important, since **the school will be built by volunteers and construction workers with no help of heavy equipment like excavators.**

For that reason, **you must consider the current topography of the site and make sure the future school is adapted to it.**

The site has a rhomboidal shape. The long sides measure 82,58m and 76,96m, and the short ones 34,41m and 37,83m.

The plot has some **bushes that will be removed**, so there's no need to consider them in your design. Besides that, you will also find a big tree, known as Marula or Canhoeiro (*Sclerocarya birrea*), in the middle of the site. The fruit of that tree is commonly used in the zone to produce a cream liqueur known as Amarula. **That tree can be preserved or removed, it is up to you.**

The principal road that connects the cities of Xai-Xai and Chongoene is 800m northwest of our plot. **The access road of the school will come from the northeast and will be located on the side that measures 76,96m.**

The topography study reveals that **there's a slight sope in the plot.** The highest point has an altitude of 63m while the lowest point registers and altitude of 60m. Please remember that **the ground will be prepared and leveled with small equipment**, so take the topography into account in your designs.

A detailed topographic plan of the site will be sent after registration.



EARTH AND CLIMATE

Mozambique has a tropical to subtropical climate, with some semi-arid regions in the southwest of the country. The east consists of lowlands while the west is more mountainous.

Mozambique has a coastline of 2,700 km. Average temperatures are highest along the coast as well as in the south of the country (20-26°C) and lower in high inland regions. There are seasonal temperature variations, with a cool dry season from April to September (coolest months are June – August) and a hot humid season from October to March (warmest months are December – February).

Rainfall is highest in the north (1,000 mm/year) and lowest in the southeast (500 mm/year), but also varies according to topographic features – with most rainfall in higher areas and along the coast (800- 1,200 mm). The driest area of the country is the southern inland area, where some locations receive only 300 mm of rainfall per year. Rainfall mainly occurs during the hot season, from November to April – with the majority falling between December and February. The north receives 150-300 mm of rainfall per month during this season, while the south receives 50-150 mm per month.

Mozambique is frequently affected by tropical cyclones which mainly occur during the hot, humid season. In January 2012, for example, cyclone Leon-Eline affected 4.5 million of its population.



Actual site pictures



THE CHALLENGE

This competition gives you the opportunity to work in the **creation of a school in an underdeveloped country**. But not only that, in this case the school will be designed for disabled and socially excluded children, so the challenge is even bigger.

The goals of this project will be:

- **EDUCATE**: create a place where kids can start their educational journey. Make them feel like home by designing a space where they feel comfortable. Build kid-friendly spaces that are completely safe for them, a school where they can learn, play, run, and discover.

- **INTEGRATE**: since this school will accommodate disabled children and kids in social exclusion, it is fundamental to work in their integration in society. We can help them through architecture by creating adapted spaces where they don't feel rejected. A dynamic school where they can interact with each other and the surrounding environment.

- **BE SUSTAINABLE**: the projects will have to use locally sourced materials, easy to build constructive systems, and should be self-sufficient in energy terms. They have to be respectful with nature in order to teach the kids the proper way to interact with their natural environment.



THE PROGRAM

To achieve the objectives set, the following **indicative** program is proposed:

Type of space	number	m ²	Total
Classrooms	6	42	252
Boys bathrooms	1	12	12
Girls bathrooms	1	12	12
Storage (cleaning material)	1	8	8
Dining room	1	70	70
Infirmery	1	12	12
Closed kitchen	1	40	40
Pantry	1	30	30
Open kitchen	1	15	15
Multipurpose space	1	100	100
Principal and secretary office	1	20	20
Management and janitor offices	1	20	20
Storage (school material)	1	9	9
Teacher's room	1	15	15
Adults bathroom	1	20	20
Covered schoolyard	1	100	100
Total			735

As said before, this program is indicative, **these spaces must appear in your project** but their size can vary according to your design. If you want to add more spaces that you think will benefit the development of the kids, you are free to do it.



THE PROGRAM

The proposed program should have the following characteristics:

Six classrooms: where the children will be grouped according to age, going from 0 to 5 years old. Each class will have a minimum of 25 students. They should include two accessible built-in closets where the kids will keep their belongings, and two built-in closets, in a non-accessible height to them, where the teachers will keep the teaching material.

Each class should have a storage space where the teachers will keep bigger materials such as mattresses, pillows, etc. In order to exploit all the available space of the room, this storage can be elevated and only accessible by teachers via a staircase. Although other ways to resolve it are also accepted.

Everyday, after lunch, the kids take a nap in the classrooms, so the space has to be adapted according to each activity.

Bathrooms: 4 toilets for boys, with 2 showers and 2 sinks, and 4 toilets for girls, also with 2 showers and 2 sinks.

Storage rooms: two storage rooms, one for the cleaning material and one for the school material.

Dining room: besides the dining space, it should also include a 8 sinks close to the entrance door where the kids can clean their hands, or one long sink with 8 taps.

Infirmary: with a sink and a built-in shelving, high enough to be inaccessible to kids.

Closed kitchen: it will have an industrial cook stove, kitchen appliances and two freezers. A large table (approximately 5m x 0,6m) to facilitate food handling and preparation. Three kitchen sinks with drainer and two built-in shelves (each one measuring 2.5m x 2m approximately).

Pantry: to store food and beverages. It will also have two fridges. All the walls should have shelves and this space has to be placed near the closed kitchen. It has to have a highly effective ventilation system while making sure animals and insects can't get in. It has to be placed in the coolest place of the plot in order to benefit the food conservation. In a country like Mozambique, creating an effective pantry is a huge challenge because of the climatic conditions and the abundant and resistant variety of insects and other pests.



THE PROGRAM

Open kitchen: in Mozambique it is very typical to cook in an open kitchen with a traditional wood stove. It is very important that the kitchen is open (and also roofed) so it can ventilate. At the same time, it is also crucial that the kids can't get in, since it could be dangerous for them. A solution for this is to build a low wall around the kitchen to prevent the students from getting in.

Multipurpose space: intended for different educational activities, celebrations or parent meetings. It will also be used for educational staff training sessions. Ceilings must support the weight of at least four fans.

Offices: one of them will be used by the principal and the secretary, and the other one will be used for the school management and janitor.

Teacher's room: a personal space for teachers during class breaks or meetings. It should have shelves and a table of approximately 50x180cm. It should also include two sinks with hot and cold water connection.

Adults bathroom: with two toilets, one shower and one sink. This space should be close to the teacher's room.

You should also consider a **big open space** where kids can play and have contact with nature. Part of this space will also **include an orchard** where kids can learn about care and cultivation of the land and collaborate in the long term with the self-sustainability of the Institution.

The escolinha will need a **covered schoolyard of approximately 100m²** where the kids will play protected from any weather conditions.



MATERIALS AND BUILDING TECHNIQUES

In this competition the winning project is going to be built, the chosen proposal will be used as the basis of the final project. That is why materials and building techniques will be crucial.

The main materials of the area currently used for construction are **clay, wood, stones and steel**. Clay and stones are used to make bricks, having two different brick typologies: clay bricks and concrete bricks. The first ones are more economical than the second ones.

The two other structures used as the most common structural systems are wood structure or metallic structure.

Material costs typically account for more than 50% of total construction cost. These costs have been high because the most valuable materials are imported with high transportation/logistic costs and import duties. **Only the most basic materials are sourced locally – e.g. cement and wood – even steel has to be imported.**

For that reason, it is very interesting to work with local materials for the preschool, like CEB (compressed earth blocks) and wood.

For the roof, they mainly use **dried grass ceilings or iron sheets**.

Participants can also consider the **option of improving the constructive systems and bring new ideas**, but always thinking that the resources and financial capacity of the project are limited. If a participant team decides to include a new material to the construction, make sure it is affordable and achievable for an NGO working in a third world country.

Remember that, since they still don't have electrical network, **solar panels will have to be considered in your proposals**. Also, in order to have hot water, the school will also have **solar thermal collectors**.

The water provision must be covered by a water tank of 16m³, so participants will also need to keep an area to ubicate it. It would be really interesting to consider a **rainwater collection system**. This water should be directed to the tank. There's a system developed in Brazil that is starting to be used in Mozambique, you can check it out in this page: <http://www.asabrasil.org.br/acoec/cisternas-nas-escolas>

The school will have a **septik tank** to treat the wastewaters. Make sure the water tank and the septik tank are located where they work best for those spaces using water (bathrooms, kitchens, dining room, teacher's room and infirmary).

The ceilings will have to **hold the weight of big fans** in some of the spaces, for example two fans in each classroom, or four fans in the multipurpose space.

All rooms must have a sufficient number of windows to make the most of daylight and provide good ventilation to the environment.

The windows and doors that face the outside **should be very well protected from rain**, so the roofs should protect these openings

A **perimeter wall should be included to protect the school**, although, depending on your design, the building itself could function as a perimeter barrier.

The school must have **four emergency exits**.

All spaces should be adapted to children with disabilities.



COMPETITION DETAILS

ELEGIBILITY

Any architecture student or professional architect can participate in MOZAMBIQUE PRESCHOOL, regardless of their nationality. Likewise, people from other disciplines can also participate, such as engineers, philosophers, sociologists, photographers, etc. Not being necessary the presence of an architect in the team, although it is recommended.

Teams may be formed by a maximum of four (4) members and a minimum of one (1).

All team members must be 18 years of age or older.

The registration fee must be paid per team, regardless of the number of members (1-4 people).

In the event that a team or participant wants to participate with more than one proposal, it will be necessary to register twice (or as many times as proposals will be submitted), paying the full price corresponding to each registration.

Under no circumstances may jurors, the organization or persons directly related to the jury participate in this competition.

AWARDS

Prizes totaling 10.000€ + CONSTRUCTION, broken down as follows:

1st PRIZE

6.000 €

+

PROJECT CONSTRUCTION

2nd PRIZE

2.000 €

3rd PRIZE

1.000 €

SPECIAL HONORABLE MENTION

500 €

SPECIAL HONORABLE MENTION

500 €

+10 HONORABLE MENTIONS

In addition, the winning projects or finalists will be published in magazines, blogs or architecture web pages, social networks or the Archstorming website.

*Depending on the country of residence of the winners, the prize may be subject to the withholding or payment of taxes foreseen in the law of that country.



COMPETITION DETAILS

CALENDAR

AUGUST 5th 2019	EARLY REGISTRATION BEGINS
SEPTEMBER 4th 2019	EARLY REGISTRATION CLOSES
SEPTEMBER 5th 2019	REGULAR REGISTRATION BEGINS
OCTOBER 2nd 2019	REGULAR REGISTRATION CLOSES
OCTOBER 3rd 2019	ADVANCED REGISTRATON BEGINS
NOVEMBER 5th 2019	ADVANCED REGISTRATON CLOSES
NOVEMBER 6th 2019	LATE REGISTRATON BEGINS

DECEMBER 1ST 2019

SUBMISSION DEADLINE

DECEMBER 2nd - 15th 2019	JURY DECISION
DECEMBER 17th 2019	WINNERS ANNOUNCED

*No submissions will be accepted after the general deadline indicated above: 23:59:59 Los Angeles time (UCT / GMT-7) or PDT.

PAYMENT

Registration fees will depend on the registration date, and will evolve as follows:

- EARLY REGISTRATION: **60€ + VAT**
- REGULAR REGISTRATION: **80€ + VAT**
- ADVANCED REGISTRATION: **100€ + VAT**
- LATE REGISTRATION: **120€ + VAT**

VAT: 21%

Registration process must be completed on the official Archstorming website. In order for the registration to be successful, the team must pay the fee corresponding to the registration date. Once the registration and payment process have been completed, there will be no refunds.

PAYMENT METHODS

Visa, Mastercard, Discover and American Express credit or debit cards may be used. The Archstorming team will not have access to credit card details. Please provide the information on the card as it appears on it.

Likewise, payments are accepted through Paypal.

REGISTRATION

Within 24 hours after registration and payment, the Archstorming Team will send a confirmation email that will include the work material (pictures, topography, site plans, etc.), as well as the registration number. This number must be placed in a visible spot on the team's competition board, preferably the lower right corner.

At the time of completing the submission form when sending the proposals, the registration number will also be required to identify the team.

<http://www.archstorming.com/register.html>



COMPETITION DETAILS

SUBMISSION MATERIALS

Participants must submit **two (2) A1 format boards** (594x841 mm or 23.4x33.1 inches) oriented either landscape or portrait with the registration number in the lower right corner.

The content of the boards is open, as long as the idea that the participants want to communicate is clearly expressed. However, it is **important to detail the proposal with the materials and constructive systems thought**. The boards must be delivered in JPEG or JPG format and its name must be the registration number provided by the Archstorming Team (eg 432465423-1.jpg and 432465423-2.jpg for the two boards)

In addition, **one (1) description of the project no longer than 400 words** must be submitted. The description must be submitted in PDF format and its name must be the registration number provided by the Archstorming Team (eg 432465423.pdf)

All the materials must be submitted in the Submit section on the Archstorming's website.

<http://www.archstorming.com/submit.html>

EVALUATION CRITERIA

The jury will evaluate the projects based on the proposed objectives, the main being the creation of a preschool in Xai-Xai with the indications provided in this briefing.

The jury is free to add other criteria that they consider important for the creation of the school.

A total of 50 proposals will be selected for the final round. Among the 50 finalists, the jury will choose the winner, the second and third place, the 2 special honorable mention, and the 10 honorable mentions.

FAQ

You can check the most common questions in the corresponding section on the Archstorming website:

<http://www.archstorming.com/faq.html>

Also, during the competition, all questions sent by email will be answered individually and uploaded to the section of the website mentioned above.



COMPETITION DETAILS

INTELLECTUAL PROPERTY AND COPYRIGHT

All materials submitted to the competition will become property of Archstorming, and therefore give Archstorming all rights to that material from that moment on.

Archstorming will publish all materials given appropriate attributes to the authors.

Archstorming reserves the right to modify the proposals and text in order to better adapt them to any publication format, without changing the essence of the proposal itself and since the project is going to be build in a near future, we reserve the right to modify the winner proposal according to the real needs of the place, always keeping the essence of the idea.

The participant is responsible for using copyright-free images. Archstorming is not responsible for the use of protected images by the participants.

NOTES

Archstorming reserves the right to make any changes in the rules of the competition (dates, requirements, etc.). It is the obligation of the participants to check on a regular basis the website of Archstorming to verify if the Terms and Conditions or the competition information have been modified.

Somos del Mundo is in charge of the project construction, in collaboration with the Estamos Juntos Initiative.

Archstorming is collaborating with the project but not responsible of the school construction. If for any reason the NGO in charge of the project finally decides not to build it, Archstorming will not be responsible of the fact.

Archstorming is not responsible for any research done by participants in the area.

The breach of the norms and terms defined in this briefing or in the Terms and Conditions of the website of Archstorming will result in the immediate disqualification of the team without any refund of the payments made.

Archstorming reserves the right to cancel this contest in case it does not reach a minimum number of participants, defined in the Terms and Conditions. In that case Archstorming will return the full amount of registration fees to the participants enrolled at the time of cancellation.

<http://www.archstorming.com/terms.html>

