a presentation in images
This presentation gives an overview of all current activities at Ka-Nying monastery related to the master plan development that started after the Nepal earthquake in 2015.

Since the masterplan for Ka-Nying is related to all monastery planning and building activities, all relevant developments are included:

**KA-NYING MASTER PLAN:**

1. Assessment of the existing monastery, built in the 1970’s.
3. Assessment and re-design for the unfinished West Monks’ Quarters.
4. Relocation and design of the existing workshop.
5. Design for new young monks’ classrooms, after about 70 young monks entered the monastery in July 2016.
6. Design for a new monks’ kitchen and dining hall, with a capacity of 1000 monks.
7. Design for two floors for the international shedra, RYI.
8. Design for Rinpoche’s new apartments and high visiting Lama apartment.
9. Design for a monastery shop at the entrance of the monastery.
10. Design for a future campus for RYI with ca 150 apartments for staff, students and visitors on a site directly adjacent to the monastery grounds.
NAGI GOMPA MASTER PLAN:

1. Design and construction of a new kitchen and dining hall, with a capacity of 300.
2. Design and construction of new housing to replace houses destroyed and damaged by the earthquake. The construction of a row of eight houses has started.
3. Design of a new three-year retreat centre to replace the temple-building damaged by the earthquake.
4. Development a long-term vision and plan on Nagi Gompe development.

DHADING HOUSING - SHENPEN:

• Reconstruction of 55 houses for a community displaced by the earthquake.

HETAUDA MONASTERY:

• Reconstruction / relocation of the affiliated monastery in Hetauda which was badly damaged during the earthquake.

LUMBINI – 1000 BUDDHA TEMPLE:

• Ongoing planning and construction of the temple at Lumbini.
KA-NYING MONASTERY MASTER PLAN
01 - Assessment of the existing monastery building after the earthquake:

Recent visits of structural engineers have again confirmed the necessity of taking down the building.

The original structure was built in loadbearing brickwork with mud mortar that cannot be repaired, and the foundations have been affected.

On top of that the building was already overloaded by more recent additions.
Existing situation, with monastery, L-shaped east and west monks’ quarters and ‘shedra building’ to the right.
In the top photo, the original building of the monastery can be seen.
The monastery as it was built in its first phase, in bricks with mud mortar.
Present monks’ courtyards, with more recent two- and three-story additions.
On top of the main volume two stories – in concrete construction – were added.
The qualities of the existing shrine hall:
The shrine hall was designed and built by Tulku Urgyen Rinpoche, inaugurated by the 16th Karmapa and has seen many teachings and empowerments of high Lamas over the last four decades. Many students from all over the world have attended these, and have a strong connection with the space because of that.

The hall has an internal structure of wooden columns and beams – rarely seen in newer monasteries in Nepal and India.
The three main statues were designed and partly made by Tulku Urgyen Rinpoche himself.
The statues were made on-site out of clay and are connected / supported by the back wall.

Moving them – especially with the limited means available in Nepal – will very likely result in damage, if possible at all.
The thangka wall paintings were made by famous painter Gyangtse Lhadri.

Although they are partly damaged, a process of removing them and reapplying them – either on a new wall or on panels – is being researched.
02 – monastery masterplan and temple design.
After recognizing that the existing monastery has to be taken down and a new larger temple would suit the future needs of the monastery, several option were developed, of which these were the main ones:

01: one large new temple, with a capacity of about 2000 people and a large open space in front and around (model shown is of Lumbini temple).
02: a new reconstructed temple on the exact site of the exiting one, with the statues in place and reuse of wooden columns and beams. At the back a new temple for about 1200 people can be placed, with more secluded monks’ courtyards. The open space in front of the large temple is larger then the existing space.
Just after Losar / May 2016 Rinpoche indicated that one large temple was the best option.

(the shedra building to the right can be kept by shifting the access of the temple)
On the basis of this decision several different temple designs are being considered. This model shows a temple with colonaded kora.
After publication of the ‘one large temple’ design feedback from different people indicates that there is still the wish to retain the qualities of the existing temple …

This could be accommodated by shifting the new temple to the back and reconstruct the existing temple, while keeping the surrounding space open.
View of the previous option, which shows that in this composition the shedra building also becomes much more part of the ensemble.

(here the temple model with colonaded kora is shown)
A topographical survey of the complete monastery site was undertaken in order to begin more detailed planning and design drawings. Quotations for soil tests are being reviewed at this moment as a next step in the site survey.

For an idea of the time planning regarding the new temple, see the end of the presentation.
Redevelopment of other buildings on the site.
03 – Redesign and construction of the West Monks’ Quarters
This building is characterized by its slender volume. Although it was not badly damaged by the earthquake, a detailed structural analysis that was undertaken from February-May 2016 shows it not to be earthquake-stable.
The analysis says three stories should be taken off and the remaining structure retrofitted (strengthened). Rinpoche has indicated that retaining the six stories is highly preferable and a second opinion states that this is possible if the foundation is also improved. Research into this is being undertaken now.
In order to take down the existing monastery, the west monks’ quarters has to be finished first – this is the priority.
In order to start the temple construction the existing kitchen and workshop (in the foreground) have to be relocated.
04 – relocation of the existing workshop to the back of the site: Construction is almost finished.
05 – Young monk’s classrooms.

In July 2016 about 70 new young monks entered the monastery …
It was amazing to see how these were accommodated on short notice and how village boys responded to the new environment, from playing football and playing loudly all around the courtyards to quieter and more dignified behaviour.
However, it quickly became clear that a site specifically designed for the young monks would be beneficial for their education ...
... and for the general order in the monastery.
Putting names to faces for the young monks’ administration.
Design for six new classrooms and play area at the back of the monastery.
Because of the need to be used quickly, a flexible, temporary steel structure has been designed that can be reused on another site afterwards. A double roof allows for ventilation in summer that can be closed in winter. Construction has started in June.
06 – relocation of the exiting kitchen (foreground) and accomodation for a new monks’ dining hall in the shedra building (back right).
The existing kitchen as it is in use since it was moved out of the existing monastery after the earthquake.
Because of the limited supply of gas – a result of the Indian border closure between September 2015 and February 2016 – cooking is done on wood.
Temporary use of the basement of the Shedra building last May. It will be remodeled to seat more monks, allow more light – from the south – and incorporate the new kitchen.
During this lunch in May with Chökyi Nyima Rinpoche and Tsoknyi Rinpoche all monks were present …
... including the new young monks.
Design drawing for the new layout. Construction will start in September.
In order to have a flexible, hygenic kitchen with a capacity of 1000, a stainless steel kitchen is planned (visit to reference projects in Kathmandu)
Visit to suppliers of this equipment showed – even for relatively high end products - the level of Nepali industry …
... and their workshops ...
07 – design and construction of the new RYI spaces: 
the two middle floors in the Shedra building – back right
Construction of acoustic lowered ceilings in the classrooms.
This work is being done by a group of new carpenters that are hired by and live in the monastery.
The floors of RYI are partly laid with marble – public spaces – and partly with wood – classrooms and offices.
08.a – design and construction of Rinpoche’s apartment on the upper floors of the Shedra building.
Flooring of the terraces has been laid before monsoon, interior work is planned to be completed by November 2016.
08.b – design and reconstruction of high Lama apartment on top floor.

This top structure was unfinished before the earthquake and sustained damage to the columns.
The columns sustained damage because of faulty construction.

It took some time to find a good supplier and contractor to start the work:

- Taking out damaged parts
- Injection of fine cracks with resin mortar
- Application of bonding agent
- Micro concrete refilling of gaps.
One column sustained more heavy damage, but only in a structurally less important area.

This damage resulted from poor mixing and/or composition of the concrete. Rebar was seen as sufficient, yet with regular faulty detailing (not enough overlap of vertical rebar).

These are very common practices in Nepal and require constant supervision.
The finished reconstruction, May 2016.
Design of the top floor.

(actually already made March 2015)
Working with drawings onsite is very uncommon, even for more professional contractors. After several experiences with drawings ‘lost’ by the contractor, the foreman has made photos on his smartphone, which seems to function better.
Work on the layout started end of May.

If workers are motivated this can go fast, although there are regularly days that no workers show up onsite, because of festival days or for other reasons.
At Ka-Nying the work can proceed quickly because of the carpenter team – windows and doors playing a crucial role in the construction process.
Situation mid-June.

Since the earthquake walls are made with horizontal concrete ‘tie’ beams at regular heights in the masonry, to prevent walls from falling down and limiting cracks in masonry (this has been applied to the walls in Rinpoche’s apartment as well).
09 – design of a monastery shop right next to the main gate.
(present garage)

This will be a start of redesigning the front, lower courtyard for visitor facilities – like reception, information / exhibition on Ka-Nying, shop etc. – as part of making the entrance to the monastery more welcoming.
10 – design of an RYI campus

On a location directly adjacent to the monastery a new campus will be planned with apartments for about 150 RYI students, staff and monastery visitors.
This site is located to the west of the monastery, between the monastery and Shechen monastery.

This development would not only make it possible for the monastery to generate income, but also to create more clearly designated areas of the monastery proper (monks’ quarters) and the international shedra, something that the monks see as conducive for a more contemplative way of life in the monastery.
The main idea of this design is to organise the campus around several courtyards of varying character. The different courtyards can take qualities from both Newari and Tibetan examples and can range from more public to private and more urban to green in character. There will be direct access to the monastery grounds.
The nunnery is located in the hills north of Kathmandu, at about 2200 m, and sustained considerable damage during the earthquake.
In order to start with the planning a topographical survey was made in April-May 2016.
01 – design and construction of a new kitchen and dining hall
The dining hall will be placed in an already-present space built into the hillside. In order to provide light and a good atmosphere skylights will be introduced. The new dining hall will seat about 200 nuns.
The kitchen is built as a new volume directly adjacent to the dining hall. It is constructed by a team of workers from the nearby Tarabir village, who have been working for many years in Nagi Gompa.
Nuns have always been working on construction as well.

The kitchen is planned to be finished in December 2016
02 – design and reconstruction of small housing units.

The houses of several – older – local people and nuns were destroyed or badly damaged by the earthquake. To replace these houses on a better location, a first set of 8 houses is being constructed on the basis of sustainable design.
The houses are built with stone and bricks reused from the earthquake rubble, constructed with renewed earthquake proof local techniques, and fitted with a passive solar heating system (trombe wall) and vegetation roof, both for a stable indoor climate and to integrate the houses into the landscape.
Construction started in March 2016, with the initial help of four Austrian volunteers, and a local team.
After the Austrian team left some difficulties were experienced in having an appropriate foreman and a continuous local team of workers, but construction proceeded steadily nevertheless.
During monsoon work will be halted, to be continued in September.
03 – design for a new three-year retreat place.

The temple building (lower gompa) used for three-year retreats was badly damaged by the earthquake, due to faulty construction. Priority in the master plan is to design a new retreat place.
Faulty construction in this case means columns are too small, do not have proper rebar and rebar does not have enough coverage. The cost of restrengthening is relatively higher than building new. Besides, the retreat place can be relocated to a quieter place. A small shrine hall can be built on this original site – the main entrance to the nunnery.
The thangka mural paintings inside the shrine hall were badly damaged. Since they were relatively new, they can be replaced by new paintings.
Fragments of the damaged paintings could be used for fundraising purposes.
04 – master plan

Just as in Ka-Nying monastery, new young nuns entered Nagi Gompa recently.

An important part of the master plan will be to accommodate these changes and make the nunnery function well into the future.

As started with the 8 houses, sustainability will be an essential part of the design.
As with the young boys, it is amazing to see how the new young girls settle into their new environment.
Short-term additions are made to provide new space for the teaching of the young nuns: a roof is added to make classrooms accessible during monsoon.
A new teaching program has been developed and implemented this spring in Nagi Gompa, which will function similarly to the Shedra at Ka-Nying. Here the young nuns are being taught English.
This project is funded and monitored by Shenpen, located west of Kathmandu. The Tamang community involved is building the houses themselves, while living in tents next to the site.
The community has received help from a structural engineer in the design of the houses, and receive all material and transport (in the form of a truck) via the monastery and Shenpen. People are trained on the job with support from Shenpen and a civil engineer working for the monastery.
The houses are designed according to the new Nepali earthquake standards, in concrete frame structures, with walls of a sustainable compressed brick, provided by a local initiative.
This monastery, south of Kathmandu, is part of the main monastery. A new – unfinished - three story volume was built on top of an existing one-story building, which was not adequate to resist the earthquake stresses.
The corners of the basic structure turned out to have concrete ‘columns’ on the corners with one single steel bar.

This resulted in out-of-plane failure, which means the whole structure could collapse any moment.
Nevertheless a day-long Puja attended by about 1000 people was held during Rinpoche’s visit …

A new site outside of the town was visited next day to possibly relocate the monastery to a quieter place in the hills out of town.
LUMBINI – 1000 BUDDHA TEMPLE

Construction on this temple started in 2011. This spring the pagoda roof was finished, marking the highest point.
At this moment the main decoration on columns and beams is being considered, as well as a design for the layout of the spaces of the five floors.

Funding and supervision have met with difficulties over recent years and an effort to organise the process in a more continuous way is being made.

For example, besides interior plans, no plumbing or electrical plans were made before. Supervision was limited to about once a month.
The main designer and advisor on Tibetan temple decoration is Lama Thogmed, an original thangka painter, who worked on many traditional Tibetan temples. He lives in Tubten Chöling in Solo Khumbu and is able to visit every two months.
A mock-up of the ornamentation that is considered proper was made this spring – to replace earlier made – incorrect - decoration. Last June the pricing of this work from the contractor was checked by the team and approved by the monastery board.
As one can imagine a lot more can be said on the construction and continuation of a large project like this. For now we are expanding the monastery team working on this project, with a designer of the electrical systems, a civil engineer and an architect.

This project connects again to the Ka-Nying master plan …
... where a temple of a similar size is being planned!
Planning

The steps to be taken in the master plan of Ka-Nying monastery are:

**Short-term**
- Relocation of the workshop: finished July 2016
- Construction of young monks’ classrooms: June – September 2016
- Relocation of kitchen and dining hall: September 2016 – December 2016
- Shedra building RYI and Rinpoche floors: finished December 2016

**Main project**
- Retrofit design of the west monks’ quarters: September – December 2016
- Reconstruction of west monks’ quarters: January – June 2017
- Further construction and furbishing of west monks’ quarters: June 2017 – October 2017
- Relocation of monks from existing monastery to west monks’ quarters: November 2017
- Demolition of existing monastery: January – June (?) 2018
- Design of the new temple, including structural design and construction drawings: September 2016 – December 2017
- Construction of the new temple: start January 2018 – 2021 (?)

The estimated cost of this development is 7 million USD.
Small print: notes on aspects of organisation in the monastery.

The monks of Ka-Nying re-started the monastery board this spring, by instating Lama Öser as chairman. Buchung Lama acts as general manager, Sautchi Lama as treasurer and Khenpo Togpa Tulku represents the Shedra – all as acting representatives of a total board of 9 monks.

This development is representative of the monks actively working towards improving the management of the monastery, both in organisational and financial terms (for example next to a construction planning office a financial office was set up recently). This spring several meetings took place between monks of the board and members of the international construction team - and international shedra - to discuss ways to work together in a supportive way.

The international (re-)construction team that works for the monastery and the monks in the development of the masterplan and construction projects consists of Greg Whiteside, supervisor, Peter Oudshoorn, architect, Steve Cook, electrical engineer and Shiriin Barakzai, civil engineer, with architects Michael Schmitz and Ralv Fust as consultants. The objective of this team is to support the monks by bringing in knowledge regarding management, organisation, design, engineering, planning and finances.

An important acknowledgement in this support is the fact that the monastery of 300 monks with a highly regarded Shedra functions well already for decades – as pointed out by the monks - and that this monastery organisation is the basis for all support and cooperation.
If you have any questions, suggestions or want to support these projects, please visit:

Shedrubfund.org

August 2016 – the Ka-Nying construction management team