

Traditional Mongolian Ger



Owners Pamphlet 2006

Thank you for purchasing a Mongolian Ger from BioRegions International. All proceeds from ger sales are being used to support projects in the Darhad Valley of northern Mongolia, projects that directly benefit local people.

These gers were imported with the assistance of Sunjidmaa Tsagaan, in Mongolia, and Refuge Sustainable Building Center. We hope you enjoy your ger. It is our hope that each ger will help promote international understanding, increase appreciation for Mongolian culture, and help reinforce the importance of sustainable lifestyle choices.



BioRegions International, a 501(c)3 not-for-profit organization, works to empower the nomadic cultures of Mongolia to survive in a rapidly-changing world. We support holistic, locally-based projects that promote: public health, environmental preservation, education, and sustainable economic development.

The BioRegions Program at Montana State University uses research and education to build bioregional awareness and help sustain balances of natural, social and economic wealth.

BioRegions International and the BioRegions Program at Montana State University work in close partnership. This bridge between the on-the-ground needs and academia allows us to connect local people with the knowledge, resources and research necessary to implement appropriate, sustainable projects.

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Refuge Sustainable Building Center promotes sustainability in the built environment through sales of products which respect human health and the natural world. We strive to maximize social and environmental wellness while maintaining financial profitability.

Dave Schaub, Steve Bruner, and Dan Center comprise the core of the Refuge team. We're always happy to show you around our shop or talk with you on the phone to answer questions about green and healthy building materials. You can find our store one block north of Bozeman's Main Street.

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Why a Traditional Ger? Why from BioRegions International?

The circular structures, typically 12 to 30 feet in diameter (ours roughly 21'), look like offspring of a tent and pagoda. The most popular versions – and several thousand dot the United States today – consist of a lattice body covered in stretched vinyl, with a domed roof rising to a central plastic skylight. Most are heated by a wood stove and have no plumbing or electricity. But these plastic gers are not the “real thing,” not what is seen on the grassland steppes of the Mongolian herders.

The original version of a yurt is a Mongolian ger (pronounced “gehr”, rhymes with “hair”). Traditional gers have the same structure as when Chingis (Ghengis) Khan used his in the 1200's. The word for ger in Russian is “yurt;” we use the Mongolian word to honor the origin of gers and Mongolian tradition.

BioRegions has brought gers to Montana twice now, both times to support work in northern Mongolia. Proceeds from ger sales go to support holistic, locally-based projects promoting public health, education, environmental preservation, and economic development. Our efforts focus on the remote Darhad Valley in far northern Mongolia, which is a small enough region that we can hope to have a significant impact. In the long term, we hope to expand similar projects elsewhere in Mongolia and perhaps other places in the world.

The nomadic herders in the Darhad Valley, where we work, are some of the last Mongolians who live in gers year round. Although wood is plentiful and cheap in the Darhad, and many people are building log cabins as they did in the American west 100 years ago, gers still dominate. They are used in seasonal migrations, winter camps, and even used side-by-side with cabins. They are warm, “cozy”, and functional. Owning and using a ger can connect us to this contemporary yet ancient culture.

Although credited with wide-ranging virtues – portable, cheap, efficient, environmentally sound – the growing popularity of gers (yurts) has little to do with practicality or function. Called everything from feng shui to “the flow,” it's the feeling inside a ger that is persuading purchasers. Our Mongolian gers are insulated (from the heat as well as the cold) with inch thick felt made from sheep wool, yak and cow hair. You feel literally like you are in the “belly of a beast.” There's rarely a person that goes into a ger (or yurt) that doesn't say, “oh wow! I love the feel of this!” The powerful sensation comes from the circular shape, the earthy smell, and the feeling of being close to the earth. Many cultures and religions use the circle as a sacred symbol – from the kivas of the Anasazi Indians to Buddhists mandalas to Navajo hogans. There is something about the roundness. It's feminine, sacred. The circle is the basis of creation. The seasons are circular, and so is the life cycle. The circle is very basic, very archetypal. This sense of the circle certainly influences the Mongols. They seek spiritual balance by ordering their home in a flowing, circular orientation.



Owning a Mongolia Ger

A Word of Caution

Authentic Mongolian gers are amazing dwellings, capable of enduring decades of harsh weather. However, keep in mind that they are designed for a high, dry environment. Without proper care, mice or moths can eat the felt. Mold can develop in wet weather – especially persistently wet conditions, when the materials have no opportunity to dry completely. Winter helps hold moisture at bay, but watch for heavy snowloads and the wet of a prolonged thaw. Mongolians move these structures frequently, especially in the driest regions where poor grazing conditions force herders to move as often as every



3 weeks. When not moved regularly, gers can require frequent adjustment; they move with the wind. BioRegions co-founder and board member Joan Montagne found that her ger sometimes required weekly adjustments. And as she notes, “These are the reason there are so many plastic ‘yurts’ in the USA, with plexiglass domes.” She also notes that traditional gers are works of art, and the experience of being in one, and owning one, cannot be replaced by manufactured versions.

We hope you will care for your ger well, so it can inspire and be enjoyed by many generations to come!

Packing List:

- 5 *khana* (lattice wall section) *
- 1 door
- 1 *tono* (circular ger “crown”)
- 2 *bhagana* (poles to support the *tono*)
- 2 bundles of *uni* (roof poles)
- 5 felt (*esgi*) walls
- 2 roof felts (*esgi*)
- 1 traditional ger cover, outermost layer
- 2 roof canvas pieces **
- 2 *bus* (outside circumference horsehair ropes, or ‘belts’)
- 1 smoke/air cover, padded (goes over roof hole)
- 3 inside liner pieces, on for above door decoration
- 1 *hatack* (Tibetan Buddhist blessing scarf)
- 2 stools

** You need to supply approximately 50 feet of 2 inch nylon webbing for lattice banding, to hold the lattice walls as you raise the roof poles and add felts and outer covering.*

*** You will also need to supply roughly 80 feet of nylon rope to cross over the top of the ger, as described, to keep the cover from blowing off.*

The Layout

Mongolians adhere to a traditional floor plan. The door opens to the south, the altar is at the north, women's implements are to the east (or right, as you enter), and men's tools hang to the west. A corral for baby animals born in spring snowstorms may also be just inside to the left of the door. Guests generally sit to the west, and family to the east. A fire in the middle forms the sacred center. No trash is burned in the center, for this reason. Of course, there is flexibility inside – someone may watch DVD movies on a computer, satellite dishes may bring Korean soap operas, a woman may convert her ger into an office complete with bamboo flooring and a handmade mosaic hearth.

Ger Set-up Basics

While ger setup may bring back fond memories of building childhood forts, precariously balanced poses and free-form fabric play no part in the ger structure. These round houses, which work on a system of tension and compression, are highly efficient, achieving maximum strength with minimal materials.

These nomad dwellings consist of five basic parts: a lattice wood frame, a tension band, rafters rising to a central compression ring, felt insulations, and a weather-tight covering. The ger is set up in this order: walls & door with 2 straps for tension, the center support raised and rafters placed, then the felt insulation, and finally the outer coverings and final 'belts'.

The ground needs to be FLAT (the ger will lean after a month or so if it isn't) and clean of debris. Also needed are people who can tie good knots, a stepladder, and gloves – the poles sometimes have splinters. A large weight can be helpful to tie to the center rope under the dome as you are working with the felt; anything can work, be it a garbage can off the ground full of rocks, a heavy log, etc.

Set-up takes Mongolian herders less than an hour; with enough capable hands, it generally takes us 2 to 4 hours to set up a ger.

STEPS

1. The bottom half provides the support, consisting of the sections of lattice, or *khana* – think giant baby gates – stretched to form a circle, and attached to the door. The *khana* are labeled with numbers. Lay the *khana* and door in a rough circle.
2. Bring the two *bhagana* (support poles) and *tono* (circular top) inside the circle.
3. Before proceeding, attach the *bhagana* to the upside down *tono* with rope, tied tightly (nylon cord works well). When attaching the pieces together, try not to cover the holes in the *tono* – the roof poles, or *uni*, need to go into these.
4. Place the door upright, at the south end of your circle, and hold it or brace it upright. *Joan Montagne found that although it is not traditional, she preferred having the door facing east, as the southern sun was so strong in summer. She notes, "Sun (south) is a powerful life*

force for a Mongolian, but the contours of the land and location often dictate the direction, even in Mongolia.”

5. Close the lattice circle around the door, attaching the sections to the door and overlapping with each other; there should be horsehair ropes attached to each *khana* for this purpose. You may wonder “how stretched out should the lattice be?” The guide is that the top of the lattice should be level with the top of the door.
6. Two ropes/bands are now used to hold the circle taught. Attach the cords to the holes/eyes in the door, weave it through the lattice, pull it taught and tie it off. Remember you can always go back and tighten the ropes so let them be loose enough to adjust at first. The tension of these ties keeps the circle standing – first as you add the roof, later as you use the ger.
7. Now, return to the *bhagana* (support poles) and *tono* (circular top). Turn them upright. The placement of the bottom of the support poles is the key to having a structurally sound ger. The two *bhagana* should form a line parallel to the door; the rectangle formed must be in direct line with the door.
8. Four horsehair ropes are tied from the *tono* to the ring on the top of the door, directly opposite the door to the lattice at the rear, and the two side ropes are at 90°/exactly opposite these ropes. They are tied to the top of the lattice. This operation requires someone to stand inside, holding up the *bhagana* & *tono*.
9. The dome/roof is formed when a series of wooden rafter poles, *uni*, are attached between the circular *tono* and the lattice. This can be a dangerous operation, as the poles fall randomly until there is equal tension. The person standing inside, holding the supports, needs to be totally inside the circle of the *tono* to avoid being hit. We suggest a helmet, as we have witnessed a near broken nose! We also suggest at least 4 people to place the poles in the directly opposite holes in the circle all at the same time, all the way around.

Using the horsehair ropes attached to the center as a guide, count outward as you place the poles or you will start to twist the support poles. Place the smaller end into the *tono*; the end with a loop is hooked to the lattice. Watch for the numbered door poles – these are the poles



This ger has no support poles, so a herder holds the *tono* the entire time. In this case, there are no four ropes as guides.



Loops attach the rafter poles to the lattice; the poles stick out slightly beyond the lattice.

without loops. It is critical that these line up with the door, and they are specifically made slightly different lengths so they fit. As you work, keep checking to make sure that the center is square with the door.

10. When the poles are in place, you need to find the covering which has tabs on it and is not the outside cover with blue decorations. Keep a fold in the top end, hoist it into place with a spare pole, have someone inside on a stepladder –reaching out – tie it, then unfurl it around the ger outside.
11. Find the two felt roof pieces and arrange them so that the back piece (away from door) is covering $\frac{1}{2}$ of the circular *tono* opening, and the front felt piece has a cut-out $\frac{1}{2}$ -circle to go around the outside of the *tono* opening. Hoist each felt up onto the roof with 3-4 people – it helps to fold the top of the felt over an extra pole, to give you reach as you shove the heavy felt upward. A person inside on a ladder can help guide and pull the felt into proper position.
12. The two pieces of canvas will match the cutouts of roof felt and are put up the same way. The canvas fits over the sidewall about one foot, and the stitching acts as a guide.
13. The felt sidewalls need to be placed up under the roof felt – the weight of the roof felt keeps the sides from slipping down. The felt should not touch the ground, or it will wick moisture. (If this is difficult, consider using thin rope inserted into the felt to help hold it up.)
14. The white outer cover should be unfolded so that the door cutout fits around the door.
15. Tie the *bus* (horsehair ropes, or belts) securely around the ger and cover, attaching to the door.
16. The final piece is the smoke/air cover, which is placed on top with poles and by holding the horsehair ropes. It can be adjusted over the opening, and 3 of the four ropes tied to the *bus* (the belts around the entire ger.) Keep the tie closest to the door untied, and use this to open and close the flap.
17. The inside ger liner is marked right or left of the door, and the middle piece fits in between. The top section of the liner goes up onto the ceiling a short ways, and the small piece fits over the door. Tabs on the liner to not correspond to the *uni* (rafter poles) – use string to weave through the loops and over the *uni*.
18. For ventilation in the summer, the sides can be rolled up. In the winter, a 2 foot piece of canvas can be wrapped around the base and snow brushed up on the sides for insulation.
19. Final step! Place rope over the entire ger in an X. Loop these “X ropes” through the *bus* (the circular horsehair rope belts) to hold it level, and then tie the X ropes off at the base of the walls. (Either tie these ropes to the bottom of the lattice, or to stakes/rocks/logs.)



20. ENJOY!

The GER: Mongolian National Dwelling

reprinted from The Mongol Messenger



The ger is ideally suited to the country's sharply continental climate and the people's nomadic way of life. This multi-purpose dwelling can be easily collapsed, transported to another place and put up again fully preserving its original shape. The ger appeared centuries ago, although it is believed that the collapsible ger as we know it today was invented in the not too distant past.

The Mongols' earliest recorded dwelling was called the "uvsun nembule", a kind

of grass shack. It was mentioned in the Secret History of the Mongols that Chinghis Khan's forefather, Bodonchar, lived in such a shack. The development of craft, notably the processing of wool into felt brought forth a new type of dwelling, the ger. The Mongolian ger has 2 key components: the wooden framework and the felt cover. The wooden part walls (khana), the long poles (uni), the smoke escape (toono), and its supports (bagana).

Each section of the wall consists of a lattice of 10-15 wooden poles, each about 1.5 meters high, bound together in a way that makes it possible to fold it for transportation, and then unfold it again, like an accordion. The unfolded poles are fastened to the upper part of the walls, with the end passing through the toono hold, the only window and smoke escape. The toono is propped up by 2 posts, the bagana.

The framework thus built is covered with felt. The floor carpeted with felt. Sometimes the felt is laid directly on the ground. The door is always on the southern side facing the sun (providing additional light inside). The number of walls and poles determines the size of the ger. Most of the time herdsman's gers have 5 walls, giving a living area of 16-18 sq. meters. The gers of noblemen of olden times had 10-12 walls.

In the center of the ger is the hearth which has a special significance for the Mongols. Apart from its utilitarian purpose, the hearth symbolizes ties with the family's ancestors. The Mongols say "Aavyn golomt" (the parental hearth), distilling in these words the respect they have for their forefathers. One is not allowed to stretch one's legs towards the hearth, throw trash into it or bring sharp pointed objects close to the fire. Desecration of the hearth is a sin and an insult to the master of the house.

The hearth is mounted on 3 stones which symbolize the host, the hostess and the daughter-in-law (the mother of the heir). The hearth is the center of the ger, whose construction begins with its mounting. The hearth divides the ger space into 3 conventional parts, the male and female quarters and the khoimor. The male quarters are on the western side. Here the host keeps the saddle, bridle, and airag bag (a mildly alcoholic drink of fermented mare's milk). The female quarters are on the eastern side to the right of the entrance. The hostess keeps kitchenware and appliances here, as well as her own and her children's belongings. By custom a man entering the ger goes right to its western part and a woman to the eastern part. It is believed that the male quarters are under the protection of Heaven and the female quarters are patronized by the Sun. The most honored place is the Khoimor by the northern wall across from the door. Here they keep objects dear to the master of the house, his personal weapons, his "morin khuur" (the Mongolian horse fiddle) and his horse's bridle. Pieces of furniture, usually 2 wooden chests of a bright orange color are also placed in the Khoimor. Framed photographs of the host and hostess, their children and relatives are put on the top of the chest for all to see. If the host has some governmental award he is sure to display it in the khoimor. The host usually sits to the east of the khoimor and his guests to the west. The hostess's place is by the hearth, the children are supposed to sit close to her, but nearer to the door. The bed of the host and hostess is in the female quarters: those for guest are on the opposite side.

Speaking about the ger design, let's dwell at length on the functions of the smoke escape (toono) and its props (baagana). The point is that some of the Mongols' philosophical ideas are closely associated with these features. The toono is the only opening, through which light penetrates the ger (apart from the south facing doorway). An old legend tells of a fair-haired man (half lion/half man) climbing into the ger of Alangua, the Mongols' ancestral mother and fathering 3 sons. In the olden days, people could tell the time by the sun's rays falling on the cross pieces of the smoke escape and on the poles.

The Mongols divided the day into twelve hours and each hour into twelve minutes which they called by the names of the lunar calendar animals. A hair rope, (chagtage) is fastened to the smoke escape from which a weight stabilizing the ger is suspended during strong winds. In new gers, they fasten a khada to it, a piece of blue silk in which a handful of grain is wrapped. The meaning of this tradition is conveyed in the saying "May happiness multiply in the new ger like grains of corn and may life be pure and beautiful here." The supports of the smoke hole, bagan, ensure the stability of the ger and that is probably why tradition forbids touching, let alone leaning on them. Moreover they symbolize a link with Heaven, with the past-present-future axis which supposedly passes through them. The hearth heats the ger and serves as a stove for cooking. In wooded areas the hearth is stocked with firewood while in the steppe and the Gobi, dry dung briquettes are used. The ger warms up quickly and retains heat well. In the hot summer months the lower part of the felt cover (the khormoi) is raised to let fresh air in. The ger, round shaped and squat, can withstand harsh winds while the quick drying felt is good protection against the rain and snow. In towns and in the capital, Ulaanbaatar, gers are being ousted by modern high rise housing. Young Mongols now prefer to live in comfortable apartments. In summer, however, city-dwellers often spend their vacations in gers, leaving behind urban conveniences to enjoy the unmatched comfort of the ger.

Resources & Further Information

BioRegions International, Resources webpage

<http://www.bioregions.org/index.php?view=resources>

Ger/Yurt Resources:

Information about gers: <http://www.buryatmongol.com/ger.html>
<http://www.laohats.com/Mongolian%20Ger.htm>

Ger outreach, educational and cultural project:

http://www2.dsu.nodak.edu/webdsu/badm264/S_01/Barkhuu/mongoliangerproject.htm

Businesses:

Pacific Yurts, Cottage Grove, Oregon: www.yurts.com

Nesting Bird Yurts, Port Townsend, Washington: www.nestingbirdyurts.com

Books – often with great diagrams!

Mongolian Cloud Houses, by Dan Khuen (<http://www.frankdan.com/mch/index.html>;
<http://www.shelterpub.com/mongolian/MCH-book.html>)

The Complete Yurt Handbook, by Paul King

Circle Houses: Yurts, Tipis, and Benders, by David Pearson

Tipis and Yurts: Authentic Designs for Circular Shelters, by David Pearson

