Medieval Demographics MADE EASY Numbers for Fantasy Worlds

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Fantasy worlds come in many varieties, from the "hard core" medieval-simulation school to the more fanciful realms of high fantasy, with alabaster castles and jeweled gardens in the place of the more traditional muddy squalor. Despite their differences, these share a vital common element: ordinary people. Most realms of fantasy, no matter how baroque or magical, can not get by without a supply of ordinary farmers, merchants, quarreling princes and palace guards. Clustered into villages and crowding the cities, they provide the human backdrop for adventure.

Of course, doing the research necessary to find out how common a large city should be, or how many shoemakers can be found in a town, can take up time not all GMs have available. To the end of more satisfying world design, I've prepared this article.

This article is a distillation of broad *possibilities* drawn from a variety of historical reference points, focusing more on results than on the details that create them. The rules here provide a baseline to be deviated from at need, not numbers cast into iron. Following my favorite FRP traditions, I've focused my lens on a fairly *developed* version of the middle ages - I've drawn freely from periods ranging from the 11th to 15th centuries, and from locales as varied as Russia, England, France, Germany and Italy, but when I've needed a default rather than an average, I opted to look more closely at late-medieval France as a good model for a trad-fantasy gameworld. Halve things, double things, or otherwise fiddle with them to suit the feel you're going for; I've included guidelines on shaping the numbers to suit your needs.

Population Density: How Many In That Kingdom?

Unless the kingdom is quite young, it is likely riddled with villages, a mile or two apart, covering every (farmable) inch of the countryside. Agrarian communities on the scale of the village or hamlet exist in vast networks. The only notable exception to this rule is frontier country, where isolated towns have no choice but to exist. But these towns will tend to be large and walled—a people huddled together for safety. On the frontier, food and goods are usually delivered by merchant caravans rather than produced by local agriculture. The presence of monsters would almost certainly magnify these effects.

The average population density for a fully-developed medieval country is from 30 per square mile (for countries with lots of rocks, lots of rain, and lots of ice—or a slave-driving Mad King) to a limit of about 120 per square mile, for a land with rich soil, favorable seasons and maybe a touch of magical help. No land is wasted if it can be settled and farmed. There are many factors that determine the population density of a land, but none as important as arability and climate. If food will grow, so will peasants. If desired, exact density can be rolled randomly, and land arability reverse-engineered from the result. A roll of 6d4x5 will do the trick nicely. Reduce the x5 multiple by any amount down to x1 to represent a much less developed land, or to represent countries depopulated by invasions, plagues or other calamities. Nations hit by such troubles can stay depopulated for centuries, too, barring an influx of immigrants: natural population growth is usually *glacial* in pre-industrial worlds.

Some Historical Comparisons: Medieval France tops the list, with a 14th-century density upwards

of 100 people/sq. mile. The French were blessed with an abundance of arable countryside, waiting to be farmed. Modern France has more than twice this many people. Germany, with a slightly less perfect climate and a lower percentage of arable land, averaged more like 90 people/sq. mile. Italy was similar (lots of hills and rocky areas). The British Isles were the least populous, with a little more than 40 people per square mile, most of them clustered in the southern half of the isles.

Hexes: It may be important for some GMs using this article to know how much land is in a hexagonal area! To determine the area of a hex, multiply its width by 0.9306049, and square the result. Thus, if your game-map has hexes 30 miles across, each hex represents about 780 square miles (and it's a convenient size for travel-times, since 30 miles is a good rule of thumb for a day's road travel on foot or horseback).

Town and City Population: How Many In Those Walls?

For purposes of this article, settlements will be divided into Villages, Towns, Cities and Big Cities (known as "supercities" in the parlance of urban historians).

- ***Villages*** range from 20 to 1,000 people, with typical villages ranging from 50-300. Most kingdoms will have thousands of them. Villages are agrarian communities within the safe folds of civilization. They provide the basic source of food and land-stability in a feudal system. Usually, a village that supports orchards (instead of grainfields) is called a "hamlet." Occasionally, game writers use the term to apply to a very small village, regardless of what food it produces.
- ***Towns*** range in population from 1,000-8,000 people, with typical values somewhere around 2,500. Culturally, these are the equivalent to the smaller American cities that line the interstates. Cities and towns tend to have walls only if they are frequently threatened.
- ***Cities*** tend to be from 8,000-12,000 people, with an average in the middle of that range. A typical large kingdom will have only a few cities in this population range. Centers of scholarly pursuits (the Universities) tend to be in cities of this size, with only the rare exception thriving in a Big City.
- ***Big Cities*** range from 12,000-100,000 people, with some exceptional cities exceeding this scale. Some historical examples include London (25,000-40,000), Paris (50,000-80,000), Genoa (75,000-100,000), and Venice (100,000+). Moscow in the 15th century had a population in excess of 200,000!

Large population centers of any scale are the result of traffic. Coastlines, navigable rivers and overland trade-routes form a criss-crossing pattern of trade-arteries, and the towns and cities grow along those lines. The larger the artery, the larger the town. And where several large arteries converge, you have a city. Villages are scattered densely through the country between the larger settlements.

Population Spread

Okay, so you know how big your kingdom is, and how many people live there. How many people live in the cities, and how many cities are there? How many live in smaller settlements, like towns and villages?

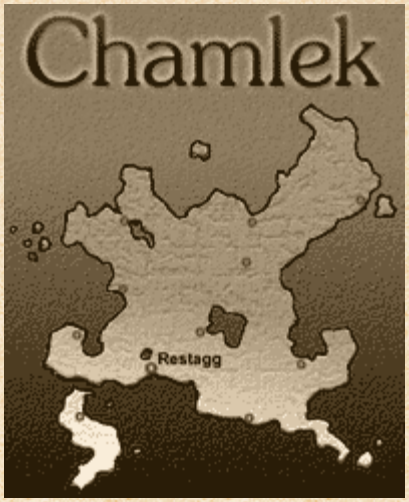
- First, determine the population of the *largest* city in the kingdom. This is equal to (P times M), where P is equal to the square root of the country's population, and M is equal to a random roll of 2d4+10 (the average roll is 15).
- The second-ranking city will be from 20-80% the size of the largest city. To randomly determine this, roll 2d4 times 10% (the average result is 50%)

- Each remaining city will be from 10% to 40% smaller than the previous one (2d4 times 5% - the average result is 25%); continue listing cities for as long as the results maintain a city-scaled population (8,000 or more).
- To determine the number of towns, start with the number of cities, and *multiply* it by a roll of 2d8 (the average result is 9).

The remaining population live in villages, hamlets and smaller settlements; a small number will live in isolated dwellings or be itinerent workers and wanderers.

Adjusting the Number of Towns: The ratio of towns to cities given above presumes the existence of a notable and thriving mercantile community. Adjust the upward by 50% or more for a fantasy world on the verge of Renaissance, but adjust it *sharply* downward for a pre-Crusades type world (if trade is limited and local, there won't be many more towns than there are cities; just continue the 10%-40% city-reduction scale to produce a single list of cities *and* towns). Historically, the number of town charters in many European countries multiplied nearly by 10 from the 11th-13th centuries as economic shifts reshaped the agrarian scheme into something more robustly mercantile. If your world has a visible share of merchants and rogues and other town-living types (as most do) use the 2d8 roll or even more. For a world in transition between these extremes, find a middle ground you like the looks of.

An Example Kingdom: Chamlek



Chamlek is an island kingdom with a total land area of 88,700 square miles, with a good climate and only a few rocky hills disturbing a well-watered countryside. Her population is just over 6.6 million, with an average density of about 75 people per square mile (an average roll of the dice using the recommended range for a developed land).

Using average rolls for city sizes and town spreads, we can determine the following about Chamlek: It's largest city, Restagg, has a population of 39,000. The next-ranking major cities are Volthyrm (19,000), McClannach (15,000), Cormidigar (11,000), and Oberthrush (8,000). There are 5 cities and 45 towns all told, with a total urban population of just over 200,000 (about 3% of the kingdom). The rest is rural - there's approximately 1 urban center for every 1,800 square miles. If we used the early-medieval method of continuing the city scheme to determine the towns, there'd be only 7 towns (one urban center every 7,500 square miles).

Merchants and Services

In a village of 400 people, just how many inns and taverns are realistic? Not very many. Maybe not even one. When traveling across the countryside, characters should not run into a convenient sign saying "Motel: Free Cable and Swimming Pool" every 3 leagues. For the most part, they will have to camp on their own or seek shelter in people's homes.

Provided they are friendly, the latter option should be no trouble. A farmer can live in a single place all his life, and he will welcome news and stories of adventures, not to mention any money the heroes might offer!

Each type of business is given a Support Value (SV). This is the number of people it takes to support

a single business of that sort. For instance, the SV for shoemakers (by far the most common trade in towns) is 150. This means that there will be one shoemaker for every 150 people in an area. These numbers can vary by up to 60% in either direction, but provide a useful baseline for GMs. Think about the nature of the town or city to decide if the numbers need to be changed. A port, for instance, will have more fishmongers than the table indicates.

To find the number of, say, inns in a city, divide the population of the city by the SV value for inns (2,000). For a village of 400 people, this reveals only 20% of an inn! This means that there is a 20% chance of there being one at all. And even if there is one, it will be smaller and less impressive than an urban inn. The SV for taverns is 400, so there will be a single tavern.

Business	**SV**	**Business**	**SV**
Shoemakers	150	Butchers	1,200
Furriers	250	Fishmongers	1,200
Maidservants	250	Beer-Sellers	1,400
Tailors	250	Buckle Makers	1,400
Barbers	350	Plasterers	1,400
Jewelers	400	Spice Merchants	1,400
Taverns/Restaurants	400	Blacksmiths	1,500
Old-Clothes	400	Painters	1,500
Pastrycooks	500	Doctors	1,700*
Masons	500	Roofers	1,800
Carpenters	550	Locksmiths	1,900
Weavers	600	Bathers	1,900
Chandlers	700	Ropemakers	1,900
Mercers	700	Inns	2,000
Coopers	700	Tanners	2,000
Bakers	800	Copyists	2,000
Watercarriers	850	Sculptors	2,000
Scabbardmakers	850	Rugmakers	2,000
Wine-Sellers	900	Harness-Makers	2,000
Hatmakers	950	Bleachers	2,100
Saddlers	1,000	Hay Merchants	2,300
Chicken Butchers	1,000	Cutlers	2,300
Pursemakers	1,100	Glovemakers	2,400
Woodsellers	2,400	Woodcarvers	2,400
Magic-Shops	2,800	Booksellers	6,300
Bookbinders	3,000	Illuminators	3,900

*These are licensed doctors. Total doctor SV is 350.

Some other figures: There will be one noble household per 200 population, one lawyer ("advocate") per 650, one clergyman per 40 and one priest per 25-30 clergy.

Businesses not listed here will most likely have an SV from 5,000 to 25,000! The "Magic Shop" means a shop where wizards can purchase spell ingredients, scroll paper and the like, *not* a place to buy magic swords off the shelf.

Agriculture

A square mile of settled land (including requisite roads, villages and towns, as well as crops and pastureland) will support 180 people. This takes into account normal blights, rats, drought, and theft, all of which are common in most worlds. If magic is common, the GM may decide a square mile of

land can support many more people. Note that the number of people a square mile of agricultural land will support is not the same as the maximum population density for a kingdom.

Once you've decided the ability of the land to support people, you can determine the amount of wilderness/unfarmable country in the kingdom by working backwards. Take the example kingdom of Chamlek again. With one square mile supporting 180 people, that means there are approximately 37,000 square miles of developed agrarian land — about 42% of the total area of the isle. This offers a graphic example of just how sparse the population really is. The remaining 58% of the country is wilderness, rivers and lakes.

Even if Chamlek had the maximum *population* density (120 people per square mile), the farmland would be a whopping 2/3rds of the total land, leaving one-third of the country to wilderness (mostly forested hills between the farms) and waterways. That's somewhere near the absolute maximum, given Earthly conditions, though higher is theoretically possible if the GM determines that the *entire* country is arable.

While the average distance between population centers can be derived from the total land area, the average walking distance from one village to the next is more realistically determined by considering only the settled land. Villages and towns tend to cluster tightly along the arteries of travel defined by the lines between the cities — leaving gaps of wilderness in the middle.

Castles

Okay, we now completely understand the lay of the land as regards civilization, the cities and farms. Nearer to the heart of the adventurer, however, is the castle, or better still, the ruined castle. Once again, how many should there be?

Ruins, first of all, depend on the age of the region. The following formula is only a guide. The frequency of ruins in Europe varied greatly depending on military history and remoteness of the area. To determine the approximate number of ruined fortifications, divide the kingdom's population by five million. Multiply the result by the square root of the kingdom's age. If the kingdom has changed hands a lot, use the *total* age—the number of years that castle-building people have lived there, regardless of the Royal Lineage.

Chamlek, our island kingdom, has around 6.6 million people today. Chamlek has been populated by castle-building folk for 300 years. She has 23.04 ruined forts or castles, which means 23 for sure, and a 4% chance of one more.

Active castles are much more common; ruins are rare because the solid ones are constantly put back into service! Assume one functioning castle for every 50,000 people. The age of the kingdom is not really a factor. Chamlek would have 133 active castles of various stripes, approximately.

75% of all castles will be in the civilized (settled) areas of a kingdom. The other 25% will be in the "wilderness," along borders, etc.

The role of these castles is something too world-oriented to be reduced to formula. Most will mark the landholdings of Barons and Dukes, but some may be bandit strongholds, or the outposts of Goblin warlords. It is all up to the GM.

Miscellany

City Size: Cities and towns of the Middle Ages cover one square mile of land per 38,850 people, on average. This is a density of about 61 per acre or 150 per hectare, so the land within the walls of a typical city of 10,000 would be 165 acres—hardly a city by modern standards, in terms of population OR size. Some very large cities may have had up to twice this density.

Law Enforcement: A well-kept medieval city will have 1 law officer (guardsman, watchman, etc.) for every 150 citizens. Slack cities will have half this number. A few rare cities will have more.

Institutions of Higher Learning: There will be one University for every 27.3 million people. This should be computed by continent, *not* by town! This figure assumes entirely scholarly universities, not those dedicated to the arcane arts. Whether or not magical universities are separate institutions, and how common they are, is a matter for GM decision.

Livestock: The livestock population, on the whole, will equal 2.2 times the human population, but 68% percent of this will be fowl (chickens, geese and ducks). The rest will be dairy cows and "meat animals:" Pigs are superior as food animals, since they eat less individually, and are not picky eaters. Sheep will be extremely common if the region has a wool market (like medieval England, which was built on wool). Cattle for labor and milk will be found occasionally, but cattle raised specifically for meat are only found in very prosperous areas.

Bibliography

The SV list was taken (mostly) from the tax list of Paris in 1292, and checked against other sources for accuracy. This list can be found in *Life in a Medieval City* by Joseph and Francis Geis (Harper and Row, 1981). This is a fine book by amateur historians, which includes some fascinating descriptions of medieval city life and layout. Other books consulted include:

Medieval Cities, by Henri Pirenne. Doubleday.

The Castle Story, by Sheila Sancha. Harper Colophon.

The Medieval Town, by John H. Mundy and Peter Riesenberg. Robert E. Krieger Publishing Company.

The Medieval Town, by Fritz Rörig. University of California Press.

Medieval Regions and Their Cities, by Josiah Cox Russel. David & Charles press.

Want more info on how things worked in the Middle Ages? Give our eBook, ***Fief,*** a look!

Questions about the article? Visit the Blue Room FAQ; I have an entire section devoted to this article. *Please read the FAQ* before emailing.

This piece has really made the rounds . . . The earliest version was rejected by *Dragon* magazine back in 1993. I dusted it off, expanded it, and submitted it to *Pyramid* after that (no response at all). I improved it further for my own use, then pitched it to *The Familiar:* they accepted it, just in time for them to vanish, so once again it went unsold. After the obligatory touches of improvement, I "sold" it

again, to *Shadis*, just in time for **them** to vanish! So, its never made me a penny but it's been quite a ride! Now, I've given it a home where it can rest, and hopefully be discovered by people that won't reject it, ignore it, or go out of business after touching it (and, just recently, another popular gaming magazine approached me wanting to publish it, so I guess there's no rest for the wicked)!

Calculators and Spreadsheets: Derek Bryan created this easy-to-use calculator based on the 2005 version of the article; it's a lot of fun to play with, and includes a great implementation of the random values (which I highly recommend). Several folks have created calculators based on earlier versions of the article as well, including Brandon Blackmoor, Bronwyn Evans, and Douglas Schulz. There are also a couple of spreadsheets I know of based on earlier versions, one by Marcus Hulings (26k ZIP file, Excel and Quattro Pro), and Anthony M. Plum (29k ZIP file, Excel).

Demographics in French: French gamer Antoine Dinimant has placed *la Démographie médiévale facile* on the Web for those who dig French to enjoy. It's a translation of this article, with additional notes added from our correspondence!
