

Introduction to Cultural Anthropology: Class 12
Making a living: agriculture and pastoralism

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- Last time, we looked at a foraging subsistence strategy
- This time, we will continue with
 - **Agriculture = farming**
 - Activities to artificially increase plant food yields
 - clearing forest, sowing seeds, weeding, diverting water, fertilizing, etc.
 - **Agriculture = farming**
 - **shifting agriculture = slash and burn = swidden**
 - clear, usually burn off an area
 - plant amid the debris
 - grow one or several crops until productivity declines due to soil exhaustion, pests, entrenched weeds, etc.
 - abandon the field, leave it to regenerate for many years
 - sometimes these almost-synonymous terms are used to indicate different emphases
 - but we will just treat them as all meaning about the same thing
 - **fallow**: the resting period between periods of agricultural use of a plot of land
 - in swidden agriculture, fallow is very long, typically one to several decades
 - **intensification**: putting more labor in per acre of land to get more crop production out per acre
 - plowing, weeding, irrigating, fertilizing, fencing, etc.
 - reducing the fallow period is another way to put more labor into the land during a given span of years; this is intensification, too
 - plus, the shorter the fallow, the more fertilizing, weeding, etc. you have to do to keep the yield from dropping
 - agriculture that uses such methods is often called **intensive agriculture**
 - as in virtually all farming in the US
 - the opposite of “intensive” is **extensive**
 - using more land, but less intensively
 - typically with less labor input
 - typically with longer fallows
 - so swidden agriculture an extensive approach, compared to irrigating fields, which is more intensive
 - note that here, “extensive” agriculture does NOT mean “a lot of agriculture”, or “advanced agriculture”
 - it means agriculture that requires a lot of land, but does not work it very hard
 - intensification is a matter of degree; it falls along a spectrum
 - agriculture may be extensive, slightly intensified, moderately intensive, very intensive... depending on the amount of labor input per acre of land
 - which is better?
 - It is a trade-off between

- not working very hard, but needing a lot of land (extensive)
 - like foragers do
 - you can only do this where there are few people on a lot of land
- working harder, but needing less land per person (intensive)
 - farming, and intensifying
 - each person has to work harder when the population rises and there is limited land
- Example of farming: Pospisil extracts about the Kapauku Papuans of Papua New Guinea
 - also called Ekari or Ekagi
 - Kapauku is the language they speak
 - they live in the Indonesian province of Papua, formerly Irian Jaya
 - mountainous tropical forest with rivers and lakes
 - first contact with European outsiders: 1938
 - sweet potato is the staple: 90% of total farmland
 - pigs are essential for wealth, marriage, status, political and legal power
 - and are fed on sweet potatoes, too
 - we will look at the exchange of pigs in this region of the world in a later class (moka)
 - two types of farmland: steep slopes and valley floor
 - steep slopes: forested
 - shifting agriculture (swidden agriculture)
 - clear brush, cut trees, build fence, remove debris, burn it off
 - plant sweet potato shoots
 - weed
 - dig up harvest as needed, use field for one to a few years
 - abandon for 8-12 years (long fallow)
 - valley floor: cleared grassland
 - moderately intensive shifting agriculture
 - pull up grass, burn, fence, dig drainage ditches, weed
 - sweet potatoes, sugar cane, taro, banana, greens, cucumbers, gourds, beans
 - crop several times before abandoning to fallow
 - very intensive complex cultivation
 - dig rectangular beds separated by drainage ditches
 - fertilize with plant material and muck from ditches
 - crop almost indefinitely without fallowing
 - sweet potato, manioc, white potato, greens
 - the subsistence system affects gender roles
 - women and men do complementary tasks, working roughly equal hours
 - mountain slope plots:
 - men: cut trees, clear brush (with women), build fences, burn (with women)
 - women: take over once the field is prepared: plant, weed, harvest
 - valley floor plots:
 - some crops mostly by women, other crops mostly by men
 - pig breeding and multiple wives

- men own pigs; wives care for and feed them with family sweet potatoes, are paid when the pigs are sold
- men see wives as an investment, since they must pay her parents to marry
- but men have to work in order to provide them with the complementary tasks to do
- men also hunt in distant forests
- women also fish for crayfish, larvae, etc.
- both also gather insects and plants in wild areas and fallow fields
- subsistence is also tangled up with economics and social relations
- pig-breeding contracts as an alternative to more wives, and having to work more to keep them busy
- Notice again: this shows how culture is integrated
- Pospisil can't discuss subsistence without also dealing with
 - gender roles, “commercial” contracts, etc.

– Pastoralism

- depending primarily on herds of domesticated animals
- pastoralists typically move their herds to pasture areas, rather than bringing food to them
- typically, some or all of the pastoralists move with the herds
- thus, pastoralists are not sedentary
- terms for types and degrees of mobility (applicable to all people, not just pastoralists)
 - **sedentary**: having one permanent place of residence, year-round
 - that is, generally not mobile at all
 - pastoralists (and foragers) are rarely sedentary
 - **semi-sedentary**: various partially settled patterns
 - fixed homestead plus trips to seasonal camps
 - several fixed homes, one for each season
 - one settlement, but they move it every few years, or a few times per generation
 - and other arrangements...
 - **nomadic**: having no long-term place of residence
 - always living in temporary camps
 - **transhumant** (practicing transhumance): moving through a regular seasonal round of locations
 - may rotate between fixed settlements
 - or may cycle through the same general areas each year, but not to established settlements in each area
 - many pastoralists, and some foragers, are transhumant
- these are just analytical constructs, not sharply defined categories
 - they overlap and blend
 - individuals, families, and groups vary and mix these strategies
- some people argue that pastoralists can only exist in a system with farmers
 - in which pastoralists
 - produce meat, milk products, wool, hides, etc.
 - to trade with agriculturalists for farmed crop foods
 - without which the pastoralists could not survive very well

- and the pastoralists take advantage of their mobility
 - to buy and sell other goods in long-distance trade
- while the agriculturalists
 - produce extra crops with which to purchase the animal products and exotic trade goods brought by the pastoralists
 - on the other hand, in many places, farmers can survive fine without separate pastoralists
- Pastoralist societies range from simple to complex
 - herds allows for a wider range of wealth than among foragers
 - because some will prosper and some will fail
 - and because these differences accumulate over years
 - and can be inherited from one generation to the next
 - trade with farmers also may allow some pastoralists to amass great wealth
 - mobile pastoralists have sometimes been very effective warriors, typically plundering settled farmers
 - so for various reasons, some pastoralists have developed great social inequality, hierarchies of wealth, complex division of labor, royalty, armies, etc.
- One view: pastoralists use animals to convert patchy, seasonal forage that humans cannot eat into steady supplies of food:
 - milk, meat, blood,
 - and a surplus of animals and animal products to trade for grains, tea, and sugar
- Example: Fratkin extracts about the Ariaal pastoralists of Kenya
 - The reading is fairly clear, so I won't go over the basic facts in class. Some notes are included below as possible aids to studying.
 - two key Ariaal pastoral strategies: species diversity and mobility
 - species diversity
 - allows use of various different environments
 - insures against losses that affect just one species
 - diseases, drought, etc.
 - provides a variety of resources
 - camels: milk and transport
 - goats and sheep: meat and trade
 - cattle: needed for marriage and age-set rituals and market sale for cash
 - mobility
 - move to follow brief periods of good pasture depending on local rains
 - limited mostly by availability of drinking water
 - but semi-sedentary
 - live near water holes and towns
 - but stay 10 km away from them to avoid overgrazing
 - different animals have different needs
 - cattle: need water every 2-3 days, do better with wetter pasture
 - camels: go for 10 days without water, graze on dry desert scrub
 - goats and sheep: eat desert scrub, but need water every 2-3 days, thus near mountain springs and wells

- so Ariaal divide their herds
 - domestic herds, kept in lowland desert settlements with permanent water: milk cattle and male transport camels, and goats and sheep
 - camp herds in greener mountain areas
 - cattle: non-milk cattle (adolescent, male, and non-lactating female) sent to mountains for long stays
 - camp herds in desert lowlands
 - camels: non-milk camels (same subset) sent to desert for long stays
- gendered division of labor
 - dry season camp herds tended by male warriors
 - Spartan, dangerous camps
 - in settlements, camels used to fetch water, tended by girls
 - many more tasks divided by age and gender (see page 91):
- time allocation study of leisure time
 - married males rested 52% of time
 - women rested only 35% of the time, and even then, were usually doing some task
- two interesting forms of explanation offered by Fratkin
 - explains Ariaal strategies of
 - keeping a diversity of domestic animal species (cattle, camels, sheep, and goats)
 - dividing herds even of the same species into domestic herds, mountain camp herds, and desert camp herds
 - and their patterns of mobility and where they locate their settlements and camps
 - his explanations of these are “adaptive” or “functional”
 - explains the increase in the fraction of animals that they sell
 - occasionally sell animals to buy grains, tea, sugar
 - in 1976, sold 13% of cattle, 16% of small stock, no camels annually
 - in 1996, sold 25% of cattle, 21% of small stock, 6% of camels annually
 - due to quadrupling of price of maize meal
 - due to deregulation required by World Bank Structural Adjustment Loans
 - shows that they obviously must really need this corn meal, a product of farmers
 - explaining this shift into the market economy by referring to the World Bank is an example of Middleton’s “culture as system” approach
- **Agropastoralism**
 - depending on a mix of agriculture and pastoralism
 - most typically with one or more fixed settlements
 - plus pastures to which the animals are sent with some group members seasonally
 - Example: Herero and Tswana agropastoralists
 - neighbors of the Ju/’hoansi
 - in Lee’s view, the San had lived their region for a very long time, with no other ethnic groups present
 - some Tswana visited the Dobe area in the late 1800s
 - from their core region in more temperate lands southeast of Dobe and the Kalahari, which covers much of Botswana

- the Tswana are the dominant ethnicity in Botswana
- most are agropastoralists who farm maize and raise cattle, or urban dwellers, especially in the capital, Gaborone
- Botswana at the time was a British colony
- these Tswana claimed the “empty” land, and two powerful families gained title to most the Dobe area
 - comparable to Europeans taking title of land in the US occupied “only” by Native American foragers
- few Tswana actually live in the Dobe area
 - in the 1920s, the first Tswana settlers reached Dobe, establishing cattle camps
 - mostly cattle, some goats, chickens, etc.
 - some agriculture, especially maize (corn)
 - these are marginal, rural outposts for the Tswana
- most of the non-Ju/'hoansi in the region are Herero
 - the Herero were pastoralists who practiced some farming to the west of the Dobe area, having spread into Namibia from Angola
 - their area was colonized by Germany in the late 1800s
 - they rebelled in 1904, setting off a genocidal war
 - some fled into the Kalahari
 - the survivors took refuge in the Tswana region, under their British colonial rulers
 - some ended up around Dobe
 - essentially the same subsistence as the higher-status Tswana:
 - mostly cattle, plus goats and farmed maize
 - plus assorted other minor animals and crops
- This is a common pattern
 - when agriculturalists or pastoralists meet foragers on land they want, the foragers almost always lose.
 - Most of the world was once occupied by foragers
 - and is now occupied by farmers (and wage laborers supported by farmers)
 - Tswana and Herero farmers and herders occupy formerly Ju/'hoan land
 - agropastoralists of European descent now occupy North American land that was occupied by indigenous foragers and farmers
 - Why?
 - Progress? Improvement?
 - many of the Ju/'hoansi don't think so... they would rather continue foraging
 - Farming allows for larger populations in a given area
 - with more complex social structure
 - more able to create surplus settlers
 - more able to support specialists to make weapons and tools, etc.
 - better organized to fight, administer, imprison, etc.
 - is that “better”?
 - do poor farmers live better or happier lives than poor foragers?
 - or is farming just more prone to displace foragers than vice versa?

- Lee notes the interactions between Ju/'hoansi and Herero
 - Ju/'hoansi men often spend a few years working as cowhands for Herero
 - more for access to meat and milk than for pay
 - so they can share with relatives, host them at Herero camps
 - interesting intermarriage pattern:
 - Ju/'hoansi women marry Herero men (“marrying up” or “hypergamy” by women),
 - but no Herero woman will ever marry a Ju/'hoansi man (“marrying down”, “hypogamy” by women)
 - this makes Herero men competitors for scarce Ju/'hoansi women
 - defused by the “swara” relationship of exaggerated cordiality between Herero (high status) and San (low status) brothers-in-law
 - instead of normal San respect and avoidance of brothers-in-law
 - swara implies equality, a two-way street, even though all know it is not really there
 - (note: “Sarwa” is the Tswana term for all San people. Lee introduces it here for the cute similarity of the term with “swara”, but it is really just confusing)
 - this is a classic structural functionalist explanation
 - complete with Radcliffe-Brown’s “joking” versus “avoidance” relationship rules
- **Wage labor system**
 - people work for pay, rather than producing their own subsistence goods
 - then exchange that income for subsistence goods produced by others for exchange
 - in contrast to **subsistence agriculture**: each family mostly produces food for its own consumption
 - also contrasts with **cash cropping**: each family produces farmed crops for sale
 - often luxuries or non-foods, like artichokes, coffee, cocoa, cotton, tobacco, opium, etc.
 - rather than staple foods that the family would actually consume
 - then uses the income from the cash crops to buy the food they actually consume
- Each subsistence system affects the rest of the culture
 - foragers tend to be (as we saw last time)
 - mobile
 - live in small groups
 - have few possessions
 - thus only minor differences in wealth
 - division of labor mostly by age and sex
 - little occupational specialization
 - minimal social hierarchy of status or power (no one has much power over anyone else)
 - “simple” social organization based primarily on kinship
 - “simple in that there is only one system of relationships
 - without other crosscutting ones like wealth, education, ethnicity, etc.
 - even though the kinship system may be very complex
 - example: Ju/'hoansi
 - but foragers in particularly good environments may not fit these generalizations
 - pastoralists tend to be

- mobile or semi-sedentary
- live in fairly small groups, but often bigger than foragers
- have more possessions than foragers, especially herds
 - since they can become wealthy through successful animal husbandry
 - and have animals to carry additional goods
- their mobility often allows them to profit from trading
- may have large differences in wealth among individuals and families
 - since some peoples' herds will typically do better than others
- division of labor may be more complex and specialized
 - including traders, slaves, military, etc.
- may develop great social hierarchy of status and power
- so pastoralists tend to have more complex social and economic organization
 - often still based on kinship
 - but also involving rank, such as inherited chiefships
 - class, wealth, age-sets, etc.
 - **age-set**: all the people (usually boys) born in a period of a few years
 - often participate in coming-of-age rituals and other activities as a group
 - feel solidarity with each other, like “SSU class of 2014”
 - common among pastoralists for some reason... maybe due to their focus on animal breeding seasons?
- example: Ariaal pastoralists
- Note: this is NOT a progression from foragers, to pastoralists, to farmers
 - pastoralists may only be possible if farmers are also present
 - and pastoralists may be as socially complex, or more so, than the neighboring farmers
- farmers and agropastoralists tend to be
 - sedentary
 - live in larger groups
 - can accumulate more possessions, including land (which produces further wealth)
 - sedentism allows them to store possessions easily
 - thus may develop large differences in wealth
 - division of labor may be more complex
 - with some people specializing in craft production, ritual services, military service, etc.
 - who are supported by surplus food produced by others
 - more socially complex or hierarchical
 - often have “complex” social organization based on multiple systems, not just kinship
 - such as rank, class, wealth (as in the case of Kapauku), etc.
 - due to the larger numbers of people in contact with each other, and the more varied roles that people may have
 - example: Kapauku Papuans
 - not a very socially stratified or specialized case, though
- Why did people switch from foraging to farming?
 - this is a subject for another whole class, like Anth 341 (Emergence of Civilizations) or Anth 325 (World Prehistory)

- but here is the rough outline:
- foragers know how plants and seeds work; it is not hard to figure out how to plant and harvest
 - but it is more work per person, so they don't do it
- but foraging requires a lot of land per person
 - swidden agriculture requires less land per person
 - a farmed acre produces more food than an acre of wild foods exploited by foragers
 - more intensive agriculture requires even less
- so if population grows beyond what the land can support by foraging, then a group may have to adopt agriculture
 - farming produces more per acre,
 - even though it produces less per hour of work
 - supports more people in the given area
- in at least some important early cases, it may be not that the population grew, but that the productivity of the land declined out from under them
 - due to climate changes around the end of the Pleistocene (Ice Ages)
 - the effect is the same: too many people for the wild resources to support
- switching to agriculture tends to increase fertility
 - many reasons for this, both biological and cultural, but again, that is for another class
 - bottom line: once people switch to agriculture, their populations tend to rise much faster
 - so they have to keep adjusting methods to more and more intensive agriculture
 - in order to produce more and more food per acre
 - eventually, the door slams behind them; they can't go back
 - there are too many people to support by foraging
- A long-term look at the energy costs of farming and intensification
 - initially, all of the additional energy input required to farm, rather than forage, was provided directly by people
 - fairly quickly, people started using animals to provide some of the increased energy input
 - animals pulling plows
 - increasing yield by fertilizing with dung, etc.
 - in the last 150 years or so, we have been substituting fossil fuel energy for human and animal energy in agriculture
 - we are still getting ever more food per acre by putting in ever more energy per acre
 - but we are finally getting more food for less work *by people*
 - this was not true until the late 1800s
 - modern agriculture is extremely intensive
 - it produces huge amounts of food per acre
 - supporting huge populations
 - but the long-run costs of using all this energy to squeeze all this food from this limited land may be high
 - pollution, global warming, the impacts of those very large populations...