

Introduction to Cultural Anthropology: Class 10  
**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 have slightly different emphases
        - slash and burn emphasizes clearing forest. It may or may not imply long fallows or returning periodically.
        - swidden usually implies plots cleared by burning, emphasizing the long fallow and cyclical return. The natural landscape may or may not be forested.
        - shifting agriculture emphasizes the temporary use of plots, which may or may not be cyclical. It does not necessarily imply cleared forest.
    - **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 into a plot of land to get more crop production out
      - 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
      - agriculture using such methods is often called **intensive agriculture**
        - as in most farming in the US
      - the opposite of “intensive” is **extensive**
        - using more land less intensively
        - typically with less labor input
        - typically with longer fallows
        - so swidden agriculture an extensive approach, compared to irrigating fields
  - Example: 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
    - 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
- two types of farmland: steep slopes and valley floor
  - steep slopes: forested
    - shifting agriculture
    - clear brush, cut trees, build fence
    - remove debris, burn
    - plant sweet potato shoots
    - weed
    - dig up harvest as needed
    - abandon for 8-12 years
  - valley floor: cleared grassland
    - intensive shifting ag
      - 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
    - intensive complex cultivation
      - dig rectangular beds separated by drainage ditches
      - fertilize with plant material and mud from ditches
      - crop almost indefinitely without fallowing
      - sweet potato, manioc, white potato, greens
- complementary tasks of women and men
  - men see wives as an investment
  - but have to work in order to provide them with the complementary tasks to do
- pig breeding and multiple wives
- pig-breeding contracts as an alternative to more wives
- hunting in distant forests
- fishing for crayfish, larvae, etc. by women
- gathering insects and plants in wild areas and fallow fields
- **Pastoralism**
  - depending primarily on herds of domesticated animals
  - pastoralists 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 *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
      - typically means a fair amount of investment in each location
        - a house, farmstead, village, town
        - often resembling year-round, permanent residences, even if often empty
      - One pattern: stay in a settlement for years, then move on and establish a new one

- more permanent than camps, but still not really permanent
- Another pattern: have one fairly permanent settlement, but often leave it for extended periods
  - usually seasonal
  - as in having a permanent winter village
  - while in the summer, people disperse to temporary hunting and gathering camps
- or, have several established residences, and shift between them
  - again, usually seasonal
  - as in having a winter house in a valley,
  - and a summer house near high pastures
- reality is often a mix of these, often varies from year to year
- **nomadic**: having no permanent place of residence
  - always living in temporary camps
- terms for *patterns* of mobility (again, not only for pastoralists)
  - **transhumant** (practicing transhumance): moving through a set seasonal round
    - may have fixed settlements that are revisited every year in a certain season
      - in which case they are semi-sedentary and transhumant
    - or may cycle through the same general areas each year, but not to established settlements in each area
      - in which case they are nomadic and transhumant (transhumant nomads)
  - **purely nomadic**: no set route or stopping places at all
    - always on the move, not in any routine pattern
    - this extreme form of nomadism is rare or maybe even non-existent
    - it may really be just a theoretical concept that serves to define a range of variation from strict transhumance to pure nomadism
    - so that we can place real cases somewhere along this continuum
- these are not sharply defined categories
  - they overlap and blend from one to the next
  - different scholars define them differently
  - and they oversimplify, since in most societies there is actually a range of ways in which individuals and families live, depending on how wealthy they are, what land they own, family history, etc.
- Pastoralists are often transhumant
  - moving between set areas depending on the season, to pasture their animals
  - may be semi-sedentary
    - shifting between established settlements in different areas
  - or nomadic
    - just setting up camp in the appropriate area each season
  - foragers may be transhumant, too
- some people argue that pastoralists can only exist because they trade with agriculturalists for plant foods
  - that is, some argue that pastoralism is always part of a larger system
    - with exchange between pastoralists, who produce meat, milk products, wool, hides, etc.,

- and agriculturalists, who produce staple crops
- while in many places, farmers can survive without separate pastoralists
- thus even though some pastoralists are or have developed very complex social organization (kings, aristocracies, armies, specialists of all kinds), it may be that this can only happen alongside farmers with whom they trade, fight, or otherwise interact
- Example: Fratkin extracts about the Ariaal pastoralists of Kenya
  - pastoralists have had a wide range of social organizations, from simple to complex
  - pastoralists use animals to convert patchy, seasonal forage the 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
  - 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 settlements with permanent water: milk cattle and male transport camels, and goats and sheep
    - camp herds in mountains
      - cattle: non-milk cattle (adolescent, male, and non-lactating female) sent to mountains for long stays
    - camp herds in desert
      - 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: p. 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
- 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 p. 95
  - explaining this shift into the market economy by referring to the World Bank is an example of Middleton's "culture as system" approach
- Example: Herero and Tswana pastoralists
  - 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 or urban dwellers
      - Botswana at the time was a British colony
  - they 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
    - when agriculturalists or pastoralists meet foragers on land they want, the foragers almost always lose. Why?
  - 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
    - there are few Tswana people in the region
  - 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
    - Herero are the majority of the non-Ju/'hoansi in the region
  - essentially the same subsistence as the higher-status Tswana:
    - mostly cattle, plus goats and farmed maize
    - plus assorted other minor animals and crops

- 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 might actually be confusing)
- **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
- **Wage labor system**
  - people work for pay, rather than producing their own subsistence goods
    - in contrast to **subsistence agriculture**: each family produces most of the food it actually consumes
    - also contrasts with **cash cropping**: each family produces crops that it sells in order to buy the food it consumes
  - then exchange that income for subsistence goods produced by others for exchange
- Each subsistence system affects the rest of the culture
  - foragers tend to be
    - mobile
    - live in small groups
    - have few possessions, and thus only minor differences in wealth
    - division of labor mostly by age and sex
    - little occupational specialization
    - minimal social hierarchy (no one has much power over anyone else)
    - “simple” social organization based primarily on kinship
    - example: !Kung
    - but foragers in particularly good environments may not fit these generalizations
      - ex: northwest coast of North America: rich salmon runs allowed for sedentary, complex societies based on foraging
      - ex: Central California: reliable, productive acorns allowed for semi-sedentary foragers
  - 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
- 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.
- their mobility often allows them to profit from trading
- 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.
- example: Ariaal pastoralists
- farmers and agropastoralists tend to be
  - sedentary
  - larger groups
  - can accumulate more possessions, including land (which produces further wealth)
    - sedentism allows them to store possessions easily
    - may have considerable differences in wealth
  - division of labor may be more complex
    - with some people specializing in craft production, ritual services, military service, etc.
    - supported by surplus food produced by others
  - more socially complex or hierarchical
  - due to the larger numbers of people in contact with each other, and the more varied roles they many have, farmers and agropastoralists typically have additional forms of social organization beyond kinship
    - rank
    - class
    - wealth (in case of Kapauku)
  - example: Kapauku Papuans
    - not a very socially stratified or specialized case, though
- Why did people switch from foraging to farming?
  - 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 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

- 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)
    - a subject for another class, like Anth 341 (Emergence of Civilizations)
  - 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
- a fraction of the additional work of farming was offset by using cattle or other animals to pull plows and increase yields by fertilizing the fields with dung
- in the last 150 years or so, we have been substituting fossil fuel energy for human and animal energy in agriculture
  - we are finally getting more food for less work
    - this was not true until the late 1800s
  - but this conversion of other forms of energy into food is not efficient
    - foragers use 1 calorie of human energy to produce 10 calories of food energy
      - and can do this sustainably, essentially forever, with virtually no impact on the land
    - today, we expend 80 to 120 calories of energy, mostly fossil fuel energy, to produce those 10 calories of food
      - about 100 times less efficient than foraging
      - and this is not sustainable; we are using up finite fuel and land resources to do it
      - sometimes said that today, we “eat oil”, since so much of it is essentially converted into food in a very wasteful way
  - this wasteful process does produce huge amounts of food per acre
    - supporting huge populations
  - but the long-run costs may be high
    - pollution, global warming, the impacts of those very large populations