

Photo 4a: “Azzega” (photograph G. Dainelli, 1905; in: Dainelli 1908:123)



Photo 4b: Hazzega towards the north (photograph by L. Lätt, 2004)

Photos 4a+4b: The village of Hazzega. In the photo taken in 1905 (top), the landscape appears to be totally devoid of trees. *Hidmos* can be seen in the background. This traditional house type has since been largely replaced by modern houses, as shown by the photo taken in 2004 (bottom).

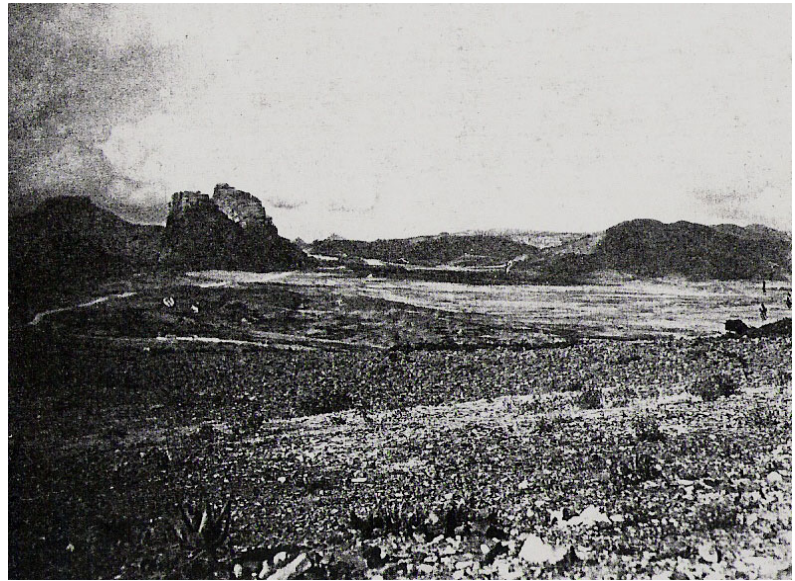


Photo 5: “La conca di Senafe” (photograph A. Maugini 1936, IAO)

Photo 5: Near Senafe, 1936. The picture is dominated by open cropland or grassland, with occasional small shrubs and some sisal. Trees are conspicuously lacking in the plains.

Concluding remarks

There is considerable evidence that the forest cover has not dramatically decreased over the last 100 years in the Eritrean Highlands: The old photographs and travel accounts collected to date suggest that these areas were already largely devoid of forest when Italian colonialisation began. Whatever forest cover there was in a more distant past in the Eritrean Highlands must have disappeared well before 1890 for the most part. Old photos also show that landscape evolution was dynamic, with areas of forest and woodland decrease and areas of regeneration; with plants disappearing and others emerging in their place. The efforts made in afforestation over the last 100 years are conspicuous on many photographs.

Historical photographs and travel accounts also show that crop and grazing lands already covered extensive areas by the end of the 19th century. The spread of cultivated land in a bid to feed an increasing population, often held responsible for the supposedly marked decrease in forest cover, seems to have been less significant than believed in the past 100 years, and was at the expense of grassland or bush rather than at the expense of forest.

Material on landscape history in Eritrea is still lean and spotty, which makes extrapolation of findings for wider areas difficult. In order to get conclusive and representative results for larger areas, additional information must be collected and analysed, if possible including aerial photos. The present info sheet should be seen as a short summary of what is known to date. We hope that it stimulates further research.

References:

Boerma, Pauline, 1999: Seeing the Wood for Trees: Deforestation in the Central Highlands of Eritrea since 1890. PhD thesis, Oxford University.
 Lätt, Louise, 2004: Eritrea Re-Photographed. Landscape Changes in the Eritrean Highlands 1890-2004. MSc thesis, University of Berne.
 Liebi, Francesca, 1993: Landnutzungsstruktur und Landschaftsentwicklung im Hochland Eritreas 1800-1952. MSc thesis, University of Berne.
 Ritler, Alfons, 2003: Forests, Land Use and Landscape in the Central and Northern Ethiopian Highlands, 1865 to 1930. African Studies Series A 19. University of Berne.

Apart from figure 4a, all historical pictures presented in this paper are stored in the archive of the Istituto Agronomico per l'Oltremare (IAO) in Florence and in the Museum für Völkerkunde (MVK) in Vienna. The author wishes to thank these institutions, as well as others, for access granted to their photo archives.

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Eritrea Re-photographed

Landscape Changes in the Central Highlands 1890 - 2004

Eritrea's forest cover is said to have dwindled from 30% of the land surface around 1890 to less than 1% today. However, recent research evidence from the Highlands casts doubt on the belief that an overall decrease of forests occurred over the last 100 years; whatever forest cover there was must have disappeared well before this period. By contrast, the efforts made in tree planting are conspicuous in many places.

The “narrative of deforestation”

This info sheet presents first results of research work done on landscape and forest cover change in the Eritrean Highlands over the last 100 years. The research is based on historical sources such as old photographs and travel accounts. It was stimulated by doubts relating to the so-called “narrative of deforestation”, which says that woodlands and forests dramatically decreased in Eritrea during the last 100 years; that there was abundant forestland in Eritrea some decades ago; and that this was largely destroyed owing to the effects of the colonial regime, thirty years of war, and an increase in population.

No overall decrease of forests in the Highlands over the last 100 years

- Present research evidence on landscape and forest cover change shows the following:
- Comparison of old and new photographs does not show an overall decrease of forests in the Highlands over the last 100 years (1890-2004)
 - Changes in forest and woodland cover were complex in space and time. Forests decreased in some areas, but increased in others due to afforestation programmes and natural regrowth most prominently around settlements and towns
 - Old photographs show that terracing for soil and water conservation was most likely practiced already in pre-colonial times
 - Owing to the limited quality of most old pictures, it is difficult to make statements on the extension and quality of non-forest vegetation (cropland, grazing areas).

The following text and pictures present the landscape history of specific areas and sites in the Eritrean Highlands in more detail.



Photos 1a and 1b: Enda Amanuel near Mendefera. The historic photo taken around 1920 shows single trees or bushes on steep hillsides. Terracing can be seen on cropland below the then settlement. The photo taken in 2004 shows less open bush on the slope, but trees in the village, which has moved downslope and consists mainly of modern housing.

Photo 1a: “Enda Michiel presso Adi Ugri”, taken around 1920; photographer unknown.

Photo 1b: Enda Amanuel (photograph by L. Lätt, 2004)



A note on methods: Photo-monitoring; travel accounts, and oral history

Historical photo-monitoring has become an important research tool in environmental history. This method compares historical photographs with present-day photographs in order to detect environmental changes in specific localities or areas. A photograph has the advantage of showing a multitude of details much better than literary sources. However, the information provided by a photograph is limited to the area shown in the picture, and by the quality of the picture. Care must be taken when making extrapolations for wider areas not shown in the pictures.

Historical travel accounts often provide a more general impression of past landscapes, and also reach much further back in time than historical photographs. Generally speaking, researchers have to be aware that historical accounts and photographs of Eritrea were written, or taken, by European travellers and therefore show characteristics of the landscape that were important in *their* perception.

Oral history through interviews with local people allows for accounts of local perceptions. Information obtained with this method is authentic, but not unbiased, as the memory of people can fail them or may be shaped and re-shaped by specific narratives and changing interpretations over time.

Forests and vegetation changes in the Central Highlands...

The highland plateau of the former Hamasien Province of Eritrea was described as very scarcely vegetated, already in travel accounts from the 19th century. This is confirmed by landscape photographs from the early Italian colonial period, in which treeless landscapes dominate. Holy places, valley bottoms and the banks of rivers were exceptions as they were in part quite densely vegetated. The Anseba valley was described as densely vegetated, especially with *kolqual* (euphorbia), which are still common, for example, in the area of Adi Hannes and north of Adi Teklezan.

Eucalyptus, sisal, and *berbere-tselim* and other indigenous trees were planted in the Highlands during Italian colonial times in order to “re”-forest the country. Trees were typically planted in and around settlements, including Asmara (see Photo 2a, 2b). Tree planting continued during the liberation war, as afforestation efforts were made by the Ethiopian as well as the Eritrean side.

After liberation, local communities, students, and soldiers were all involved in planting programmes; the resulting plantations in settlements, watersheds, and along main roads make the landscape look more forested today than it was 100 years ago in many parts of the Central Highlands.



Photo 3: “Mandrie al pascolo sull’altopiano (Segeneiti)” (photograph by Candussio, 1938. IAO)

Photo 3: Cattle grazing near Segeneiti. Taken in 1938, this photo also presents a landscape devoid of forest.

Forests and landscape changes in the Southern Highlands

According to travel accounts from the 19th century and landscape photographs from the early colonial period, the southern part of the Eritrean Highlands used to be slightly more vegetated than the central part, especially with shrubs. But generally speaking, the plateaus of the Southern Highlands were described as treeless as those in the north, while the steeper hills appear to have often been overgrown with shrubs and acacias (see Photo 1).

Comparison of the few photographs available shows that the shrub vegetation has decreased a little in some areas around villages and on hill slopes since about 1900. It also appears that primary vegetation was replaced by *beles* in some areas. This cactus plant was reportedly introduced by Catholic Missionaries in the early 19th century on the eastern escarpment. In the Italian colonial period, it had already spread to the Southern Highlands, and to the area around Keren in the north. Since then, it has expanded and can be found in almost all highland areas.

Comparison of old and new photographs shows the significant amount of eucalyptus and other trees also planted in the Southern Highlands. Even though acacia, shrubs and euphorbia vegetation as well as wild olives and juniper have diminished in some places, and some specific areas like the Kohaito plain are reported to have been more vegetated in the past, the vegetation in other areas has obviously increased significantly due to the spread of *beles* and rumex and plantations of eucalypts, *berbere-tselim*, and the regrowth of acacias and other trees.



Photo 2a: “Asmara – Col: Bet-Maka e forte Baldissera” (photograph by F.Nicotra, 1896. MVK)

Photos 2a and 2b: The expansion of villages and towns has often been accompanied by tree planting. The capital, Asmara, is an example of this development. The town has many more trees in 2004 than in 1896, when it started to emerge on what was then a bleak and barren-looking plain. It should be noted that the two photos at the left show the same landscape.



Photo 2b: The forto hill in the west of Asmara (photograph by L. Lätt, 19.02.2004)

**“Not a tree nor a shrub.... ”
The Central Highlands around 1908 according to a travel account**

“All along these vast valleys not a tree nor a shrub appears to interrupt the monotonous, desolate, severe aspect of the green fields and of the regular hills. The whole highland looks like that: Who has seen it in Asmara can say to have seen everything (...) Hills following one another; undulating lands, green during the short wet season, reddish, dry and dusty during all the long dry season. Just here and there some poor agaves, scarce thorny shrubs or acacias can be found, which resist to the dry climate.”

(Quote from historical travel account by: Paoli 1908: 196-197, translated from Italian).

**“No trees apart from the big sycamore of Debarwa ... ”:
The landscape between Dbarwa and Mendefera, around 1909 according to a travel account**

“The horizon remains the same and seems far, far, almost infinite. There are cultivated fields, plantations of sorghum and forage crops, green meadows (...) no trees apart from the big sycamore of Debarwa. The landscape is always the same until Adi Ugri, Godofelassi and even further, throughout the whole Seraye. Everywhere fields and meadows, always the uniform plain... ”

(Quote from historical travel account by: Dainelli 1909: 11, translated from Italian).