Deutscher Tropentag 2004- Berlin, 5-7 October 2004
Conference on International Agricultural Research for Development

WILD ARABICA COFFEE POPULATIONS UNDER SEVERE THREAT

Farmers´ Perception of Existence, Access to and Conservation needs in the Montane Rainforests of Ethiopia

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Abstract

The aim of this study was to understand framers´ perception of the existence; access to and conservation need of the coffee forest and the wild coffee population in it. The evidence derived from the study revealed that considerable variations were observed among farmers in the same woreda and between farmers in the two woredas. Variations in perception were also observed between farmers and outsiders. Understanding framers´ perception of resource management lays the foundation and is key to improving the transparency and effectiveness of conservation and use concepts besides creating platforms that enhance negotiations between farmers and outsiders. The implication is that any endeavour attempting to develop sustainable and effective conservation policies, rules, regulations, institutions and strategies need to take in to account contemporary existing farmers´ perception of resource management and use. Besides, policy makers and development practitioners need to take into account the plurality of resource management views and practices that prevail while designing conservation strategies.

1. Background and aim of the study

The wild populations of *Coffea arabica* are requisite genetic resources that are of significant value to millions of small-scale farmers who eke their living out from them, and for multitudes of coffee-producing and coffee-drinking agents worldwide (Agrisystems Limited, 2001). The values of the wild populations of arabica coffee are both direct and indirect. The direct values are those that the population depending on them derives from the consumption of the coffee beans and the income (farmers) and foreign currency (government) earnings generated from its sale and export, respectively. The most important indirect value of the wild coffee population is the intrinsic breeding value i.e. high-yielding and disease resistant characteristics (Charier and Berthaud, 1990).

The coffee forest and wild coffee are disappearing rapidly mainly because of deforestation. Previous attempts to conserve the forests in general and the coffee forests in particular were precarious and did not have significant impact. One of the many possible factors to past failures is failure to understand farmers´ perception of the need to conservation and hence lack of participation of the local communities in the planning, decision-making and implementation processes of conservation activities (Kumelachew, 2001; Yonas, 2001).

Farmers´ perception of natural resources degradation problems derives from a variety of sources viz. personal experience, particularly of extreme events such as massive immigrants flowing in to the locality, droughts or floods or interference from external sources. On the other hand, policy makers and development practitioners often have different perceptions and the also differ in the

solutions they suggest (William et al, 2003). If and when conservation strategies do not take into account these differences and farmers´ perception and their interest and needs, they are more likely to be ineffective and unsustainable (Shibru, 1995, Gimble, 1998, Takasaki et al. 2001). The main objective of this paper is to assess farmers´ perception of the existence, access to and need for conservation of the coffee forest and wild coffee population in the montane rain forests of southwestern Ethiopia.

2. METHODOLOGY

2.1 The study area (Yayu and Sheko)

The study was conducted in two woredas namely *Yayu* and *Sheko. Yayu* is one of the 13 woredas[1] of Illubabor Zone[2], Oromia Regional State. *Sheko* is one of the 9 woredas in Bench-Maji zone of the Southern Nations, Nationalities and People's Regional State (SNNPRS). The livelihood strategies employed by the community include farming, apiculture, artisan work, and trade. Farmers often employ a combination of these i.e. either farming and apiculture or farming and artisan work. Farming is however the main occupation upon which the livelihood of the majority depends and it is practiced in the form of mixed farming i.e. both crop and livestock production, and bee keeping. Coffee plays an important role in terms of generating income.

2.2 Data collection techniques

The research utilized both primary and secondary data. Primary data were collected using selected Participatory Rural Appraisal (PRA) tools in the main viz. Participant Observation, Focus Group Discussions (FGDs), in-depth interviews i.e. key informant and expert interviews. A formal survey was also conducted through questionnaire administration to supplement the data generated by employing qualitative methods. A simple random sampling technique was employed to draw 240 farmers (140 from *Yayu* (117 male headed households (MHH) (84%) and 23 female headed households (FHH) (16%)) and 100 from *Sheko* (91 MHH (91%) and 9 FHH (9%))) in conducting the formal survey. Data were analyzed using simple descriptive statistics.

3. RESUTS AND DISCUSSION

3.1 Reasons for the existence of the coffee forests

The overall picture (*Yayu* and *Sheko* combined) revealed that the existence of the coffee forest in the form it is to day is attributed primarily to the suitability of the environment followed by a joint effort of individuals and government regulations. Farmers indicated joint efforts of individuals and the government, government regulation and individual contribution as factors that have played their part in the conservation of the coffee forests, in that order of decreasing importance indeed. However, variations were observed between the two *woredas* as regards the responses as significantly large proportion of farmers in *Yayu* indicated suitability of the environment as number one factor, followed by a joint effort of individuals and government, government regulation and individual contribution, in that order of descending importance. In *Sheko*, on the contrary, it is the joint act of individuals and the government that has come out as number one reason for the existence of the coffee forest followed by individual contribution,

[1] A woreda is the lowest constitutionally recognized governance structure. It is run by a woreda council consisting of a chairperson, vice chairperson and members of cabinet representing different sectoral government offices at that level.

[2] A Zone is an intermediate governance structure between a woreda and Regional Government. It is not constitutionally recognized but operates with power delegated to it by the regional government.

government regulation, suitability, and community regulation, in that order of descending proportion (Table 1).

Table 1. Farmers' perception (%) of the reasons for the existence of the coffee forest as reported by sample farmers in *Yayu* and *Sheko*

Reason	Yayu	Sheko	Total
Government regulation	15	15	15
Community regulation	-	11	5
Individual contribution	4	24	13
Suitability of the environment	56	13	36
Joint (Individual & government regulation)	25	37	31
Total	100	100	100

Indeed, farmers make distinctions between coffee forests under the ownership of farmers and coffee forests under the ownership of the government and thereby attribute various reasons for the existence of each category. According to farmers, coffee forests under the ownership of farmers have existed thus far mainly because of the way they have been cultivating coffee (traditional semi-forest coffee production system). On the other hand, coffee forests under the ownership of the government have existed so far because of strong government control measures (rules and regulations). However, farmers did not want to pass with out mentioning that some government rules are contradicting with their interest. They thus suggested that any conservation effort the government is promoting should involve them and take their views and interests into account.

3.3 The population dynamics of the wild coffee and factors affecting it

In *Sheko*, majority of farmers interviewed indicated that the population of the wild coffee in the coffee forest has increased over the years and relatively few indicted that the population has either decreased or unchanged. In *Yayu* on the other hand, relatively large number of respondents indicated that the population did decrease but there were also some respondents that indicated that the population has increased (Fig 1)

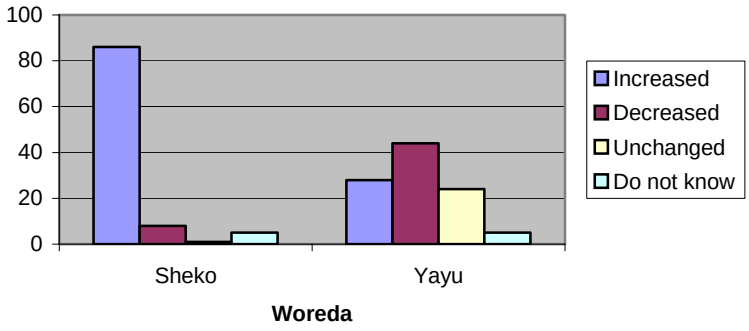

Figure.1. Farmers' perception of the population of the wild coffee in the forest in *Yayu* and *Sheko* woredas

Farmers attributed ageing, deforestation, agricultural expansion, and disease as factors that have led to the decrease, and natural regeneration, and planting by individual farmers as factors that have led to increase in the population of the wild coffee. The proportion of farmers who have

indicated ageing and deforestation is significantly higher in *Sheko* than in *Yayu* while the proportion of farmers who have indicated deforestation is significantly higher in *Yayu* than in *Sheko* (Table 2).

Table 2. Farmers' perception (%) of factors that have led to the change in population of the wild coffee in the forest in *Yayu* and *Sheko*

Factor	Yayu		Sheko		Total	
	Decrease	Increase	Decrease	Increase	Decrease	Increase
Ageing	16	-	22	-	23	-
Deforestation	47	-	34	-	40.5	-
Agric. Expansion	17	-	36	-	26.5	-
Disease	10	-	8	-	10	-
Regeneration	-	76	-	68	-	72
Planting	-	24	-	32	-	28
Total	100	100	100	100	100	100

Aalthough not that important, farmers also indicated the introduction of modern coffee farming as a threat to the population of the wild coffee in the forest. They did not totally reject the modern coffee production system because of the advantage of high yielding and disease resistance varieties. They also complained about the additional labour required to undertake the management practices, in the absence of which coffee plants of improved varieties withered away easily as opposed to wild coffee cultivars. Failure to comply with recommended management practices, according to farmers, will result in total disappearance of the coffee plants.

3.4 Threats to the wild coffee population

Continuous price reduction is a problem reported by the majority of farmers in both woredas as number one threat. Indiscriminate deforestation, population increase and disease were also reported as important threats, in that order of descending importance, with a little difference in the ranking between the two woredas. Agricultural expansion appears to have been the least but this is only because it is confounded by both indiscriminate deforestation and population increase (Table 3).

Table 3. Farmers' perception of threats (%) to the population of the wild coffee in the forest in Yayu and Sheko

Threats to the wild coffee Population	Yayu	Sheko	Total
Indiscriminate deforestation	22.5	18.6	20.6
Population increase	15.8	24.4	20.1
Agricultural Expansion	10.5	12.5	11.5
Price reduction	30.0	25.0	27.5
Disease	21.2	19.5	20.3
Total	100	100	100

With decline in coffee price, farmers start to look for other alternatives like growing cereals and selling them in the market. This in turn meant that they engage themselves in clearing forests in search of more agricultural lands. Some researchers have also reported this as well (Demel 1999, Zerihun 1999, Tadesse et al. 2002). Adugna and Hindorf (2000) and Girma and Hindorf (2001)

have also reported diseases and pests (CBD, coffee leaf rust, and pathogens as well as pests) as factors threatening the wild coffee population in the forest.

3.5 The access to the wild coffee population

In *Sheko*, large proportion of respondents (87%) indicated that the access to the collection of wild coffee from the forest has increased over the last ten years while very few indicated that it is decreased (9%) and unchanged (4%). In *Yayu*, on the other hand, relatively large proportion of respondents (47%) indicated that their access has been decreased, 35% indicated their access has unchanged and 18% indicated it has increased (Figure 2)

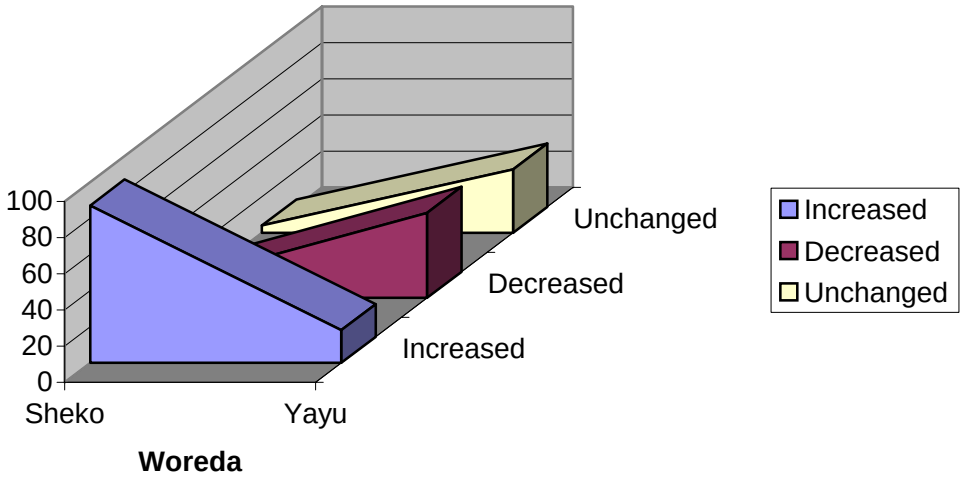

Figure 2. Farmers´ access (%) to the wild coffee population in the forest

The evidence that shows that the access has decreased significantly in *Yayu* than in *Sheko* could be attributed to the most recent wild coffee conservation activities by the government (demarcation of forest coffee sites) that farmers reported to have claimed their holdings. The rules enshrined in the conservation strategy did not allow farmers to have access to the wild coffee as much as they would have liked. Alternatively, it can also be argued that *Yayu* is much more interfered and thus disturbed by the community living in the vicinity, which in turn is an indication of the intensity of management practice employed by farmers and hence the degree of restriction imposed.

3.6 Factors affecting farmers' access to the wild coffee population

Farmers reported that declining coffee price, existing forest tenure, government legislation and a combination of either two or more of these as factors that have affected their access to the wild coffee in the forest. In *Yayu*, it is the existing forest tenure that has been reported by significantly large number of farmers. Whereas quite small proportion of farmers indicated that government legislation and declining coffee price as factors that have influenced their access to the wild coffee. In *Sheko*, on the contrary, significantly large proportion of farmers reported declining coffee price as a major factor that affecting the access to the wild coffee in the forest (Table 4).

Table 4. Farmers´ response (%) of factors affecting access to wild coffee in the forest as indicated by sample farmers interviewed in *Yayu* and *Sheko*

Factor affecting access	Yayu	Sheko	Total
Forest tenure	50	13	27
Declining coffee price	12	72	50
Government legislation	19	5	10
Others	19	10	13
Total	100	100	100

This variation in the perception of farmers as regards their access to the wild coffee in the forest clearly shows the need to shy away from prescription of a top down and generalized conservation measures. Therefore, it must be noted from the outset that simple prescriptions of conservation measures with the hope that they will work invariably in various social settings is a futile exercise. Instead, we should consider farmers perception of the factors that limit their access to resources and respond to the constraints.

3.7 The need for & the responsibility of conserving the wild coffee

Cognizant of the very important and therefore crucial role that it plays in their lives, almost all (100%) of the farmers in both *Yayu* and *Sheko* indicated that the resource must be conserved. Nevertheless, variations were among farmers of the same woreda and between the two woredas. The overall picture showed great majority of farmers indicated that the responsibility of conserving the coffee forest should be that of individuals. However, some farmers have also indicated local institutions, local government and central government in varying proportions though. In *Sheko*, quite a significantly higher proportion of farmers accorded the responsibility to individual farmers, while in *Yayu*, significantly higher proportion of respondents indicated the responsibility to be a joint effort (Table 5).

Table 5. Farmers' recommendation (%) regarding the responsibility of conserving the wild coffee in the forest in *Yayu* and *Sheko*

Who should be responsible?	Yayu	Sheko	Total
My own	14	70	40
Local institutions	14	5	10
Federal government	18	3	11
Local government	10	5	8
Joint effort of all	32	2	18
Various other combinations	12	15	13
Total	100	100	100

The above perception of farmers, which indicates that the resource should be conserved and the responsibility should be a joint responsibility, is a good and encouraging sign. This is because; the fact that there is a consensus between the two parties (farmers and outsiders) regarding the need for conservation paves the way for possible collaboration and cooperation. It is therefore this opportunistic scenario that outsiders need to exploit to the maximum possible in developing conservation measures. The way forward in such a situation is therefore to engage in constant consultation with farmers and enlisting possible conservation measures. Evaluating the pros and cons of the different alternatives together with farmers and constructing optimal trade-offs that

result in desirable outcomes for both parties is what is required to develop sound and sustainable conservation measure.

3.8 Strategies to conserve the wild coffee population

In *Sheko*, quite significantly high proportion of farmers recommended strengthening of local level institutions as a strategy while in *Yayu*, large majority farmers indicated enforcing government laws to be critically important. This picture also appeared to have been the case when the responses in both woredas are lumped together. Farmers also indicated, in both woredas, that communal ownership of the resource (forest in this case) and joint efforts are also important in conserving the resource effectively and efficiently, although the proportion was significantly low (Table 6).

Table 6. Farmers' recommended strategies of conservation of the wild coffee in *Yayu* and *Sheko* woredas

The strategy recommended (%)	Yayu	Sheko	Total
Privatising forest land	5	1	3
Strengthening local institutions	8	69	36
Enforcing government rules	46	6	28
Communal ownership of forest land	30	12	22
Combination of the strategies	11	12	11
Total	100	100	100

The fact that the majority stressed the need to strengthen local institutions and communal ownership of resources is an indication of the need for decentralized natural resource management. The reasons for reduced interest of privatising forestlands should also be analysed thoroughly in the effort to come up with conservation measures. These, supplemented with variations in social factors indeed, surely indicates the need for looking alternatives that go in line with existing realities.

5. CONCLUSION

Considerable variations were observed among farmers and between the two woredas regarding the reasons for the existence of, the access to, the population dynamics, threats and the responsibility and conservation strategies needed of the wild coffee in the forest. It is also observed that such variations in turn are related in one way or another to differences in social factors and resource endowments. Understanding these differences and making explicit the basis of these differences and positions is thus likely to improve the transparency and effectiveness of conservation and use concepts. The understanding further helps to create platforms that enhance negotiations between stakeholders by enabling actors to understand the plurality of views that prevail in the context of forest and wild coffee resource use and management. On the contrary, failure to recognize this dimension may result in developing superficial policy measures and designing and implementing less effective and perhaps redundant conservation and use concepts that fail to address the deeper underlying (structural) differences between resource users on the one hand and resource users and policy makers on the other.

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