UNITED NATIONS

EMERGENCIES UNIT FOR ETHIOPIA (UN-EUE)

Reduction of crop yield is inevitable in the North Eastern mid and Lowlands of Amhara and Tigray Regions

UN-EUE/OCHA/USAID Joint Assessment Mission to East and South Tigray & North and South Wello

Assessment Mission: 24 September - 5 October 2002

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1 Introduction and background

Amhara and Tigray regions will expect significant reduction in yields particularly for 2003. Eastern lowlands of Amhara and Tigray Regions generally had to face the following weather events this year: poor *belg* (March-May) rains during the latter part of the season in April and May; delays in the onset of the main *meher* (June-September) rains; and irregular *meher* rainfall distribution during the second and third weeks of July; finally, though rains have resumed since the beginning of the fourth week of July with improved intensity and surface coverage, little or no rain has been reported in the month of September in some parts of the areas visited.

Therefore, the assumption that rainfall continue beyond the normal time has become unrealistic in some areas particularly Raya Azebo and Wukro weredas of South and East Tigray region respectively.

The mission's main objective was to look at the progress of the meher rainfall in relation to crop performance and livestock situation, particularly in the mid and lowland areas of Amhara and Tigray regions (North Wello, South Wello and West Belessa of Amhara region and Eastern and Southern parts of Tigray region). The assessment was conducted jointly by UN-EUE and USAID.

2 Mission results

2.1 Early 2002 belg season rains-generally good but long dry spell affected long cycle crop cultivation

2002 belg season rainfall was generally good at its onset throughout Amhara and Tigray regions, but stopped abruptly and was extremely poor in April and May. This occurrence affected long

cycle crops such as maize, sorghum, millet, etc in the highlands. In North and South Wello zones of Amhara region, unusual cold spells in April resulted in significant crop losses. In the lowland areas, land preparation for meher was adversely affected for lack of adequate rainfall.

Pasture and water resources in those eastern parts of the two regions have also been negatively affected due to poor belg rains. Farmers in the eastern lowlands of Amhara and Tigray Regions could no longer take their cattle to adjoining areas in Afar Region for dry season grazing as Afar Region itself is suffering from severe drought this year (Sewonet, Molla, Mulu, 2002).

2.2 Massive shift from long cycle to short cycle crops due to poor meher rains in eastern lowland areas of Amhara and Tigray regions

The 2002 *meher* rainfall has generally been late by about one month in most midland and lowland areas of eastern parts of Amhara and Tigray Regions. While general observation of the mission shows a better situation in Amhara region than Tigray[1] in terms of crop production prospect, the cessation of meher rain in both regions should be monitored very closely in the coming weeks.

Generally, short cycle crops (particularly teff) in all areas visited have replaced long cycle crops (maize and sorghum). It is also important to note that these short variety crops are local varieties, further reducing potential crop yields. In Kobo, for instance, a local variety teff called *Bunign* is planted. While normal teff would have given about 6 qt/hectare, *Bunign* gives 3 qt/hectare. The same is true for sorghum. This means significant crop reduction, even in the traditionally surplus areas, is expected next year. In North Gonder, significant absence of transitory crops such as potato and barley is reported in Wegera, Dabat and Debark[2].

The following table shows the shift from long cycle to short cycle crops in Kobo wereda, North Wello zone.

Item	Planned (hect)	Performance (hect)	Percentage
Long cycle crops (maize, sorghum, millet)	25,000	15,000	60% (less)
Short cycle crops (teff[3], barely, wheat, etc)	18,400	27,053	68% (high)

(Source: Rural Development Office, Kobo wereda, North Wello zone)

[1] In Tigray region officials predict that even surplus producing areas are expected to have 30 –40% less production than normal

[2] In North Gonder, the regional government has declared that unless the farmers pay 85% of input credit, no credit provision is given for farmers. This has reduced the use of agricultural input significantly

[3] To large extent, teff is a cash crop for many farmers and can be sold at high price to purchase lower value sorghum and maize. Therefore, the switch from long cycle crops to teff should not necessarily be bad. However, if the price of teff plummets due to surplus supply, the income from teff for poor farmers will be negatively affected. Therefore, market price should carefully analysed in subsequent times. It is also important to note that if the rain continues from now on, while beneficial for some short varieties, will cause damage on teff

Though the table shows the shift of cropping patterns, it can also indicate that the present time is not the worst situation as people will get some yield in the coming months. The real concern will be towards the beginning of 2003 when people will have consumed the meagre production (from short cycle varieties).

Sorghum in the field has become cattle feed in South Tigray Raya Azebo wereda, (Photo by Abraham Sewonet, UN-EUE, October 2002)

Right now (late September/early -October), short cycle crops that were planted for meher are at varying stages. In Harbu wereda of South Wello, stock borer has affected large areas of planted sorghum. In South and East Tigray, rains have been non-existent in the month of September. This has lead to large expanses of land not to be cultivated. Also, short cycle crops are in poor condition with in some instances crops only to be used as animal fodder. Even drought resistant cactus plants are drying up. In Wukro (east Tigray), vetch has been observed drying up, a worrisome sign as vetch is another drought resistant crop.

Sorghum in East Tigray is badly hit by drought, Wukro wereda, (Photo by Abraham Sewonet, UN-EUE, October 2002)

In terms of prioritisation, eastern Tigray[4] needs close attention as the crop performance in this area was badly hit by moisture stress in September. As South Tigray, particularly Raya Azebo, is traditionally a surplus producing area, people can still cope[5] but the situation requires close monitoring as people will be forced to sell their assets in order to purchase food. An area that has not been given much attention is in the Ethio-Eritrea bordering localities such as Ramma, Igela and Zalambessa. According to REST, these areas are seriously affected by drought.

2.3. Livestock situation in relation to water and pasture availability

In most parts of visited areas in Amhara region, livestock physical condition has improved due to pasture regeneration following rain showers in August and September. No unusual livestock

[4] East Tigray suffers both from drought and Internally Displaced People (IDPs) settlement. As those people have no land to cultivate, they put more pressure on the local people. REST has announced that WFP's assistance for IDPs will terminate in December 2002 and this will exacerbate the livelihood situation of the IDPs and local residents.

[5] It is important to note that according to a recent assessment conducted by wereda BoA, Raya Azebo wereda expects only 9% of total production. The 2002 mid-meher assessment has estimated 8,800 beneficiaries in Raya to be assisted as of October for three months. In comparison, a contingency plan from January to December 2003 assessed that in the worst case scenario, 74,133 people will require assistance starting from January

movement was reported in or out of the region. However, the low rainfall in some areas of Tigray has resulted in very low levels of water in ponds. For example, Raya Azebo woreda benefited from only 10 mm on September 14th and 8 mm on September 20th. Therefore, out of the 265 ponds available in the wereda, 97% do not have water at all. In Eastern Tigray, particularly Wukro, poor livestock physical conditions and frequent intra- region livestock movement in search of pasture and water were noted. To date, livestock in Raya Azebo are eating stunted short cycle crops that are in the field leading to slight improvement in their physical condition. This also improved cattle prices in the market. However, this provision is only expected to last until January or February at which time fodder will be depleted. It is important to note that the overall shift from stock crops to short cycle crops will have an impact on fodder availability in the coming months in both regions.

Pasture is a real concern in Wukro wereda, Tigray, (Photo by Abraham Sewonet, UN-EUE, October 2002

2.4. Food Aid Needs and Gaps

In both Amhara and Tigray regions, the DPPB has requested food aid due to increasing beneficiary numbers. The DPPC January 2002 appeal had planned for 1.74 million beneficiaries for the Amhara region. In July however, the number increased to 1.91 million beneficiaries. For September-December the number has been established at 1.325 million requiring a total of 36,500 Mt. However, the Federal DPPC informed DPPB that only 7,000 Mt is presently available, covering needs for 560,000 beneficiaries. The biggest allocation gap noted is the additional 300,000 beneficiaries from West Belessa, Ziquala, Tach Gayint and Oromiya zone following the mid-meher assessment. This is a huge food gap to be bridged between the region and the federal DPPC.

In Tigray, the total number of beneficiaries according to DPPC is 836,900 and only 3,000 Mt of food has been dispatched at the time of the visit covering the needs for 234,000 beneficiaries. Therefore, the region is now retargeting to cover the most vulnerable portion of community.

3 Conclusions and recommendations

Though rainfall in August and September has helped soil moisture retention and greatly assisted in water and pasture availability, it seems that the meher rainfall has ended in some areas of the visited mid and lowland areas of Amhara and Tigray regions. As large areas of those regions are experiencing massive shifts from long cycle to short cycle crops and due to poor belg and meher rains, significant reduction in stalk crops and overall harvest is inevitable this year. This will affect not only food availability for humans, but fodder for livestock. In Alamata, Raya Azebo and Kobo plains of eastern Tigray, very dry land and stunted crops are observed and even drought

resistant crops such as vetch and cactus are drying. The overall poor production prospect in those lowland areas will also affect employment opportunities for highlanders. While the livestock physical condition is 'OK' in those areas, this is only due to the fact that stunted crops are available for feed for the next few months.

The federal and regional DPPC should try to bridge the gap created in terms of needy population and food aid provision.

Collaboration with international organizations such as UNMEE in terms of information sharing regarding drought situation is very important particularly around border areas where there are reports of serious drought.

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Abbreviations

DPPC	Disaster Prevention and Preparedness Commission (Federal Government level)
DPPB	Disaster Prevention and Preparedness Bureau (Regional level)
DPPD	Disaster Prevention and Preparedness Department (Zonal level)
IRC	International Rescue Committee
REST	Relief Society of Tigray
SC-UK	Save the Children Fund United Kingdom
UN-EUE	United Nations Emergencies Unit for Ethiopia
USAID	United States Aid for International Development
WFP	World Food Programme

Glossary

dega	Expression for one of the altitudinal agroecological belts in Ethiopia. In Tigray between 2500 to > 3400 m a.s.l.
kebele	Smallest administrative unit in Ethiopia
kolla	Expression for one of the altitudinal agroecological belts in Ethiopia. In Tigray between ~1400 to ~1800 m a.s.l.
tabia	is the Tigrigna language name for 'kebele' that is the smallest administrative unit of the Ethiopian Federal Government.
woreda	Local administrative unit
weyna dega	Expression for one of the altitudinal agro ecological belts in Ethiopia. In Tigray between ~1800 to ~2400 m a.s.l.

Glossary of important meteorological and seasonal terms used for Ethiopian highland areas

Meteorological Drought Defined

Drought is a period of insufficient water initiated by reduced precipitation. The impact of drought on crops and society is critical but not easily quantified. The result is that "drought" does not have a universal definition. "Meteorological drought" is defined as a sustained period of deficient precipitation with a low frequency of occurrence. While crops may be damaged by lack of precipitation and high temperatures in just a few days, such short periods are not considered to be meteorological droughts. A three-month period is defined by the American Meteorological Society to be the shortest period that can be defined as a drought. (Source: *The American Meteorological Society*)

Ethiopia's 'Keremt' or 'Meher' Rains Defined

Since Ethiopia and Eritrea are in the tropics, physical conditions and variations in altitude have resulted in a great diversity of climate, soil, and vegetation. Rainfall is seasonal, varying in amount, space, and time. There is a long and heavy summer rain, normally called the big rain or *keremt*, which falls from June-September. It is followed by the *baga*, hot, dry period from October through February (see below for definition). In some areas there are short and moderate spring rains in March and April known as the small rains or *belg*. These rainy periods correspond to Ethiopia's primary and secondary agricultural seasons, known as the *meher* and *belg*. (Source: *FEWS*)

Ethiopia's 'Belg' Rains Defined

In spring, a strong cyclonic centre develops over Ethiopia and Sudan. Winds from the Gulf of Aden and the Indian Ocean highs are drawn towards this centre and blow across central and southern Ethiopia. These moist, easterly and southeasterly winds produce the main rain in southeastern Ethiopia and the small spring rains to the east central part of the north-western highlands. The small rains of the highlands are known as *belg* rains, referring to the second most important sowing season of the region. (Source: *FEWS*)

Ethiopia's 'Baga' Season Defined

Since Ethiopia is in the tropics, physical conditions and variations in altitude have resulted in a great diversity of climate, soil and vegetation. Rainfall is seasonal, varying in amount, space, and time. There is a long and heavy summer rain, normally called the big rain or *keremt*, which falls from June-September. It is followed by the *baga*, hot, dry period from October through February. In some areas there are short and moderate spring rains in March and April known as the small rains or *belg*. These rainy periods correspond to Ethiopia's primary and secondary agricultural seasons, known as the *meher* and *belg*. (Source: *FEWS*)