AGROMETEOROLOGICAL ASSESSMENT OF BEGA 2003/2004

BY

AGROMETEOROLOGICAL TEAM

January, 2004

BEGA

INTRODUCTION

- Bega season is characterized with sunny and dry weather situation with occasional falls. It extends from October to January. On the other hand, it is a small rainy season for southern and southeastern lowlands under normal condition.

MAJOR AGRICULTURAL ACTIVITIES OF BEGA SEASON

- Harvest and post harvest activities are the major practices over most parts of Meher growing areas.

- It is cropping time for southern mid lands and lowlands of agro pastoral areas.

- It is time for water harvesting for pasture and drinking water over southern and southeastern lowlands.

- The weather situation could favour the out break of pests.

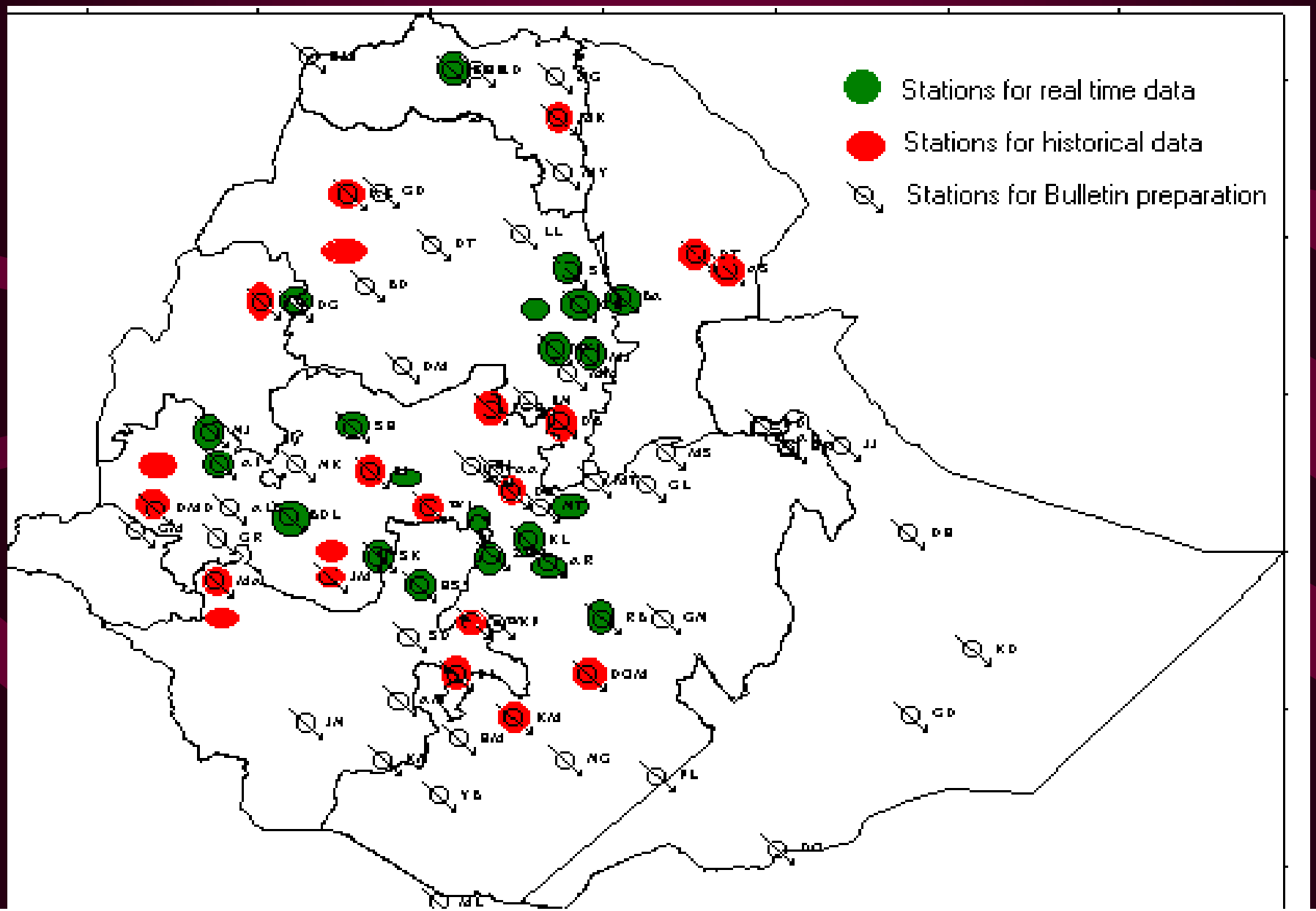
METHODOLOGY

The following methodologies are used for the impact assessment

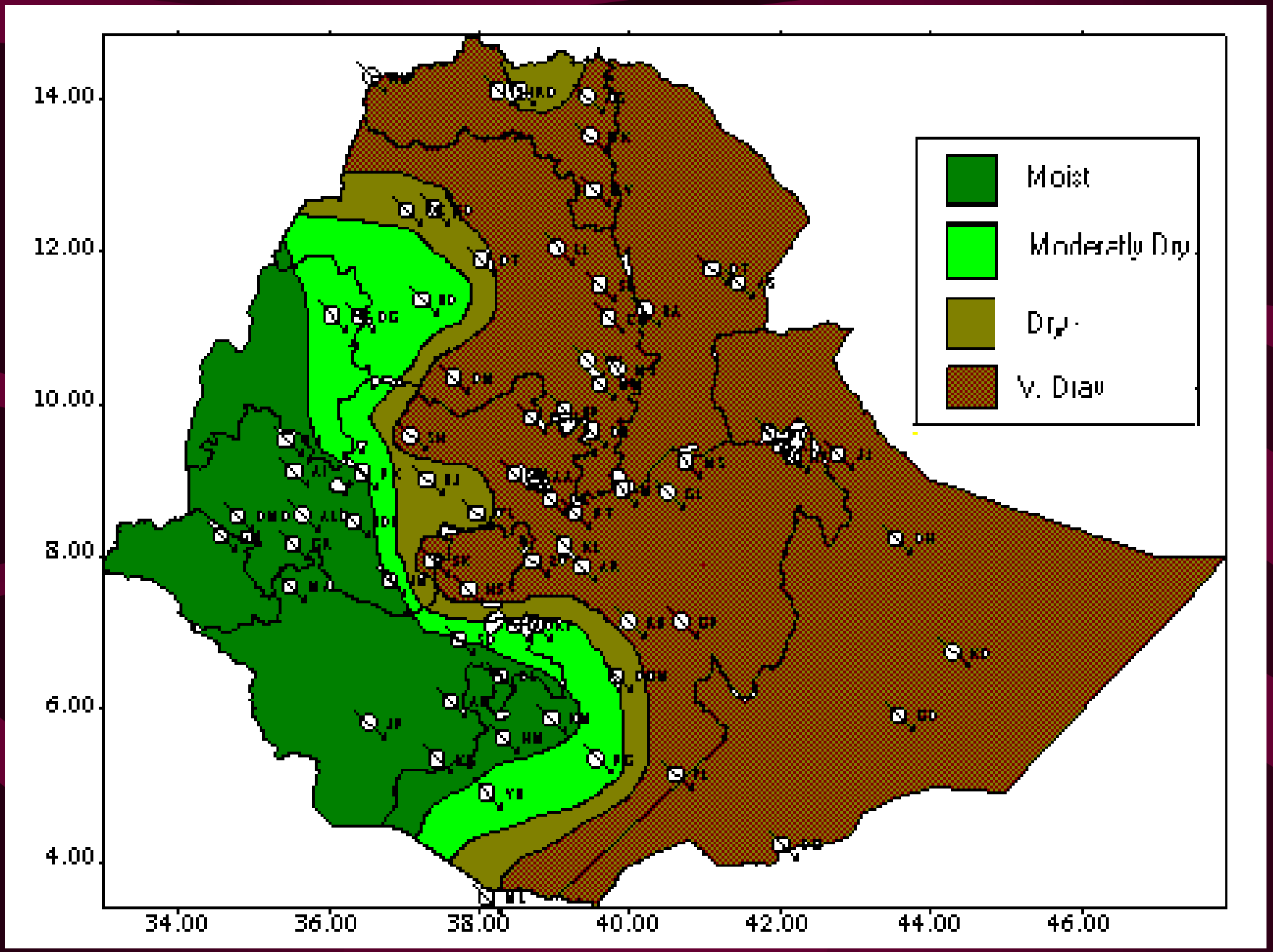
- Meteorological data (dekadal, monthly and seasonal)
- Moisture index (monthly RR/ETo)
- Internet sources (FEWS/NET, CARE Ethiopia and NDVI from USGS)
- Crop phenological reports from 23(real time) and 55 (historical) stations.
- Field reports
- Publications from MOA
- Mass media

DISCUSSION

Distribution of the stations for agro meteorological advisory services (bulletin preparation)



MOISTURE STATUS FOR OCTOBER 2003



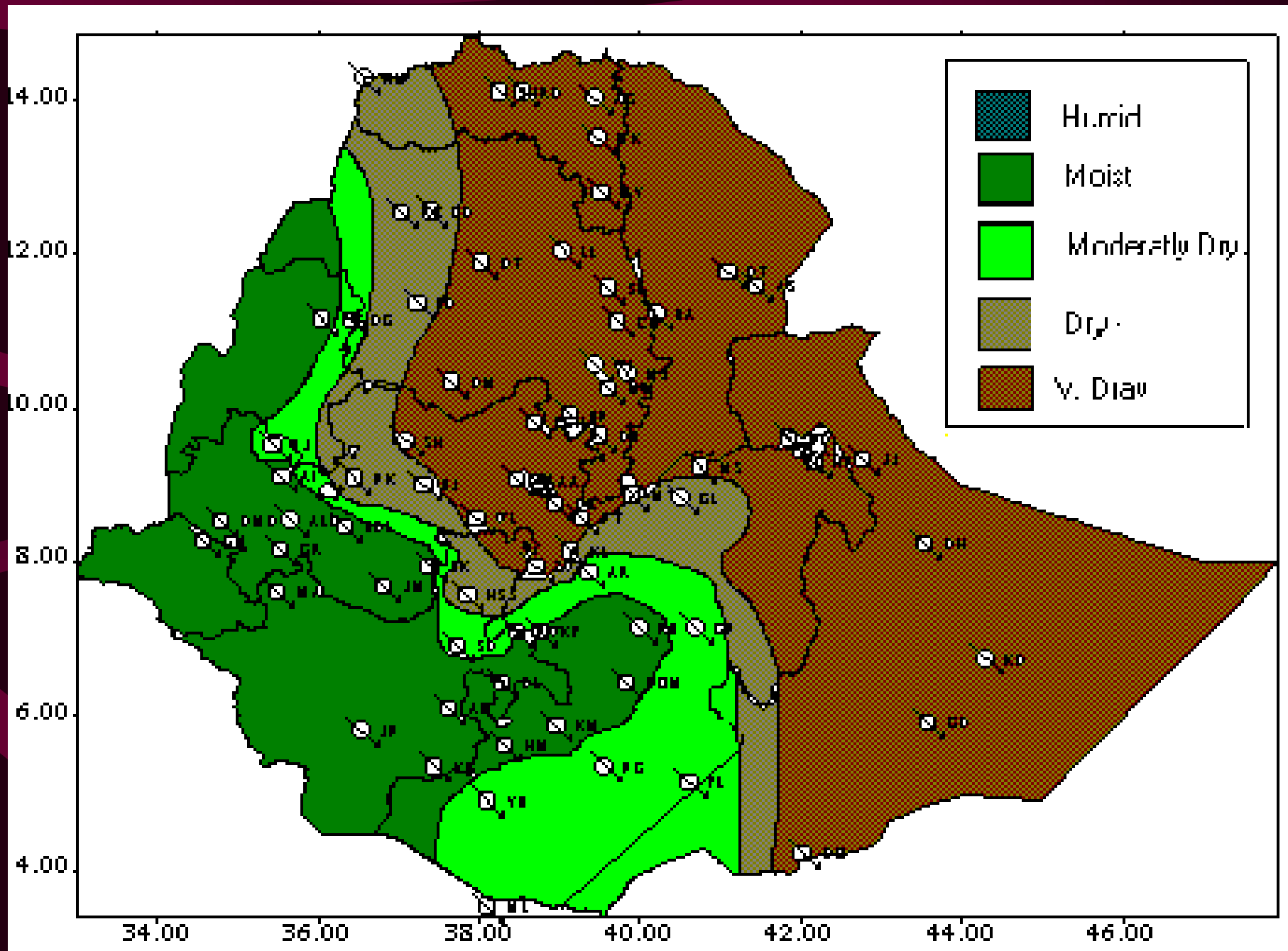
Impact on agriculture

- Some areas from western Oromiya and northern SNNPR reported medium field condition due to water stress. For instance, Dembi Dolo, Assosa and Hosaina reported persistent wilting, slight wilting and partial drying on crops field respectively during the third dekad of October.

- On the other hand, the dry weather condition could facilitate the harvest and post harvest activities in areas where harvest and post harvest activities are under question.

- Among the reporting stations Arsi Robe, Mehal Meda, Wegel Tena, Fitche and Alemaya recorded extreme minimum temperature below 5°C for six to eight consecutive days during the dekad. For instance, Debre Birhan reported extreme air temperature lowering up to – 1.5 ^{o}C. Thus, this condition could have negative impact on the normal growth and development of existing crops, pasture and other vegetations over the aforementioned areas.

MOISTURE STATUS FOR NOVEMBER 2003



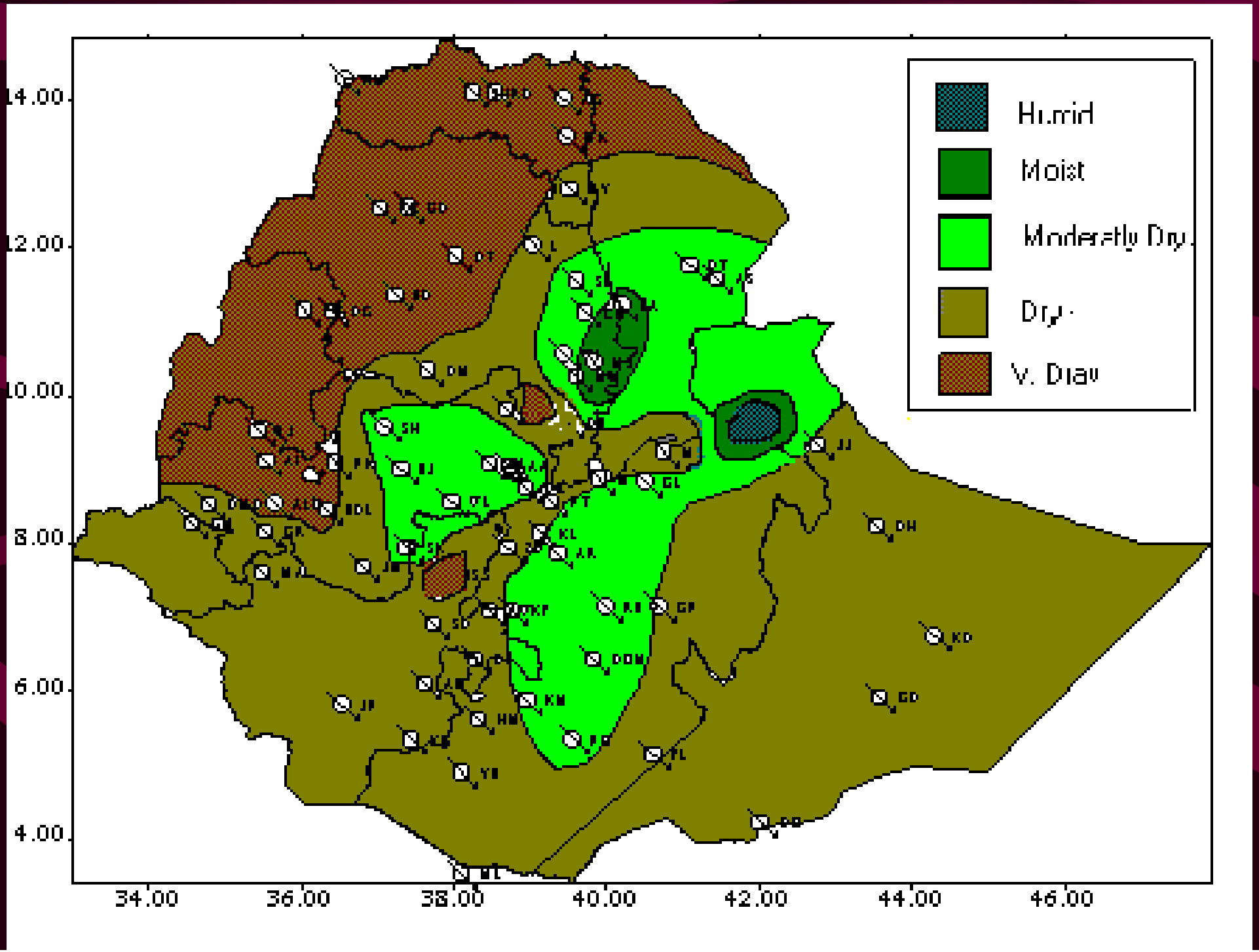
Impact on agriculture

- During the month of November, most parts of western and southern half of the country experienced normal to above normal rainfall. As a result, some areas of western and southwestern parts of the country experienced moist to humid moisture status during the month.

- Some areas from the south received heavy falls up to 64 mm in one rainy day like Gode. Thus, the erratic nature of rainfall could affect the vegetation condition of the areas. Besides, it could favour the outbreak of pests.

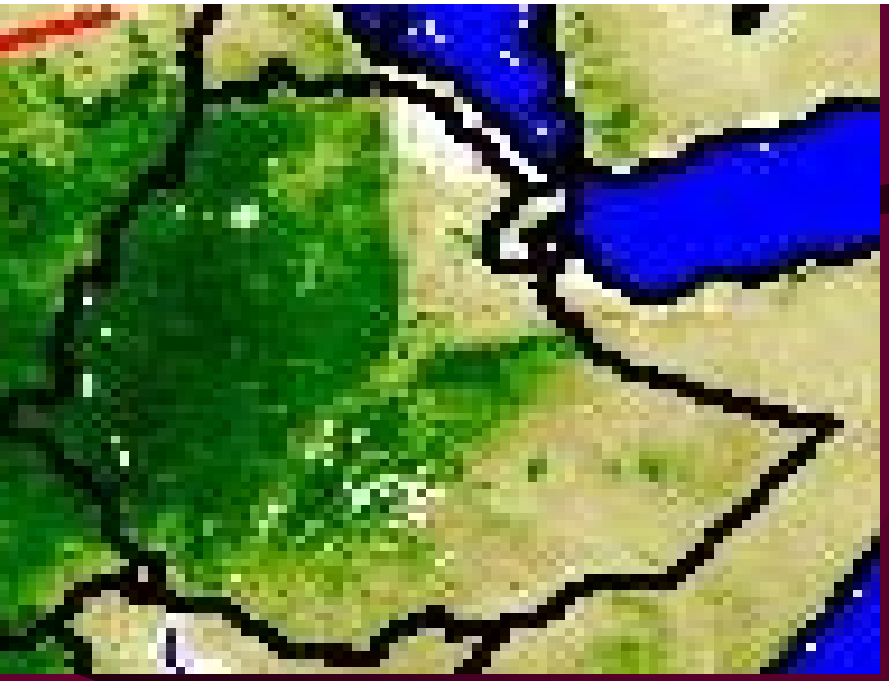
- Some pocket highland areas of eastern and central Oromiya including eastern Amhara like Wegel Tena, Mehal Meda, Alemaya, Fitche and Bui exhibited extreme minimum air temperature below 5^{o}C repeatedly during the month under review. This situation could have negative impact on the normal growth and development of the plant.

MOISTURE STATUS FOR DECEMBER 2003



- The observed occasional falls in most parts of the country during the first dekad of December has negative impact on the on-going harvest and post harvest activities. As a result, some areas such as Sinana, Dinsho and Robe(Bale) reported crop damage due to heavy falls(30 – 113 mm).

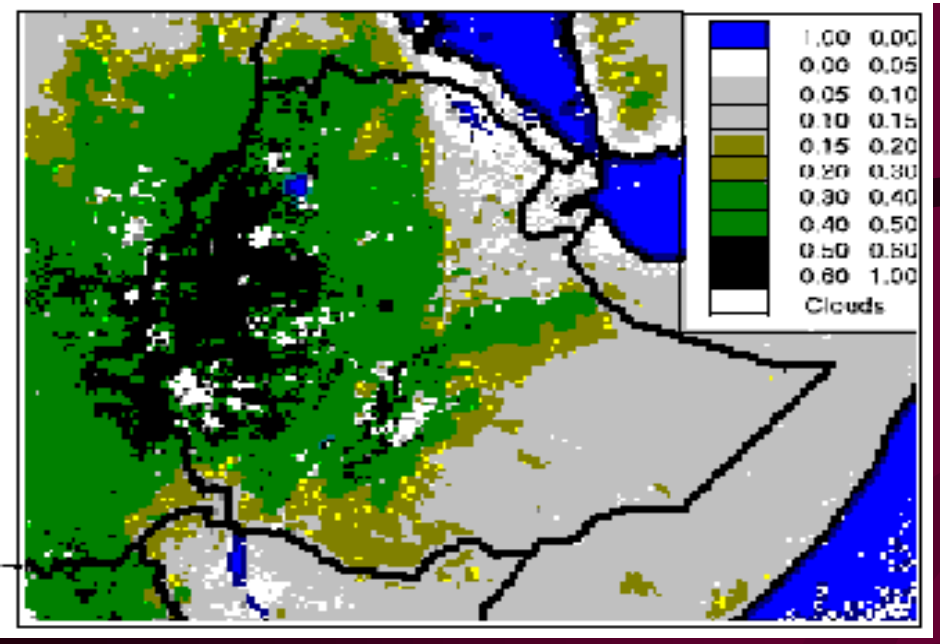
- Some stations such as Wegel Tena, Alemaya, Meraro and Debre Birhan exhibited minimum temperature less than 5°C for 15 – 25 days during the month under review. Thus, this condition could have negative impact on the normal growth and development of crops, which are not attaining their maturity stage during the month including perennial and horticultural crops, thereby decreasing yield quality and amount.



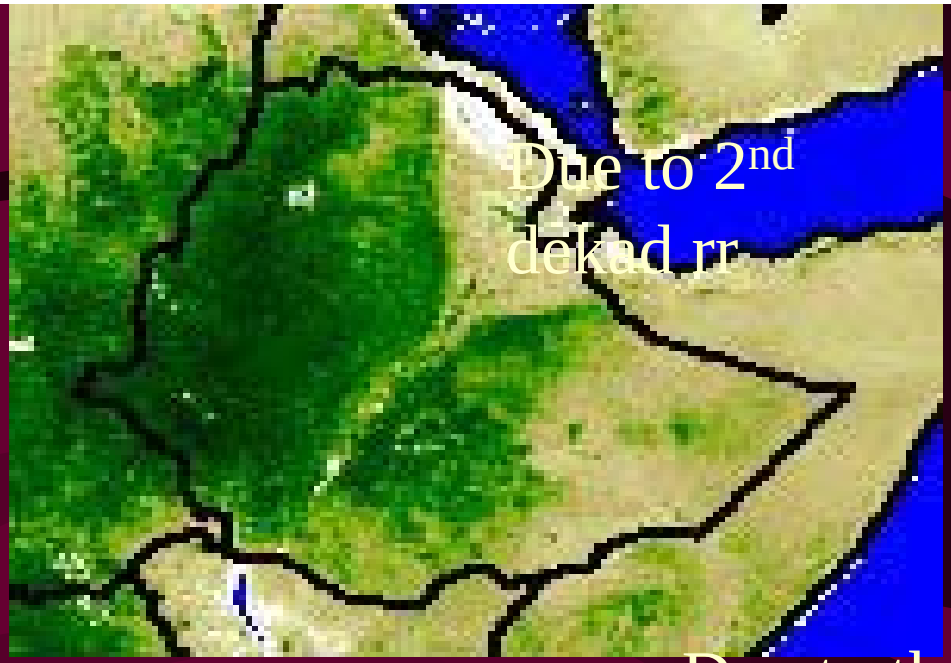
1-10 October, 2003

11-20 October, 2003

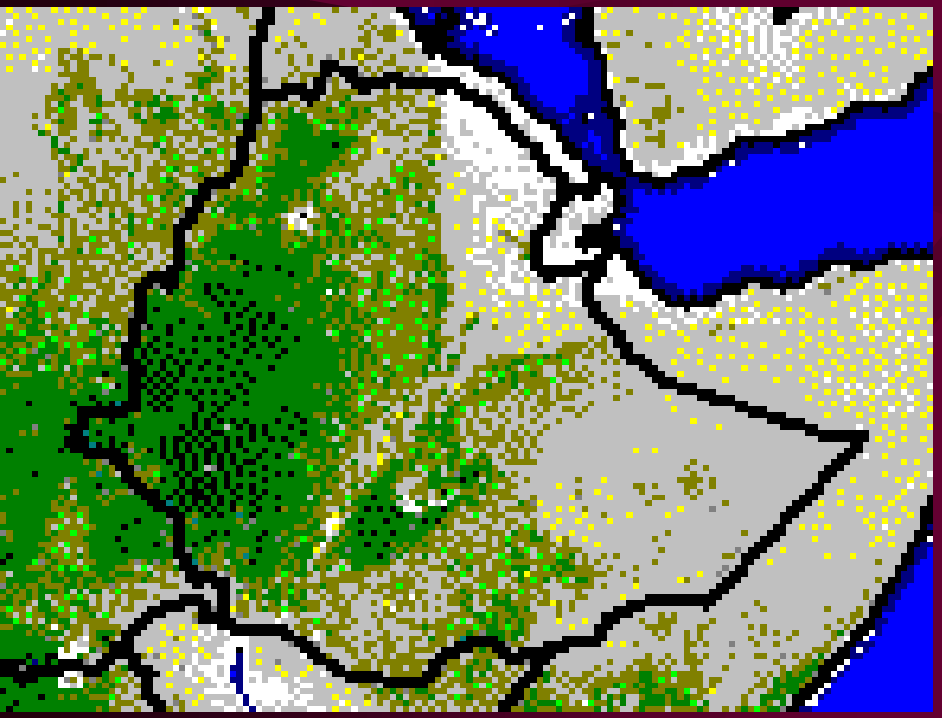
21-31 October, 2003



21 – 30 Sep 2003



21 – 31 Oct 2003



21 – 30 Nov 2003

Due to the rr condition during 3rd of November and 1st dekad of Decembe

21 – 31 Dec 2003

GROUND INFORMATION

Some examples of impact of adverse weather condition

- **Yabello**
  - There was rain from 9th - 13th October but it was not sufficient for crop production for agro pastoral areas. Besides because of its erratic nature it was not even sufficient for pastur and drinking water. As a result huge number of livestock movement was observed in searching water and pasture in neiburing weredas like Hagere Mariam and Burgi.

- **Negelle(Liben Wereda)**

  - No rainfall at all during Hageya season which normally contributes 20 –30% for annual rainfall of the area. As a result farmers are under close mentoring.

  - The situation affected animal health in some Kebeles by creating favorable condition for the out break of livestock pests.

- Affected crop production of nine agro paternalist Kebeles (nine Kebeles are agro pastorals out of 37 Kebeles).

- The observed occasional rainfall during the second dekad of January was not sufficient even for drinking water.

- **Kibre Mengist**
  - Poor harvest is expected due to late on set, erratic distribution and early cessation of Hageya rainfall(normally in case of Kibre Mengist mostly two seasons “Hageya and Gena” merge together and considered as one season)

- **Moyale**(five Kebeles are agropastoralist out of 15 Kebele)
  - Late on set of Hageya (about one month)
  - The observed rainfall as of November 8 was not sufficient for crop production. As a result there was no Hageya crop this year. Some agro paternalists tried to use it but they were not successful and used the emerged(dried crop) for pasture.
  - It had good contribution for pasture and drinking to some extent.

- **Mega(Dire Wereda)**
  - No crop production due to erratic nature of Hageya rainfall. However it was useful for pasture and drinking water.

Bore

- The occasional falls that were observed as of January 12 affected matured crops like wheat and pulse crops (about 20% of the total). However, good harvest is expected as compared to that of last year's yield.

- **Tepi**

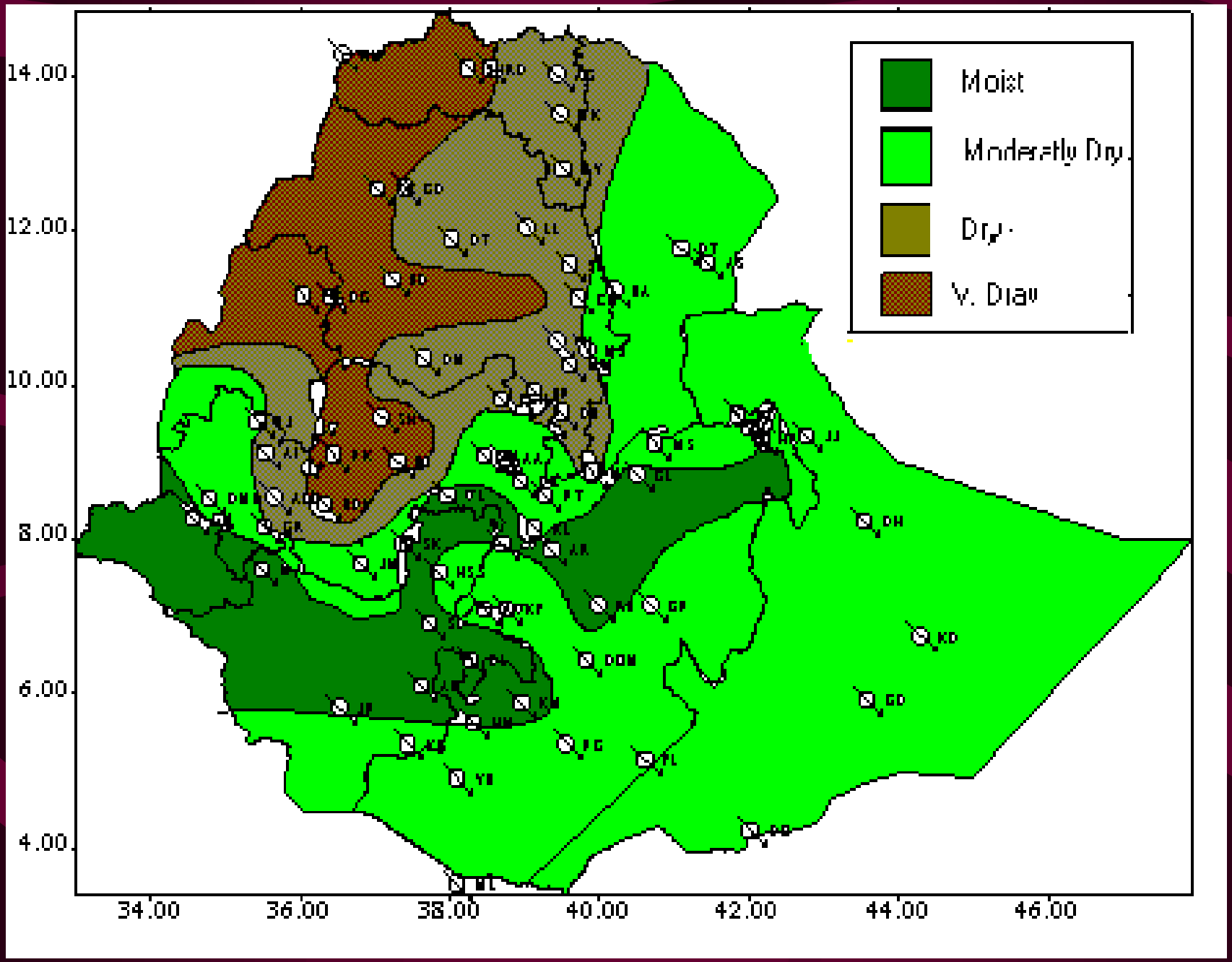
  Sorghum yield reduction and low quality of grain is expected due to the observed continuous occasional falls over Tipi area.

- **SNNPR**
  - The overall condition of rainfall was in a good shape for annual and perennial crops as compared to that of the preceding dekads. However the occasional falls observed over coffee producing areas of Gedio, Sidama, Kembata and Hadiya affected harvest and post harvest activities(farmers could not dry the washed coffee). Besides it extends the normal picking time in case of the berries on the upper part of the branch which is normally picked lately and it was also affected the quality of the berries.

JANUARY 2004

- The observed rainfall condition particularly during the second deked of January could favor land preparation in most parts of Belg growing areas.
- It was also favoured the availability of pasture and drinking water.

MOISTURE STATUS FOR JANUARY 2004



NDVI for January 11 – 20, 2004 (USGS)

There was a break during the 2nd and 3rd dekad of December, and 1st dekad of January

Impact on agriculture (Bega 2003/04weather condition)

- Harvest and post harvest activities were affected by the Occasional falls particularly during the first dekad of December, 2003. As a result some areas reported crop damage due to heavy falls ranging from 30 – 111.3 mm. **However, the overall impact was minimal in most parts of the country due the proper preventive measures taken by the farmers and other communities by using NMSA's forecast.**

- Some central highlands like Wegel Tena, Alemaya, Meraro and Debre Birhan exhibited minimum temperature less than 5°C lowering up to –7°C repeatedly during the season. Thus, this condition could have negative impact on the normal growth and development of crops, perennial and horticultural crops, thereby decreasing yield quality and amount.

- With regard to the situation over southern and southeastern pastoral and agro pastoral areas, this year (2003/04) the weather condition was not favorable for crop production in most agro pastoral areas.

- Critical water shortage has been observed during the month of October over most parts of pastoral areas. As a result huge numbers of livestock movement was observed in searching water and pasture.

- For instance, the Deyr season rainfall, which usually received in October to second half of November, was insufficient over most parts of Somali lowlands. As Save the Children Fund UK (5 Nov 2003) pointed out critical water shortage at the beginning of the Deyr season resulted in huge livestock movement towards the neighboring Kebeles with better rainfall in search of water and pasture. The same was true for southern Oromiya(Yabelo)

- As per our field assessment report and other sources there was no significant pest outbreak during the season. However as MOA(Monthly Bulletin Volume 4/1996 E.C.) has pointed out there was out break of Quelea over lowlands of northeastern Ethiopia like Kewet, Efrata and Gidim, Jile, Timuga and Dawa Cefa wereds during the month of November.

CONCLUSSION

- As per our field assessment and other sources, even though the occasional falls and other adverse weather conditions as frost resulted in crop yield reduction and low quality of crop performance in some pocket areas of the country **the overall expected yield is better as compared to that of the preceding year in case of Meher crop production.**

- With regard to southern and southeastern pastoral and agro pastoral areas, there was insufficient rainfall condition in most parts of the areas. As a result there was no crop production during Hageya season in most parts of agr pastoral areas. Besides, huge number of livestock movement was observed in search of water and pasture in some areas during the month of October. **However the observed rainfall condition during the month of November, December and January favourd the availability of pasture and drinking water to some extent.**

THANK YOU

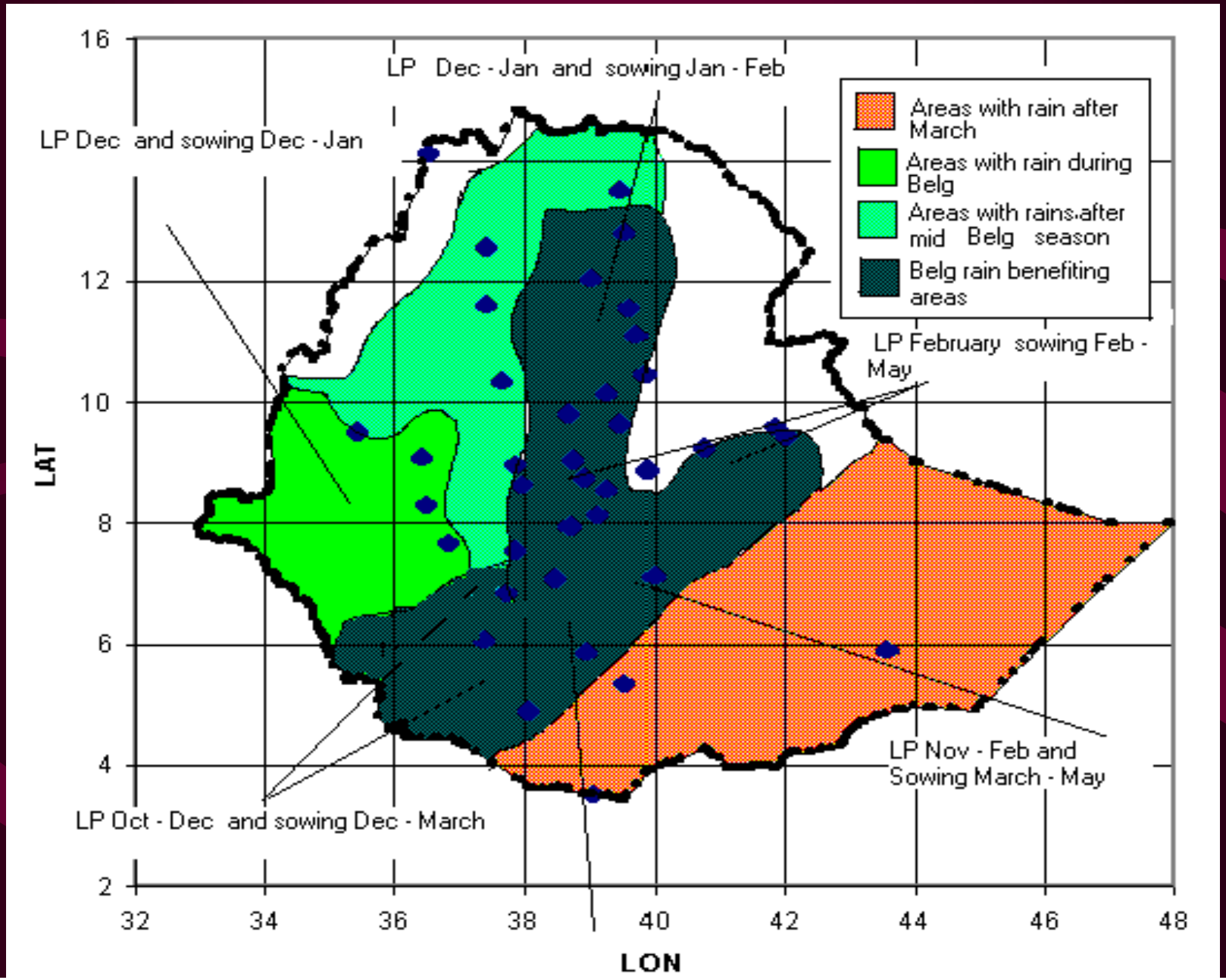
PART TWO

INTRODUCTION

- Central parts of northern high lands, eastern highlands, parts of central, southwestern and southern Ethiopia known as Belg growing areas.

- Normally North Shewa, East and west Harargie, Arsi, Bale, North and South Wello, Borena and SNNPR (Kembata, Hadiya, Wolayta, Gurage, Keffa and Bench) start their land preparation and sowing activities during December to February.

BELG GROWING AREAS OF THE COUNTRY



Possible Impact

- The expected normal on set of Belg would favour land preparation and sowing activities over Belg growing areas of North Shewa, East and west Harargie, Arsi, Bale, North and South Wello, Borena and SNNPR (Kembata, Hadiya, Wolayta, Gurage, Keffa and Bench) in areas where their land preparation and sowing activities start during the months December to February.

- The anticipated normal rainfall distribution during the season would favour the water requirement of Belg crops in most areas.

- It would have positive contribution for land preparation and sowing activities of long cycle crops like maize and sorghum.

- The expected above normal rainfall would increase the likelihood of weed infestation.

Temperature

- The expected reduced extreme maximum temperature would favour the normal growth and development of crops.

- Evapotranspiration would be minimal

THANK YOU