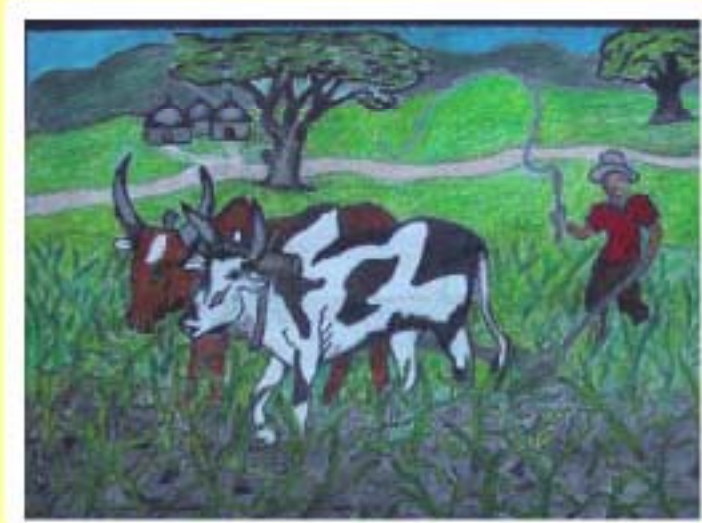


# Extension Handbook



Japan International Cooperation Agency



## **Preface**

The second phase of Development Study on the Meki Irrigation and Rural Development Project is presently under ongoing. In the Agricultural Verification Program 6 of the said study the present situation of extension service was studied especially focusing on “Research Extension Linkage”. The extension service study preliminary result indicates that:

- Most of the development agents are not fully aware of existing extension materials published by the concerned agricultural organs in Ethiopia, and have been faced on technical difficulties in their farming guidance service.
  
- The existence of a generation gap in terms of verbal and written languages in the Meki rural community where the young generation is enjoying with school education in Oromiffa under the new education system but the generation above 20 years received primary school education in Amharic language and
  
- A clear gap of literacy rate among the rural communities, which appear to come from accessibility to school.

From the above indications, it seems there is a potential need of extension materials written both in Oromiffa and Amharic languages for transition. Considering this situation, the JICA Study Team made an effort to produce a basic concept of extension materials by collecting existing extension materials focusing on Meki area. As a result, an extension handbook both in Oromiffa and Amharic languages has been published in collaboration with Oromia Agriculture Development Bureau (OADB) including Ethiopian Agriculture Research Organization (EARO), Agriculture Extension Department in the Ministry of Agriculture, and NGO.

We hope this handbook will be very useful for the respective personnel engaged in extension service in Meki area and contribute positively to the improvement of rain-fed farming.

October 2001

Yoshinori Ebata

Resident Representative  
Ethiopia JICA Office

### መቅደም

የሁለተኛው ዙር የመቂ የመስኖና የገጠር ልማት ፕሮጀክት ጥናት ሥራ በማካሄድ ላይ ይገኛል። በግብርናው መርሐ-ግብር ስድስቱ ወቅታዊ የግብርና ዘዴ አገልግሎት በተለይም በምርምርና የግብርና ዘዴ ቁርኝት ላይ በማተኮር ጥናቱ ተካሂዷል። የግብርና ዘዴው አገልግሎት ጥናት ትድሚያ ውጤት እንደሚያመለክተው፦

- አብዛኛዎቹ የግብርና ልማት ሠራተኞች በኢትዮጵያ ውስጥ በሚመለከታቸው አካላት ከታተሙትና ካሉት የግብርና ዘዴ የሥራ መመሪያ ጽሑፎች ጋር ካለመተዋወቃቸውም ሌላ በሚለጠጡት የግብርና መመሪያ አገልግሎት የቴክኒክ ችግሮች ገጥሟቸዋል።
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- ትምህርት ቤት የማግኘት ዕድል ባለመኖሩ ምክንያት የመማር ክፍተት በገጠሩ ማህበረሰብ ውስጥ ጎልቶ ይታያል።

ከላይ ከተገለጹት አመለካከት ሁኔታዎች በመነሳት የግብርና ዘዴ የሥራ መመሪያ ጽሑፎች በአሮሚኛና በአማርኛ ቋንቋዎች ተተርጉመው እንዲዘጋጁ አስፈላጊ ሆኖ ተገኝቷል። እነዚህን ሁኔታዎች ግምት ውስጥ በማስጠበቅ የጃፓን ዓለም አቀፍ የልማት ትብብር ድርጅት የጥናት ቡድን ያሉትን የግብርና ዘዴ የሥራ መመሪያ ጽሑፎችን በማሰባሰብና በመቂ አካባቢ ላይ በማተኮር ከአሮሚያ ግብርና ልማት ቢር፣ ከኢትዮጵያ እርሻ ምርምር ድርጅት፣ በግብርና ሚኒስቴር የግብርና ዘዴ መመሪያና መንግስታዊ ካልሆኑ ድርጅቶች ጋር በመተባበር በሁለቱ ማለትም በአሮሚኛና በአማርኛ ቋንቋዎች የግብርና ዘዴ የሥራ መመሪያ ጽሑፎች እንዲታተሙ ተደርጓል።

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ጥቅምት 1994

ዮሽኖሪ እባታ  
በኢትዮጵያ የጃፓን ዓለም አቀፍ የልማት ትብብር ድርጅት ተወካይ።

## Seensa

Qorannoon marsaa lammaffaa Piroojeektii Jallisii fi Misooma Baadiyyaa Maqii geggeeffamaa jira. Sagantaa 6<sup>ffaa</sup>n waa'ee dhugoonfachuu haala qonnaa tajaajila ekisteenshinii amma jiruu ilaalee walitti-dhifeenya qorannoo fi ekisteenshinii irratti xiyyeeffannoo godheera. Bu'aan qorannoo jalqabaa tajaajila ekisteenshinii akka agarsiisetti:-

- Hojjettoonni misoomaa hedduun qaama dhimmi qonnaa ilaalu Itoophiyaa keessa jiraniin ekisteenshinii ilaalchisee barruuleen adda addaa maxxanfaman jiraachuu isaanii hubannoo akka hin qabinee fi otuu kun jiruu garuu rakkoo hedduun gorsaa fi tajaajila teekinika qonnaa kennuu irratti isaan qunnamuu isaa.
- Dubbisuu fi barreessuu afaanii irratti dhaloota uummata baadiyyaa Maqii gidduu addaddummaan akka jiru fi dhalattoonni haaraan sagantaa barnoota haarawaatiin Afaan Oromoo kan baratan waan ta'eef Afaan Oromoo dubbisuu fi barreessuu yammuu danda'an kan umuriin isaanii waggaa 20 ol ta'e garuu barnoota isaanii afaan Amaaraatiin waan fudhataniif afaan kanaan kan barreeffame qofa dubbisuu fi barreessuu kan danda'an ta'uu isaanii fi
- Addaddumaan barumsaa ifaa ifatti uumata baadiyyaa gidduu jiraachuu isaaf sababa kan ta'e haala mana barnootaa argachuu irratti akka ta'e hubachuun danda'ameera.

Yaadni armaan olitti caqasaman yammuu ilaalaman rakkoo jiru dhabamsiisuuf fedhiin barruulee babalinna qonnaa afaan Oromoo fi afaan Amaaraatiin qophaa'ee akka jiru ni agarsiisa. Yaada kanaa ilaalcha keessa galchuudhaan gareen qorannoo 'JICA' barruulewwan adda addaa hojii ekisteenshinii naannoo Maqii ilaallatan walitti qabuudhaan yaada bu'uuraa babalinna qonnaaf tajaajilan qopheessuuf yaalii godheera. Haaluma kanaan barruuleen ekisteenshinii afaan lamaaniin, Oromiffaa fi Amaaraatiin, Biuroo Misooma Qonnaa Oromiyaa (BMQO) wajjin Dhaabbata Qorannoo Qonnaa Itoophiyaa (EARO), Qajeelcha Ekisteenshinii Qonnaa Ministeera Qonnaa, fi Miti-mootummaa (NGO) waliin maxxansiiseera.

Barruuleen kun naannoo Maqiitti hojjetoota tajaajila ekisteenshinii kennaniif kan gargaaru fi qonna rooba irratti hundaa'uuf fooyya'iinsa ni agarsiisa kan jedhu abdii qabimma.

**Onkoloolessa 1994**

**Yoshinori Ebata**

**Itoophiyaatti B/b Waajjira JICA**

**Extension Handbook**  
**in**  
**The Meki Irrigation and Rural Development Project**  
**Oromia Region, Ethiopia**

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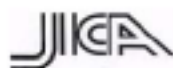
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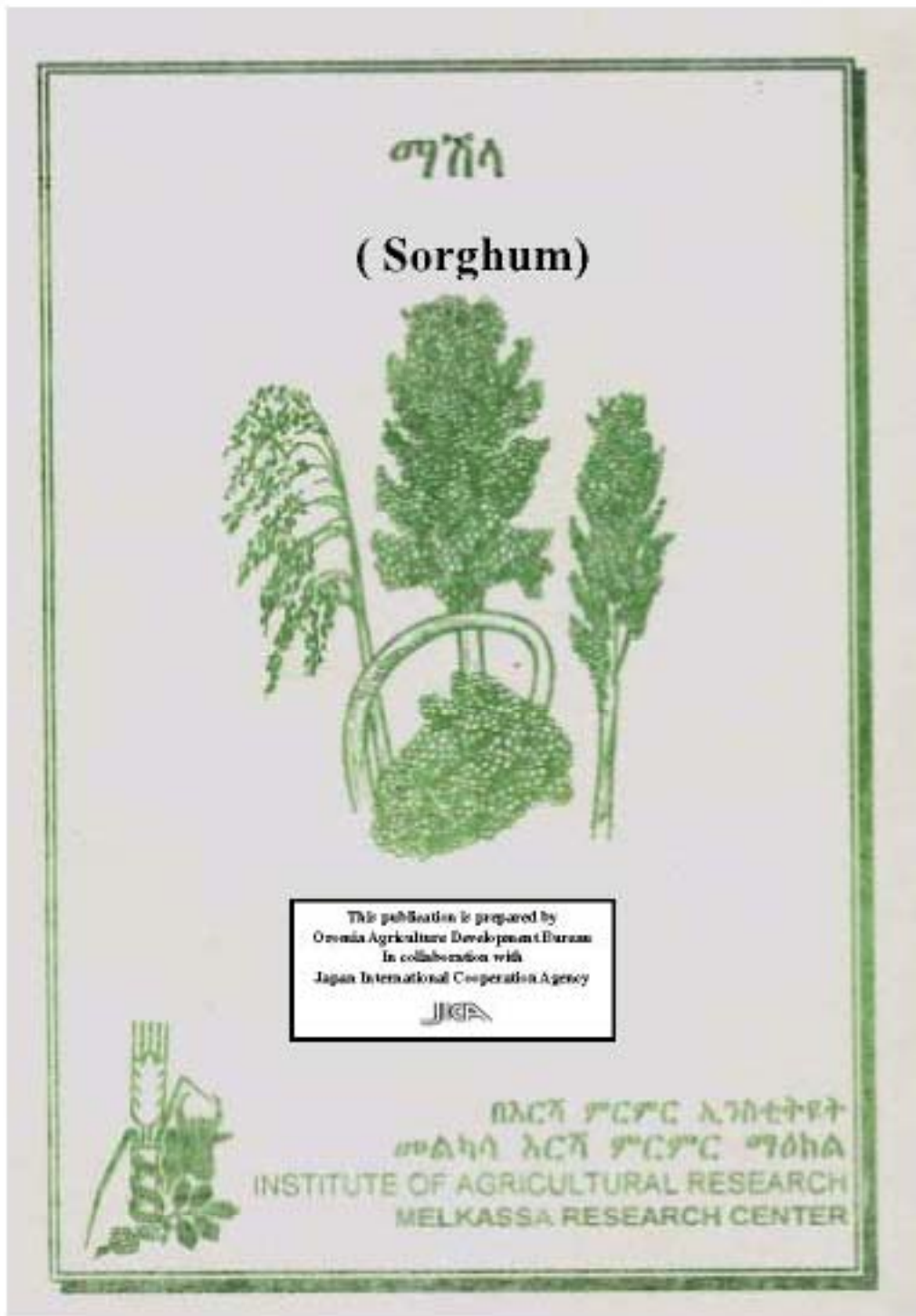
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## 1.2 Bishingaa



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ቦሰቄ

( Haricot bean )



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እርሻ ምርምር ኢንስቲትዩት  
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## 1.4 Boloqqee



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በቆሎ

( Maize )



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በእርሻ ምርምር ሊንክተተዩት  
መልካሳ እርሻ ምርምር ግዕዝል  
INSTITUTE OF AGRICULTURAL RESEARCH  
MELKASSA RESEARCH CENTER

## 1.6 Boqqoolloo



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• **Baafata Qotisaa fi Callaa guddistootaa**

Gosa : Yeroo gabaabaatti kan bilchaatuu, kaatumaanii ykn <sup>AVC</sup>6, kan yeroo giddu -galeesaa, BH + 40, A - 511, BH-540

**Baayina Sanyii heektaara tokkof barbaachisn :** 25-30 Kg

**Gargar fageenya biqiltu jidu :** Toora Lameen jidu santii metera 75 fi toora keessa santii meetira 20 dha.

**Xaa'oo;** Yeroo facaa Daappii (18-46.0) kilogiraama 100 fi Yuuriyaa (46-0-0) kilogiraama 50 walitti makani heektaara tokko gochuu

Biqila booda, (faca'e guyoota 35-40) Yuuriyaa kilogiraama 50 heektaara tokko irratti gochuu.

**Tilmaama Omishaa;** kun 30 heektaara tokko irra haala rooba gaarii walin Xaa'ootti fuyyadamudhaan.

• **Hojiilee Gurguddoo Qonnaa tartiibaan ( Walduraa dubaan)**

[1]Qotinsa - Yeroo Lama qotiyoon

[2]Buleesuu - " Tokko "

[3]Masii wa-qixeesuu yeroo tokko qotiyoon

[4]Bo'oo bishaan itti kuufamu ( Tie-ridge) marashaa aadaatiin baasuu

[5]Tooraan ( Sararaan) facaasuu :- harkaan ( humna namaatiin)

[6]Yeroo facaa Xaa'oo gochuu naannoo Sanyii

[7]Masii Qonna busbusa naannootti argamun uwwisuu

[8]Sanyii faca'e harki/dhibbeentaa Saddeetama ( %80) yammuu biqilu iddon hin biqilintti bakka buusuu.

[9]Ittisa Aramaa harkaani fi kotokotuu dhaan.

[10] " " Qotiyoon ( shishaaloo) fi harkaan Xaa'oo biqlaa booda ( Yuuriyaa) gochuu dura.

[11]Sanyiin faca'ee bultii 35 hanga 40tti Xaa'oo ( Yuuriyaa) naannoo biqilaatti gochuu.

[12]Ilbiisoota, Dhukkuboota fi Aramaa to'achuuf bultii 2-3 keessatti maasii daawwachuu / ilaalun hordofuu.

[13]Omisha sasaabuu harkaan / Humna namaatiin sasaabiin Omishaa gosa lamaadha. Asheetaafi Gogaa.

• **Hojiilee Qonna Xiyyeefannoo addaa barbaadan**

1. Bakka buusuu iddo sanyiin hin biqilnitti eerga meetira tokko keessatti biqiltuun 4 hanga 5 biqile booda.

2. Bo'oo bishaan itti kuufamu baasuun jiidha lafaa eeguuf baayyee barbaachiisaadha.

3. Yeroo yerootti maasii aramaa irraa qulqulleesseuni

4. Ilbiisoota fi Dhukkuboota midhaa cimaa qaqaabsiisan to'achuu fi ittisuu. Isaanis

1	Ilbiisoota fi shimbiraa	Geerii, urfuu agadaa, murtuu agadaa,, pirma, Girisaa.
2	Dhukkuboota	Awaaroo, Baala gubaa (Waagii)
3	Bineeyii Bosonaa	Booyyee, Jaldeesaa Qamalee Xaddee KFN

• **Dhaabnii raawwatuu :** Waajjira Misooma Qonna Aanaa Dugdaa Booraa. Tel. 02-18-00-48



❖ የግብይቶችና አተራረስ ግውጫ

- የዝሪያ ዓይነት ቶሎ :- የሚደረስ ኩቱማኒ ወይም ኤቪስ 41 መካከለኛ ጊዜ የሚደርስ BH-140 A-511, BH-540.
- የዘር መጠን: 25-30 ኪ.ግ/ ሄክታር
- የመዝሪያ ርቀት:- 20 ሳ.ሜ X 70 ሳ.ሜ
- የማዳበሪያ መጠንና አጨማመር ፣ በዘር ወቅት ዳኘ(18 : 46 : 0) 100 ኪ.ግ እና ዩሪያ (46.0.0) 50 ኪ.ግ በማቀላቀል ለእንድ ሄክታር ማጨመር ፣ ተዘርቶ በ35-40 ቀናት 50 ኪ.ግ ዩሪያ ለሄክታር ማድረግ
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- [2] መከሰከስ ፣ እንድ ጊዜ በበሬ
- [3] ማሣን ለዘር ማዘጋጀት እንድ ጊዜ በበሬ
- [4] የውሃ መከተሪያ ቦይ (Tie ridge) በበሬና በባህላዊ ማረሻ ማውጣት
- [5] መዝራት በመስመር ፣ በእጅ
- [6] ማዳበሪያ በዘር ወቅት መጨመር
- [7] በአካባቢው በሚገኘው ብሥባሽ መጉዝጉዝ
- [8] ዘር ባልበቀለበት ቦታ ላይ መተካት/መዝራት
- [9] ኩትኪቶና በእጅ ማረም
- [10] ሸልሻሎ እና የእጅ አረም
- [11] ከ35-40 ቀናት ዘር ከተዘራ በኋላ ማዳበሪያ / ዩሪያ / ማድረግ / መጨመር
- [12] ተባዩችን ፣ በሸታን እና አረም ለመከላከል በየሁለት ወይም ሦስት ቀናት ማሳን መጉብኘት
- [13] አዝመራ መሠብሰብ በሠው / በእጅ / ምርት ሁለት ዓይነት ወይም ደረሻ ሊሆን ይቻላል ይኸውም በእሼት እና በደረቅ ማለት ነው ።

❖ ትኩረት የሚሹ የእርሻ ሥራዎች

1. 4-5 ተክሎች እንድ ሜትር ውስጥ ከበቀለ በኋላ ያልበቀለ/ የተዘለለ ቦታ ላይ የሚሟሟ ተክላ ማካሄድ
2. የአፈር እርጥበት ለመጠበቅ ቦይ በመከተር ውሃ ማጠራቀሚያ (Tie ridge) መሥራት በጣም ጠቃሚ ነው ።
3. በየጊዜው ማሳን ከአረም መከላከል
4. ዋና ዋና ተባዩችንና በሸታዎችን መከላከል እንሁም

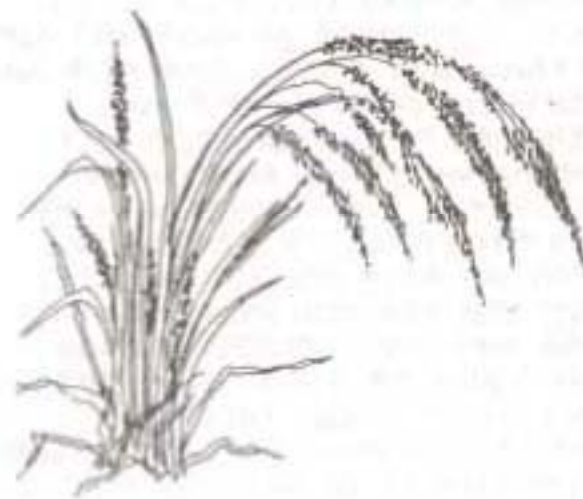
1.	ተባዩችና ወፎ	ተምች፣ ግንድ ቦርብር፣ አገዳ ቆራጭ ፣ ምስጥ፣ ግረሣ ወፎ
2.	በሸታ	አረማም፣ ዋግ
3.	አውራ	አሳማ ፣ ዝንጀርና ጦግ ጃርት ወዘተ.....

❖ የሥራ ባለቤት /መሥሪያ ቤት

የዱግዳ ቦራ ወረዳ ግብርና ልማት ጽ/ቤት ስልክ 02-28-00-48  
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(Teff)



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አርሻ ምርምር ኢንስቲትዩት  
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## 1.10 Xaafii



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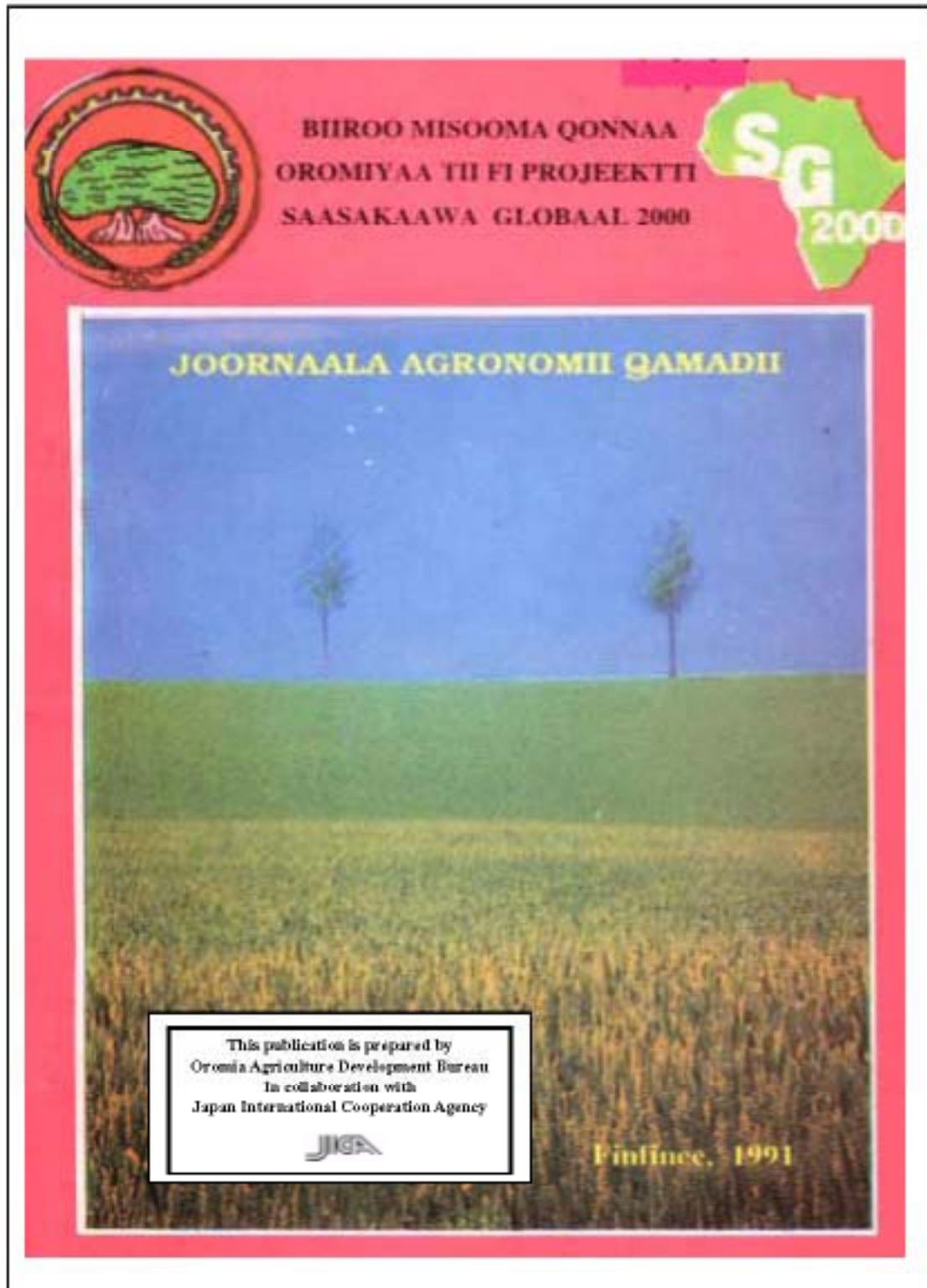


በግብርና ሚ. ር የግብርና  
አክሲዮንሽን መምሪያና  
በሰንደብ ግልብል  
2000 ፕሮጀክት

የሰንደብ ደብዳቤ ልማት መጽሐፍት

ማኅበሩን ያጠቃልሉ ለተጨማሪ መረጃ

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# በርቦራ

( Chili )



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እርሻ ምርምር ኢንስቲትዩት  
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## 1.14 Barbaree



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# ስኳር ደንቸ

(Sweet Potato)



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