Annex 12

Factors affecting planted area

(a) Natural factors

Rainfall		
Conditions	**Effect**	**Possible Impact**
Good pre-season and early starting rains	Long cultivation window: ➧ maximum area cultivated	All possible areas cultivated ➧ Plenty of time for all forms of cultivation. Opportunistic use of common land, reduced fallowing[1]
	➧ early or timely sowing.	➧ Less intense competition for contractors; hiring rates stable. ➧ Long-cycle crop areas increased. ➧ High and even germination rates
Late starting rains.	Heavy clay soils uncultivable early: ➧ delays in cultivation ➧ delays in sowing	Cultivation window reduced: ➧ hand-dug areas *may* be reduced. ➧ pressure on contractors, hiring rates increased areas *may* be reduced[2]. ➧ long-cycle crop varieties; areas *probably* reduced ➧ short cycle crops; area *probably* increased.[3]
	Sandy soils: ➧ dry-sowing increased	➧ *probably* no effect on area sown. Fields may need to be gap-filled when rains begin.
Broken / false start to season.	Seeds germinate, then die.	Reseeding necessary; ➧ Reduction in area if seed supply limited[4] ➧ Area switch from cereals to later sown crops *e.g.* pulses or ground nuts.
Excess rain at sowing time	Water logging	Cultivation /sowing delayed on heavy soils. Problems similar to late starting rains for farmers on heavy soils using machinery/ machinery contractors.
Floods mid-season.	Land-loss, crop loss BUT may be a opportunity to replant crop on residual moisture	Main crop area reduced Area increases in minor or opportunistic crops.

Prolonged rainfall at end of season.	Harvest-time rain ➧Lodging	Mechanised farmers/contractors may miss some areas.[5]
	Post harvest rain	Opportunistic planting of second crops.
	Improved water stocks	Increases in dry season irrigated area.
Irrigation water supply. Increased. Decreased	More water available for dry season cultivation. Less water available for dry season cultivation	Area increased. Area decreased.

[1] Afghanistan-the CFSAM in 2000 noted a massive 40% increase in total cereal area due to expansion of rain-fed farming in a very good rain year compared to 1999.

[2] Increased pressure on contractor's services with concomitant increases in labour rates, oxen hire rates, tractor hire rates. Under these conditions either i) less land is cultivated by those using contractors or ii) number of passes reduced; or iii) best sowing time missed as planting season extended beyond preferred period.

[3] Overall area may be the same.

[4] Very important consideration for wheat, barley (sowing rates-120 to 200+ kg/ha); less important for sorghum and maize (10-25 kg/ha)

[5] In Ethiopia, there is opportunistic planting of sassa barley in East Tigray to capitalize on late rains; In Mozambique, a second crop of short cycle maize is grown in the in south provinces. Rice is grown in the swampy/ waterlogged areas. In South Sudan a second crop of groundnuts is grown in west Bahr el Ghazal and sweet potatoes in Bahr el Jebel

(b) Man-made factors

Inputs		
Factor	**Effect**	**Possible Impact**
Early availability of farmer seasonal ***credit,*** improved ***seeds*** and basal dressing ***fertilizer.***	Market-oriented farmers have timely access to inputs which boosts farmer investment: ➧Maximum area cultivated	All possible areas cultivated Plenty of time for all forms of cultivation. Opportunistic use of common land, reduced fallowing Less intense competition for contractors; hiring rates stable.
	➧Early or timely sowing.	Long-cycle crop areas increased. High and even germination rates

Late arrival of inputs	Market orientated farmers have reduced time for investment.[6] ➧ Credit supply low or not available ➧ Credit demand high. ➧ Delays in sowing ➧ Black market thrives	Optimum sowing time missed. ➧ HRV[7] areas reduced ➧ Area of long-cycle crop varieties *probably* reduced. ➧ Area of short cycle crops *probably* increased. [8] ➧ Input prices increase
Increased prices of inputs.	Market orientated farmers have increased outlay.[9] ➧ Decline in sales possible ➧ May get increase in share-cropping ➧ Small farmers don't buy inputs	HRVs; ➧ Reduction in area. Traditional varieties. ➧ Area switch to low-input cereals ➧ Areas stay same but ownership changes.
Labour		
Crisis displacement with labour shortage early in season	Abandon village fields- early season. New clearings unlikely.	Cultivation stopped. Area reduced Area switch to late-sown crops No expansion of cultivated area
Crisis displacement with labour shortage late in season.	Abandon village fields late season.	Harvest missed. Area lost
Long term migration.	Farming population reduction.	Fewer farming households. Possible area reduction[10] Possible land redistribution/share cropping[11]
Power sources		
Draught animals-viral diseases (epidemic e.g. rinderpest);	Dramatic loss, oxen sharing cannot keep- up with demand.	Fewer animals to cultivate. Area reduction.
Draught animals-distress selling (most households)[12]	Dramatic loss, oxen sharing cannot keep- up with demand.	Fewer animals to cultivate. Area reduction.
Fuel availability disturbed.		
Fuel supply late	Contractors raise prices Black-market flourishes.	Area probably sustained, quality falls.

Area reduced or redistributed to very wealthy.	Investors reduce area unless price forecasts good. Owner- farmers struggle to find fuel.	Area reduced or redistributed to very wealthy.
Prices dramatically increased	Owner- farmers struggle to find fuel.	Area reduced or redistributed to very wealthy.
Farmer Confidence		
Local conflict/ insecurity- confidence draining.	All farmers. ➧ No far fields.	All farmers. ➧ Area reduced[13]
National war threat- uncertainty.	Boosted self sufficiency programme. ➧ Maximum planting unless near frontier.	➧ Area of staples increased[14]
Stable prices of outputs/ commodities.	➧ Planning possible. Sustained practices. ➧ New investors	Area expansion sustained at a predictable level.
Increased prices of all commodities.[15]	➧ Market orientated farmers and mechanized farming increases.	Rapid and widespread area expansion.[16]
Increased prices of some commodities.[17]	➧ Crops switched by large scale farmers[18]	Crop area ratios change; total area *may* remain similar.
Stocks held on farm.	Subsistence farmers with plenty of on-farm stocks	Reduce planted area, increased fallow area.[19]

[6] Subsistence farmers less effected, use their own seeds and may not use fertilizer

[7] HRV- high response varieties

[8] Overall area may be the same.

[9] Response depends on expected crop prices;guarantees or no guarantees, stocks from previous years.

[10] Angola- areas deserted by influential landlords left unfarmed by peasants remaining for many years.

[11] Afghanistan- monied households left but land farmed by others in their absence(share-cropped)

[12] Do not confuse regular sale of draught animals in areas with limited grazing/ trypanosomiasis with distressed selling. Rapid turnover of draught animals is valid strategy in such areas. (Buy pre-season sell post- season; avoid feeding expenses/risk in dry season)

[13] South Sudan - local areas fluctuate, since peace negotiations began, area increases in each locality are being noted each year as more and more far-fields are being cultivated. Mozambique showed massive increase in planting post civil war. Where law and order breaks down the converse is true.

[14] Eritrea (1996,7-8) increased mechanized farming in western lowlands. This was immediately reversed when war broke out and the security in the area was threatened.

[15] e.g. When export trade opens.

[16] May be accompanied by land grabs with agro-pastoralists being dispossessed of farm/grazing lands. (Darfur 2000; East Sudan, 1994/5; Somalia 1986)

[17] e.g. When export trade opens.

[18] North Sudan (2000/1-2002/3) massive changes in rainfed sorghum areas - switch to sesame.

[19] Noted in Mozambique 2006.