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Wardak Province Agricultural Profile 2008



Prepared by the National Agriculture Information System (NAIS)/AgNet
for the Afghan Ministry of Agriculture, Irrigation and Livestock (MAIL)

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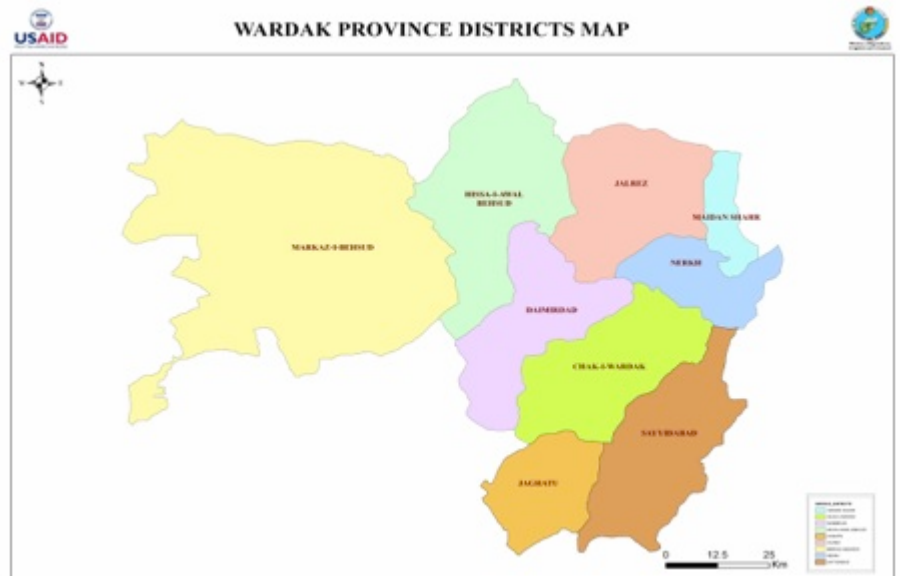
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Agriculture

Profile and Data

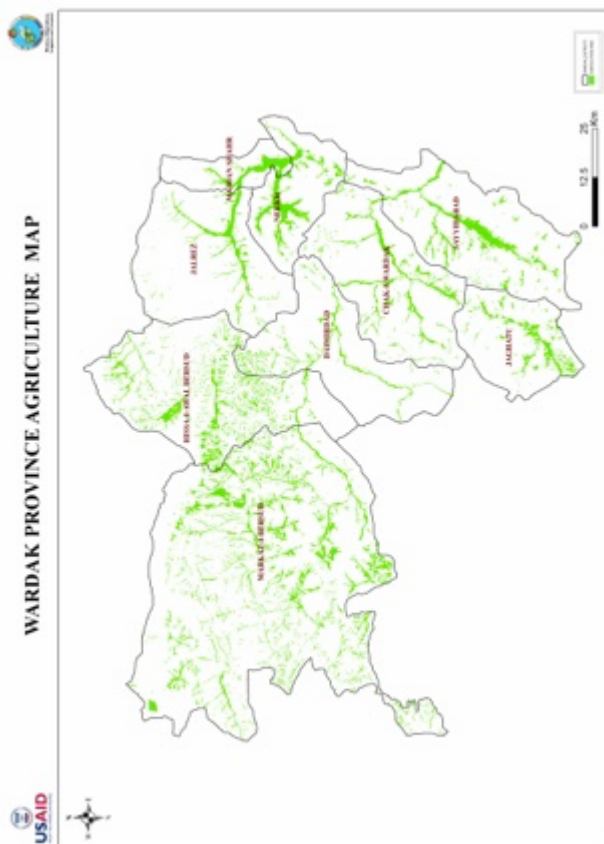
Wardak Province



Wardak in Brief

Wardak province is located in central Afghanistan between 33.68-34.80 degrees latitude and 67.21-68.97 degrees longitude. Wardak is bordered by the provinces of Kabul and Logar to the north, Ghazni to the south, Bamyan to the west.

Wardak has 9 districts that cover 10,921.01 square kilometers of which 106,385.52 hectares are used for agricultural purposes. There are 2,143 villages with an estimated population of 615,840 people as of 2008. Wardak is famous for producing apple, Lucerne, potato and wheat.

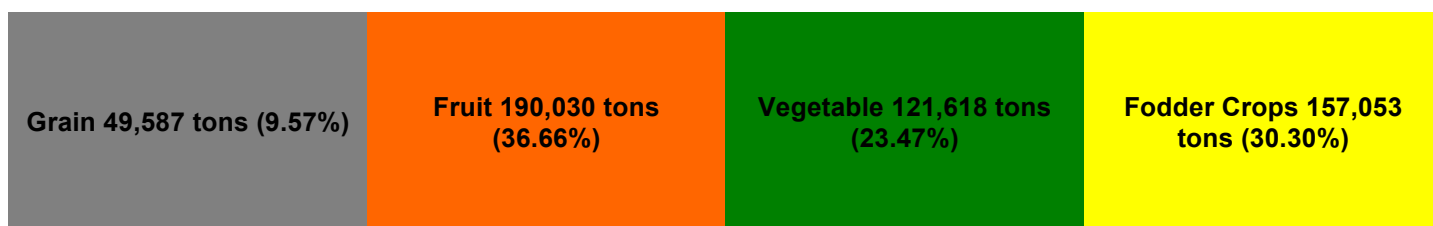
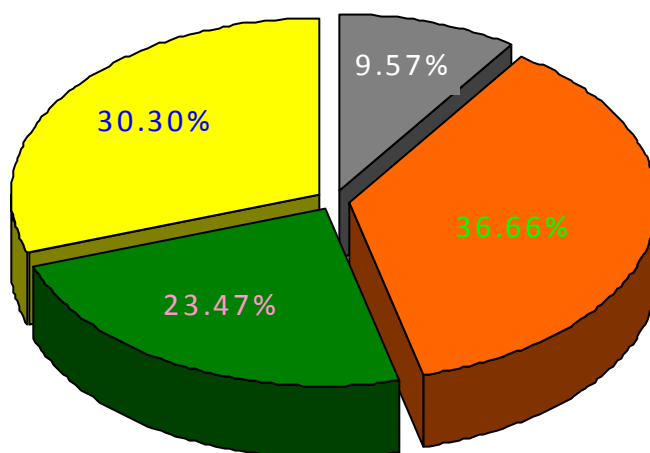


In 2008, Wardak farmers grew 38 different crops on approximately 46,014 hectares of land (4.21 percent of total area). The province's cultivated area is concentrated mostly in the southeastern districts along the low and fertile basin of the Maidan River and its tributaries.

Fifty-eight percent of all cultivated land is concentrated in 5 of the 9 district of Wardak. The remaining 4 districts are suitable for raising livestock because of the mountainous terrain and the overall lack of water and arable land. Wardak provincial districts are as follow:

- | | |
|-------------------|----------------|
| 1. Behsud center | 6. Jalrez |
| 2. Behsud Hesa II | 7. Nerkh |
| 3. Chak Wardak | 8. Maidan Shar |
| 4. Dimerdad | 9. Said Abad |
| 5. Jaghato | |

Wardak's total 2008 crop production was surveyed at 518,287 metric tons (MT) mostly consisting of fruits (36.6 percent), followed by fodder crops (30.3 percent), vegetable (23.47 percent), and grains (9.57 percent). The total market value of the 2008 agricultural production before undergoing value added processing was estimated at \$505 million.



Of the province's 9 districts, Markazi Behsud was the most productive, generating 20 percent of the total agricultural output in 2008. Said Abad districts placed second (18 percent) followed by Chaki Wardak (17 percent) in terms of agricultural production in Wardak during 2008.

Research Methodology

This report was prepared based on information provided by AgNet/NAIS system. In 2007 and 2008 AgNet Conducted two separate surveys (1) district profile survey and (2) agricultural statistic survey in 19 provinces of Afghanistan with the support of ASAP and MAIL at district level. During a period of 4 months each, more than 50 surveyors collected information related to the number of hectares land cultivated types of products produced number of livestock, crop calendar, sources of water and much more agricultural information. The information presented in this report is based exclusively in the area surveyed, not in the total farm land of the provinces. The AgNet/NAIS data base for Farah is the most accurate database available in the country in spite there is not estimation rewarding the level of exactitude of the information. All data related to harvest amounts was checked in July 2008 by ASAP personnel (Prof. A. Ghani Taj Agricultural Information Specialist and former professor of Kabul University and Ahmad Jawid Abid Survey and Data Assistant) by comparing the national average productivity level of each products. Crop value information was determined on wholesale price in Farah and collected by Farah AgNet officer Mr. Mohammad Sardar and approved by deputy director of Farah Provincial Agriculture department Mr. Mohammad Aslam Dana in November 2008.

Grains

Annual grain production surveyed in 2008 was approximately 49,587 MT with a representing market value of \$30.6 million. Wheat made up the largest portion (88.88 percent) and resulted in profits of \$27.6 million. The remaining 11.2 percent comprised other grain crop valued at \$3.6 million.

Grain	Tons	Value USD \$
Rice	450	675,150
Wheat	44,599	27,651,644
Barely	2,689	1,183,160
Maize	608	243,200
Mung bean	20	16,000
Red bean	164	229,950
Other Grains	1,057	676,480
Grand Total	49,587	30,675,584

Wardak farmers grow wheat in every district, making it the most grown grain in the province. With the exception of Jaghatu district, production of barely is also province wide. Maize and rice are the second and third most cultivated grains and amounted to 10,580 MT in 2008. Chak and Sayd abad districts produced the highest amount of wheat (780,000 and 880,000 MT respectively). Figures presented in the below table are in kg.

	Rice	Wheat	Barely	Maize	Mung bean	Red bean	Other Grains
MAIDAN SHAHR	33,600	3,955,000	315,000	63,000	-	49,000	47,250
NERKH	17,500	6,370,000	318,500	17,500	-	21,000	47,250
MARKAZ-I-BEHSUD	-	2,735,250	420,000	-	-	-	525,000
HISSA-I-AWAL BEHSUD	-	2,175,250	87,500	-	-	-	385,000
SAID ABAD	105,000	7,893,925	168,000	157,500	-	19,250	52,500
JAGHATU	-	4,900,000	-	-	-	75,000	-
JALREZ	46,000	4,900,000	150,000	-	20,000	-	-
DAIMIRDAD	-	2,780,000	880,000	370,000	-	-	-
CHAK-I-WARDAK	248,000	8,890,000	350,000	-	-	-	-
Total	450,100	44,599,425	2,689,000	608,000	20,000	164,250	1,057,000

Fruits

Vegetable	Tons	Value USD \$
Apple	129,494	77,696,100
Mulberries	598	956,000
Almond	464	3,249,400
Plum	178	178,000
Apricot	43,542	43,542,400
Sour Cherry	65	77,400
Peach	15,125	12,099,800
Walnut	339	1,017,600
Other Fruits	225	225,000
Grand Total	190,030	139,041,700

Wardak's 2008 annual fruit production was estimated at 190,030 MT and generated over \$139 million. Apples represent 68.15 percent of total fruit production and amounted to the highest profits (\$77.6 million). Apricots were the second most grown fruit (22.9 percent) followed by peaches, which resulted in \$12.09 million in revenue for Wardak and Maidan farmers in 2008.

Of all the major fruits grown in Wardak, production of apples and apricots is evenly distributed throughout the province. Chak-i-Wardak produced the largest volume of apple (36.6 percent), followed by Dimerdad produced (24.4 percent) and Nerkh district (19.1 percent). Farmers in Said Abad district grew the highest percentage of apricot (28.8 percent) in 2008. Jaghatu was the only district where no significant amounts of any fruits were grown. Figures in the following table are in kg.

	Apple	Mulberries	Almond	Plum	Apricot	Sour Cherry	Peach	Walnut	Other Fruits
MAIDAN SHAHR	3,500,000	387,500	42,000	28,000	2,450,000	12,000	33,750	140,000	63,000
NERKH	24,640,000	140,000	140,000	70,000	8,750,000	52,500	63,000	63,000	-
MARKAZ-I-BEHSUD	85,000	-	-	66,000	-	-	-	-	-
HISSA-I-AWAL BEHSUD	368,000	-	-	-	92,400	-	-	-	22,000
SAID ABAD	15,025,500	70,000	4,200	14,000	14,560,000	-	28,000	11,200	140,000
JAGHATU	-	-	-	-	-	-	-	-	-
JALREZ	6,600,000	-	278,000	-	3,375,000	-	-	125,000	-
DAIMIRDAD	32,000,000	-	-	-	12,500,000	-	-	-	-

Vegetables

In 2008, Wardak farmers were surveyed to have grown approximately 121,618 MT of 10 different kinds of vegetables, valued at \$37 million. Onions and potatoes made up almost all (94.5 percent) of the total vegetable production in 2008, generating \$34.4 million in revenue. Moreover, these were the only crops that amounted to over 10,000 MT.

Vegetable	Tons	Value USD \$
Potato	103,556	31,066,920
Onion	11,450	3,435,030
Tomato	764	305,600
Spinach	52	26,000
Garlic	60	83,300
R.R.Riddish	88	52,920
W.Reddish	2,362	944,720
Carrot	779	467,460
Leek	280	167,700
Turnip	1,337	267,360
Other Vegetable	890	649,740
Grand Total	121,618	37,466,750

Of all the major fruits grown in Wardak, potato, onions and carrots were cultivated in almost all districts of the province in 2008. Dimerdad and Maidan Shar districts accounted for 40 percent of all potatoes and farmers in Said Abad and Maidan Shar districts produced 79 percent of all onions.

	Potato	Onion	Tomato	Spinach	Garlic	R.R.Riddish	W.Reddish	Carrot	Leek	Turnip	Other Veg.
MAIDAN SHAHR	20,840,400	2,240,000	392,000	-	50,400	35,000	2,240,000	294,000	24,500	420,000	140,000
NERKH	9,800,000	840,000	224,000	7,000	4,900	8,400	21,000	112,000	14,000	16,800	21,000
MARKAZ-I-BEHSUD	5,600,000	36,000	-	6,000	-	-	-	110,000	17,000	130,000	
HISSA-I-AWAL BEHSUD	1,400,000	24,500	-	-	-	-	-	44,100	-	210,000	
SAID ABAD	14,616,000	6,809,600	148,000	14,000	4,200	44,800	100,800	84,000	224,000	560,000	729,400
JAGHATU	8,400,000	600,000	-	-	-	-	-	-	-	-	-
JALREZ	3,300,000	900,000	-	25,000	-	-	-	90,000	-	-	-
DAIMIRDAD	21,600,000	-	-	-	-	-	-	-	-	-	-
CHAK-I-WARDAK	18,000,000	-	-	-	-	-	-	45,000	-	-	-
Total	103,556,400	11,450,100	764,000	52,000	59,500	88,200	2,361,800	779,100	279,500	1,336,800	890,400

Fodder & Industrial Crops

Alfalfa and clover are the main sources of animal fodder and industrial crops in Wardak province and generated \$298 million in 2008.

Fodder	Tons	V
Alfalfa	142,455	
Clover	14,598	
Grand Total	157,053	

Alfalfa is grown in 7 out of 9 districts of Wardak and famres make use of the Maidan and Chaki to irrigate their land. Farmers grew very small amounts of sesame and tobacco only for household

	Alfalfa	Clover
MAIDAN SHAHR	1,680,000	924,000
NERKH	2,100,000	630,000
MARKAZ-I-BEHSUD	98,000,000	-
HISSA-I-AWAL BEHSUD	12,325,000	105,000
SAID ABAD	28,350,000	4,494,000
JAGHATU	-	1,200,000
JALREZ	-	-
DAIMIRDAD	-	6,000,000
CHAK-I-WARDAK	-	1,245,000
Total	142,455,000	14,598,000

Livestock

S.#	Province	District	Total livestock	Total Poultry
1	Wardak	SAID ABAD	52,153	402,365
2		DAIMIRDAD	2,600	1,000
3		JALREZ	134,700	61,500
4		CHAK-I-WARDAK	2,900	2,100
5		JAGHATU	2,520	700
6		MAIDAN SHAHR	25,777	50,270
7		NERKH	56,810	213,060
8		MARKAZ-I-BEHSUD	25,848	57,570
9		HISSA-I-AWAL BEHSUD	88,570	202,242
Total			391,878	990,807

In 2008, household livestock present in Wardak totaled 391,878, not including 990,807 chickens, ducks and turkeys. Farmers in Jalrez district raised 34.37 percent of all livestock and the remaining 65.63 percent was found in the remaining 8 districts of Wardak province. Sheep are the dominant household livestock followed by dairy cows.

Animals	Cow	Sheep	Goat	Horse	Donkey	Total	Chicken	Duck	Turkey	Total
Heads	111,301	182,720	86,078	1,073	10,706	391,878	986,562	700	3,545	990,807
%	28.40	46.63	21.97	0.27	2.73	100%	99.57	0.07	0.36	100%

Cattle in the province include oxen and dairy cows. The number of donkey could be a good indicator for the development of transportation in Wardak. Sheep and cow make 75 percent of all livestock and this reflects the high amount of Lucerne and clover grown in the province in 2008.

Annex 1

Wardak province crop surveyed by Hec, Tons and USD

S,#	Crops	Hectares	Metric Tons	Value USD \$
1	Rice	167	450	675,150
2	Wheat	18,089	44,599	27,651,644
3	Barely	1,290	2,689	1,183,160
4	Miaze	285	608	243,200
5	Mung_bean	10	20	16,000
6	Red_bean	100	164	229,950
7	Potato	5,647	103,556	31,066,920
8	Onion	539	11,450	3,435,030
9	Tomato	35	764	305,600
10	Pepper	1	6	5,600
11	Eggplant	3	34	16,800
12	Okra	3	34	23,520
13	Cucumber	10	280	112,000
14	Spinach	14	52	26,000
15	Garlic	7	60	83,300
16	Mint	1	1	980
17	R_R_Riddish	12	88	52,920
18	W_Riddish	16	2,362	944,720
19	Carrot	74	779	467,460
20	Cauliflower	8	67	47,040
21	Leek	16	280	167,700
22	Squash	5	84	58,800
23	Turnip	69	1,337	267,360
24	Grape	2	35	24,500
25	Pear	2	18	28,000
26	Apple	7,779	129,494	77,696,100
27	Mulberries	80	598	956,000
28	Almond	113	464	3,249,400
29	Plum	24	178	178,000
30	Appricot	2,577	43,542	43,542,400
31	Sour_Cherry	20	65	77,400
32	Peach	2,032	15,125	12,099,800
33	Walnut	121	339	1,017,600
34	Alfalfa	4,825	142,455	284,910,000
35	Clover	1,082	14,598	13,235,400
36	Other Grains	898	1,057	676,480
37	Other Vegetables	45	385	385,000
38	Other Fruits	13	173	172,500
Total		46,014	518,290	505,329,434

ANNEX 2

ASAP/NAIS

Ranking of Wardak Province districts by tons surveyed annually

S.#	District	Hectares	Tons	Value USD \$	% total tons
1	MARKAZ-I-BEHSUD	8242	107,730	200,129,655	20.79
2	SAYYIDABAD	5571	94,428	101,317,604	18.22
3	CHAK-I-WARDAK	10560	92,868	53,644,800	17.92
4	DAIMIRDAD	6350	76,130	40,438,800	14.69
5	NERKH	4880	54,509	38,032,190	10.52
6	MAIDAN SHAHR	3057	40,399	22,288,320	7.79
7	JALREZ	2855	19,809	14,171,500	3.82
8	HISSA-I-AWAL BEHSUD	1599	17,239	27,303,565	3.33
9	JAGHATU	2900	15,175	8,003,000	2.93
Total		46,014	518,287	505,329,434	100

Annex 3 Harvest seasons for Wardak

Agricultural crops surveyed

Crops	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rice												
Wheat												
Barely												
Miaze												
Mung_bean												
Red_bean												
Potato												
Onion												
Tomato												
Pepper												
Eggplant												
Okra												
Cucumber												
Spinach												
Garlic												
Mint												
R_R_Riddish												
W_Riddish												
Carrot												
Cauliflower												
Leek												
Squash												
Turnip												
Grape												
Pear												
Apple												
Mulberries												
Almond												
Plum												
Appricot												
Sour_Cherry												
Peach												
Walnut												
Alfalfa												
Clover												
Other Grains												
Other Vegetables												
Other Fruits												

Annex 4

District Profile Summary for (Maidan Shahr) Wardak 2008

DISTRICT PROFILE:		MAIDAN SHAHR	
1	DEMOGRAPHICS	7	Water
	Region:		Rain fed
	Province:		Kariz
	District:		Canals
	Villages:		Other sources
	Households:		Bored wells, #
	Estimated population:		Access/irrigated water
2	Land	8	Infrastructure
	Sharecroppers, %		Access/drinking water
	Arable land, jeribs		Schools
	Arable land, hectares (/5)		Electricity costs, Afs/KWH
	Grazing land, jeribs		Cell phone access
	Geographic area, Km2		Health clinic, #
	Landowner, %		VFUs, #
	Irrigated land area, hectares	9	Major Income Sources
	Rainfed land in use,hectars		Agro-horticulture sector, %
3	Primary Crops		Livestock sub-sector, %
	Spring Wheat, hectares		Bussiness and Trade %
	Fall wheat, hectares		Government and NGO %
	Barley, hectares		Daily Labor %
	Potato, hectares	10	Enterprises
	Onion, hectares		General shops, #
	Alfa alfa & clovers, hectares		Food service,#
	Apple, hectares		Flour mills,#
	Other grains, hectares		Shoe repair,#
	Other vegetables, hectares		Blacksmith,#
	Other fruits,hectares		Honey selling,#
4	Livestock		Butcher shops, #
	Livestock owners, %		Carpet weaving, #
	Beef cattle/ oxen, #	11	Agricultural Initiatives
	Dairy cow, #		Artificial Insimination
	Sheep & Goats, #		Rentable Ag Machinery
	Donkey, #		Improved wheat seed
	Honey bees hieves, #		Fruit Nurseries, #
	Checkens +Turkey,#		Credit facility
	Camels, #		Poultry farm, #
	Kuchi, (seasonal families),#		Pest control
	Camels, #		Cool storage, #
	Kuchi sheep, #		warehouse, #
	Kuchi goats, #	12	Household (HH) Indices
	Kuchi other, #		Arable land/HH, jeribs
5	Transportation		Grazing land/HH, jeribs
	Distance to center, km		Irrigated land/HH, jeribs
	Time to center, minutes		Rainfed land/HH, jeribs
	Cost to center, Afs		Total livestock/HH, #
	Truck cost to center, Afs		Sheep&goats/HH, #
	District roads		Poultry/HH, #
	Provincial roads	13	Check
	Accessibility		Households/village:
6	Markets		Population/household:
	Provincial		Schools/village:
	District, General, day		Number of bored wells/village:
	District, livestock, day		Number of enterprise/village:
	Traders/assemblers		

Annex 5

Household Animals and Poultry in Wardak Province

2008

S.#	Province	Districts	Livestock statistics						Total	Poultry					Total
			Oxen	Cow	Sheep	Goats	Horse	Donkey		Kock	Hens	Checks	Duck	Turkey	
1	Wardak	SAYYIDABAD	1,050	14,256	32,150	2,224	30	2,443	52,153	25,200	180,600	195,550	450	565	402,365
2		DAIMIRDAD	-	700	1,000	600	-	300	2,600	200	800	-	-	-	1,000
3		JALREZ	40,300	12,000	50,000	30,000	400	2,000	134,700	20,000	40,000	-	-	1,500	61,500
4		CHAK-I-WARDAK	-	1,000	500	1,000	-	400	2,900	500	1,500	-	-	100	2,100
5		JAGHATU	200	400	1,000	500	20	400	2,520	100	200	300	-	100	700
6		MAIDAN SHAHR	1,260	4,200	12,650	6,749	8	910	25,777	8,900	12,000	29,000	200	170	50,270
7		NERKH	1,530	8,750	27,140	18,125	15	1,250	56,810	12,200	90,500	110,000	50	310	213,060
8		MARKAZ-I-BEHSUD	1,150	3,940	12,660	7,260	250	588	25,848	8,400	19,200	29,700	-	270	57,570
9		HISSA-I-AWAL BEHSUD	8,560	12,005	45,620	19,620	350	2,415	88,570	22,560	80,652	98,500	-	520	202,242

Annex 6

Province: Wardak

Arable land survey cultivated, forest and pasture land in Hectare

2008

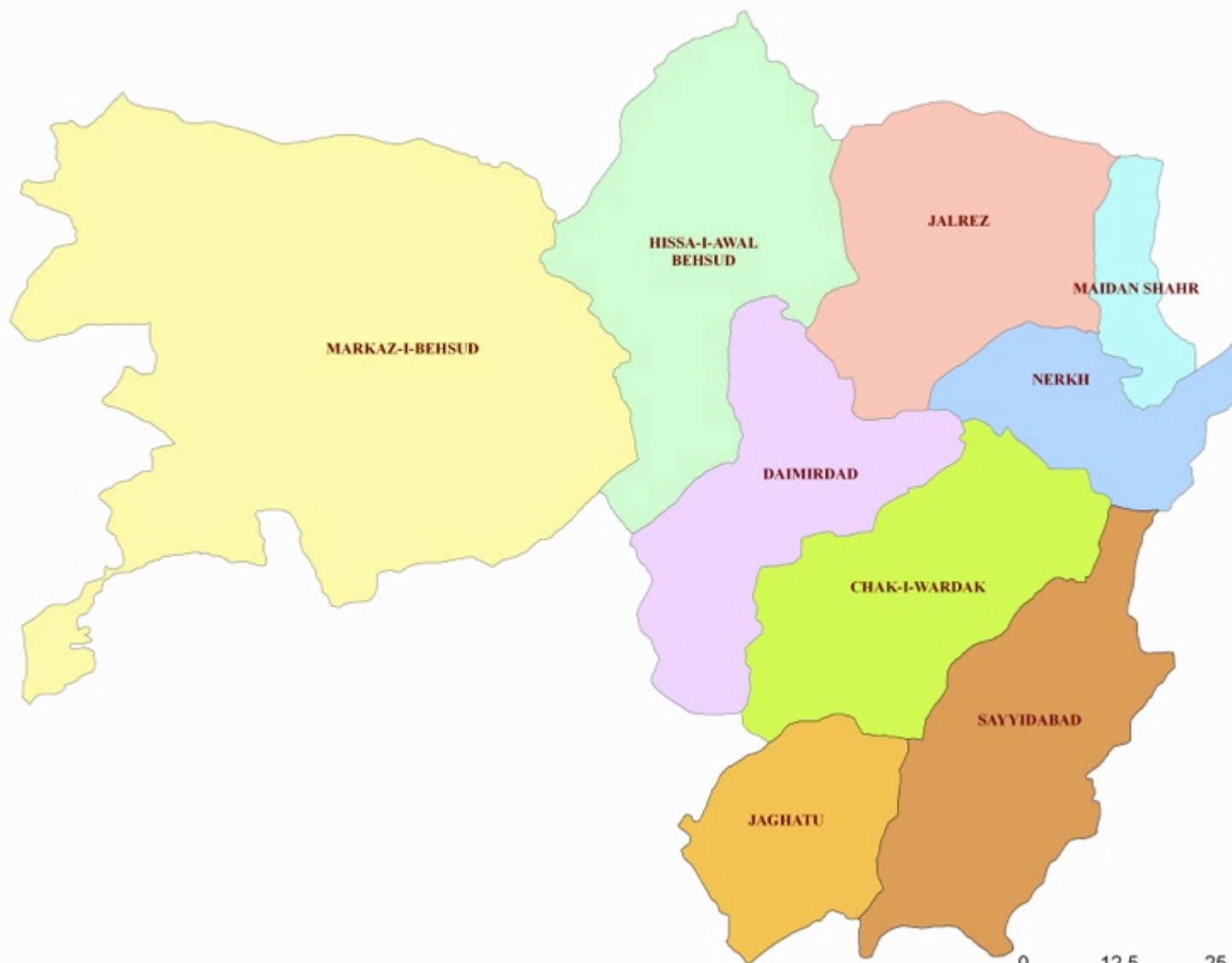
S.#	Province	District	Village	Rainfed Land	Irrigated Land	Total land	Orchards &viens	Vegetabl e and Furrows crops	Cereal Crops	Forage crops	Forest land	Pasture land	Non- areble land	Mountains	Total Land area
1	Wardak	MAIDAN SHAHR	60	400	2,858	3,258	800	422	1,800	236	-	980	-	21,862	26,100
2		NERKH	172	1,800	4,814	6,614	2,200	1,300	2,300	814	200	1,160	-	46,226	54,200
3		SAYYIDABAD	220	263	5,308	5,571	1,504	1,281	2,229	557	-	8,000	-	101,029	114,600
4		HISSA-I-AWAL BEHSUD	871	400	1,247	1,647	29	115	1,073	430	-	950	-	138,703	141,300
5		MARKAZ-I-BEHSUD	383	3,000	5,242	8,242	10	427	4,305	3,500	-	1,050	-	362,608	371,900
6		CHAK-I-WARDAK	220	-	3,162	3,162	-	-	-	-	-	6,000	-	-	9,162
7		DAIMIRDAD	110	-	464	464	-	-	-	-	-	8	-	-	472
8		JAGHATU	132	-	2,956	2,956	-	-	-	-	-	5,600	-	-	8,556
9		JALREZ	155	-	6,000	6,000	-	-	-	-	-	1,000	-	-	7,000
Total			2,323	5,863	32,051	37,914	4,543	3,545	11,707	5,537	200	24,748	-	670,428	733,290

Annex 7

Crop Calendar

Activities	District	Midaan Shahr	Province	Wardak	Date	GPS HQ	Elev.HQ						
Planting=P;Harvest=H;Treat=T	seasons	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Fruit and Nut Crops													
Apple	Spring												
	Fall												
Grape													
Pomagranate													
Apricto													
Peach													
Sour Plum													
Almond													
Walnut													
Pis tachi													
Mulberries													
Vegetable													
Tomato													
Potato	Spring												
	Fall												
Water Melon													
Melon	Spring												
	Summer												
	Fall												
carrot													
Okra													
Eggplant													
Cucumber													
Onion													
Cauliflow er													
Spinach													
Cash Crop													
Cotton	Spring												
	Summer												
Rice	Spring												
Wheat	Spring												
	Fall												
Corn	Spring												
	Summer												
Mung Bean													
Flax	Spring												
	Fall												
Sesame	Spring												
	Fall												
Cumine													
Sunflow er													
Canoll													
Zafaran													
Pea													
Planting													
Harvesting													

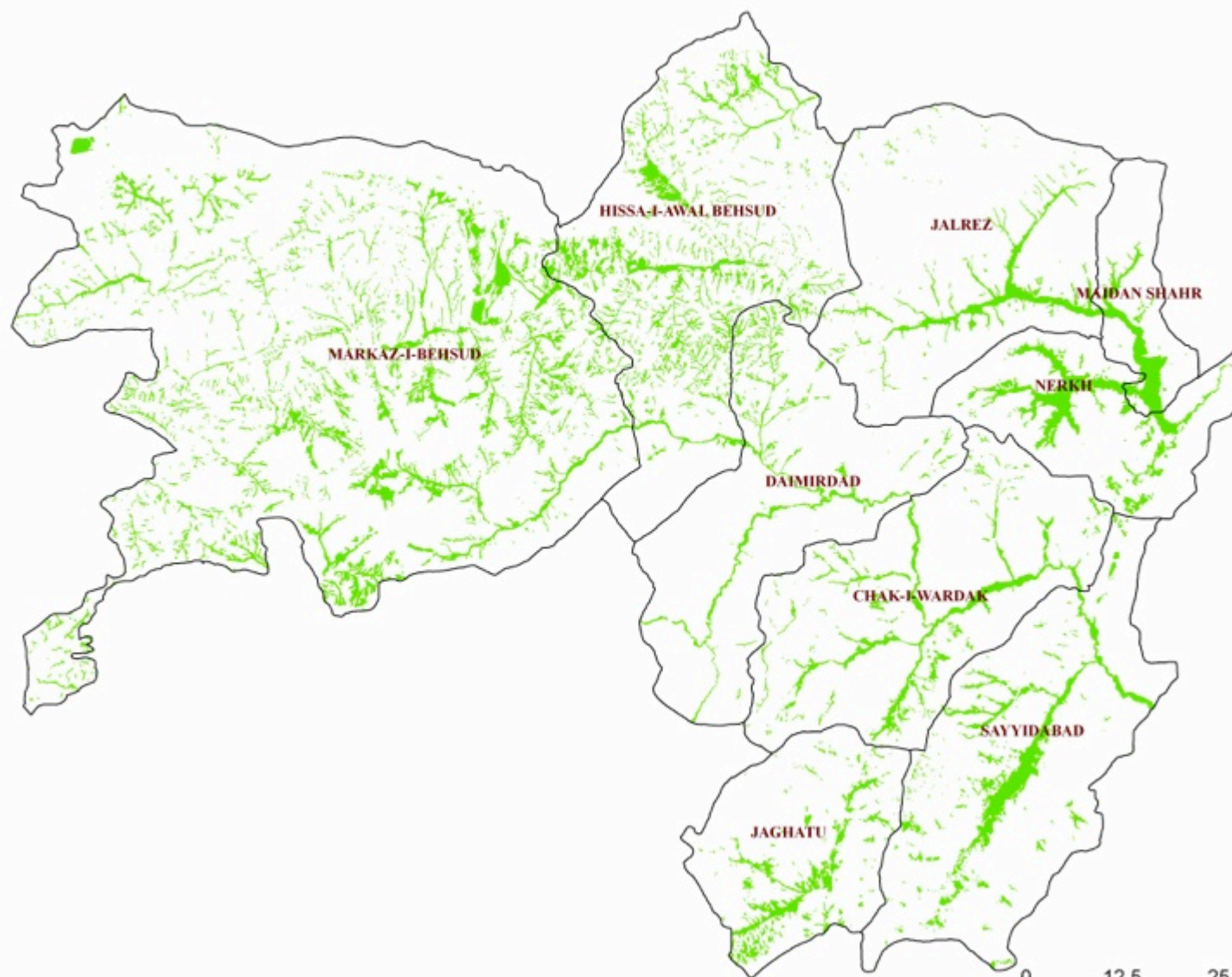
WARDAK PROVINCE DISTRICTS MAP



0 12.5 25 Km

WARDAK DISTRICTS	
MAIDAN SHAHR	MAIDAN SHAHR
CHAK-I-WARDAK	CHAK-I-WARDAK
DAIMIRDAD	DAIMIRDAD
HISSA-I-AWAL BEHSUD	HISSA-I-AWAL BEHSUD
JAGHATU	JAGHATU
JALREZ	JALREZ
MARKAZ-I-BEHSUD	MARKAZ-I-BEHSUD
NERKH	NERKH
SAYYIDABAD	SAYYIDABAD

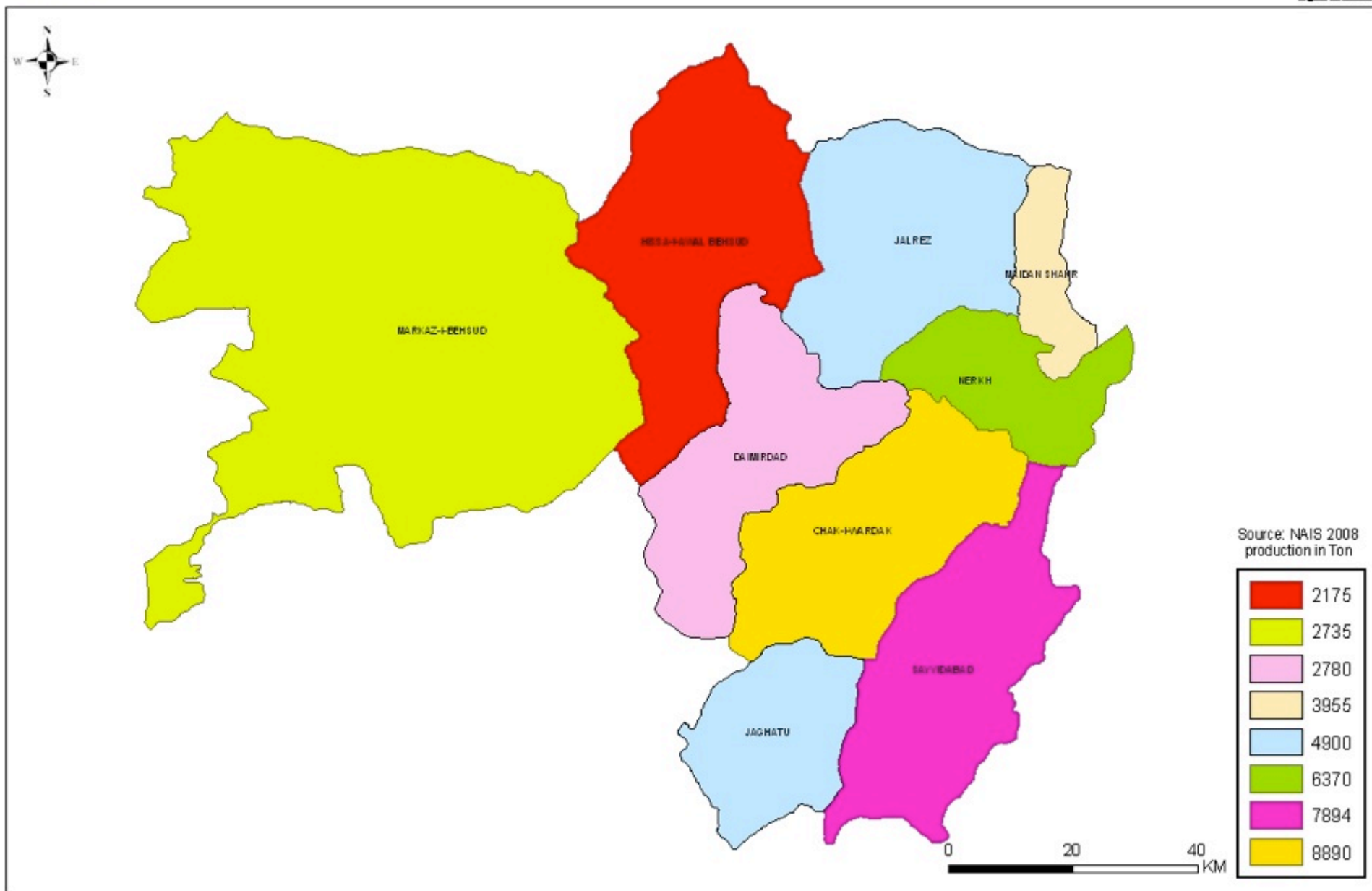
WARDAK PROVINCE AGRICULTURE MAP



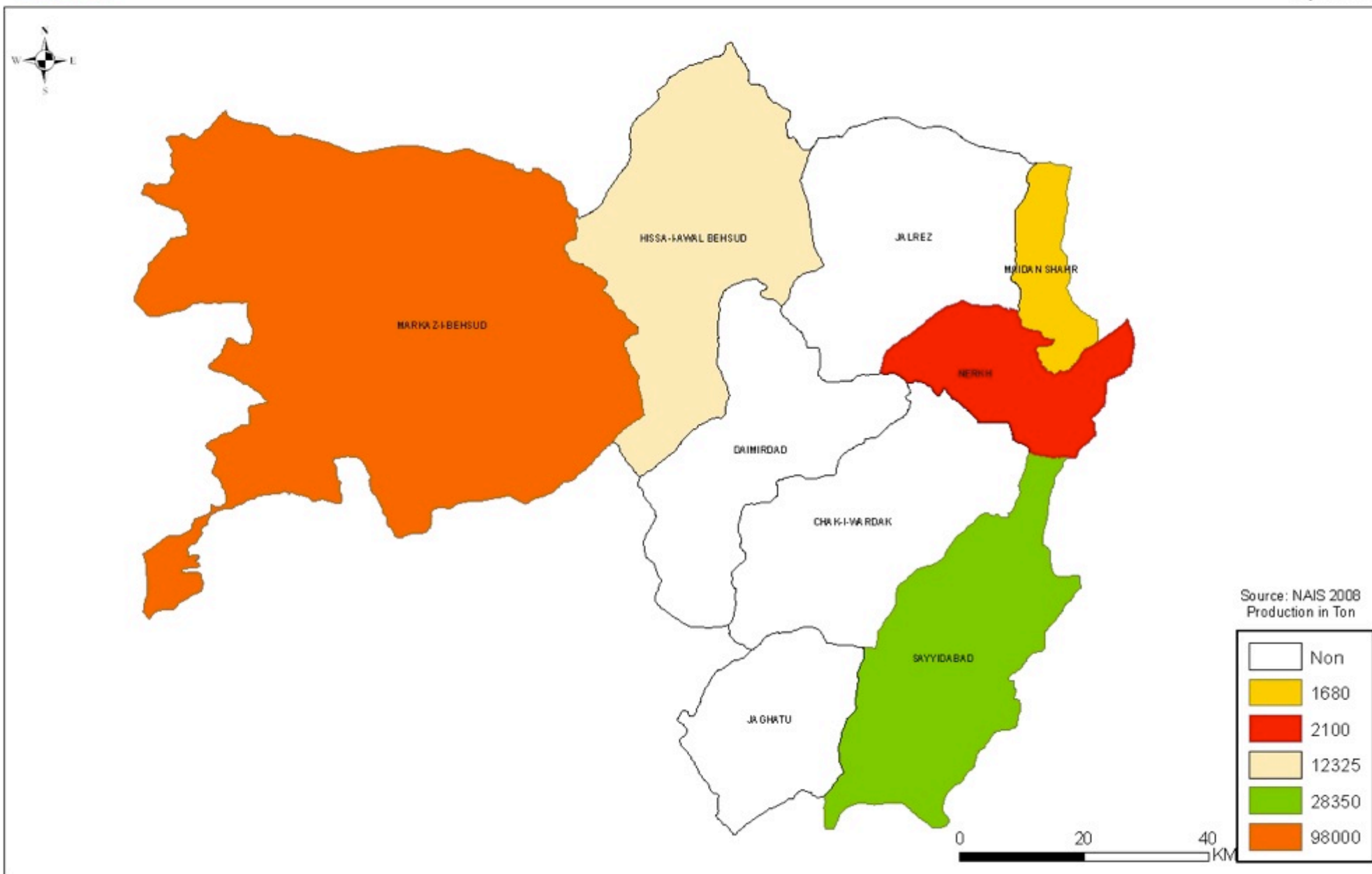
0 12.5 25
Km



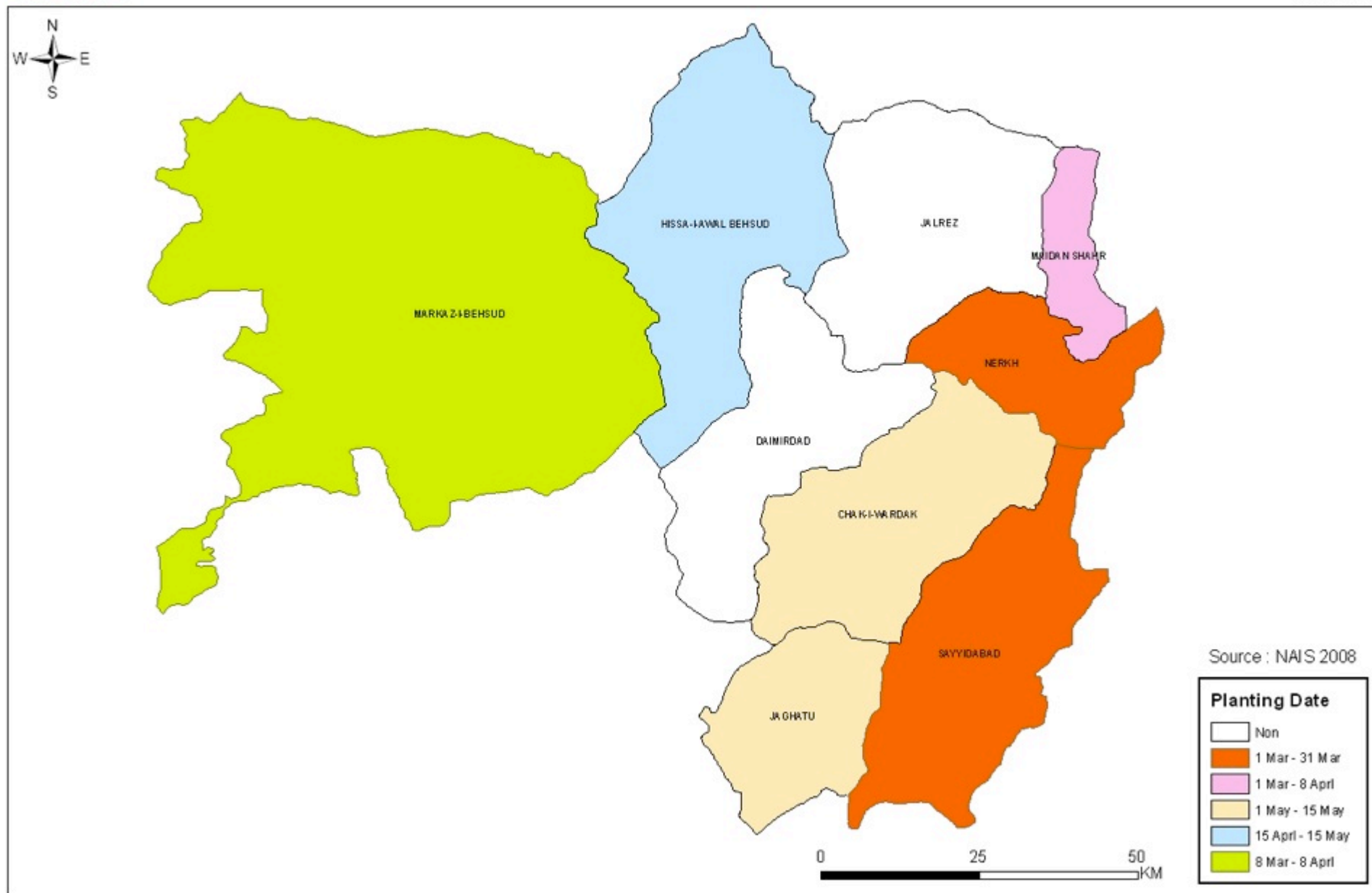
Wardak Province Crop Production Map (Wheat)



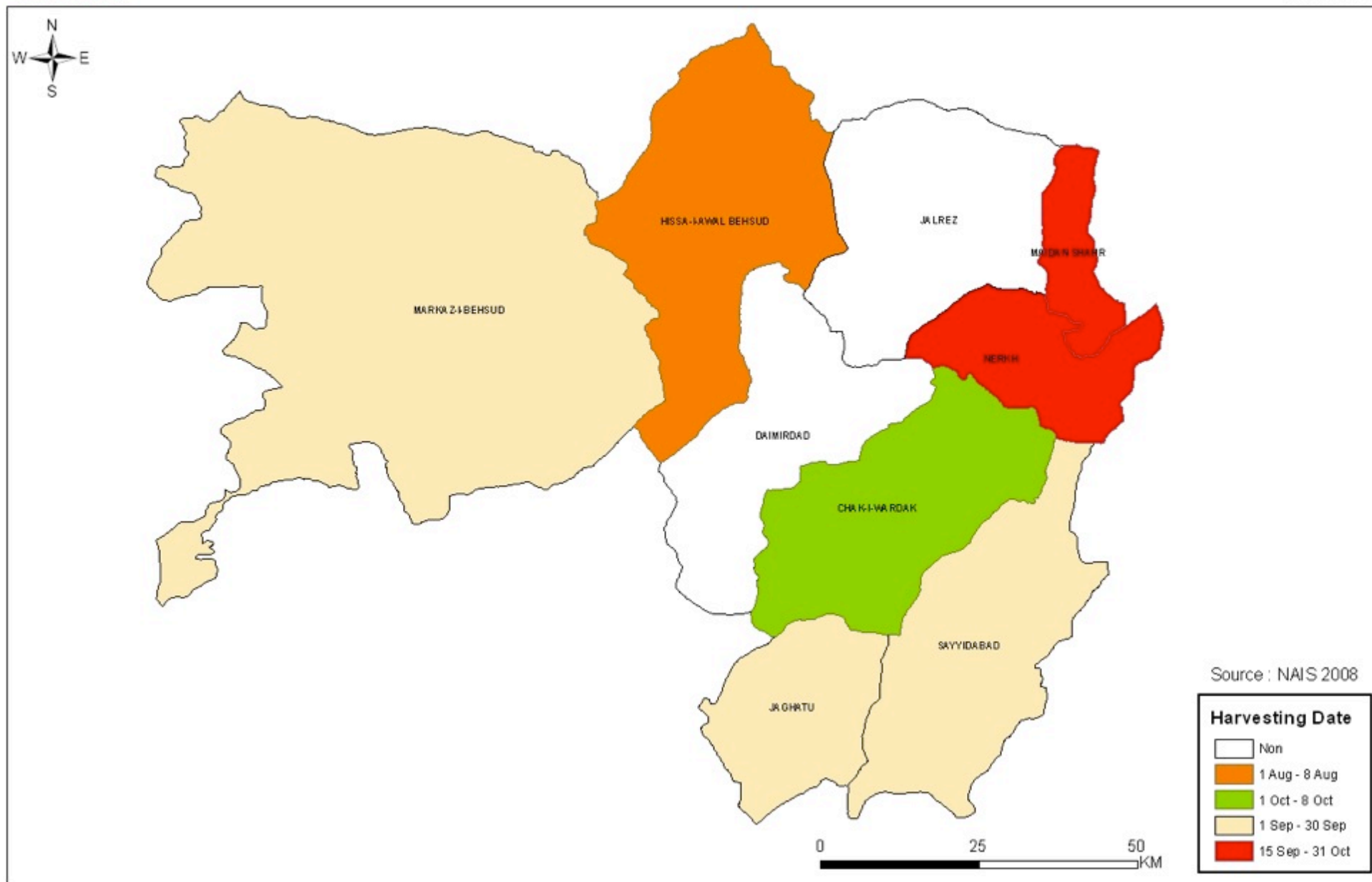
Wardak Province Crop Production Map (Alfalfa)



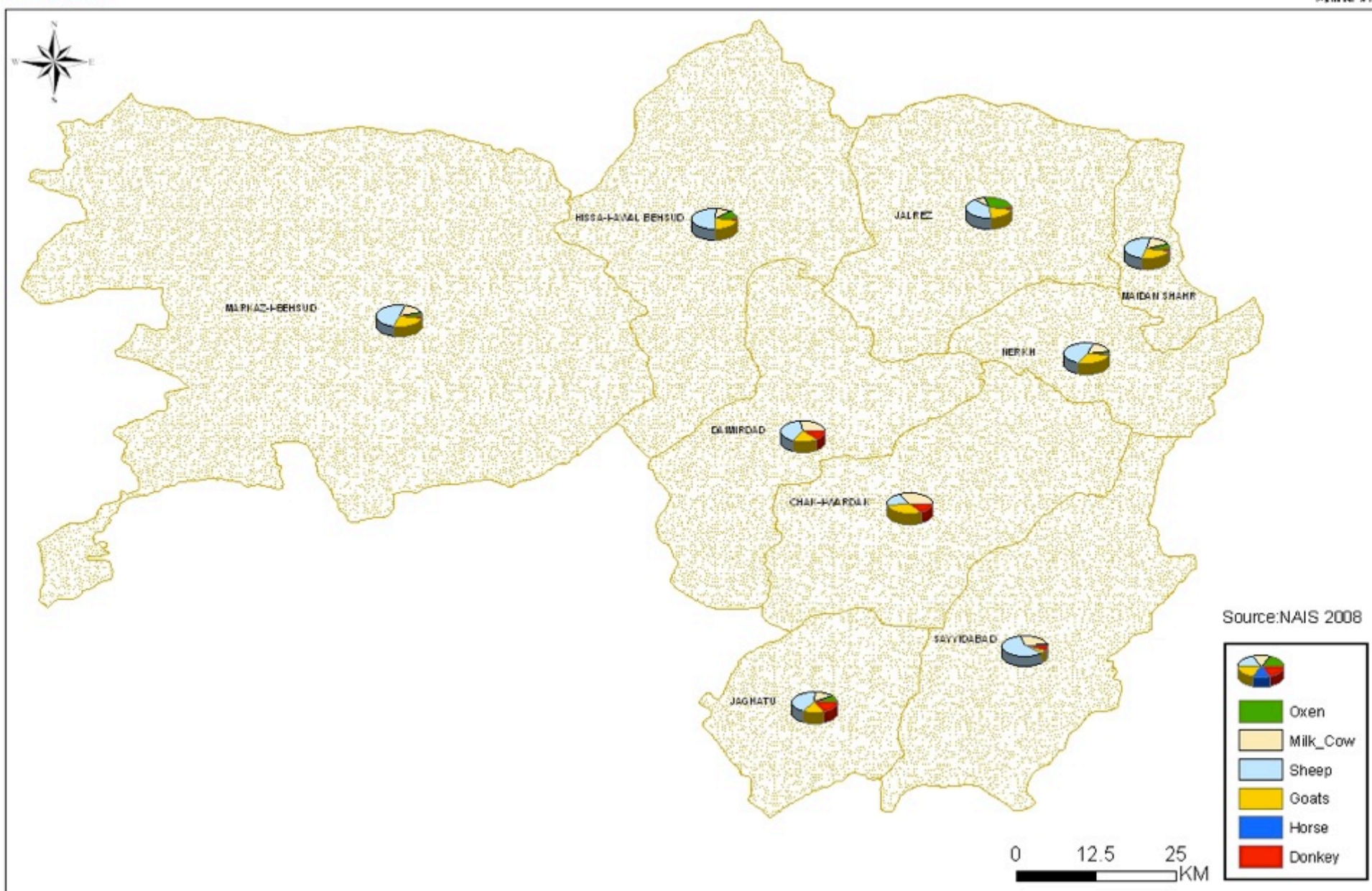
Wardak Province crop calendar map (Onion)



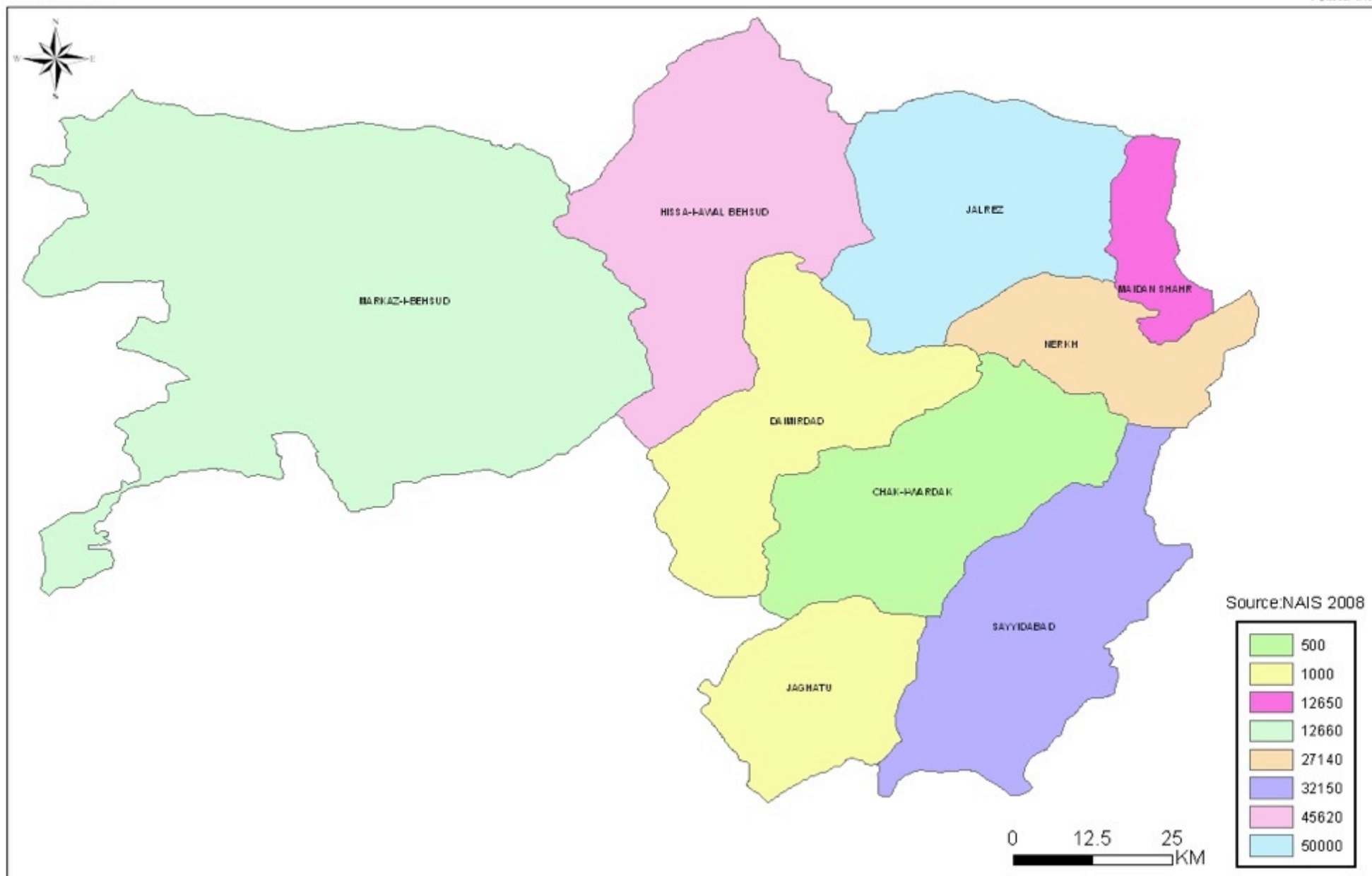
Wardak Province crop calendar map (Onion)



Wardak Province Livestock map



Wardak Province Livestock map (Sheep)



Wardak Province Livestock map

