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## ACCELERATING SUSTAINABLE AGRICULTURE PROGRAM



### 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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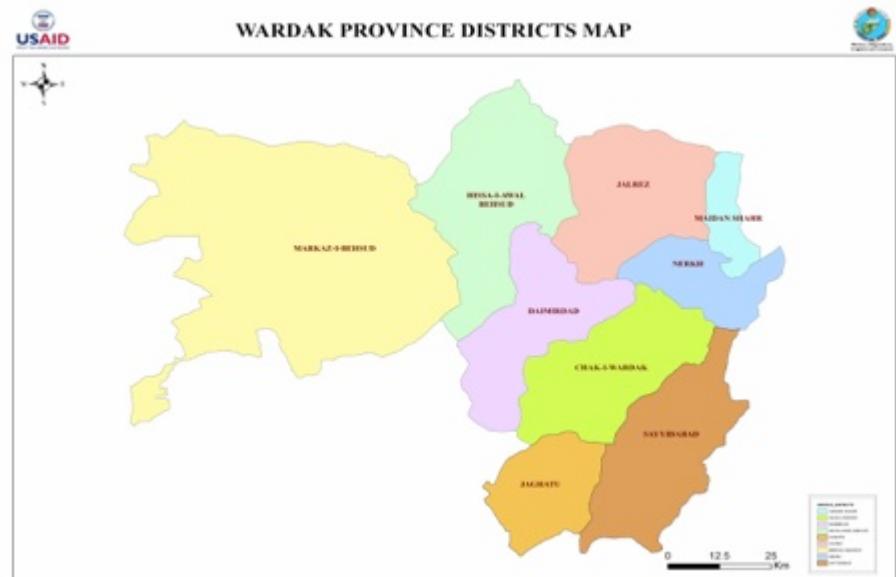
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# Agriculture

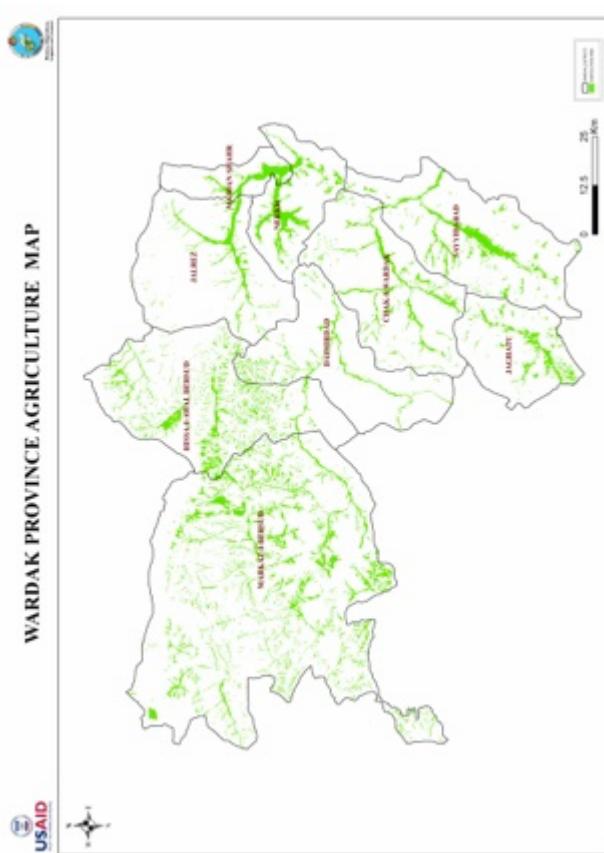
## Profile and Data

### 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.

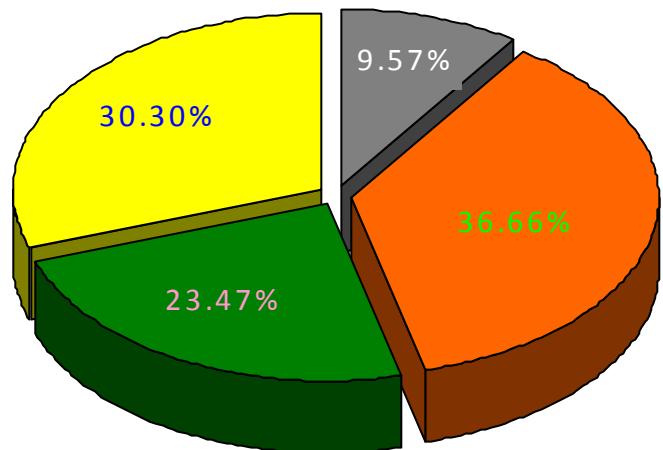


In 2008, Wardak farmers grew 38 different crops on approximately 46,014 hectares of land (4.21 percent of total area). The province's cultivated area is concentrated mostly in the southeastern districts along the low and fertile basin of the Maidan River and its tributaries.

Fifty-eight percent of all cultivated land is concentrated in 5 of the 9 districts 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
2. Behsud Hesa II
3. Chak Wardak
4. Dimerdad
5. Jaghato
6. Jalrez
7. Nerkh
8. Maidan Shar
9. Said Abad

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.



<b>Grain 49,587 tons (9.57%)</b>	<b>Fruit 190,030 tons (36.66%)</b>	<b>Vegetable 121,618 tons (23.47%)</b>	<b>Fodder Crops 157,053 tons (30.30%)</b>
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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
<b>Grand Total</b>	<b>49,587</b>	<b>30,675,584</b>

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	-	-	-	-
<b>Total</b>	<b>450,100</b>	<b>44,599,425</b>	<b>2,689,000</b>	<b>608,000</b>	<b>20,000</b>	<b>164,250</b>	<b>1,057,000</b>



## Fruits

<b>Vegetable</b>	<b>Tons</b>	<b>Value USD \$</b>
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
<b>Grand Total</b>	<b>190,030</b>	<b>139,041,700</b>

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.

	<b>Apple</b>	<b>Mulberries</b>	<b>Almond</b>	<b>Plum</b>	<b>Apricot</b>	<b>Sour Cherry</b>	<b>Peach</b>	<b>Walnut</b>	<b>Other Fruits</b>
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
<b>Grand Total</b>	<b>121,618</b>	<b>37,466,750</b>

Of all the major fruits grown in Wardak, potato, onion 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	-	-	-
<b>Total</b>	<b>103,556,400</b>	<b>11,450,100</b>	<b>764,000</b>	<b>52,000</b>	<b>59,500</b>	<b>88,200</b>	<b>2,361,800</b>	<b>779,100</b>	<b>279,500</b>	<b>1,336,800</b>	<b>890,400</b>

## 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	Value
Alfalfa	142,455	
Clover	14,598	
<b>Grand Total</b>	<b>157,053</b>	

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
<b>Total</b>	<b>142,455,000</b>	<b>14,598,000</b>

## 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
<b>Total</b>		<b>391,878</b>	<b>990,807</b>	

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
<b>Heads</b>	111,301	182,720	86,078	1,073	10,706	<b>391,878</b>	986,562	700	3,545	<b>990,807</b>
<b>%</b>	<b>28.40</b>	<b>46.63</b>	<b>21.97</b>	<b>0.27</b>	<b>2.73</b>	<b>100%</b>	<b>99.57</b>	<b>0.07</b>	<b>0.36</b>	<b>100%</b>

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_beans	10	20	16,000
6	Red_beans	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	Apricot	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	Nov
Rice													
Wheat													
Barely													
Miaze													
Mung_beans													
Red_beans													
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													
Apricot													
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	
<b>1</b>	<b>DEMOGRAPHICS</b>	<b>7</b>	<b>Water</b>
Region:	Central	Rain fed	15
Province:	Wardag	Kariz	
District:	Maidan shahr	Canals	80%
Villages:	60	Other sources	
Households:	7,418	Bored wells, #	5
Estimated population:	44,512	Access/irrigated water	90%
<b>2</b>	<b>Land</b>	<b>8</b>	<b>Infrastructure</b>
Sharecroppers, %	13%	Access/drinking water	90%
Arable land, jeribs	16,290	Schools	16
Arable land, hectares (/5)	3,258	Electricity costs, Afs/KWH	25
Grazing land, jeribs	4900	Cell phone access	yes
Geographic area, Km2	261.476	Health clinic, #	1
Landowner, %	70	VFUs, #	3
Irrigated land area, hectares	2,858	<b>9</b>	<b>Major Income Sources</b>
Rainfed land in use,hectars	400	Agro-horticulture sector, %	50
<b>3</b>	<b>Primary Crops</b>	Livestock sub-sector, %	30
Spring Wheat, hectares	420	Bussiness and Trade %	2
Fall wheat, hectares	800	Government and NGO %	15
Barley, hectares	100	Daily Labor %	3
Potato, hectares	827	<b>10</b>	<b>Enterprises</b>
Onion, hectares	100	General shops, #	50
Alfa alfa & clovers, hectares	320	Food service,#	300
Apple, hectares	200	Flour mills,#	20
Other grains, hectares	80	Shoe repair,#	6
Other vegetables , hectares	100	Blacksmith,#	12
Other fruits,hectares	210	Honey selling,#	5
<b>4</b>	<b>Livestock</b>	Butcher shops, #	15
Livestock owners, %	5	Carpet weaving, #	0
Beef cattle/ oxen, #	1260	<b>11</b>	<b>Agricultural Initiatives</b>
Dairy cow, #	4,200	Artificial Insimilation	yes
Sheep & Goats, #	19,399	Rentable Ag Machinary	yes
Donkey, #	910	Improved wheat seed	yes
Honey bees hieves, #	8	Fruit Nurseries, #	1
Checkens+Turkey,#	50,270	Credit facility	
Camels, #	0	Poultry farm, #	
Kuchi, (seasonal families),#	30	Pest control	yes
Camels, #	500	Cool storage, #	yes
Kuchi sheep, #	30,000	wherehouse, #	yes
Kuchi goats, #	2,500	<b>12</b>	<b>Household (HH) Indices</b>
Kuchi other, #	800	Arable land/HH, jeribs	2.196
<b>5</b>	<b>Transportation</b>	Grazing land/HH, jeribs	0.66
Distance to center, km		Irrigated land/HH, jeribs	1.926
Time to center, minutes	20	Rainfed land/HH, jeribs	0.269
Cost to center, Afs	40	Total livestock/HH, #	0.859
Truck cost to center, Afs	1,000	Sheep&goats/HH, #	2.615
District roads	paved/unpaved	Poultry/HH, #	6.776
Provincial roads	paved	<b>13</b>	<b>Check</b>
Accessibility	All year	Households/village:	123.633
<b>6</b>	<b>Markets</b>	Population/household:	6
Provincial	All year	Schools/village:	0.266
District, General, day	7days aweek	Number of bored wells/village:	0.083
District, livestock, day		Number of enterprise/village:	6.8
Traders/assemblers	yes,		

## 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		MARKAZI-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	80,850	98,500	-	530	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	Vegetable and Furrows crops	Cereal Crops	Forage crops	Forest land	Pasture land	Non-areable 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
<b>Total</b>			<b>2,323</b>	<b>5,863</b>	<b>32,051</b>	<b>37,914</b>	<b>4,543</b>	<b>3,545</b>	<b>11,707</b>	<b>5,537</b>	<b>200</b>	<b>24,748</b>	<b>-</b>	<b>670,428</b>	<b>733,290</b>

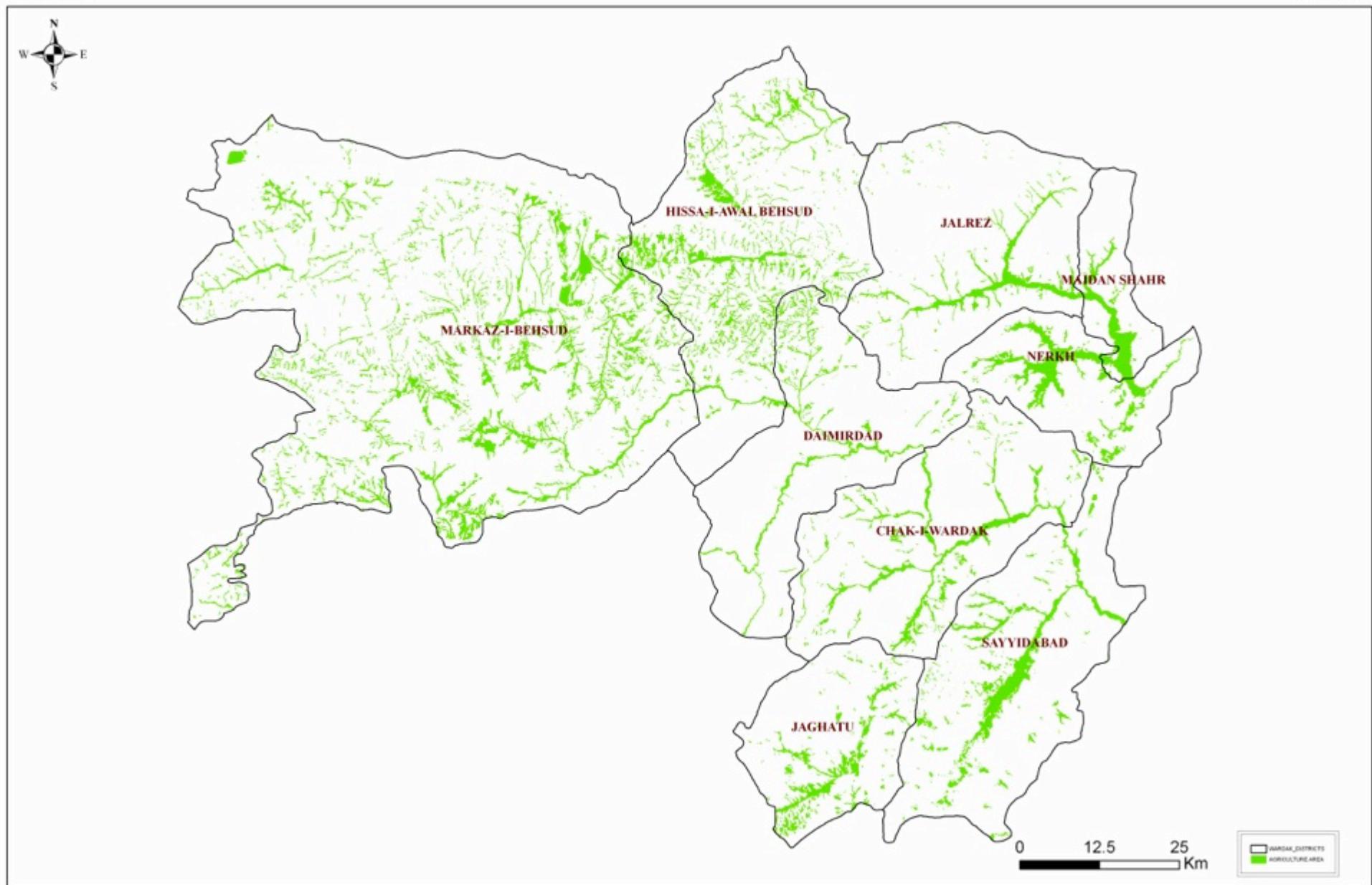
## **Annex 7**

# Crop Calendar

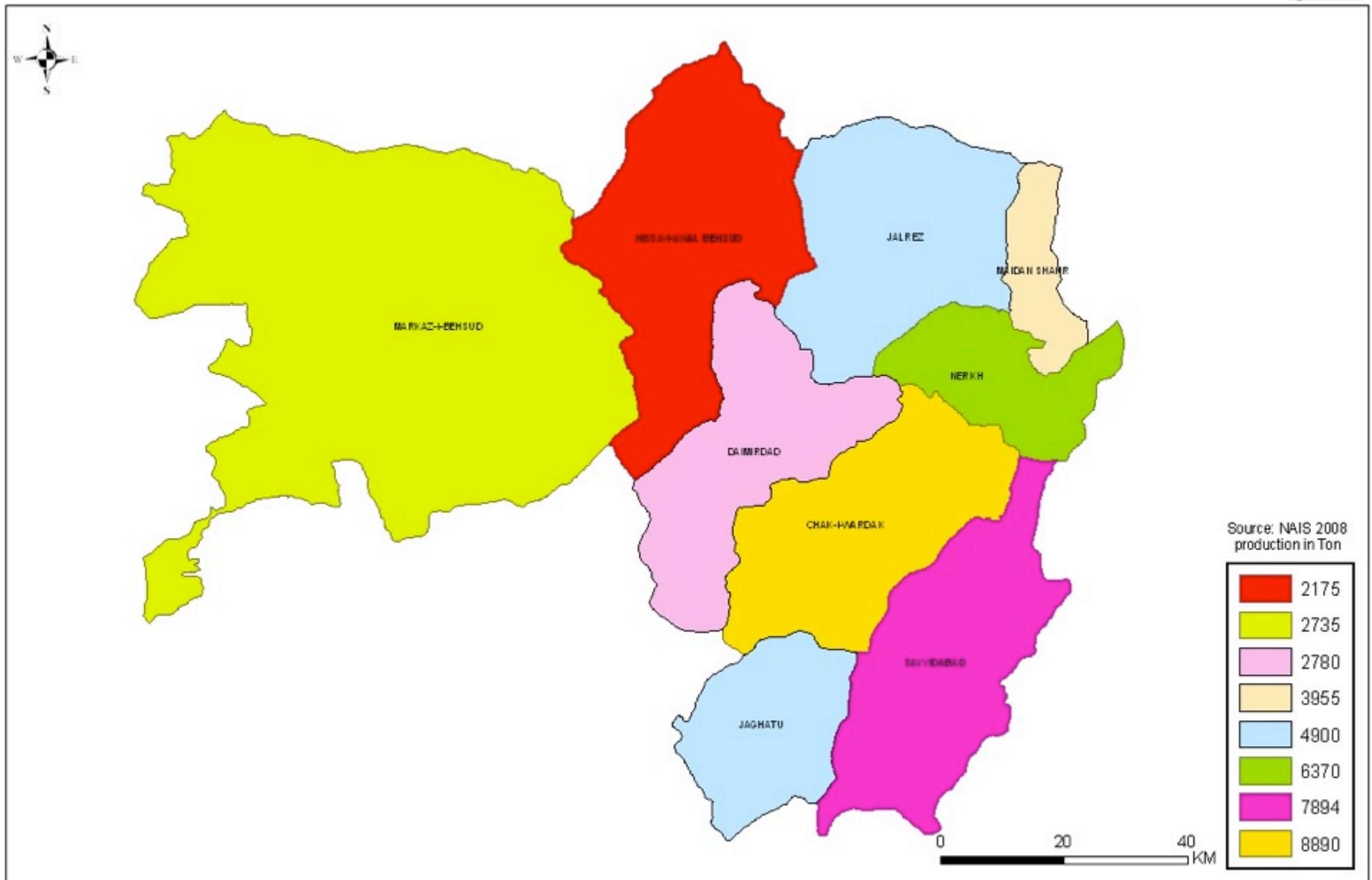
# WARDAK PROVINCE DISTRICTS MAP



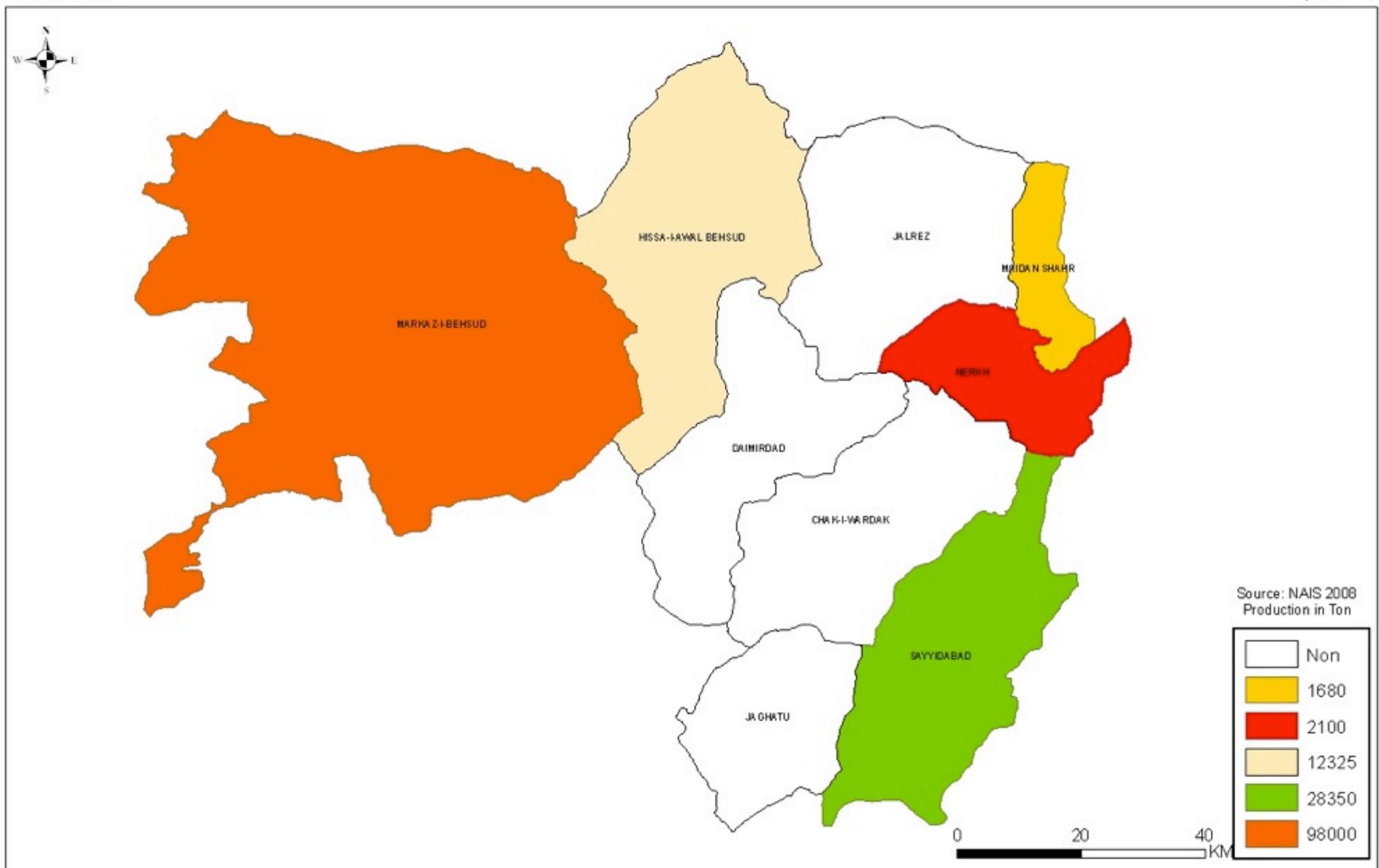
# WARDAK PROVINCE AGRICULTURE MAP



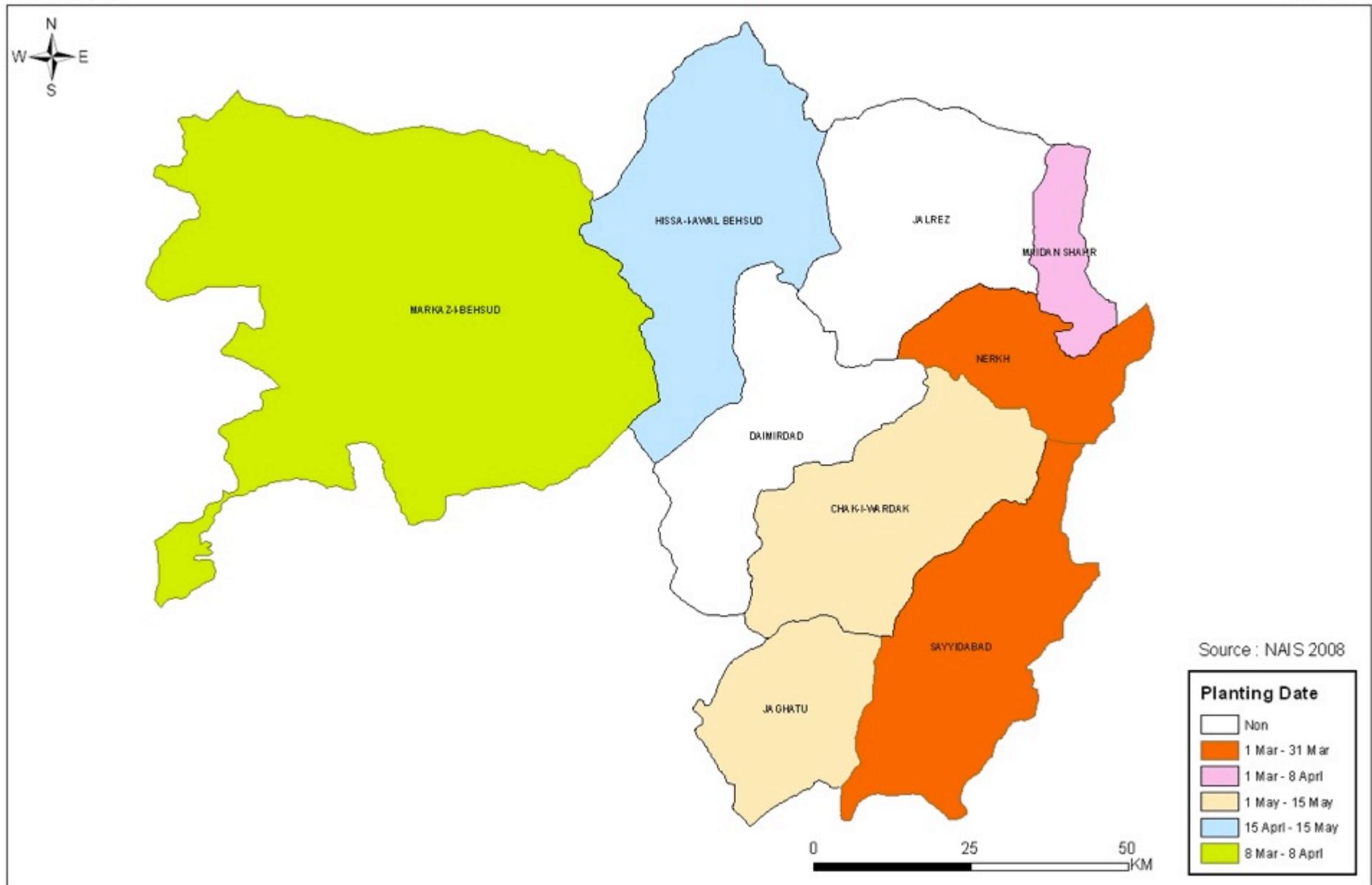
## Wardak Province Crop Production Map (Wheat)



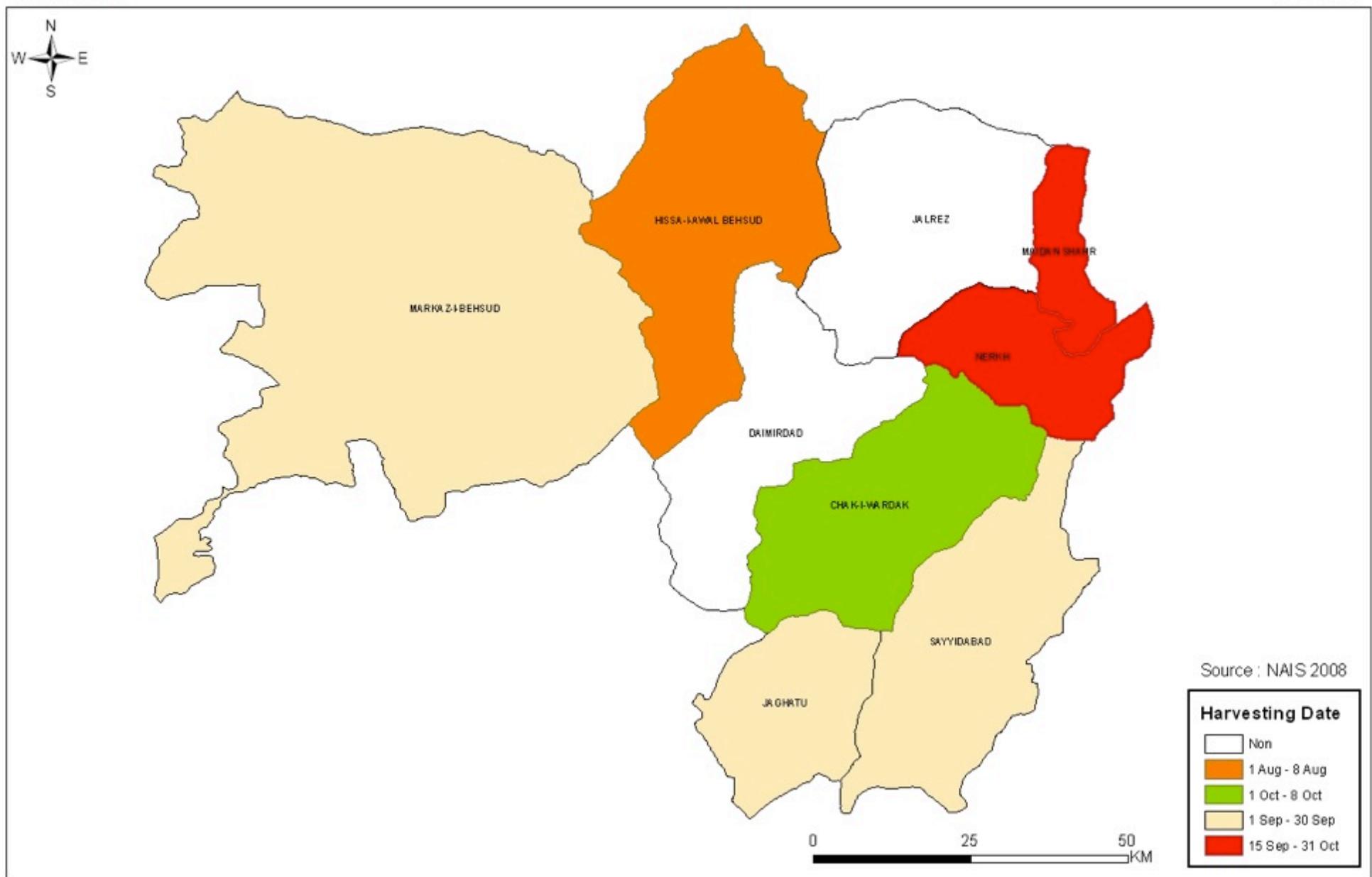
## Wardak Province Crop Production Map (Alfalfa)



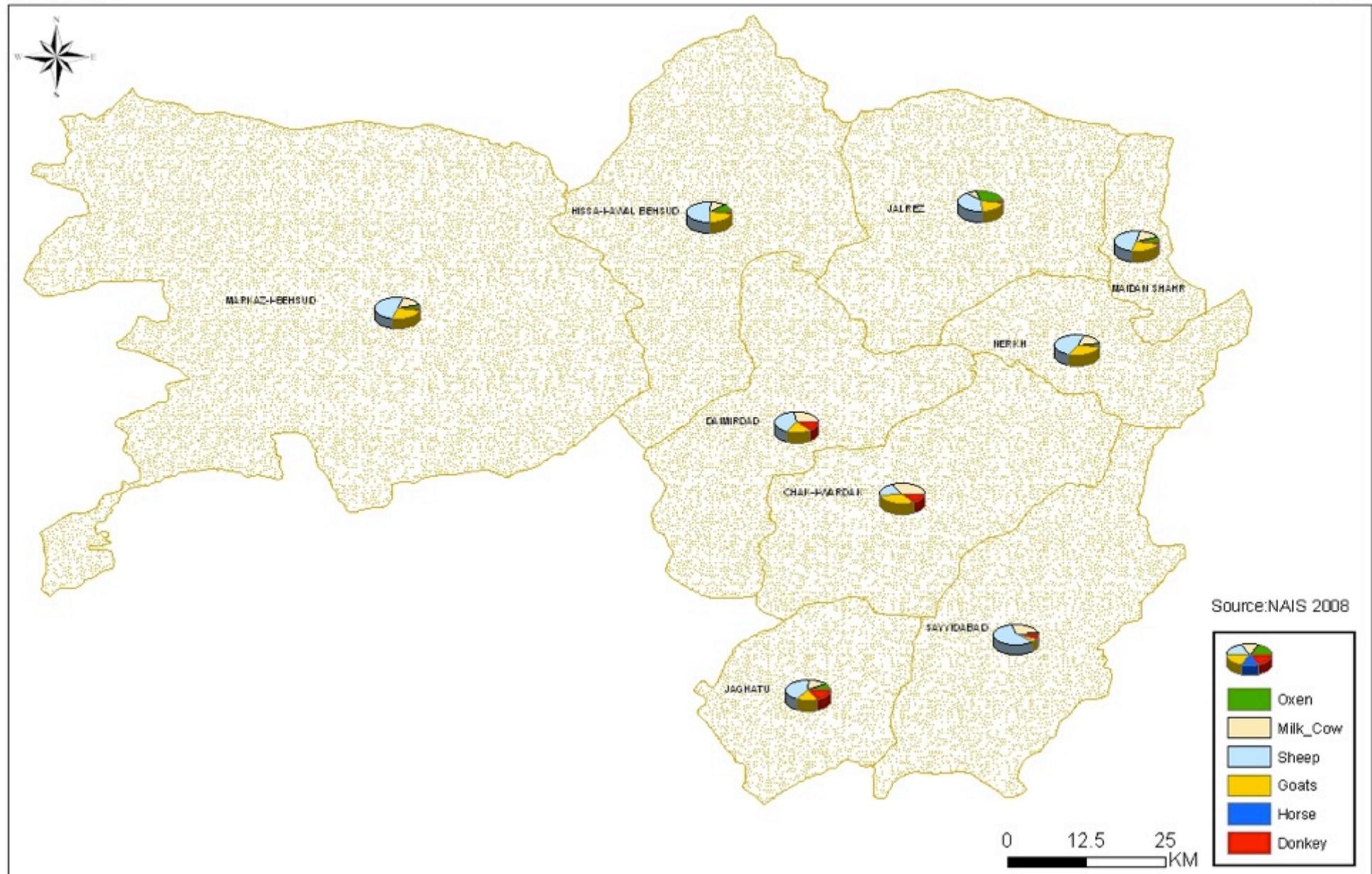
## Wardak Province crop calendar map (Onion)



## Wardak Province crop calendar map (Onion)



## Wardak Province Livestock map



## Wardak Province Livestock map (Sheep)



## Wardak Province Livestock map

