

17. Trends, Natural Disasters and Potential Impact of Climate Change, and Experience of An Giang

PRESENTATION

Trends, natural disasters and potential impact of Climate Change, and experience of An Giang

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1. Key Socio-Economic Indicators

a. Key indicators of the province (Statistical Yearbook 2008)

- Population: 2.250.573 people
- Grain production: 3,605,071 tons
- Total GDP: 34,532 VND
- Total GDP per capita: 15,344,000 VND/person

Of which:

- + Agri and Fishery: 37.1%
- + Industry and construction: 11.5%
- + Service: 51.4%

b. Key socio-economic indicators of the Agri Sector

Value added	Value (billion VND)								Growthrate		Average 2011 - 2015
	2008	1/0c 2009	KH 2010	2011	2012	2013	2014	2015	2009 /2008	2010 /2009	
Agri Sector	4.207.945	4.114.554	4.354.258	4.458.09	4.568.98	4.687.62	4.814.73	4.951.14	-2.22%	5.83%	2.60%
1. Agriculture	3.530.498	3.483.189	3.622.52	3.658.74	3.695.33	3.732.28	3.769.61	3.807.30	-1.3%	4.0%	1.0%
2. Forestry	60.680	61.287	61.90	62.52	63.14	63.78	64.41	65.06	1.0%	1.0%	1.0%
3. Fishery	616.767	570.078	669.84	736.83	810.51	891.56	980.71	1.078.79	-7.6%	17.5%	8.0%

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c. Importance of Agri Sector in the Socio-economic development of the province

- 72% of the population rely on agriculture
- Rice production in 2008: 3.5 tons, highest in the country
- Fishery production in 2008: 315,000 tons; also highest in the country
- Agri, forestry, and fishery account for 37.1% of GDP

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d. Factors affecting the Agri Sector

- Natural disasters
- Topography
- Poor infrastructures
- Slow in shifting production structure
- Unreliable market prices
- Epidemics

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Damage caused by flood in past years

	Item	Unit	1994	1995	1996	1997	1999	2000	2001
	Tổng thiệt hại	Bil.	417,0	67,0	388,6	67,497	5,230	842,190	176,338
1	Death (children)	Person	166/134	71/67	44/40	7	4/4	134/94	135/104
2	House								
	- Inundation	House	86350	39907	119.610	4.493	68	151.867	32.951
	- Collapse	House	229	240	659	47	95	966	350
3	Agri								
	- Loss of crops	ha	15810	1795	2.757	3.232	266	4.947	972
	- Loss of aquaculture crops	ton				93	10	2.478	387
4	Infra								
	- Inundated schools	school	206	101	2	60	3	461	171
	- Inundated clinics	clinics	103	41	90	7	2	53	43
	- inun. national road	km			12			31	1
	- inun. Provincial road	km			422	13	0,3	162	74
	- Damaged bridge, water gates	unit			419	69	14	273	98

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2. Typical types of disasters in An Giang

- Flood
- Erosion
- Cyclone, lightning
- Drought
- Inundation
- Sulphate Acidity
- Storm
- Forest fire
- Flood is the most serious one

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Bảng thiệt hại do lũ lụt qua một số năm (tt)

No	Item	Unit	2002	2003	2004	2005	2006	2007	2008
	Total damage	Bil	68,955	4,002	10,31	38,468	11,352	5,541	59,778
1	Death (children)	Person	77/69	6/6	16/15	33/30	22/22	14/14	10/10
2	House								
	- Inundation	House	20.743		1.989	797	5		
	- Collapse	House	378		46	58	2		
3	Agri								
	- Loss of crops	Ha	327		121	17			582
	- Loss of aquaculture crops	Tons	23		7	1			
4	Infra								
	- Inundated schools	School	64		16	3			
	- Inundated clinics	Clinic	3		3				
	- inun. national road	Km							
	- inun. Provincial road	Km	44		6	11			
	- Damaged bridge, water gates	Unit	110		54	27	1	4	

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3. Activities undertaken and plans for coping with natural disasters

1. **Activities undertaken:** Constructing residential clusters and lines; measures to protect lives; 04 foreign projects; constructing and repairing structures to protect Summer-Autumn and Third rice crops; embankment against erosion.
2. **Plans for coping with natural disasters:**
 - Action Plan for implementing national strategy for prevention and combating natural disasters to 2020 (Decision 2278/QĐ-UBND dated Oct 30, 2008)
 - Plan for implementing the action plan for 2009, 2010, 2011-2015, 2016-2020 with total budget of 10,564 billion VND
 - Plan for implementing the project on “Improving community awareness and community-based disaster management” issued by the Government in attachment to the Decision 1002/QĐ-TTg dated July 13, 2009 with total budget of 53.5 billion VND
 - Annual disaster prevention and combating plans

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5. Development orientations-Key tasks of the Agri Sector

- Shifting structure, increase annual value of agri and fishery by 3-3.5%/year.
- Forming specialized commercial production areas with processing facilities for advantaged agri products.
- Pushing advanced husbandry, enhancing veterinary service, ensuring food safety.
- Controlling area for aquaculture, effective exploitation of wild fishery resources according to law.
- Comprehensive development of forestry including management, protection, forest planting.
- Multi-objective irrigation/water resource development

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4. Development objectives of the Agri Sector to 2015

- To develop a comprehensively developed agri sector with a growth rate of 2.5-3.0% in 2011-2015.
- Shifting structure of the sector: reduce agri share from 83.18% (2010) to 76.9% (2015) and increase fishery from 15.38% (2010) to 21.79% (2015);
- Increase total value of cultivation products from 75 mill VND (2010) to 90 mill (2015);
- Clean water supply reaches 60% rural population;
- Forest cover from 18.78% (2010) to 22.40% (2015)

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Key indicators of the Agri Sector

No	Indicator	Unit	2008	2009	Plan 2010	2011	2012	2013	2014	2015
<i>Value of agri, forestry, fishery</i>										
1	Fixed prices	Bil VND	11.218	10.985	11.581	11.915	12.297	12.671	13.100	13.463
	- Agri	Bil	8.422	8.462	8.758	8.859	8.968	9.071	9.189	9.241
	- Forestry	Bil	81	82	83	84	85	86	86	87
	- Fishery	Bil	2.715	2.442	2.739	2.972	3.244	3.515	3.824	4.134
2	Key Agri products									
	- rice	1000 ton	3.520	3.419	3.507	3.516	3.525	3.534	3.542	3.543
	- Maize	Ton	88.358	78.791	84.700	88.920	92.630	96.380	100.170	104.000
	- Green bean	ton	4.123	2.573	2.826	3.160	3.476	3.816	4.134	4.480
	- Soy bean	ton	1.968	2.668	2.900	3.212	3.528	3.848	4.172	4.500
	- Vegetables	ton	770.887	777.225	780.000	798.600	817.400	836.400	855.600	875.000
3	Key plants									
	- Year round rice	1000 ton	564.425	562.927	571.600	571.100	570.600	570.100	569.600	569.600
	- Maize	Ton	11.535	10.286	11.000	11.400	11.800	12.200	12.600	13.000
	- Green Bean	ton	2.626	1.639	1.800	2.000	2.200	2.400	2.600	2.800
	- Soy Bean	ton	713	953	1.000	1.100	1.200	1.300	1.400	1.500
	- Vegetables	ton	31.987	32.250	32.500	33.000	33.500	34.000	34.500	35.000

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Một số chỉ tiêu chủ yếu của ngành nông nghiệp (tt)

No	Indicator	Unit	2008	2009	Plan 2010	2011	2012	2013	2014	2015
4	Forestry									
	- New forest planting	ha	1,095	1,530	2,000	2,000	2,000	2,000	2,000	2,000
	- Forest protection	ha	2,287	2,266	2,656	3,507	2,650	3,070	3,270	3,270
	- Forest care	ha	1,668	1,268	1,770	2,400	2,500	2,000	1,500	1,500
	- Regeneration	ha								
	- Forest cover	%	17.33	18.05	18.78	19.50	20.23	20.95	21.68	22.40
5	Husbandry									
	- Total # of buffalo	Buffalo	5,435	5,200	4,900	4,760	4,760	4,760	4,760	4,760
	- Cow	Cow	71,124	71,000	72,000	73,600	75,200	76,800	78,400	80,000
	- Pig	Pig	169,261	174,000	179,000	185,000	193,000	201,000	209,000	218,000
	- Meats (including poultry)	Ton	32,228	33,175	34,306	35,602	37,309	38,872	40,722	42,564
	- Total # of chickens & ducks	1000	4,297	4,500	4,800	5,100	5,500	5,800	6,300	6,700
6	Wild fishery and aquaculture									
	Area for freshwater aquaculture and sea products	Ha	2,069	1,900	2,100	2,543	2,790	3,036	3,302	3,566
	- Yield of fishery (wild and aquaculture)	1000 ton								
	+ Aquaculture production	1000	315,036	283,000	320,000	350,000	385,000	420,000	460,000	500,000
	+ Sea product exploitation	1000	48	46	45	44	43	42	41	40
7	# of rural population accessing clean water	%	44.22	45.83	48.38	52.10	54.60	56.75	58.00	60.00

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7. Action Plan for Coping with Climate Change of the Agri Sector

- Establishing a Steering Committee
- Implementing projects/programs
 - + Development of infrastructures to protect production
 - + Application of science and technology
 - + Implementing MARD's Climate Change Program
 - + Implementing MARD's Action Plan
 - + Receiving and implementing CC projects.

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6. Potential impacts of Climate Change in An Giang Biến đổi khí hậu đối với tỉnh An Giang

- Increased intensity, fluctuation, and extremity of natural disasters and other weather phenomena
- Water resources: Serious droughts and floods.
- For agriculture, main impacts are on growth of plants and animals.
- Adverse impacts on forestry, increased forest fire
- Increased risk of flood and erosion of land and water transportation infrastructures.
- Increased risk of flood, shortage of water, treatment of wastewater in urban and industrial areas.
- Human health; increased death toll of flood; increased poverty
- Adverse socio-economic impacts.

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8. Recommendations

- National Gov to provide trainings and workshops on CC for local officials.
- Allocate foreign and national projects relating to CC to the province.
- International cooperation for addressing water resource exploitation issues of the Mekong River.
- Make investment to the projects/ programs of An Giang under the provincial Action Plan.

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Pictures



Flood from Cambodia coming to Long Xuyen Quadrangle



Erosion in Tan Chau town



Boat service for pupils in flood season



Meeting on plan for disaster prevention (online)

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Thank You !

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Swimming class funded by ADPC



Propaganda for child protection in flood season



Child day care center funded by CRND project



Embankment to protect banks from erosion, funded by UNDP