

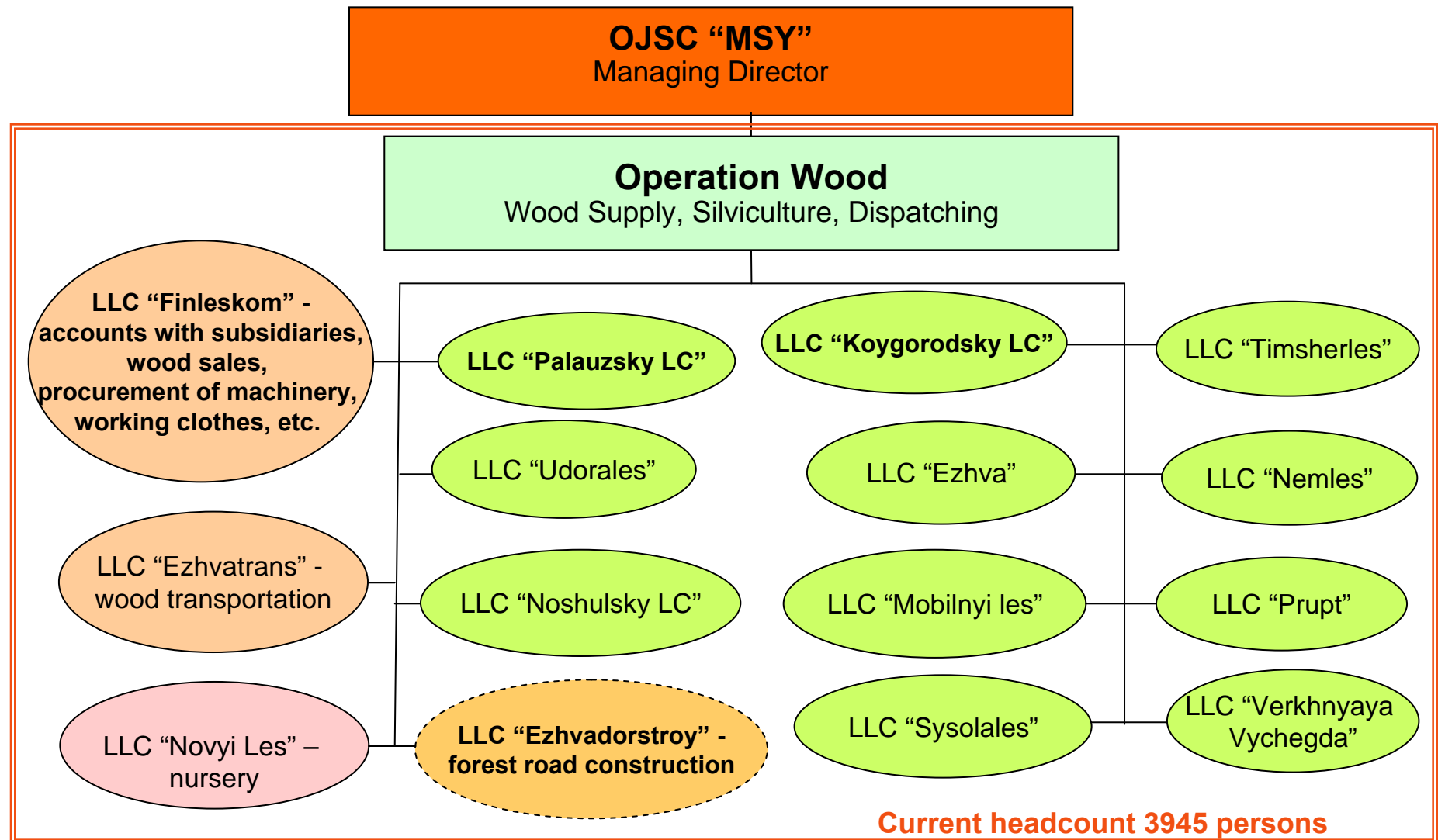


# Logging Policy OJSC “MSY”

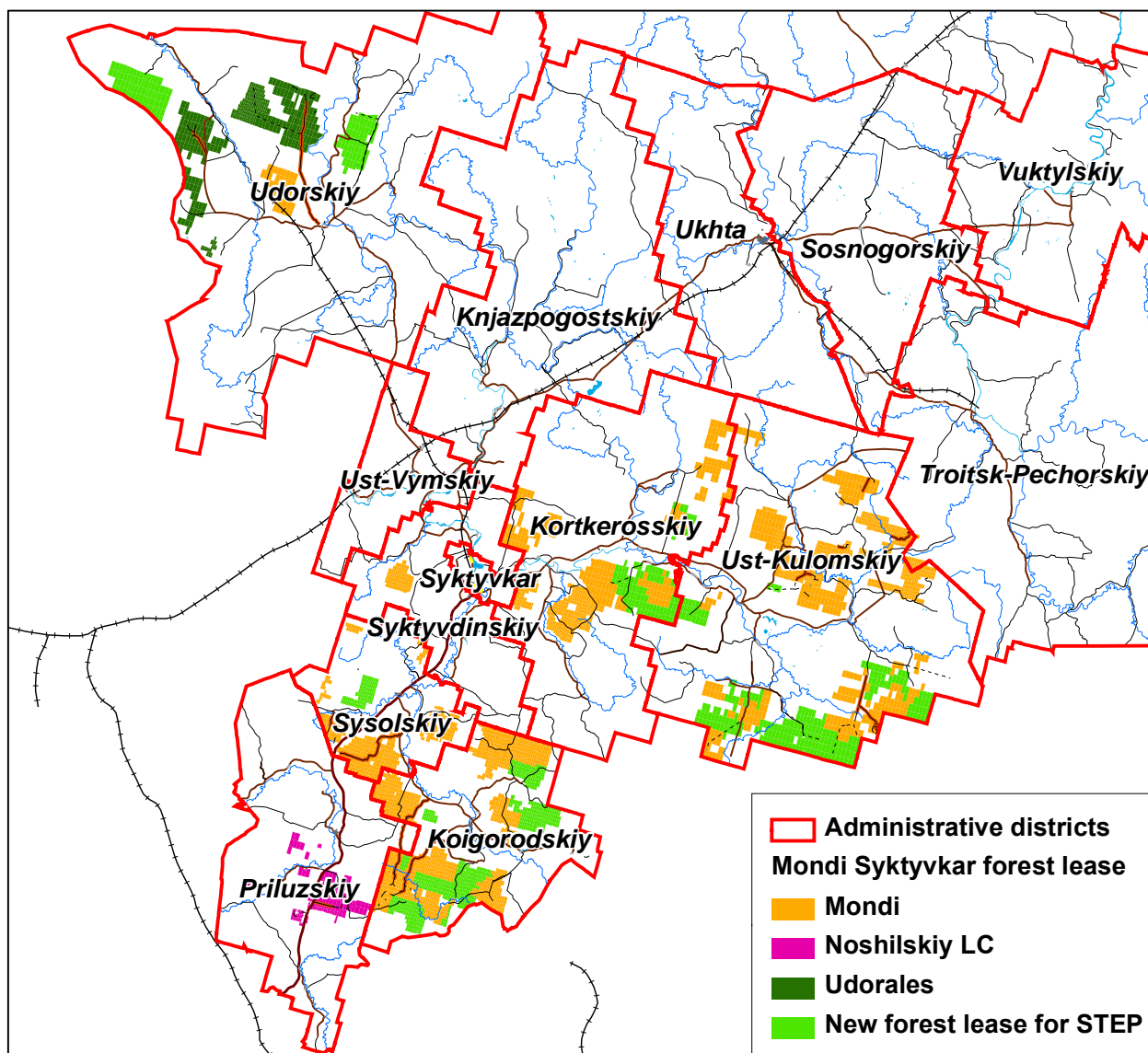
Anatoly M. Arteev

October 24, 2008

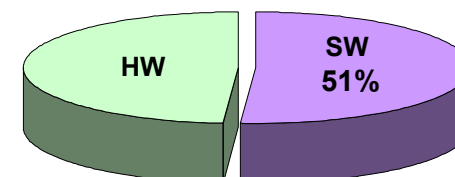
# OJSC “MSY” Operation Wood Structure



# Leased Areas of OJSC “MSY” and subsidiary logging operations



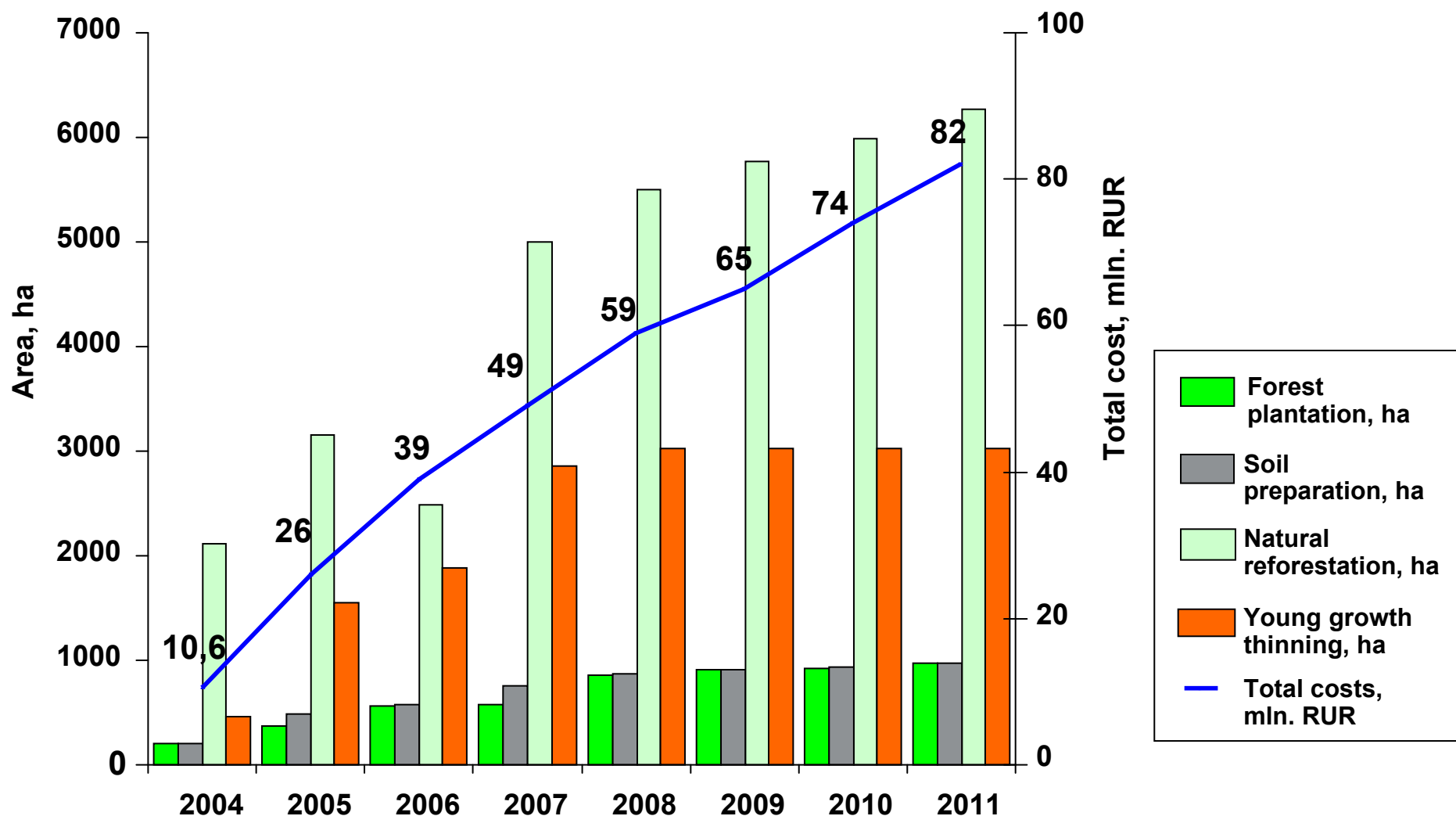
Annual Allowable Cut  
5,1 mln. m<sup>3</sup>



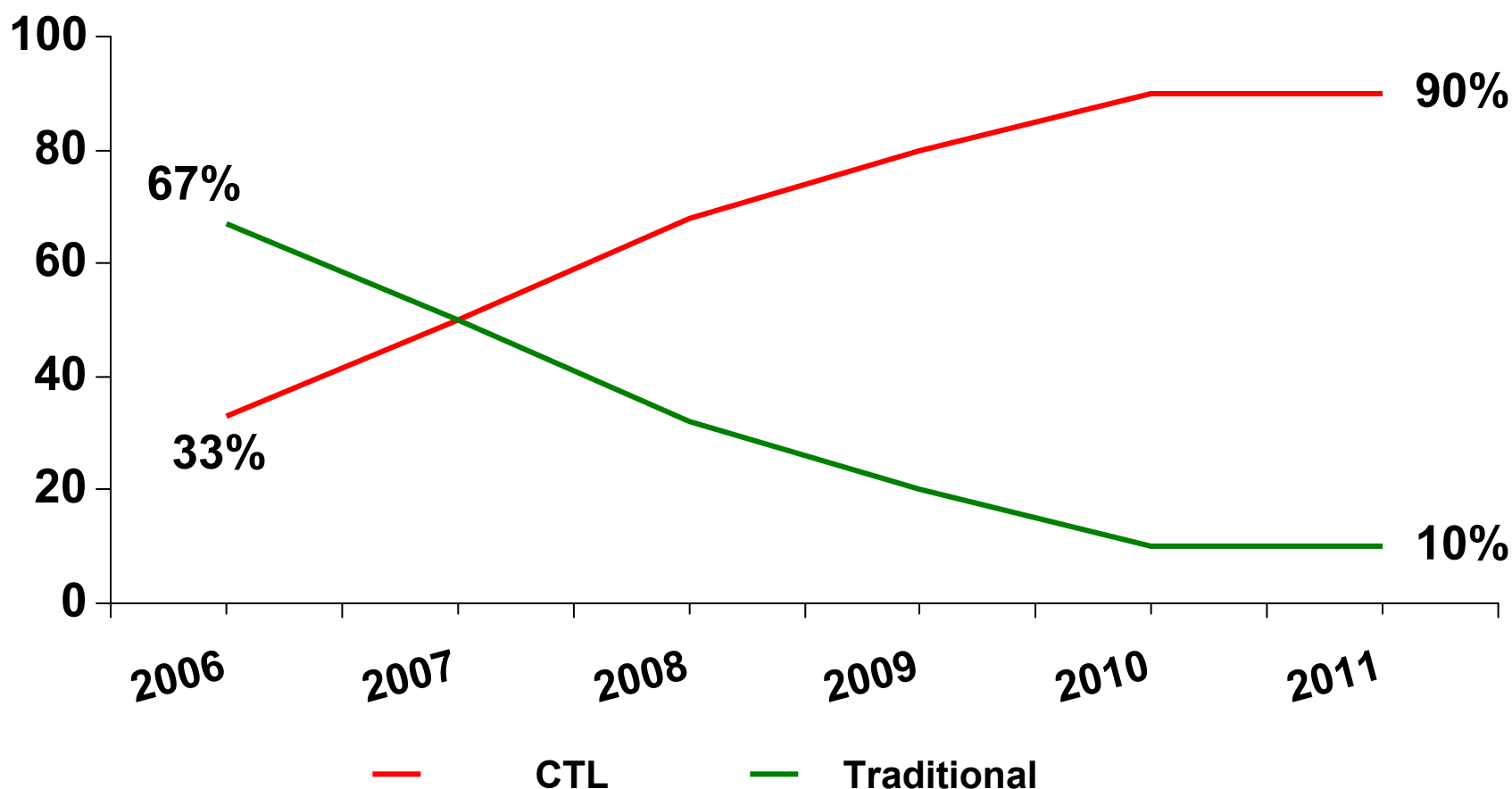
# Logging operations: target logging and wood supply volumes

	Mln. cub.m	2007	2008	2009	2010	After STEP
MSY leased areas (AAC)		3,2	5,1	5,1	5,1	5,1
Logging in the leased areas		2,1	2,5	3,2	3,9	5,1
% of AAC		66	50	62	76	100
Road construction, km		101	195	195	225	225
Pulpwood from leased areas		1,38	1,65	2,15	2,57	3,4
External pulpwood and chips		1,72	1,45	0,75	0,83	0,85
Pulpwood consumption at the Mill		3,1	3,0	2,9	3,4	4,25
% pulpwood supply from the leased areas		<b>45%</b>	<b>55%</b>	<b>74%</b>	<b>76%</b>	<b>80%</b>

# Silviculture in the leased areas



## Logging modernization: Transition from tree-length to cut-to-length (CTL) technology



## Logging operations: headcount, persons

	2007	2008	2009	2010	after STEP
Logging	2823	2720	1942	1915	2020
Rafting	178	185	195	237	277
Road construction and maintenance*	159	213	312	310	310
Wood hauling**	74	102	112	130	147
White-collars	492	473	450	425	400
<b>Total</b>	<b>3800</b>	<b>3422</b>	<b>3011</b>	<b>3017</b>	<b>3154</b>
Output per person, m <sup>3</sup> /person	497	630	794	928	1017

\* since 2009 incl. headcount of LLC "EzhvaDorStroy"

\*\* excl. LLC "Ezhvatrans"

# Logging modernization problems



- Low quality, lack of new Russian logging machinery designs for the Northern climate
- Lack of skilled personnel including young specialists in the Komi Republic
- Undeveloped market of logging, road construction and reforestation services in the Komi Republic





# Traditional technology «+» and «-»



## «+»

- Relatively low cost of machinery
- Affordable repairs
- Insignificant losses during downtimes
- Plenty of used machinery

## «-»

- Low reliability of machinery
- Low efficiency, high production price, low salaries
- Significant negative impact on forest/ soil
- Lack of machinery suppliers
- Heavy-load conditions, high risk of injury
- Aging of personnel; young people refuse to work

# CTL technology «+» and «-»



## «+»

- High efficiency, production and salaries
- Machinery reliability with due maintenance
- Work conditions and safety
- Less negative impact on forest/soil
- A big choice of machinery and suppliers
- Attractiveness for young people, long-term availability

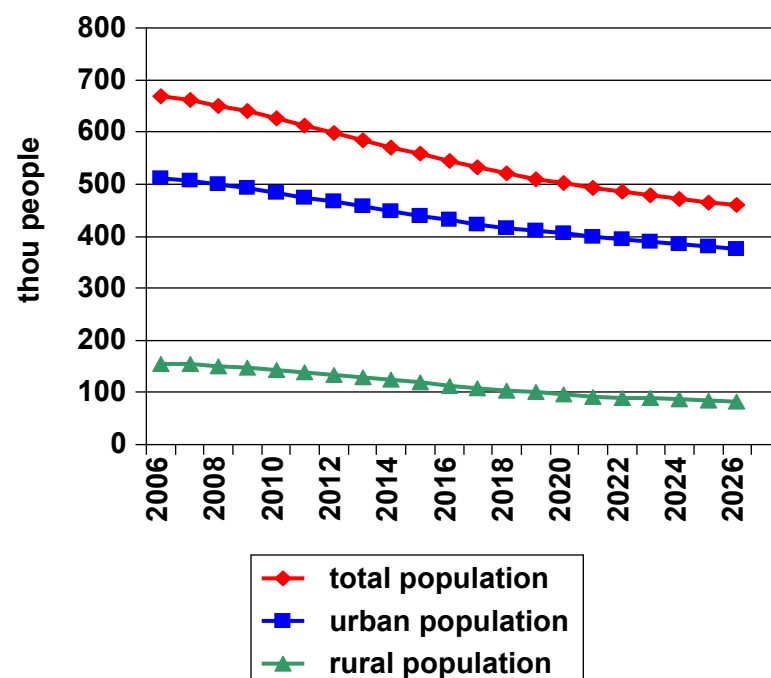
## «-»

- Significant losses during downtimes
- Expensive and weak servicing, complex repairs
- Lack of experienced operators, costly training
- Developed network of good forest roads is needed
- High cost of machinery

# Transition to CTL technology is necessary

- Aging of employable rural population
- Movement of young people and active population to urban areas
- High cost of traditional technology, expensive fuel, lack of new machinery
- Low attractiveness of traditional technology, heavy-load conditions

## Employable population forecast in Komi Republic



Employable population declines by 8,0 thou people a year

# Solutions for logging modernization problems



- Training of young specialists
- Cooperation with educational institutions
- Retraining and qualification improvement
- Performance improvement (increasing own logging volume)
- Purchase of more efficient machinery



# MSY Policy on CTL technology implementation

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- **Stepwise implementation**
- **Training and retraining of own operators**
- **Extra employment: wood truck drivers, road constructors, forestry engineers**
- **Dismissal of discipline violators in the first place**
- **Reorganization/reduction of low-efficient units**
- **Contracting/subcontracting small logging companies for small-scale forest sites**