The importance of AnGR in Serbia:

Livestock of the Republic of Serbia in the structure of agricultural production accounts for almost 42%, while the rest belongs to crop production.

AnGR become of fundamental importance, given that about 40% of the calories of food derived from animal products.






Statistical data from 2008 year

BOVINES_____1.087.000

HORSES_____24.000

SHEEP_____1.606.000

GOATS_____169.000

PIGS_____3.832.000

POULTRY_____17.677.000

THE LIVESTOCK PRODUCTION

MEAT_____468.000 t

Beef – 102.000
Pork – 262.000
Mutton – 22.000
Fowl – 59.000
Fish – 6.000

MILK (cattle) _____1.580 mil t

(sheep)_____16 mil t

THE LIVESTOCK PRODUCTION

WOOL_____2.085 t

EGGS_____1.335 mil

HONEY_____3.242 t

Farm animals genetic resources became in Serbia more important in the ninties. Organized work on managment of AnGR was started at the 1994 years, with the identification of autochthonous breeds.

Data are sent to FAO animal genetic resources data bank.

More intensive work on preservation of autochthonous farm animals was started after 2000 year.

ECONOMIC, ECOLOGICAL AND SOCIAL JUSTIFICATION OF AnGR CONSERVATION IN SERBIA

1. Production systems in LFA and conservation of AnGR for food production
2. Conservation of AnGR serving to conservation of biodiversity
3. Protection and improvenment of forests and water management in light of conservation of AnGR for food production

ECONOMIC, ECOLOGICAL AND SOCIAL JUSTIFICATION OF AnGR PRESERVATION IN SERBIA

4. Cultural heritage and conservation of AnGR
5. Maintaining of traditional knowledge and technologies in food production

Diversity of Animal Genetic Resources

	Locally Adapted Breeds		Exotic Breeds	Total
		Endangered		
Cattle	**3**	**2**	**7**	**10**
Buffalo	**1**	**1**	**0**	**1**
Horse	**2**	**2**	**20**	**22**
Donkey	**1**	**1**	**0**	**1**
Pig	**5**	**3**	**9**	**14**
Sheep	**6**	**2**	**5**	**11**
Goat	**2**	**1**	**3**	**5**
Poultry	**8**	**5**	**22**	**30**
Bee	**1**	**1**	**N/I**	**N/I**

Till 2001 applied conservation system was economically and technically far away from sustainable.

Conservation and improvement concept had to make significant changes.

The new animal genetic conservation strategy is taking more care of sustainability of on-farm conservation programs.

Reintegration of the animal genetic resources conservation with the traditional mixed-farming systems and non-agricultural activities was promoted.

Governmental institutions started active cooperation with NGOs and business initiatives building interactive links with all stakeholders.

NGOs started promoting need for new integral rural development policy.

AnGR stakeholders agreed that providing rural development policy is needed to support AnGR and conservation of animal genetics resources need to be designed in such a manner to support rural development.

Provision of the budget for small-scale assistance with feeds, doing research on quality of products (to help valorization of the production with extensive animals and sustainability of on-farm conservation programs). Also worked on establishing legal framework for AnGR.

Non-Governmental designed projects and lobbing for provision of financial support using integration of interest for conserving AnGR with some specific aspects of the environmental protection, cultural heritage conservation, rural economy development etc.

CONSERVATION ACTIVITIES IN SERBIA

1. Live-animals, in-situ conservation programmes

2. Ex-situ, cryoconservation (no exist), four centers for reproduction

ACTION: RESEARCH

- Research on production traits of local autochthonous breeds of farm animals
- Molecular and genetic studies (Podolian cattle, Tsigai sheep, e.t.c.)

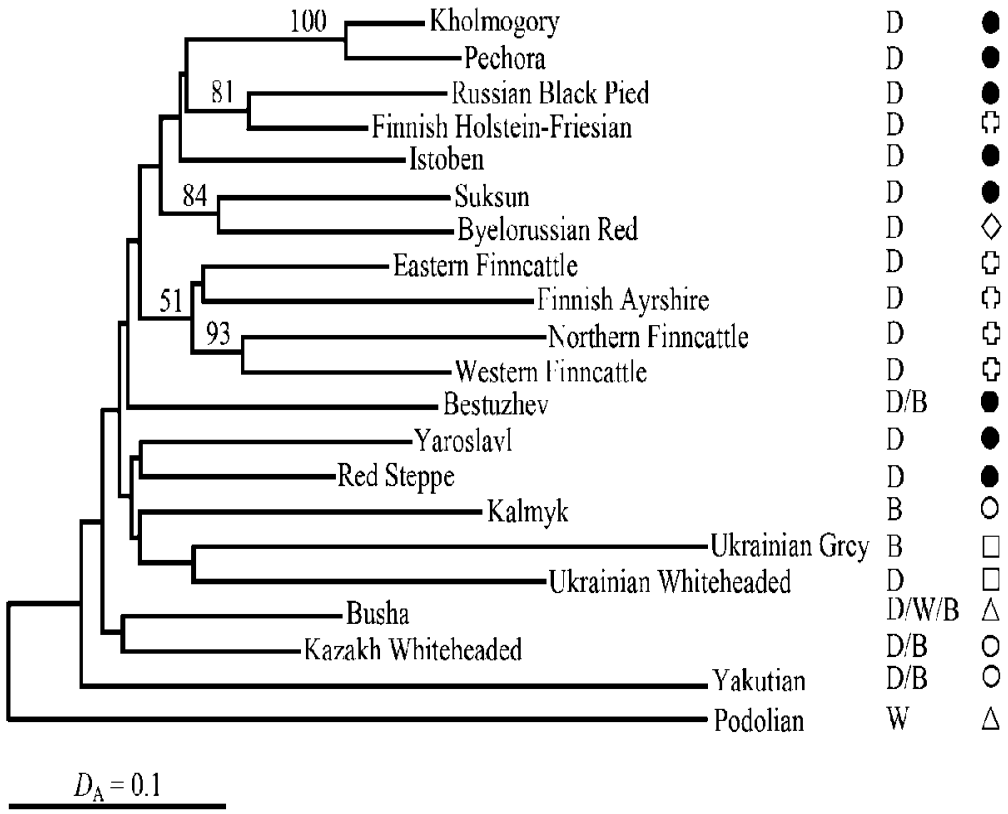


Fig. 2 A neighbour-joining (NJ) tree summarizing D_A genetic distances among the 21 cattle populations (●, European Russian; ○, Asian Russian; ✪, Finnish; ◇, Byelorussian; □, Ukrainian; △, Serbian). The capital letters indicate functional types of the populations: D, dairy; D/B, dairy/beef; B, beef; D/W/B, dairy/work/beef; W, work. Numbers beside the branches represent bootstrap values based on 1000 replications (only estimates of more than 50% are indicated).

ACTION: PROMOTION OF PUBLIC AWARENES

- Popularization of autochthonous farm animals and their products
- Establishment of Breeders' Associations of Autochthonous Farm Animal Breeds
- Autochthonous animal fairs and shows

ACTION: INTERNATIONAL COOPERATION ON BIODIVERSITY IN AnGR

- FAO DAD-IS, CBD, EAAP, RBI, DAGENE, SAVE
- Collaborate with donor insitutions: WB, GEF

ACTION: ESTABLISHED INSTITUTIONS

- Ministry of Agriculture, Trade, Forestry and Water Management
- VETERINARY SERVICE
- PUBLIC SERVICE – Extension services
- AGRICULTURE FACULTIES (Zemun, Novi Sad)
- LIVESTOCK INSTITUTE
- NGO‘S

Serbian Gene Bank

No. of animals in gene bank 2008

Species	No. of animals in gene bank	No. of breeders
Cattle	1.000	70
Buffalo	1.000-1.200	75
Horses	140	30
Pigs	1.200	30
Sheep	1.500	40
Goats	250	12
Chicken	1.500	20

Legal framework for management of farm animal genetic resources established

- Law on Animal Husbandry (2009)
- Law on Agriculture and Rural Development (2009)
- Rules of the list of genetic reserve of domestic animals, ways of preservation of genetic reserve of domestic animals, and a list of indigenous breeds of domestic animals and endangered of autochthonous breeds (2010)
- Rules on the conditions of breeding and trade of indigenous breeds domestic animals, as like content and method of management of register of the indigenous breeds of domestic animals (2010)
- Environmental protection Act (2009)

TREND OF POPULATION THE LOCAL BREEDS 2000-2010

	2010	2008	2006	2004	2002	2000
Podolian cattle	350	240	147	128	77	110
Busha cattle	700	550	111	10		
Domestic buffalo	1.200	1.000	139			
Domestic-mountain pony	80	65	21	13	12	9
Nonius	85	73	38	30	17	17
Balkan donkey	250	80	22			
Mangalitsa pig	2.500	900	362	163	135	124
Moravka pig	100	80	50	17		
Resavka pig	40	20	8			

TREND OF POPULATION THE LOCAL BREEDS 2000-2010

	2010	2008	2006	2004	2002	2000
Lipska sheep	300	220	157	64		
Krivovirska sheep	350	300	300	247		
Bardoka sheep	60	50	35	27	22	
Vlashko-vitoroga sheep	350	250	100	40		
Karakachanska sheep	130	60	40			
Čokan Tsigai sheep	550	470	326	250	100	100
Balkan goat	250	250	201	205	114	242
Svrljig hen	300	250	140			
Sombor hen	300	300	169	150	100	100
Nacked Neck	1.000	800	342	72	50	50

Stara planina protected area

South-East Serbia, Municipality of Dimitrovgrad.

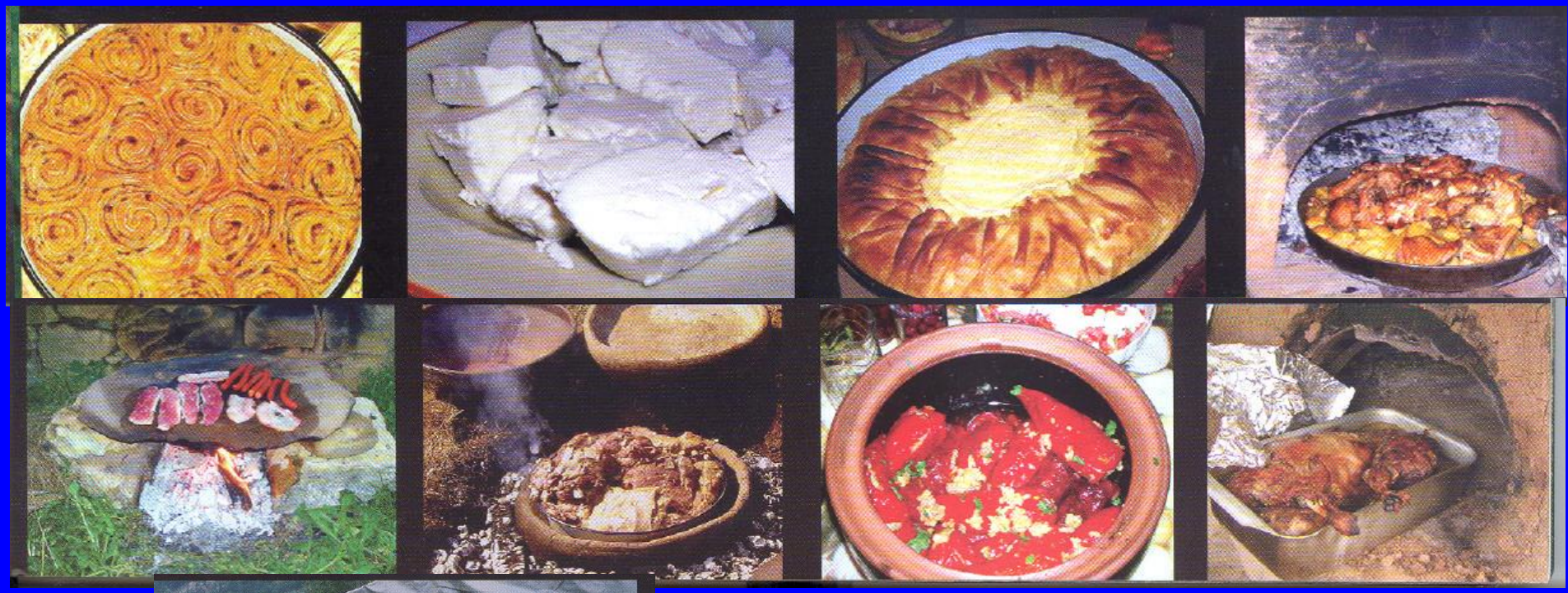
SP is 21 km far away from Municipality of Dimitrovgrad and represent common natural resources between Serbia and Bulgaria. In the 1996. year it is announced Park of peace and it is candidate for UNESCO MAB reservate.

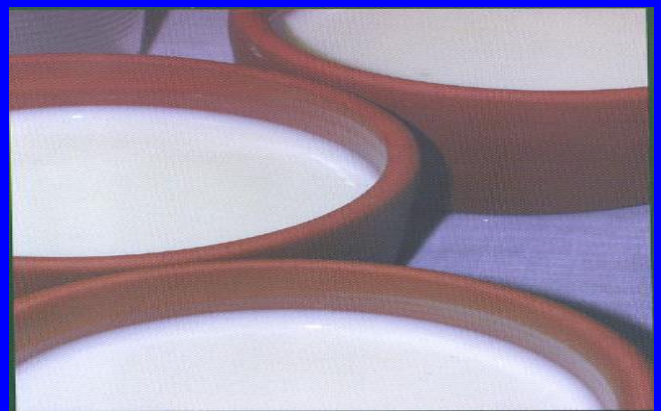
Special values are pastures with the high biodiversity.

Brend of autochtonous products in market are directly connected with the name of mountain or places: staraplanina lamb, kachkavalj, acid milk, pirot rug etc.

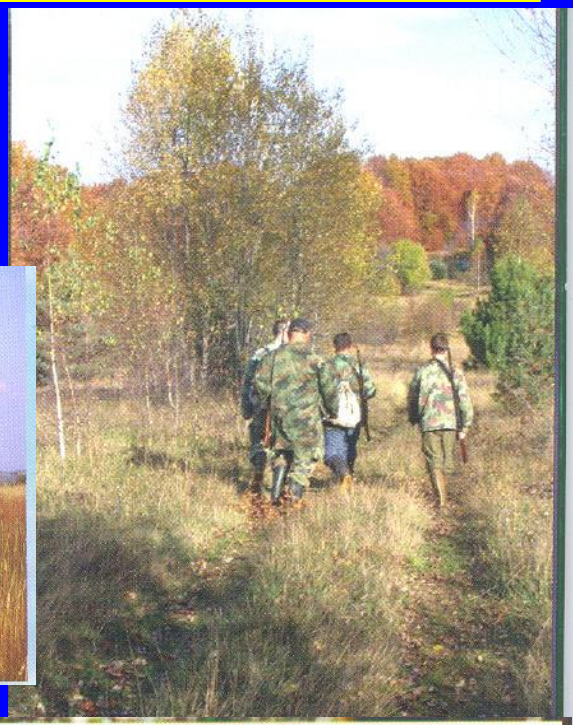
For the economic development is very important connection between biodiversity and livestock true high quality of products.

Local cuisine for everybody

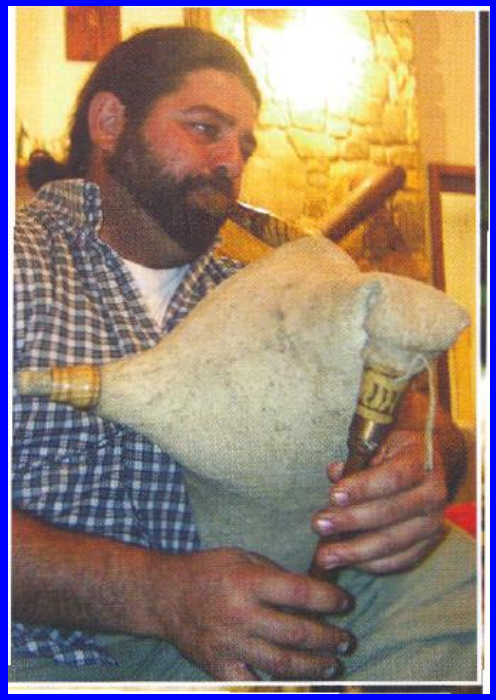




Different activities



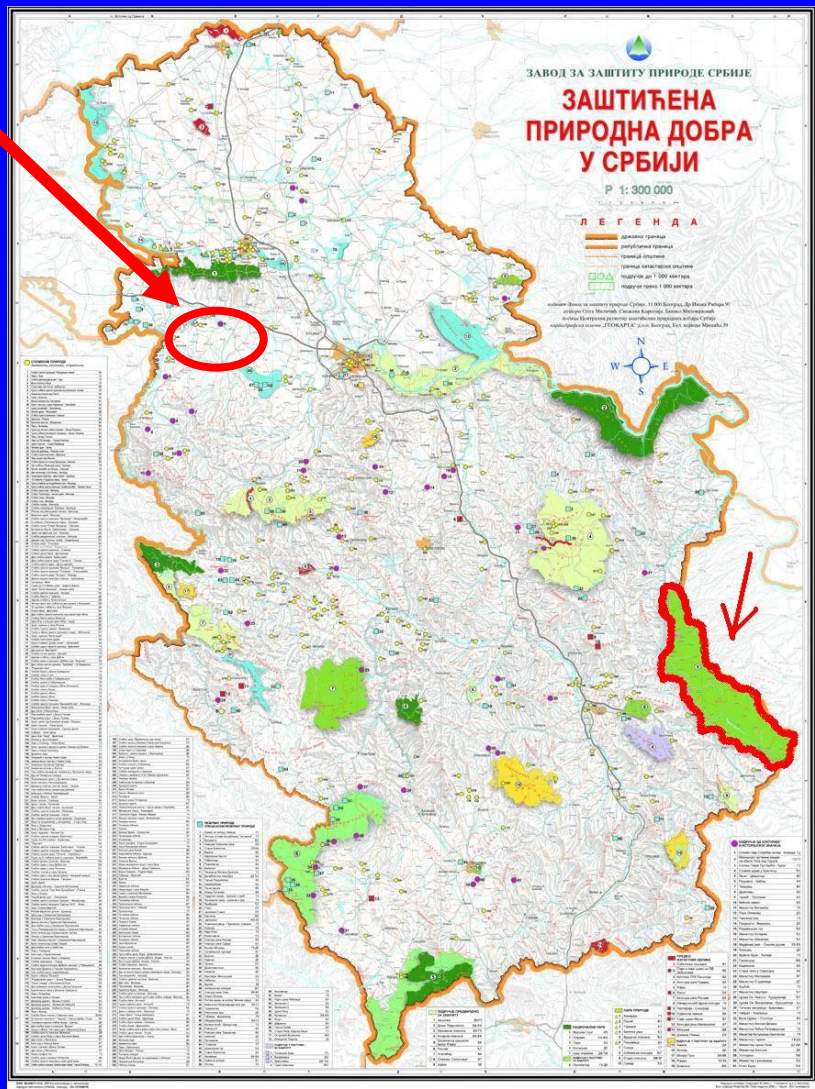
Non-agricultural activities



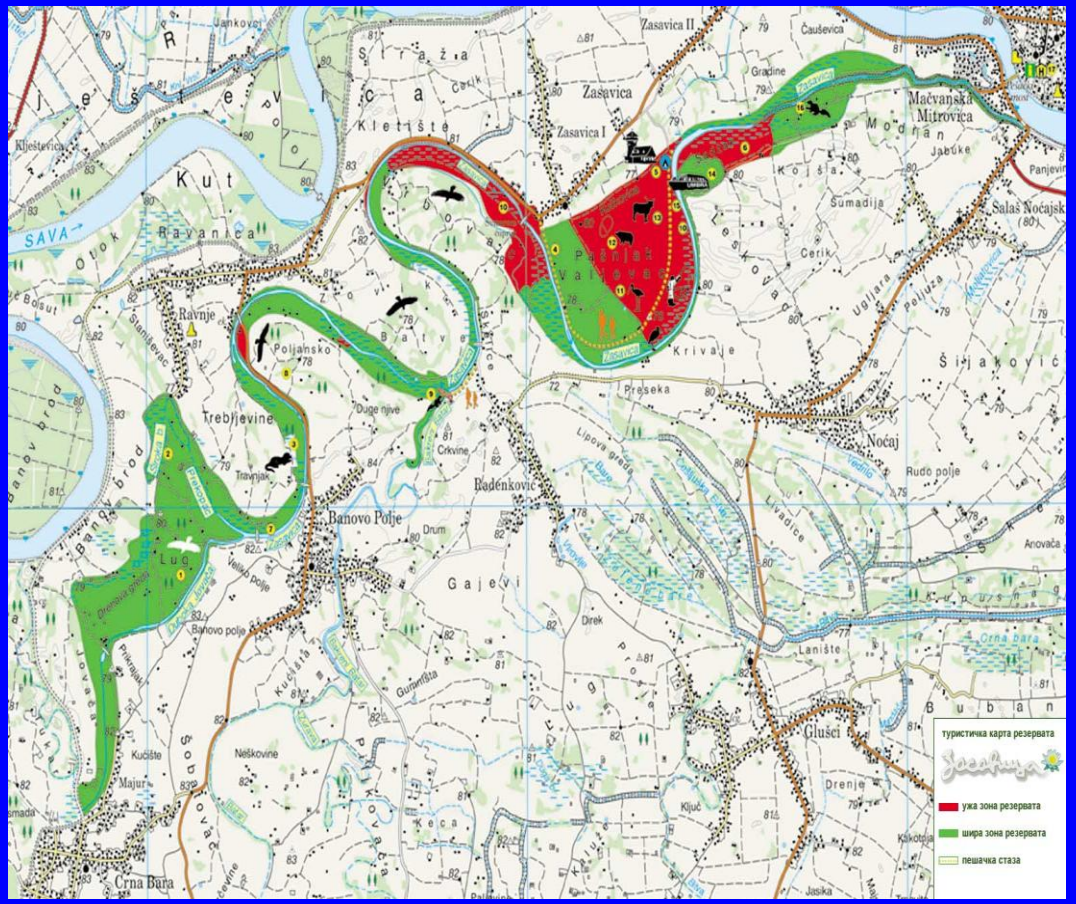
TOURISTIC ACTIVITIES

Zasavica special nature reserve

The Special Nature Reserve Zasavica is situated on the territory of South Voivodina. The Zasavica River, in the length of 33.1 km. It is mosaic of aquatic and wetland ecosystems with fragments of flooded forests.



Zasavica is a part of a national network of Ramsar sites (wetlands protected according to the Ramsar Convention), and according to IUCN management categories, it is Habitat and species management area - category IV.



In vivo Conservation of Farm Animal Genetic Resources Workshop, Centre for Genetic Resources, 14-17. June 2011., Wageningen, Netherlands

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Conclusions:

1. Establishment of marketing strategies for selling local products
2. Upgrading traditional mixed-farming and agroforestry for obtaining self-sufficient systems
3. Using indigenous knowledge for processing and producing tipycal products
4. Development of sustainable agriculture systems such as organic etc.

5. Using local breeds in marketing program for attracting interest of tourists

6. Creating quality links between farmers, processors and marketing

7. Cooperation with the successful projects in the region

8. Contributing to rural revival, sustainable exploitation, conservation and development of local natural & cultural heritage and resources.

9. Providing additional reasons & support for AnGR protection, assisting with grasslands & woodlands biodiversity conservation

Thank you for your attention

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