



Animal and farming system crossed approaches to reveal the goat production resilience in Guadeloupe

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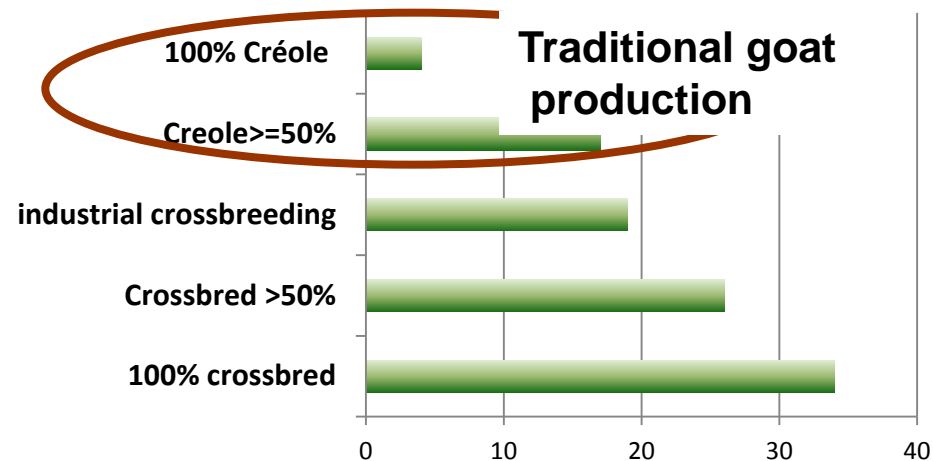
Goat farming in Guadeloupe



- Meat production
- 30 000 does in Guadeloupe
- Pasture management
- Flocks: 30 does
- Pure Creole and crossbred

- Creole goat
- origin: Europe, Africa, Asia
- Well adapted : resistant to strongyles

Proportion of farming systems (%)



Goat farming in Guadeloupe

In the tropics, animals and farming systems are submitted to biotic and abiotic constraints (climatic, pathological, nutritional, socio-economic...).

In absence of extension directives / organisation, they were naturally driven to develop specific abilities to face these constraints = resilience



Crossed perception of resilience at 2 levels

Animal

- An **admixture of African, Asian and European** breeds, submitted to natural selection and multiple uses.
 - **Selection of alleles** of adaptation
- The ability to **maintain its production** under pathological, climatic ... stresses

Farming Systems

- The traditional systems are **inherited from a past colonial period**. Food-producing farming origins.
 - **Combination of cultural and breeding activities**
- The ability to **face disturbances and to mobilize resources** to reconfigure



Crossed perception of resilience at 2 levels

Animal

- Resilience = linked to genetic variability of traits (adaptation, reproduction, production...)

Farming system

- Resilience = linked with multiplicity of productive and non productive activities

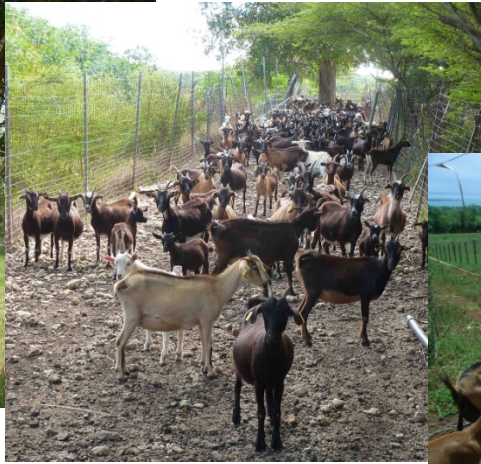
Genetic Variability of traits

Variability of activities

- room to manoeuvre in adverse conditions
 - Resilience



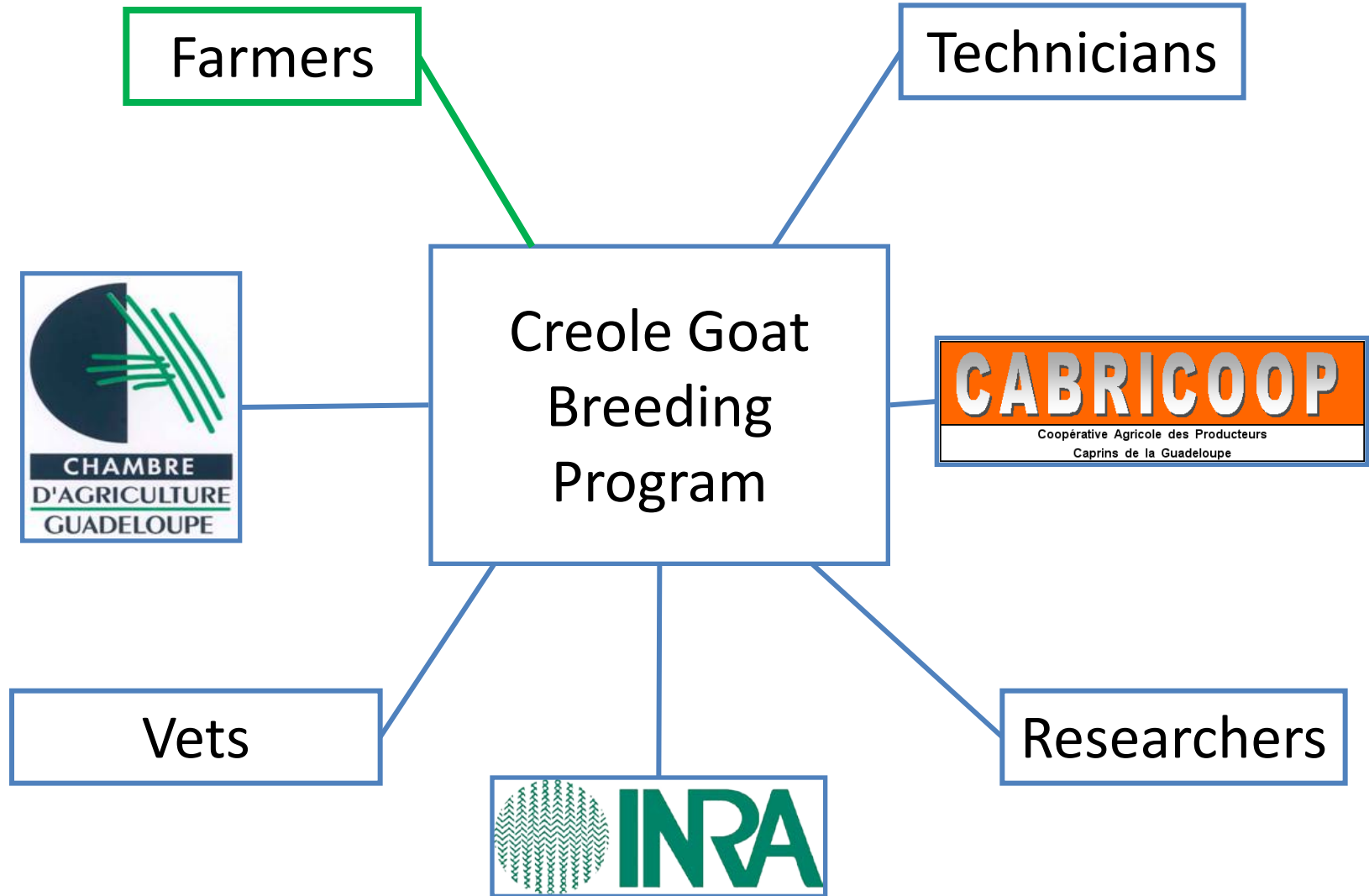
Research issue



- How to improve the goat production in Guadeloupe without decreasing this variability in animals and farming systems?
- Approach
 - Which animal for which systems?
 - And NOT Which system for which animal?

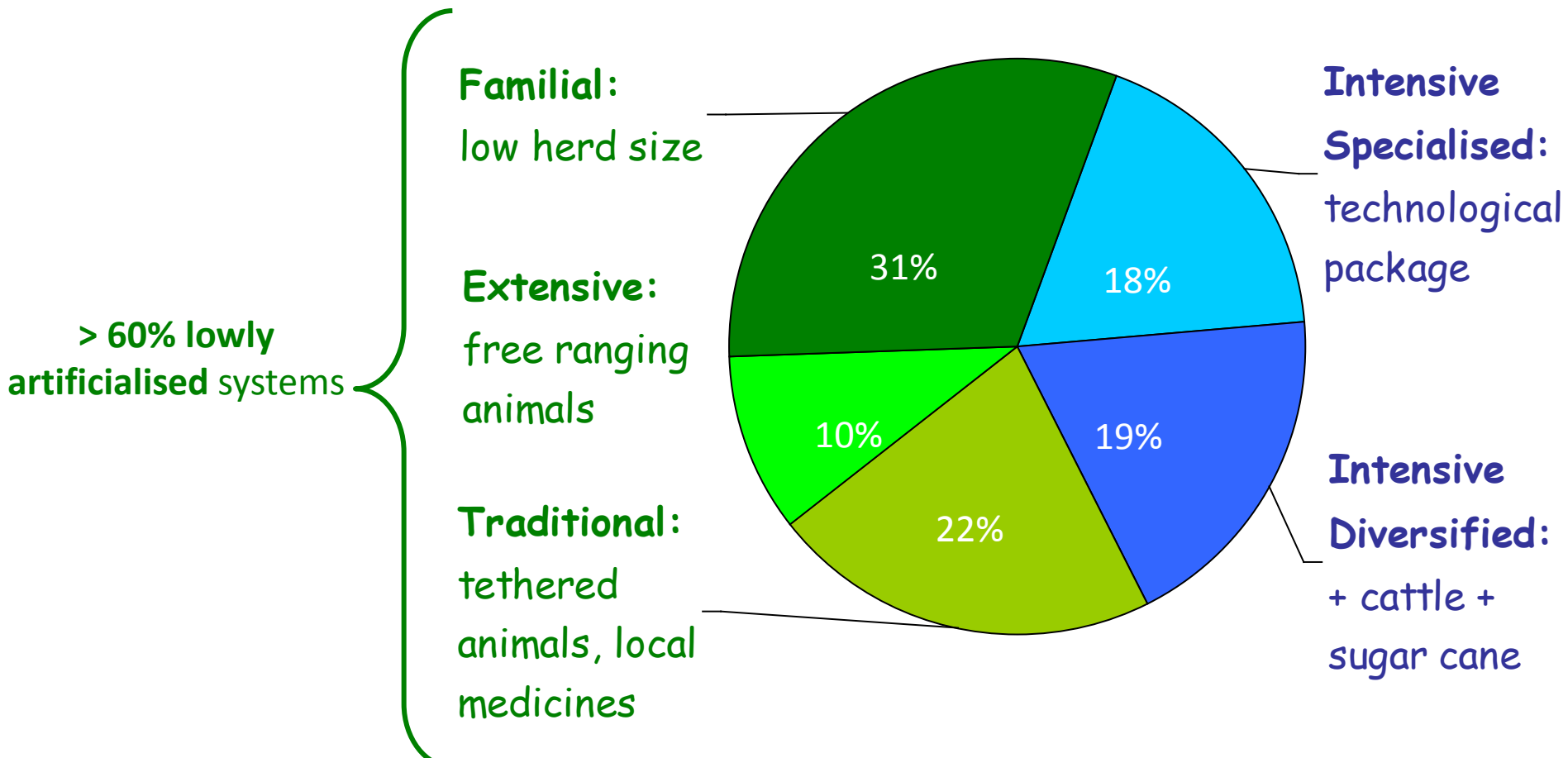


A participative action



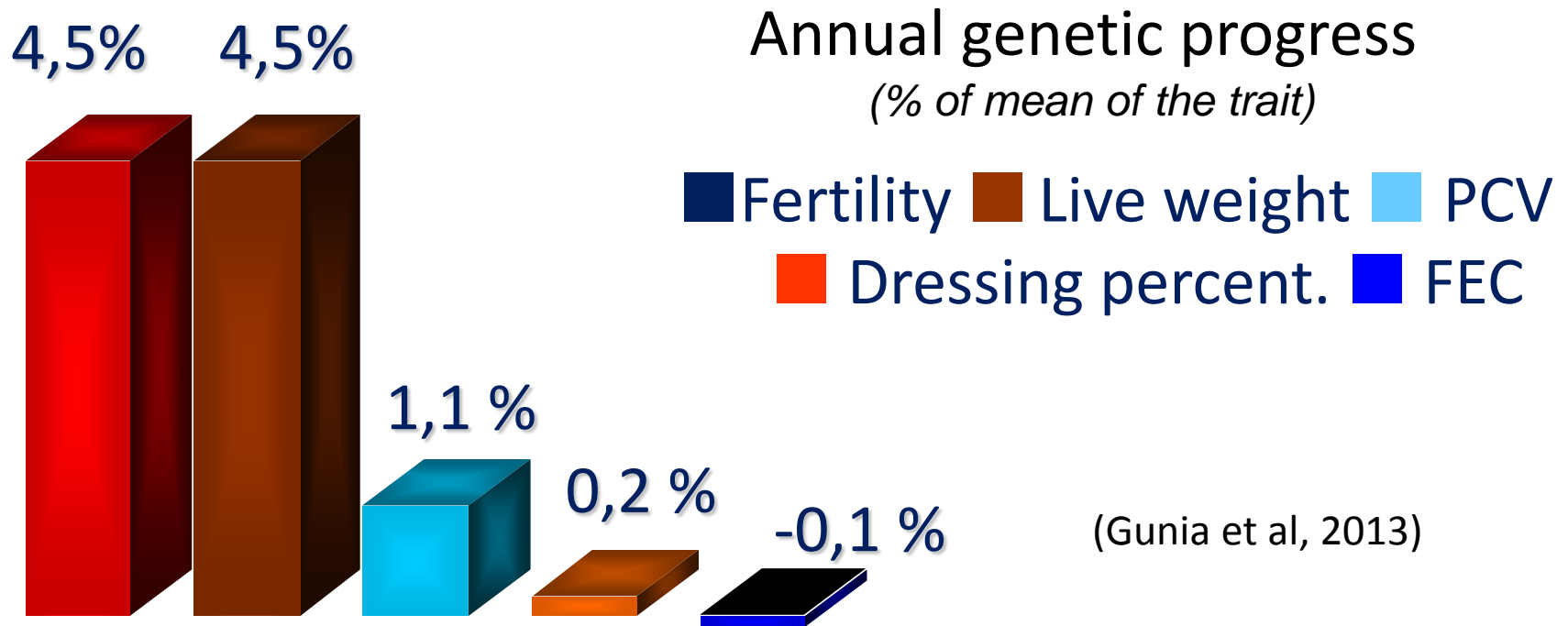
The goat sector: Low intensity animal production

Surveys of 70 and 42 goat farms (Gau et al 2000; Gunia et al, 2010):



A balanced animal for diverse breeding systems

An original production/adaptation breeding goal



Implications on resilience traits of Creole goats

Genetic variability of resilience traits in Creole goats

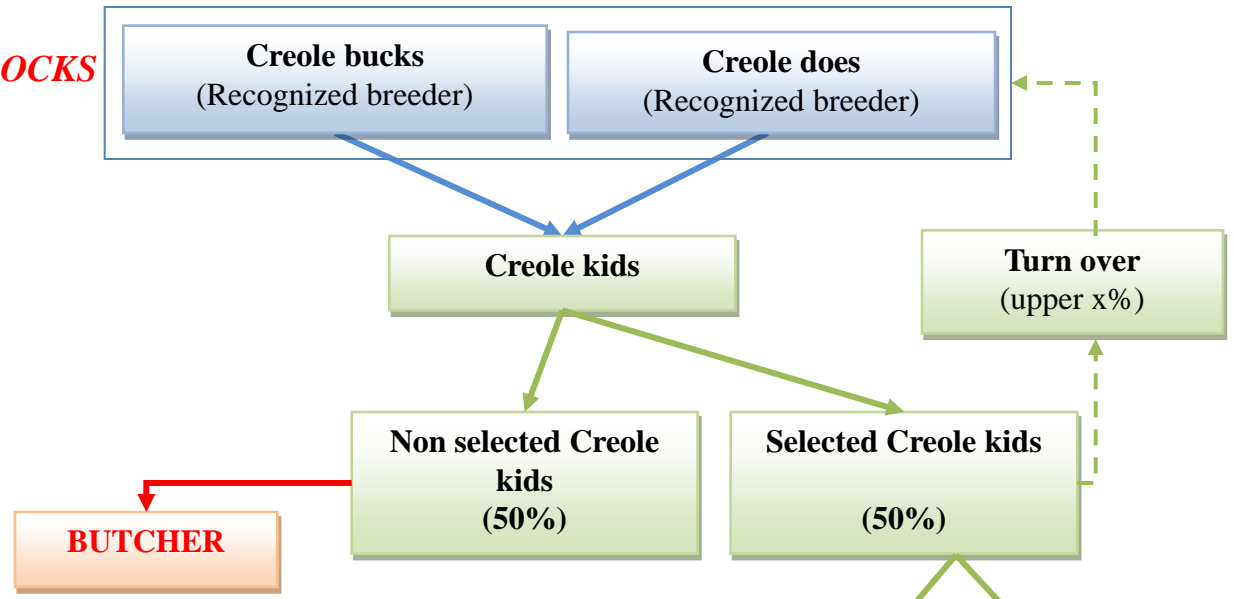
Traits	NBT _{does}	FEC _{11m}	PCV _{11m}
NBT _{does}	0.16 ± 0.09	-0.03 ± 0.12	-0.27 ± 0.24
FEC _{11m}		0.19 ± 0.04	-0.20 ± 0.15
PCV _{11m}			0.14 ± 0.02

(Tesfamicael et al., 2012)

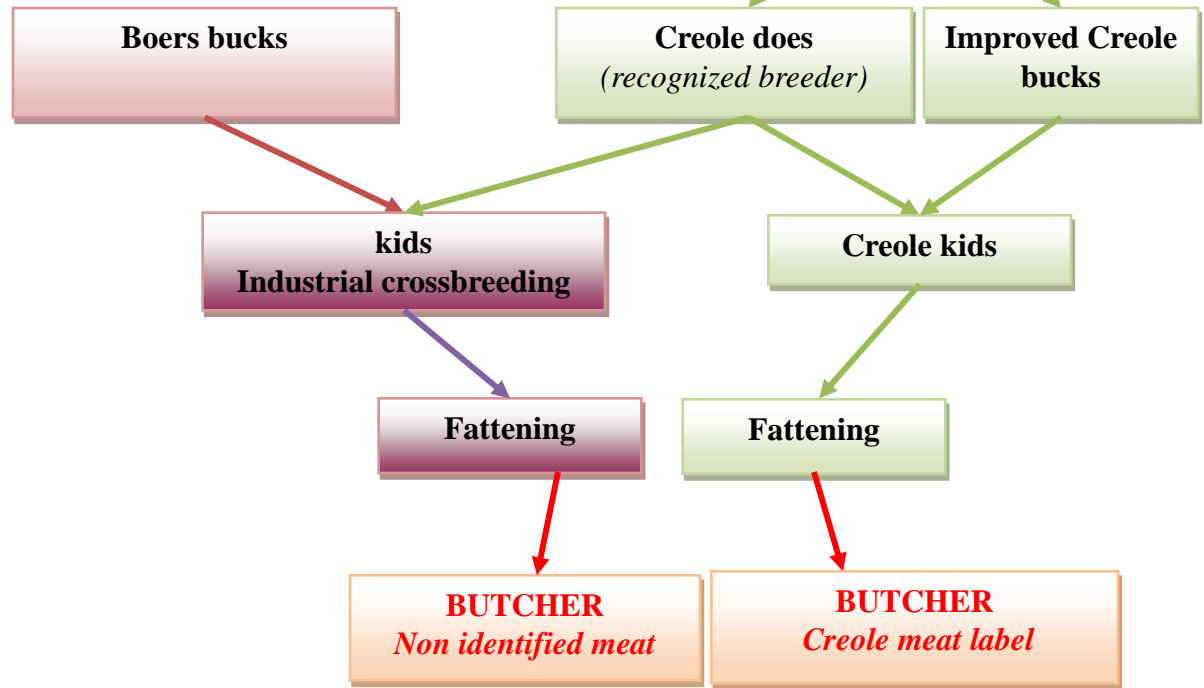
- Moderate **genetic variability** was assessed on resilience criteria in Creole goats.
- The actual breeding scheme in Creole goats (Gunia et al., 2013) will lead to **favorably correlated responses** on resilience traits.



NUCLEUS SELECTION FLOCKS



USER FLOCKS



Conclusion

- It is **possible to improve** goat production in Guadeloupe
 - Exploiting the local breed for traditional FS or more intensive ones,
 - Preserving the resilience of both (animal and FS)
- There is **emergency** in every species!!
 - Things are quickly moving in a non sustainable way,
 - Even if researchers are sending the ‘good’ message



Thank you for your attention!

