Conclusion

Parameter	Java	Python
Startup time	Irrilevant.	It depends from the content of the Python distribution. Heavy libraries, such as sympy, could take time for be unpacked!
Efficiency	Both the languages are compiled in Dalvik Bytecode. The question then becomes delicate. As Java is the "official language" for Android programming, it suppose to be more efficient.	
Hardware acceleration	- Android 1.0 - OpenGL ES 1.0 support. - Android 2.2 - OpenGL ES 2.0 support. - Android 3.0 - Hardware-Accelerated 2D drawing. - Android 4.1 - Project Butter (Hardware Acceleration and Triple-Buffer for the GUI)	
	Native support through the Android SDK.	Support through pyjnius and Kiby wrappers.
Source compability	In a certain range of Android API levels.	Without changing a single line of code : - Android 2.3 and newer - Window Vista and newer - Mac OS X - Various Linux distributions
Support	Java is a de-facto standar of development, both for desktop and mobile application. Almost everything a programmer needs has yet be done.	Kivy is yet stable but begins just in these days to be used. That means there is a poor support for most things.